

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For )  
A General Adjustment Of Its Rates For Electric )  
Service; (2) An Order Approving Its 2014 )  
Environmental Compliance Plan; (3) An Order ) Case No. 2014-00396  
Approving Its Tariffs And Riders; And (4) An )  
Order Granting All Other Required Approvals )  
And Relief )**

**DIRECT TESTIMONY OF**  
**PAULEY, AVERA/MCKENZIE, BARTSCH, CARLIN, DAVIS, ELLIOTT,**  
**LEFLEUR, LISTEBARGER**  
**ON BEHALF OF KENTUCKY POWER COMPANY**

**SECTION III**

**VOLUME 1 OF 4**

**December 23, 2014**

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| <b>(1) A General Adjustment Of Its Rates For Electric )</b>            |                            |
| <b>Service; (2) An Order Approving Its 2014            )</b>           | <b>Case No. 2014-00396</b> |
| <b>Environmental Compliance Plan; (3) An Order        )</b>            |                            |
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| <b>Order Granting All Other Required Approvals        )</b>            |                            |
| <b>And Relief    )</b> |                            |

**DIRECT TESTIMONY OF**  
**GREGORY G. PAULEY**  
**ON BEHALF OF KENTUCKY POWER COMPANY**



**DIRECT TESTIMONY OF  
GREGORY G. PAULEY, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2013-00197**

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**DIRECT TESTIMONY OF  
GREGORY G. PAULEY, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

2 **A.** My name is Gregory G. Pauley. My position is President and Chief Operating  
3 Officer (“COO”), Kentucky Power Company (“Kentucky Power” or the  
4 “Company.”) My business address is 101 A Enterprise Drive, Frankfort,  
5 Kentucky 40601.

**II. BACKGROUND**

6 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**  
7 **BUSINESS EXPERIENCE.**

8 **A.** I received a Bachelor’s degree from Harding University in May 1973. I also  
9 graduated from management development programs at The Ohio State University  
10 and Virginia Polytechnic Institute and State University. I currently serve as  
11 President and COO of Kentucky Power (2010). From 2006-2010 I was Director –  
12 Public Policy for American Electric Power Service Corporation (“AEPSC”)  
13 working on policy issues affecting the utility industry on a national level. Prior to  
14 that, I served as Kentucky Power’s Governmental/Environmental Affairs manager  
15 from 2001-2006. I have also held positions at other American Electric Power  
16 Company, Inc. (“AEP”) operating units in community affairs, manager of  
17 distribution services, human resources and accounting at various operations and  
18 generation facilities.

1 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

2 **A.** Yes. I provided supplemental testimony and testified in Case No. 2011-00042<sup>1</sup>,  
3 *In the Matter of: The Application of AEP Kentucky Transmission Company, Inc.*  
4 *For A Certificate Of Public Convenience And Necessity To Operate As A*  
5 *Transmission Only Public Utility.* I also provided direct and rebuttal testimony in  
6 Case No. 2012-00578<sup>2</sup> regarding the Company's transfer of an undivided 50%  
7 interest in the Mitchell Generating Station, and Case No. 2013-00144<sup>3</sup> seeking  
8 Commission approval for a biomass renewable energy purchase agreement.  
9 Finally, I provided direct testimony in the Company's most recent application for  
10 a general increase in rates, Case No. 2013-00197.

### **III. PURPOSE OF TESTIMONY**

11 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**  
12 **PROCEEDING?**

13 **A.** I provide an overview of the Company, its request to set retail rates that will  
14 provide approximately \$70 million in additional annual revenue, and its

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<sup>1</sup> *In the Matter of: The Application of AEP Kentucky Transmission Company, Inc. For A Certificate Of Public Convenience And Necessity To Operate As A Transmission Only Public Utility*, Case No. 2011-00142.

<sup>2</sup> *In the Matter of: Application of Kentucky Power Company for (1) A Certificate of Public Convenience and Necessity Authorizing the Transfer to the Company of an Undivided Fifty Percent Interest in the Mitchell Generating Station and Associated Assets; (2) Approval of the Assumption by Kentucky Power Company of Certain Liabilities in Connection with the Transfer of the Mitchell Generating Station; (3) Declaratory Rulings; (4) Deferral of Costs Incurred in Connection with the Company's Efforts to Meet Federal Clean Air Act Requirements; and (5) All Other Required Approvals and Relief*, Case No. 2012-00578 ("Mitchell Transfer Case").

<sup>3</sup> *In The Matter Of: The Application Of Kentucky Power Company For: (1) The Approval Of The Terms And Conditions Of The Renewable Energy Purchase Agreement For Biomass Energy Between The Company And ecoPower Generation-Hazard LLC; (2) Authorization To Enter Into The Agreement; (3) The Grant Of Certain Declaratory Relief; And (4) The Grant Of All Other Required Approvals And Relief*, (Case No. 2013-00144).

1 application for Commission approval of its 2014 Environmental Compliance Plan.  
2 I will also introduce the witnesses who will provide testimony in this case in  
3 support of the Company's requested rate changes and the 2014 Environmental  
4 Compliance Plan.

**IV. OVERVIEW OF KENTUCKY POWER'S OPERATIONS**

5 **Q. PLEASE GIVE A BRIEF OVERVIEW OF THE COMPANY AND ITS**  
6 **OPERATIONS.**

7 A. Kentucky Power is a wholly owned subsidiary of AEP and is engaged in the  
8 generation, purchase, transmission and distribution of electric power. The  
9 Company serves approximately 172,000 retail customers located in 20 eastern  
10 Kentucky counties. These customers are served through our distribution  
11 operations headquarters in Ashland, Kentucky (Cannonsburg), with satellite  
12 service centers in Hazard and Pikeville. The Company also sells electric power at  
13 wholesale rates to the City of Olive Hill and the City of Vanceburg. The  
14 Company maintains a state office in Frankfort, Kentucky, which houses the office  
15 of president, governmental/environmental affairs, corporate communications,  
16 business operations support and regulatory affairs. The Company supports the  
17 communities we serve through employee involvement and corporate contributions  
18 to organizations that promote community economic growth and education. In  
19 addition, the Company further supports its communities and customers by  
20 contributing from shareholder funds \$0.15 per residential customer meter per  
21 month to the Company's Home Energy Assistance Program. Similarly, under the  
22 terms of the July 2, 2013 Stipulation and Settlement Agreement in the Mitchell

1 Transfer Case, the Company is providing shareholder-supplied funds for  
2 economic development and job training programs in the Company's service  
3 territory.

4 On December 31, 2013, Kentucky Power acquired an undivided 50%  
5 interest in the environmentally-controlled Mitchell Generating Station located in  
6 Moundsville, West Virginia, along with its associated liabilities (the "Mitchell  
7 Transfer"). The Mitchell Transfer is the least-cost alternative to address the  
8 impact of emerging environmental regulations on Kentucky Power's ability to  
9 meet its customers' needs, and remains the best choice for its 172,000 customers.  
10 The Company completed the Mitchell Transfer in accordance with the  
11 Commission's October 7, 2013 Order which approved, with minor modifications  
12 accepted by the Company, the July 2, 2013 Stipulation and Settlement Agreement  
13 in in Case No. 2012-00578 ("Stipulation and Settlement Agreement").

14 **Q. WILL THERE BE FURTHER CHANGES TO THE COMPANY'S**  
15 **GENERATION FLEET?**

16 A. Yes. To comply with the Mercury and Air Toxics Rule ("MATS") rule, the  
17 Company is required to retire Big Sandy Unit 2 on June 1, 2015. In addition,  
18 because Big Sandy Unit 1 cannot be economically retrofitted with environmental  
19 controls to comply with the MATS rule and continue to operate as a coal-fired  
20 unit, Kentucky Power sought and was granted approval in Case No. 2013-00430  
21 to convert Big Sandy Unit 1 to a gas-fired facility. It is anticipated the conversion  
22 will be complete, and the unit returned to service as a gas-fired generating facility  
23 in June 2016.



**V. OVERVIEW OF THE COMPANY'S APPLICATION.**

1 **Q. WHAT ARE THE PRINCIPAL REASONS KENTUCKY POWER IS**  
2 **SEEKING TO ADJUST ITS RATES?**

3 A. Under the Stipulation and Settlement Agreement in the Mitchell Transfer case  
4 (Case No. 2012-00578), Kentucky Power withdrew its then pending base rate  
5 case (Case No. 2013-00197). The Company filed Case No. 2013-00197 to obtain  
6 full recovery of the Mitchell Transfer through rates during the interim period  
7 between the date of the Mitchell Transfer (January 1, 2014) and the planned  
8 retirement date of Big Sandy Unit 2 (May 31, 2015). The Stipulation and  
9 Settlement Agreement, by contrast, provides a mechanism through which the  
10 Company recovers only a portion of the costs incurred during the interim period.  
11 It also requires the Company to file a base rate case no later than December 29,  
12 2014. This filing complies with the Company's obligations under the Stipulation  
13 and Settlement Agreement. Obtaining the full recovery of the Company's share  
14 of the Mitchell Units and compliance with the Stipulation and Settlement  
15 Agreement are the primary drivers behind the Company's decision to seek an  
16 adjustment to its rates.

17 The Company is also seeking to adjust its rates to allow for expanded  
18 distribution vegetation management to permit the Company to migrate to a four-  
19 year cycle in the most expeditious and cost-effective manner. This expanded  
20 vegetation management will further enhance system reliability. Additionally, the  
21 Company is seeking this rate adjustment to recover the expenses it incurs to safely  
22 and reliably provide service to its customers.

1 **Q. WOULD YOU PROVIDE A BRIEF OVERVIEW OF THE FILING?**

2 A. Kentucky Power is seeking approval of a change in its retail rates that will  
3 provide approximately \$70 million in additional annual revenue, an increase of  
4 12.48% over its current revenue requirement. This increase is based on adjusted  
5 data for the historic test year ending September 30, 2014 and known and  
6 measurable adjustments to that data to present a more accurate picture of the  
7 Company's operations going forward. The major components of the Company's  
8 application which are detailed in the testimonies of the other witnesses include:

- 9 • An increase in revenue requirement to fully recover the costs associated  
10 with the Mitchell Transfer and the Big Sandy retirements. This increase is  
11 approximately \$37.7 million or 54% of the total revenue requirement  
12 change.
- 13 • An increase in revenue requirement to reflect updated depreciation rates.  
14 This increase is approximately \$12.8 million or 18% of the total revenue  
15 requirement change.
- 16 • An increase in revenue requirement to reflect increased vegetation  
17 management expenses to permit the Company to implement a four-year  
18 cycle and further enhance distribution system reliability. This increase is  
19 approximately \$10.7 million or 15% of the total revenue requirement  
20 change.
- 21 • An increase in the revenue requirement to reflect other increases in  
22 operating expenses. This increase is approximately \$8.8 million or 13%  
23 of the total revenue requirement change.
- 24 • A 10.62% return on common equity.
- 25 • The creation of four new riders: the PJM Rider, Big Sandy Retirement  
26 Rider, Big Sandy 1 Operation Rider, and the NERC Compliance and  
27 Cybersecurity Rider.
- 28 • The creation of the Kentucky Economic Development Surcharge.

29 **Q. IS THE COMPANY ALSO SEEKING APPROVAL OF ITS 2014**  
30 **ENVIRONMENTAL COMPLIANCE PLAN IN THIS APPLICATION?**

1 A. Yes. In addition, the Company is seeking in this proceeding recovery of costs  
2 associated with the 2014 Plan. Further, in accordance with the Stipulation and  
3 Settlement Agreement in Case No. 2012-00578, Kentucky Power is seeking to  
4 recover all costs associated with the Mitchell FGD through the environmental  
5 surcharge.

6 **Q. PLEASE ELABORATE ON THE NEED TO RECOVER INCREASING**  
7 **EXPENSES.**

8 A. In a nutshell, despite increasing efficiencies, Kentucky Power's rates no longer  
9 permit the Company to recover the costs of providing reasonable service to its  
10 customers and to provide shareholders with a fair return. At least part of this is  
11 explained by the fact that Kentucky Power last filed for general rate relief as a  
12 base rate case in 2009 in Case No. 2009-00459. The Settlement Agreement in that  
13 case produced an increase in base retail electric rates of \$63.66 million dollars  
14 annually.

15 These increased costs, along with the increased capitalization resulting  
16 from the Mitchell Transfer have reduced the Company's return on equity below  
17 levels that are fair, just and reasonable. For the test year ended September 30,  
18 2014 Kentucky Power's return on equity was 8.43%. By contrast, the  
19 Commission-allowed rate of return on equity is 10.5%. The current case, 2014-  
20 00396, has a proposed rate of return on equity of 10.62%.

21 I believe the cost information presented concerning our test year and the  
22 adjustments to those numbers justify the requested increase in this case.

1 **Q. PLEASE EXPLAIN WHAT BENEFITS THE CUSTOMERS WILL**  
2 **RECEIVE FROM INCREASED VEGETATION MANAGEMENT**  
3 **ACTIVITIES.**

4 A. Distribution system vegetation management is a vital component of maintaining  
5 the Company's distribution system. The tree-trimming activities that the  
6 Company is proposing in this case will increase the reliability of the system.  
7 Increased reliability will result in fewer outages for our customers and a safer  
8 system. The specifics of the proposed vegetation management activities are  
9 discussed in the testimony of Company Witness Phillips.

10 **Q. IS THE COMPANY'S FILING CONSISTENT WITH THE**  
11 **REQUIREMENTS OF THE MITCHELL STIPULATION?**

12 A. Yes. As discussed above, the Stipulation and Settlement Agreement in Case No.  
13 2012-00578 required the company to file a base rate case no later than December  
14 29, 2014 using a test year ending September 30, 2014. The Stipulation and  
15 Settlement Agreement also includes certain provisions that the Company must  
16 propose in this case. These provisions are outlined below and are described in  
17 more detail in the testimony of other identified company witnesses:

- 18 • Pursuant to Paragraph 1 of the Stipulation and Settlement Agreement, the  
19 Company has proposed depreciation rates for Mitchell Units 1 and 2 that  
20 reflect a 2040 retirement date. More detail about the depreciation rates  
21 proposed for the Mitchell Units can be found in the testimony of Company  
22 Witness Davis.
- 23 • Pursuant to Paragraph 3 of the Stipulation and Settlement Agreement, the  
24 Company has proposed combining the current C.I.P.-T.O.D. and Q.P.  
25 tariffs into a new Industrial General Service (I.G.S.) tariff that utilizes the  
26 C.I.P.-T.O.D. rate design. More detail about the combination of current  
27 tariffs C.I.P.-T.O.D. and Q.P. into a new I.G.S. tariff can be found in the  
28 testimonies of Company Witnesses Rogness and Vaughan.

- 1           • Pursuant to Paragraph 3 of the Stipulation and Settlement Agreement, the  
2 Company has removed all coal-related plant, other coal-related capitalized  
3 costs, and coal-related expenses associated with Big Sandy Unit 1 and all  
4 plant, other capitalized costs, and expenses associated with Big Sandy  
5 Unit 2 from the cost of service study and proposes to recover those costs  
6 via the new Big Sandy Retirement Rider (described as ATR-2 in the  
7 Stipulation and Settlement Agreement). The treatment of these costs and  
8 the operation of the Big Sandy Retirement Rider is described in the  
9 testimonies of Company Witness Wohnhas and Yoder.
- 10          • Pursuant to Paragraph 6 of the Stipulation and Settlement Agreement, the  
11 Company will recover all costs associated with Mitchell Units 1 and 2 flue  
12 gas desulfurization (FGD) equipment through the environmental  
13 surcharge. The treatment of these costs under the environmental  
14 surcharge is described in the testimony of Company Witness Elliott.
- 15          • Pursuant to Paragraph 9 of the Stipulation and Settlement Agreement, the  
16 Company has expanded the availability of service under Tariff C.S.-I.R.P.  
17 to a total contract capacity of 75,000kW. The changes to Tariff C.S.-  
18 I.R.P. are described in the testimony of Company Witness Rogness.

19 **Q. PLEASE DESCRIBE THE PURPOSE OF THE KENTUCKY ECONOMIC**  
20 **DEVELOPMENT SURCHARGE.**

21 A. Kentucky Power is committed to economic development in its service territory.  
22 Through the Kentucky Power Economic Advancement Program, funded by  
23 shareholders not customers, the Company has recently awarded \$200,000 in  
24 development grants for three projects in its service territory. The Company has  
25 also recently partnered with 12 local banks that provided \$75 million in local  
26 bank financing for upcoming capital projects. This innovative program provides  
27 investment grade opportunities for banks in the Company's service territory,  
28 thereby diversifying and strengthening their loan portfolios while deploying local  
29 capital to fund local infrastructure development. In addition, the Company is an  
30 active participant in the recently formed Shaping Our Appalachian Region  
31 ("SOAR"), established by Governor Steve Beshear and Representative Hal

1 Rogers to improve the economy and quality of life in Eastern Kentucky – our  
2 service territory.

3 Through its proposed Kentucky Economic Development Surcharge  
4 (“K.E.D.S.”), the Company seeks to recover \$0.15 per month from each billing  
5 account. The Company will match, with shareholder funds, the amount collected  
6 through the K.E.D.S. The funds raised through this program will be used to  
7 support key economic development activities within our region. The details of  
8 the K.E.D.S. program are described in the testimony of Company Witness  
9 Rogness. The K.E.D.S. will allow the Company to partner with its customers in  
10 supporting needed economic development in its service territory.

11 **Q. WHY IS THE COMPANY PROPOSING A NERC CYBERSECURITY**  
12 **RIDER?**

13 A. One of the new riders proposed by Kentucky Power in this case is the NERC  
14 Compliance and Cybersecurity Rider (the “NCCR”). The purpose of the NCCR  
15 is to provide a vehicle for the Company to recover costs incurred in complying  
16 with NERC standards for cybersecurity measures. As cybersecurity threats grow,  
17 NERC, as the entity responsible for ensuring the reliability of the bulk power  
18 system in North America, is increasing the number of critical infrastructure  
19 protection standards. These standards can require significant capital investment  
20 and O&M expenditures to ensure compliance. Kentucky Power and its parent  
21 AEP stand at the forefront of industry efforts to plan and prepare for the NERC  
22 compliance and cybersecurity obligations; however, unforeseen changes in NERC  
23 standards and compliance costs cannot be absorbed into the existing operating

1 budget. The NCCR provides a mechanism for the Company to recover those  
 2 costs following Commission review. More detailed discussions of the need for  
 3 and the proposed operation of the NCCR are found in the testimonies of Company  
 4 Witnesses Stogran and Wohnhas.

5 **Q. PLEASE DESCRIBE THE TESTIMONY SUPPORTING KENTUCKY**  
 6 **POWER'S APPLICATION?**

7 A. The Company's proposed changes in annual revenue requirement as well as the  
 8 adjustments to test year revenues, operating expenses, rate base and capitalization  
 9 are supported by the following witnesses:

| <u>WITNESS</u>                        | <u>SUBJECT AREA</u>   |
|---------------------------------------|---|
| William E. Avera & Adrien M. McKenzie | Cost of Equity/Return on Equity   |
| Jeffrey B. Bartsch                    | Taxes and Certain Adjustments   |
| Andrew R. Carlin                      | Employee Compensation   |
| David A. Davis                        | Depreciation Study  |
| Amy J. Elliott                        | Environmental Compliance Plan; Mitchell FGD Revenue Requirement   |
| Jeffery D. LaFleur                    | Generation Assets; Reasonableness of the Generation non-fuel on going O&M expenses; Support Removal of Coal Related Assets from Big Sandy Plant; Support the Capital Projects included in the 2014 Environmental Plan |
| Shannon R. Listebarger                | Jurisdictional COS  |
| Hugh E. McCoy                         | Pension Plan Costs  |
| John M. McManus                       | Environmental Issues  |
| Everett G. Phillips                   | Reliability/Vegetation Management   |
| Marc D. Reitter                       | Cost of Capital   |
| John Rogness                          | Adjustments; Tariff Revisions   |
| Jason M. Stegall                      | Revenue Adjustments; Class Cost of Service Study  |
| Kevin Stogran                         | NERC Compliance/Cybersecurity   |

| <u>WITNESS</u> | <u>SUBJECT AREA</u>   |
|----------------|---|
| Alex Vaughan   | Big Sandy 1 Operation Rider Revenue Requirement; PJM Rider; Certain Adjustments; Off System Sales Normalization; Rate Design                            |
| Ranie Wohnhas  | Proposed rate adjustment; tariff revisions; capitalization adjustments; amortization of regulatory assets and deferred costs; other adjustments; riders |
| Jason Yoder    | Revenue Requirement for Big Sandy Retirement Rider; Certain Adjustments; Accounting Issues and Amortization for Certain Adjustments                     |

1 **Q. ARE THE RATES REQUESTED BY KENTUCKY POWER FAIR, JUST**  
2 **AND REASONABLE?**

3 A. Yes. Kentucky Power's goal is to provide reliable and cost-effective service to its  
4 customers while also producing a reasonable return for its shareholders. The  
5 fundamental changes facing the electric utility industry, primarily in the form of  
6 evolving and stricter environmental regulations, have forced Kentucky Power into  
7 once-in-a-generation changes in its generation portfolio. This change in the  
8 generation portfolio necessitates a change in the Company's annual revenue  
9 requirement. Kentucky Power's proposed rate changes represent fair, just and  
10 reasonable rates that will allow it to continue to provide the service that customers  
11 require and the earnings that the Company's shareholders deserve. Even with the  
12 proposed increase, the customers of Kentucky Power will continue to enjoy  
13 electricity priced below the national average.

14 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

15 A. Yes.



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**Order Granting All Other Required Approvals    )**  
**And Relief    )**

**DIRECT TESTIMONY**  
**OF**  
**WILLIAM E. AVERA**  
**AND**  
**ADRIEN M. MCKENZIE**

**ON BEHALF OF**  
  
**KENTUCKY POWER COMPANY**

**VERIFICATION**

Dr. William E. Avera being duly sworn deposes and says he is the President of FINCAP, Inc., and that he has personal knowledge of the matters set forth in the forgoing testimony and the information contained therein is true and correct to the best of his information, knowledge, and belief.

*William E. Avera*

DR. WILLIAM E. AVERA

STATE OF TEXAS

)

) CASE NO. 2014-00396

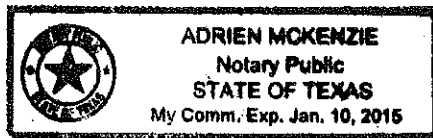
COUNTY OF TRAVIS

)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by, Dr. William E. Avera this 16<sup>th</sup> day of December, 2014.

*[Signature]*  
Notary Public

My Commission Expires: 1/10/2015





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### **EXHIBITS TO DIRECT TESTIMONY**

| <u>Exhibit No.</u> | <u>Description</u>                       |
|--------------------|--|
| 1                  | Qualifications of William E. Avera       |
| 2                  | Qualifications of Adrien M. McKenzie     |
| 3                  | Summary of Results                       |
| 4                  | Regulatory Mechanisms – Electric Group   |
| 5                  | Capital Structure                        |
| 6                  | DCF Model – Electric Group               |
| 7                  | Sustainable Growth Rate – Electric Group |
| 8                  | Empirical CAPM – Electric Group          |
| 9                  | Utility Risk Premium                     |
| 10                 | CAPM – Electric Group                    |
| 11                 | Expected Earnings Approach               |
| 12                 | DCF Model – Non-Utility Group            |

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAMES AND BUSINESS ADDRESS.**

2 A. Our names are William E. Avera and Adrien M. McKenzie. Our business address  
3 is 3907 Red River, Austin, Texas.

4 **Q. IN WHAT CAPACITY ARE YOU EMPLOYED?**

5 A. We are financial, economic, and policy consultants to business and government.

6 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**  
7 **PROFESSIONAL EXPERIENCE.**

8 A. A description of our background and qualifications, including resumes containing  
9 the details of our experience, is attached as Exhibit WEA/AMM 1 (Avera) and  
10 Exhibit WEA/AMM 2 (McKenzie).

11 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

12 A. The purpose of our testimony is to present to the Kentucky Public Service  
13 Commission (“KPSC”) our independent assessment of the fair rate of return on  
14 equity (“ROE”) that Kentucky Power Company (“Kentucky Power” or “the  
15 Company”) should be authorized to earn on its investment in providing electric  
16 utility service. In addition, we also examined the reasonableness of Kentucky  
17 Power’s capital structure, considering both the specific risks faced by the  
18 Company, as well as other industry guidelines.

1 **Q. WHICH OF YOU INTENDS TO APPEAR IN THE EVENT OF A**  
 2 **HEARING IN THIS PROCEEDING?**

3 A. While we are jointly sponsoring all aspects of this testimony in its entirety, we  
 4 anticipate that Dr. Avera will appear to sponsor our joint testimony and respond to  
 5 cross examination in any future hearings before the KPSC in this proceeding.

6 **Q. PLEASE SUMMARIZE THE INFORMATION AND MATERIALS YOU**  
 7 **RELIED ON TO SUPPORT THE OPINIONS AND CONCLUSIONS**  
 8 **CONTAINED IN YOUR TESTIMONY.**

9 A. We are familiar with the organization, finances, and operations of Kentucky  
 10 Power from our firm’s participation in prior proceedings before KPSC. In  
 11 connection with the present filing, we considered and relied upon corporate  
 12 disclosures, publicly available financial reports and filings, and other published  
 13 information relating to Kentucky Power and its parent company, American  
 14 Electric Power Company, Inc. (“AEP”). We also reviewed information relating  
 15 generally to capital market conditions and specifically to investor perceptions,  
 16 requirements, and expectations for electric utilities. These sources, coupled with  
 17 our experience in the fields of finance and utility regulation, have given us a  
 18 working knowledge of the issues relevant to investors’ required return for  
 19 Kentucky Power, and they form the basis of our analyses and conclusions.

20 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

21 A. After first summarizing our conclusions and recommendations, we briefly review  
 22 the Company’s operations and finances. We then examine current conditions in  
 23 the capital markets and their implications in evaluating a fair ROE for Kentucky

1 Power. With this as a background, we present well-accepted quantitative analyses  
 2 of the current cost of equity for a reference group of comparable-risk electric  
 3 utilities. Our ROE recommendations are based on the results of the discounted  
 4 cash flow (“DCF”) model, the empirical form of Capital Asset Pricing Model  
 5 (“ECAPM”), and an equity risk premium approach based on allowed ROEs for  
 6 electric utilities, which are all methods that are commonly relied on in regulatory  
 7 proceedings. Considering the cost of equity estimates indicated by these primary  
 8 analyses, a fair ROE for Kentucky Power is evaluated taking into account the  
 9 Company’s requirements for financial strength that provides benefits to  
 10 customers, as well as flotation costs, which are properly considered in setting a  
 11 fair ROE.

12 Finally, we test our recommended ROE for Kentucky Power against  
 13 alternative checks of reasonableness, including the traditional Capital Asset  
 14 Pricing Model (“CAPM”), reference to expected rates of return for electric  
 15 utilities, and application of the DCF model to a select group of low risk non-  
 16 utility firms.

## **II. RETURN ON EQUITY FOR KENTUCKY POWER**

17 **Q. WHAT IS THE PURPOSE OF THIS SECTION?**

18 A. This section presents our conclusions regarding the fair ROE for Kentucky Power.  
 19 This section also discusses the relationship between ROE and preservation of a  
 20 utility’s financial integrity and the ability to attract capital.

**A. Summary of Conclusions**

1 **Q. WHAT ARE YOUR FINDINGS REGARDING THE FAIR RATE OF**  
 2 **RETURN ON EQUITY FOR KENTUCKY POWER?**

3 A. Based on the results of our analyses and the economic requirements necessary to  
 4 support continuous access to capital, we recommend an ROE for Kentucky Power  
 5 of 10.62%.

6 **Q. PLEASE SUMMARIZE THE RESULTS OF THE QUANTITATIVE**  
 7 **ANALYSES ON WHICH YOUR CONCLUSIONS WERE BASED.**

8 A. Our ROE recommendations are based on the results of three primary methods –  
 9 the DCF model, the ECAPM, and the risk premium approach. The cost of  
 10 common equity estimates produced by these three primary analyses are presented  
 11 on page 1 of Exhibit WEA/AMM 3, and summarized below:

- 12 • In order to reflect the risks and prospects associated with Kentucky  
 13 Power’s jurisdictional utility operations, our analyses focused on a proxy  
 14 group of 13 other utilities with comparable investment risks;
- 15 • Based on our evaluation of the strengths and weaknesses of the DCF,  
 16 ECAPM, and risk premium methods, we concluded that 10.62%  
 17 represents a fair ROE for the proxy group of utilities:
  - 18 ▪ After considering the relative merits of the alternative growth rates  
 19 and giving little weight to the internal, “br+sv” growth measures,  
 20 our evaluation of the DCF results implied a cost of equity in the  
 21 9.4% to 10.1% range.
  - 22 ▪ The forward-looking ECAPM estimates suggested an ROE in the  
 23 range of 11.3% to 12.4%;
  - 24 ▪ The utility risk premium approach implies an ROE estimate on the  
 25 order of 10.1% to 11.3%;
  - 26 ▪ Widespread expectations for higher interest rates emphasize the  
 27 implication of considering the impact of projected bond yields in  
 28 evaluating the results of the ECAPM and risk premium methods;



- 1                   ▪ Taken together, these results indicated that the “bare bones cost of
- 2                   equity,” that is, the cost of equity before flotation costs, falls within
- 3                   a range of 9.7% to 11.3%, with a midpoint of 10.5%;
- 4                   ▪ Adding a flotation cost adjustment of 12 basis points to this bare
- 5                   bones cost of equity resulted in an ROE of 10.62% for the proxy
- 6                   group.

7                   Apart from the expected upward trend in capital costs, a cost of equity of 10.62%

8                   is consistent with the need to support financial integrity and fund capital

9                   investment even during times of adverse capital market conditions.

10                  **Q. DID YOU EVALUATE OTHER CHECKS OF REASONABLENESS?**

11                  A.       Yes. We also performed alternative tests to confirm the results of our primary

12                  methods and our conclusions as to a fair and reasonable ROE for Kentucky

13                  Power. The results of these well-respected and commonly referenced ROE

14                  benchmarks are presented on page 2 of Exhibit WEA/AMM 3, and summarized

15                  below:

- 16                  • Applying the traditional CAPM approach implied a current cost of equity
- 17                  of 10.7% to 11.6%;
- 18                  • Expected returns for electric utilities suggested an ROE range of 9.9% to
- 19                  10.6%, excluding any adjustment for flotation costs; and
- 20                  • Application of the DCF model to a select group of low-risk firms in the
- 21                  non-utility sector resulted in average ROE estimates ranging from 10.4%
- 22                  to 10.9%.
- 23                  • Therefore, these benchmark tests of reasonableness confirm that a 10.62%
- 24                  ROE falls in the reasonable range to maintain Kentucky Power’s financial
- 25                  integrity, provide a return commensurate with investments of comparable
- 26                  risk, and support the Company’s ability to attract capital.

1 **Q. WHAT IS YOUR CONCLUSION REGARDING THE IMPACT OF**  
2 **REGULATORY MECHANISMS IN EVALUATING A FAIR ROE FOR**  
3 **KENTUCKY POWER?**

4 A. Investors recognize that the use of adjustment mechanisms and future test years is  
5 widely prevalent in the utility industry, and the relative impact is already  
6 considered in the data for our proxy group. As a result, any mitigation in risks  
7 associated with Kentucky Power's ability to attenuate regulatory lag through  
8 adjustment mechanisms or its election of a future test year is already reflected in  
9 the results of the quantitative methods presented in our testimony. The KPSC's  
10 adjustment mechanisms act to level the playing field, placing the Company on  
11 equal footing with its peers in the industry. As a result, no adjustment to the ROE  
12 is justified or warranted.

13 **Q. WHAT IS YOUR CONCLUSION AS TO THE REASONABLENESS OF**  
14 **THE COMPANY'S REQUESTED CAPITAL STRUCTURE?**

15 A. The Company's 46% common equity ratio falls below the average capitalization  
16 maintained by the proxy group of utilities based on data at year-end and near-term  
17 expectations. Because a capitalization that contains relatively more debt leverage  
18 implies greater financial risk, it also implies a higher required rate of return to  
19 compensate investors for bearing additional uncertainty. As a result, Kentucky  
20 Power's capitalization represents a conservative basis on which to calculate an  
21 overall rate of return for the Company.

**III. FUNDAMENTAL ANALYSES**

1 **Q. WHAT IS THE PURPOSE OF THIS SECTION?**

2 A. As a predicate to subsequent quantitative analyses, this section briefly reviews the  
 3 operations and finances of Kentucky Power. In addition, it examines conditions  
 4 in the capital markets and the general economy. An understanding of the  
 5 fundamental factors driving the risks and prospects of electric utilities is essential  
 6 in developing an informed opinion of investors' expectations and requirements  
 7 that are the basis of a fair ROE.

**A. Kentucky Power Company**

8 **Q. BRIEFLY DESCRIBE KENTUCKY POWER AND ITS ELECTRIC**  
 9 **UTILITY OPERATIONS.**

10 A. Headquartered in Frankfort, Kentucky, Kentucky Power is a wholly-owned  
 11 subsidiary of AEP principally engaged in the generation, transmission and  
 12 distribution of electric power. The Company provides electric service to  
 13 approximately 172,000 retail customers in eastern Kentucky. In addition to  
 14 providing retail electric utility service, the Company also sells electric power at  
 15 wholesale to municipalities and other utilities. At year-end 2013, Kentucky  
 16 Power's total assets amounted to \$2 billion, with total revenues amounting to  
 17 approximately \$667 million.

18 Kentucky Power operates approximately 1,858 megawatts (MW) of coal-  
 19 fired generating capacity, consisting of two units at the Big Sandy plant, and a  
 20 50% interest in the Mitchell plant. The Company also purchases a share of the  
 21 Rockport plant under a long-term unit power agreement, and operates under a

1 Power Coordination Agreement with Indiana Michigan Power Company and  
 2 Appalachian Power Company. Big Sandy Unit 2 will cease operation as a coal-  
 3 fired facility in 2015. The Company has received approval to convert Unit 1 at  
 4 Big Sandy to a natural gas fired facility.

5 The Company’s transmission and distribution facilities consist of over  
 6 11,000 miles of transmission and distribution lines. KPCo is a member of the  
 7 PJM Interconnection, LLC (“PJM”), a FERC-approved regional transmission  
 8 organization, and provides transmission service pursuant to the PJM Open Access  
 9 Transmission Tariff. The Company’s retail utility operations are subject to the  
 10 jurisdiction of the KPSC, with wholesale transmission operations being regulated  
 11 by FERC.

12 **Q. PLEASE DESCRIBE THE AEP SYSTEM.**

13 A. AEP delivers electricity to more than 5 million customers across 11 states,  
 14 including Ohio, Indiana, West Virginia, Virginia, Kentucky, Michigan,  
 15 Tennessee, Oklahoma, Texas, Louisiana, and Arkansas. AEP is one of the largest  
 16 electric utilities in the U.S., with its combined utility system including over  
 17 38,000 MW of generating capacity and over 40,000 miles of transmission lines.  
 18 AEP’s electric utility subsidiaries rely primarily on coal-fired generation, which  
 19 makes up approximately 60% of total capacity, including purchased power  
 20 agreements (“PPAs”). During 2013, AEP’s revenues totaled approximately \$15.4  
 21 billion, with total assets at year-end of \$56.4 billion.

1 **Q. WHERE DOES KENTUCKY POWER OBTAIN THE CAPITAL USED TO**  
 2 **FINANCE ITS INVESTMENT IN ELECTRIC UTILITY PLANT?**

3 A. As a wholly-owned subsidiary of AEP, the Company obtains common equity  
 4 capital solely from its parent, whose common stock is publicly traded on the New  
 5 York Stock Exchange. In addition to capital supplied by AEP, Kentucky Power  
 6 also issues debt securities directly under its own name.

7 **Q. WHAT CREDIT RATINGS HAVE BEEN ASSIGNED TO THE**  
 8 **COMPANY?**

9 A. Kentucky Power is assigned a corporate credit rating of BBB by Standard &  
 10 Poor’s Corporation (“S&P”). While an industry-wide credit review led Moody’s  
 11 Investors Service (“Moody’s”) to upgrade the ratings of most electric utilities in  
 12 2014,<sup>1</sup> Kentucky Power’s long-term issuer rating was left unchanged at Baa2.

13 **Q. DOES KENTUCKY POWER ANTICIPATE THE NEED FOR**  
 14 **ADDITIONAL CAPITAL GOING FORWARD?**

15 A. Yes. Kentucky Power will require capital investment to provide for necessary  
 16 maintenance and replacements of its utility infrastructure, as well as to fund  
 17 investment in new facilities. S&P noted that Kentucky Power “will need external  
 18 funding sources” to meet its cash flow needs,<sup>2</sup> while Moody’s observed that  
 19 additional equity contributions will be required if the Company is to maintain an  
 20 appropriate capital structure.<sup>3</sup>

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<sup>1</sup> Moody’s Investors Service, “US utility sector upgrades driven by stable and transparent regulatory frameworks,” *Special Comment* (Feb. 3, 2014).

<sup>2</sup> Standard & Poor’s Corporation, “Summary: Kentucky Power Co.,” *Research* (May 5, 2014).

<sup>3</sup> Moody’s Investors Service, “Credit Opinion: Kentucky Power Company,” *Global Credit Research* (Feb. 10, 2014).

1 **Q. ARE THERE REGULATORY MECHANISMS THAT AFFECT**  
 2 **KENTUCKY POWER’S RATES FOR UTILITY SERVICE?**

3 A. Yes. In addition to the ability to recover fuel and purchased power costs,  
 4 Kentucky Revised Statute 278.183 provides, in part, that “... a utility shall be  
 5 entitled to the current recovery of its costs of complying with the Federal Clean  
 6 Air Act as amended and those federal, state, or local environmental requirements  
 7 which apply to coal combustion wastes and by-products from facilities utilized for  
 8 production of energy from coal ...” Consistent with this statutory provision, the  
 9 KPSC has approved an environmental cost recovery mechanism (“ECR”) for the  
 10 Company that allows for recovery of related costs. In addition, Kentucky Power  
 11 operates under a Demand Side Management (“DSM”) rate mechanism that  
 12 provides for recovery of DSM costs – including a provision to earn a return of and  
 13 on capital investment for DSM programs.

14 **Q. DOES THE FACT THAT KENTUCKY POWER OPERATES UNDER**  
 15 **CERTAIN REGULATORY MECHANISMS WARRANT ANY**  
 16 **ADJUSTMENT IN YOUR EVALUATION OF A FAIR ROE?**

17 A. No. Investors recognize that Kentucky Power is exposed to significant risks  
 18 associated with the ability to recover rising costs and investment on a timely  
 19 basis, and concerns over these risks have become increasingly pronounced in the  
 20 industry. The KPSC’s rate adjustment mechanisms are a tool to address these  
 21 risks, but they do not eliminate them. In addition, investors also recognize that  
 22 the heightened scrutiny associated with periodic regulatory review under tracking

1 mechanisms exposes the Company to increased risk for retroactive reviews and  
 2 disallowances.

3 While the regulatory mechanisms approved for Kentucky Power partially  
 4 attenuate exposure to attrition in an era of rising costs and investment, this  
 5 leveling of the playing field only serves to address factors that could otherwise  
 6 impair the Company’s opportunity to earn its authorized return, as required by  
 7 established regulatory standards.

8 **Q. DO THESE MECHANISMS SET KENTUCKY POWER APART FROM**  
 9 **OTHER FIRMS OPERATING IN THE UTILITY INDUSTRY?**

10 A. No. Adjustment mechanisms, cost trackers, and reliance on forward-looking test  
 11 periods have been increasingly prevalent in the utility industry in recent years. In  
 12 response to the increasing risk sensitivity of investors to uncertainty over  
 13 fluctuations in costs and the importance of advancing other public interest goals  
 14 such as reliability, energy conservation, and safety, utilities and their regulators  
 15 have sought to mitigate some of the cost recovery uncertainty and align the  
 16 interest of utilities and their customers through a variety of regulatory  
 17 mechanisms.

**B. Outlook for Capital Costs**

18 **Q. DO CURRENT CAPITAL MARKET CONDITIONS PROVIDE A**  
 19 **REPRESENTATIVE BASIS ON WHICH TO EVALUATE A FAIR ROE?**

20 A. No. Current capital market conditions reflect the legacy of the “Great Recession,”  
 21 and are not representative of what investors expect in the future. Investors have  
 22 had to contend with a level of economic uncertainty and capital market volatility

1 that has been unprecedented in recent history. The ongoing potential for renewed  
 2 turmoil in the capital markets has been seen repeatedly, with common stock prices  
 3 exhibiting the dramatic volatility that is indicative of heightened sensitivity to  
 4 risk. In response to heightened uncertainties in recent years, investors have  
 5 repeatedly sought a safe haven in U.S. government bonds. As a result of this  
 6 “flight to safety,” Treasury bond yields have been pushed significantly lower in  
 7 the face of political, economic, and capital market risks. In addition, the Federal  
 8 Reserve has implemented measures designed to push interest rates to historically  
 9 low levels in an effort to stimulate the economy and bolster employment and  
 10 investor confidence in the face of heightened economic risk.

11 **Q. HOW DO CURRENT YIELDS ON PUBLIC UTILITY BONDS COMPARE**  
 12 **WITH WHAT INVESTORS HAVE EXPERIENCED IN THE PAST?**

13 A. Despite recent increases, the yields on utility bonds remain near their lowest  
 14 levels in modern history. Figure 1, below, compares the October 2014 average  
 15 yield on long-term, triple-B rated utility bonds with those prevailing since 1968:



1  
2

**FIGURE 1**  
**BBB UTILITY BOND YIELDS – CURRENT VS. HISTORICAL**



3 As illustrated above, prevailing capital market conditions, as reflected in the  
 4 yields on triple-B utility bonds, are an anomaly when compared with historical  
 5 experience. Similarly, while 10-year Treasury bond yields may reflect a modest  
 6 increase from all-time lows of less than 2.0%,<sup>4</sup> they are hardly comparable to  
 7 historical levels.<sup>5</sup> Federal Reserve President Charles Plosser recently observed  
 8 that U.S. interest rates are unprecedentedly low, and “outside historical norms.”<sup>6</sup>

9 **Q. ARE THESE VERY LOW INTEREST RATES EXPECTED TO**  
 10 **CONTINUE?**

11 A. No. Investors do not anticipate that these low interest rates will continue into the  
 12 future. It is widely anticipated that as the economy continues to stabilize and  
 13 resumes a more robust pattern of growth, long-term capital costs will increase  
 14 significantly from present levels. Figure 2 below compares current interest rates

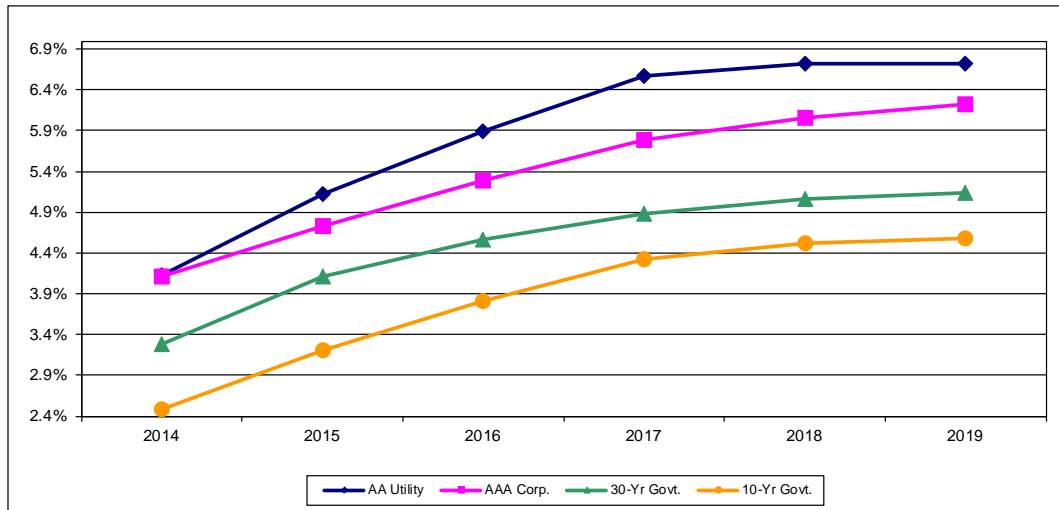
<sup>4</sup> The average yield on 10-year Treasury bonds for the six-months ended October 2014 was 2.46%.

<sup>5</sup> Over the 1968-2014 period illustrated on Figure 2, 10-year Treasury bond yields averaged 6.76%.

<sup>6</sup> Barnato, Katy, “Fed’s Plosser: Low rates ‘should make us nervous,’” *CNBC* (Nov. 11, 2014).

1 on 30-year Treasury bonds, triple-A rated corporate bonds, and double-A rated  
 2 utility bonds with near-term projections from the Value Line Investment Survey  
 3 (“Value Line”), IHS Global Insight, Blue Chip Financial Forecasts (“Blue Chip”),  
 4 and the Energy Information Administration (“EIA”):

**FIGURE 2  
 INTEREST RATE TRENDS**



Source:

Value Line Investment Survey, Forecast for the U.S. Economy (Aug. 22, 2014)  
 IHS Global Insight, U.S. Economic Outlook at 79 (May 2014)  
 Energy Information Administration, Annual Energy Outlook 2014 (May 7, 2014)  
 Blue Chip Financial Forecasts, Vol. 33, No. 6 (Jun. 1, 2014)

5 These forecasting services are highly regarded and widely referenced, with  
 6 FERC incorporating forecasts from IHS Global Insight and the EIA in its  
 7 preferred DCF model for natural gas and oil pipelines, as well as for electric  
 8 transmission utilities. As evidenced above, there is a clear consensus in the  
 9 investment community that the cost of long-term capital will be significantly  
 10 higher over 2015-2019 than it is currently.

1 **Q. DO RECENT ACTIONS OF THE FEDERAL RESERVE SUPPORT THE**  
 2 **CONTENTION THAT CURRENT LOW INTEREST RATES WILL**  
 3 **CONTINUE INDEFINITELY?**

4 A. No. While the Federal Reserve continues to express support for maintaining a  
 5 highly accommodative monetary policy and an exceptionally low target range for  
 6 the federal funds rate, it has also acted to steadily pare back its monthly bond-  
 7 buying program. Citing improvement in the outlook for the labor market and  
 8 increasing strength in the broader economy, the Federal Reserve elected to  
 9 discontinue further purchases under its bond-buying program at its October 2014  
 10 meeting. Elimination of the Federal Reserve’s bond buying program should  
 11 ultimately exert upward pressure on long-term interest rates, with The Wall Street  
 12 Journal observing that:

13 The Fed’s decision to begin trimming its \$85 billion monthly bond-  
 14 buying program is widely expected to result in higher medium-term  
 15 and long-term market interest rates. That means many borrowers,  
 16 from home buyers to businesses, will be paying higher rates in the  
 17 near future.<sup>7</sup>

18 While the Federal Reserve’s tapering announcements and subsequent  
 19 conclusion of its asset purchases have moderated uncertainties over just when,  
 20 and to what degree, the stimulus program would be altered, investors continue to  
 21 face ongoing uncertainties over future modifications that could ultimately affect  
 22 how quickly and how much interest rates are affected.

---

<sup>7</sup> Hilsenrath, Jon, “Fed Dials Back Bond Buying, Keeps a Wary Eye on Growth,” *The Wall Street Journal* at A1 (Dec. 19, 2013).

1 **Q. DOES THE CESSATION OF FURTHER ASSET PURCHASES MARK A**  
 2 **RETURN TO “NORMAL” IN CAPITAL MARKETS?**

3 A. No. The Federal Reserve continues to exert considerable influence over capital  
 4 market conditions through its massive holdings of Treasuries and mortgage-  
 5 backed securities. Prior to the initiation of the stimulus program in 2009, the  
 6 Federal Reserve’s holdings of U.S. Treasury bonds and notes amounted to  
 7 approximately \$400 - \$500 billion. With the implementation of its asset purchase  
 8 program, balances of Treasury securities and mortgage backed instruments  
 9 climbed steadily, and their effect on capital market conditions became more  
 10 pronounced. Table 1 below charts the course of the Federal Reserve’s asset  
 11 purchase program:

**TABLE 1**  
**FEDERAL RESERVE BALANCES OF**  
**TREASURY BONDS AND MORTGAGE-BACKED SECURITIES**

|      | (Billion \$) |
|------|--------------|
| 2008 | \$ 410       |
| 2009 | \$ 1,618     |
| 2010 | \$ 1,939     |
| 2011 | \$ 2,423     |
| 2012 | \$ 2,512     |
| 2013 | \$ 3,597     |
| 2014 | \$ 4,065     |

12 As illustrated above, far from representing a return to normal, the Federal  
 13 Reserve’s holdings of Treasury bonds and mortgage-backed securities now  
 14 amount to more than \$4 trillion,<sup>8</sup> which is an all-time high.

---

<sup>8</sup> *Federal Reserve Statistical Release*, “Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks,” H.4.1, (Oct. 30, 2014).

1           For now, the Federal Reserve is maintaining its policy of reinvesting  
 2 principal payments from these securities – about \$16 billion a month – and rolling  
 3 over maturing Treasuries at auction. As the Federal Reserve recently noted:

4           The Committee is maintaining its existing policy of reinvesting  
 5 principal payments from its holdings of agency debt and agency  
 6 mortgage-backed securities in agency mortgage-backed securities  
 7 and of rolling over maturing Treasury securities at auction. This  
 8 policy, by keeping the Committee's holdings of longer-term  
 9 securities at sizable levels, should help maintain accommodative  
 10 financial conditions.<sup>9</sup>

11           This continued investment maintains the downward pressure on interest  
 12 rates that is the hallmark of the stimulus program and the anomalous conditions  
 13 currently characterizing capital markets.

14           Of course, the corollary to these observations is that changes to this policy  
 15 of reinvestment would further reduce stimulus measures and could place  
 16 significant upward pressure on bond yields, especially considering the  
 17 unprecedented magnitude of the Federal Reserve’s holdings of Treasury bonds  
 18 and mortgage-backed securities. The International Monetary Fund noted, “A lack  
 19 of Fed clarity could cause a major spike in borrowing costs that could cause  
 20 severe damage to the U.S. recovery and send destructive shockwaves around the  
 21 global economy,” adding that, “[a] smooth and gradual upward shift in the yield  
 22 curve might be difficult to engineer, and there could be periods of higher volatility  
 23 when longer yields jump sharply—as recent events suggest.”<sup>10</sup> Similarly, *The*  
 24 *Wall Street Journal* noted investors’ “hypersensitivity to Fed interest rate  
 25 decisions,” and expectations that higher interest rates “may come a bit sooner and

---

<sup>9</sup> Federal Open Market Committee, *Press Release* (Oct. 29, 2014).

<sup>10</sup> Talley, Ian, “IMF Urges ‘Improved’ U.S. Fed Policy Transparency as It Mulls Easy Money Exit,” *The Wall Street Journal* (July 26, 2013).

1 be a touch more aggressive than expected.”<sup>11</sup> As a *Financial Analysts Journal*  
 2 article noted:

3 Because no precedent exists for the massive monetary easing that  
 4 has been practiced over the past five years in the United States and  
 5 Europe, the uncertainty surrounding the outcome of central bank  
 6 policy is so vast. . . . Total assets on the balance sheets of most  
 7 developed nations’ central banks have grown massively since 2008,  
 8 and the timing of when the banks will unwind those positions is  
 9 uncertain.<sup>12</sup>

10 These developments highlight continued concerns for investors and  
 11 support expectations for higher interest rates as the economy and labor markets  
 12 continue to recover. With the Federal Reserve curtailing the expansion of its  
 13 enormous portfolio of Treasuries and mortgage bonds, ongoing concerns over  
 14 political stalemate in Washington, the threat of renewed recession in the  
 15 Eurozone, and political and economic unrest in Ukraine, the Middle East, and  
 16 emerging markets, the potential for significant volatility and higher capital costs is  
 17 clearly evident to investors.

18 **Q. WHAT DO THESE EVENTS IMPLY WITH RESPECT TO THE ROE FOR**  
 19 **KENTUCKY POWER MORE GENERALLY?**

20 A. Current capital market conditions continue to reflect the impact of unprecedented  
 21 policy measures taken in response to recent dislocations in the economy and  
 22 financial markets and ongoing economic and political risks. As a result, current  
 23 capital costs are not representative of what is likely to prevail over the near-term  
 24 future. As FERC recently concluded:

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<sup>11</sup> Jon Hilsenrath and Victoria McGrane, “Yellen Debut Rattles Markets,” *Wall Street Journal* (Mar. 19, 2014).

<sup>12</sup> Poole, William, “Prospects for and Ramifications of the Great Central Banking Unwind,” *Financial Analysts Journal* (November/December 2013).

1 [W]e also understand that any DCF analysis may be affected by  
 2 potentially unrepresentative financial inputs to the DCF formula,  
 3 including those produced by historically anomalous capital market  
 4 conditions. Therefore, while the DCF model remains the  
 5 Commission’s preferred approach to determining allowed rate of  
 6 return, the Commission may consider the extent to which economic  
 7 anomalies may have affected the reliability of DCF analyses ...<sup>13</sup>

8 This conclusion is supported by comparisons of current conditions to the  
 9 historical record and independent forecasts. As demonstrated earlier, recognized  
 10 economic forecasting services project that long-term capital costs will increase  
 11 from present levels.

12 Given investors’ expectations for rising interest rates and capital costs, the  
 13 KPSC should consider near-term forecasts for public utility bond yields in  
 14 assessing the reasonableness of individual cost of equity estimates and in  
 15 evaluating a fair ROE for Kentucky Power from within the range of  
 16 reasonableness. The use of these near-term forecasts for public utility bond yields  
 17 is supported below by economic studies that show that equity risk premiums are  
 18 higher when interest rates are at very low levels.

**IV. COMPARABLE RISK PROXY GROUP**

19 **Q. HOW DID YOU IMPLEMENT QUANTITATIVE METHODS TO**  
 20 **ESTIMATE THE COST OF COMMON EQUITY FOR KENTUCKY**  
 21 **POWER?**

22 A. Application of quantitative methods to estimate the cost of common equity  
 23 requires observable capital market data, such as stock prices. Moreover, even for  
 24 a firm with publicly traded stock, the cost of common equity can only be  
 25 estimated. As a result, applying quantitative models using observable market data

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<sup>13</sup> Opinion No. 531, 147 FERC ¶ 61,234 at P 41 (2014).

1           only produces an estimate that inherently includes some degree of observation  
 2           error. Thus, the accepted approach to increase confidence in the results is to  
 3           apply quantitative methods such as the DCF and ECAPM to a proxy group of  
 4           publicly traded companies that investors regard as risk-comparable.

5   **Q.   WHAT SPECIFIC PROXY GROUP OF UTILITIES DID YOU RELY ON**  
 6   **FOR YOUR ANALYSIS?**

7   A.   In order to reflect the risks and prospects associated with Kentucky Power’s  
 8       jurisdictional electric utility operations, our analyses focused on a reference group  
 9       of other utilities composed of those companies included in Value Line’s electric  
 10      utility industry groups with:

- 11                   1. Corporate credit ratings from Standard & Poor’s Corporation (“S&P”) of “BBB-”, “BBB”, or “BBB+”;
- 12                   2. Long-term issuer ratings from Moody’s of “Baa3”, “Baa2”, or “Baa1”;
- 13                   3. Value Line Safety Rank of “2” or “3”,
- 14                   4. Market capitalization of \$2.4 billion or greater;
- 15                   5. No ongoing involvement in a major merger or acquisition; and,
- 16                   6. No cuts in dividend payments during the past three months.

17  
 18       These criteria resulted in a proxy group composed of 13 companies, which we  
 19       refer to as the “Electric Group.”<sup>14</sup>

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<sup>14</sup> As identified in our exhibits, these 13 companies are Ameren Corporation, American Electric Power Company, Inc., Black Hills Corporation, CMS Energy Corporation, Entergy Corporation, FirstEnergy Corporation, Great Plains Energy Inc., Hawaiian Electric Industries, IDACORP, Inc., PG&E Corporation, SCANA Corporation, Sempra Energy, and Westar Energy, Inc.



1 **Q. HOW DID YOU EVALUATE THE RISKS OF THE ELECTRIC GROUP**  
2 **RELATIVE TO KENTUCKY POWER?**

3 A. Our evaluation of relative risk considered four objective, published benchmarks  
4 that are widely relied on in the investment community. Credit ratings are  
5 assigned by independent rating agencies for the purpose of providing investors  
6 with a broad assessment of the creditworthiness of a firm. Ratings generally  
7 extend from triple-A (the highest) to D (in default). Other symbols (e.g., "+" or "-  
8 ") are used to show relative standing within a category. Because the rating  
9 agencies' evaluation includes virtually all of the factors normally considered  
10 important in assessing a firm's relative credit standing, corporate credit ratings  
11 provide a broad, objective measure of overall investment risk that is readily  
12 available to investors. Widely cited in the investment community and referenced  
13 by investors, credit ratings are also frequently used as a primary risk indicator in  
14 establishing proxy groups to estimate the cost of common equity.

15 While credit ratings provide the most widely referenced benchmark for  
16 investment risks, other quality rankings published by investment advisory services  
17 also provide relative assessments of risks that are considered by investors in  
18 forming their expectations for common stocks. Value Line's primary risk  
19 indicator is its Safety Rank, which ranges from "1" (Safest) to "5" (Riskiest).  
20 This overall risk measure is intended to capture the total risk of a stock, and  
21 incorporates elements of stock price stability and financial strength. Given that  
22 Value Line is perhaps the most widely available source of investment advisory

1 information, its Safety Rank provides useful guidance regarding the risk  
 2 perceptions of investors.

3 Similarly, Value Line’s Financial Strength Rating is designed as a guide to  
 4 overall financial strength and creditworthiness, with the key inputs including  
 5 financial leverage, business volatility measures, and company size. Value Line’s  
 6 Financial Strength Ratings range from “A++” (strongest) down to “C” (weakest)  
 7 in nine steps. These objective, published indicators incorporate consideration of a  
 8 broad spectrum of risks, including financial and business position, relative size,  
 9 and exposure to firm-specific factors.

10 Finally, beta measures a utility’s stock price volatility relative to the  
 11 market as a whole, and reflects the tendency of a stock’s price to follow changes  
 12 in the market. A stock that tends to respond less to market movements has a beta  
 13 less than 1.00, while stocks that tend to move more than the market have betas  
 14 greater than 1.00. Beta is the only relevant measure of investment risk under  
 15 modern capital market theory, and is widely cited in academics and in the  
 16 investment industry as a guide to investors’ risk perceptions. Moreover, in our  
 17 experience Value Line is the most widely referenced source for beta in regulatory  
 18 proceedings. As noted in *New Regulatory Finance*:

19 Value Line is the largest and most widely circulated independent  
 20 investment advisory service, and influences the expectations of a  
 21 large number of institutional and individual investors. ... Value Line  
 22 betas are computed on a theoretically sound basis using a broadly  
 23 based market index, and they are adjusted for the regression  
 24 tendency of betas to converge to 1.00.<sup>15</sup>

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<sup>15</sup> Morin, Roger A., “New Regulatory Finance,” *Public Utilities Reports* at 71 (2006).

1 **Q. HOW DO THE OVERALL RISKS OF YOUR PROXY GROUP COMPARE**  
 2 **TO KENTUCKY POWER?**

3 A. Table 2 compares the Electric Group with Kentucky Power across the four key  
 4 indicia of investment risk discussed above. Because the Company has no publicly  
 5 traded common stock, the Value Line risk measures shown reflect those published  
 6 for its parent, AEP:

**TABLE 2  
 COMPARISON OF RISK INDICATORS**

| <u>Proxy Group</u> | <u>S&amp;P</u> | <u>Moody's</u> | <u>Value Line</u>  |                           |             |
|--------------------|----------------|----------------|--------------------|---------------------------|-------------|
|                    |                |                | <u>Safety Rank</u> | <u>Financial Strength</u> | <u>Beta</u> |
| Electric Group     | BBB            | Baa2           | 2                  | B++                       | 0.76        |
| Kentucky Power     | BBB            | Baa2           | 2                  | A                         | 0.70        |

7 **Q. WHAT DOES THIS COMPARISON INDICATE REGARDING**  
 8 **INVESTORS' ASSESSMENT OF THE RELATIVE RISKS ASSOCIATED**  
 9 **WITH YOUR ELECTRIC GROUP?**

10 A. As shown above, the S&P and Moody's credit ratings specific to the risks of  
 11 Kentucky Power are identical to the averages for the Electric Group. Similarly,  
 12 AEP's Value Line Safety Rank is identical to the average for the proxy group.  
 13 Although the Financial Strength Ranking and beta corresponding to AEP both  
 14 suggest somewhat less risk, they fall well within the proxy group range.  
 15 Considered together, this comparison of objective measures, which incorporate a  
 16 broad spectrum of risks, including financial and business position and exposure to  
 17 company specific factors, indicates that investors would likely conclude that the

1 overall investment risks for Kentucky Power are comparable to those of the firms  
 2 in the Electric Group.

3 **Q. DO THE UTILITIES IN THE ELCTRIC GROUP OPERATE UNDER**  
 4 **VARIOUS REGULATORY MECHANISMS?**

5 A. Yes. We evaluated the regulatory mechanisms approved for the utilities in the  
 6 Electric Group using data reported in the most recent Form 10-K reports filed  
 7 with the Securities and Exchange Commission, which is publicly available and  
 8 free of charge.<sup>16</sup> Reflective of industry trends, the companies in the Electric  
 9 Group operate under a variety of regulatory adjustment mechanisms. As  
 10 summarized on Exhibit WEA/AMM 4, these mechanisms are ubiquitous and wide  
 11 ranging. For example, five of the firms benefit from mechanisms that allow for  
 12 cost recovery of infrastructure investment outside a formal rate proceeding. Many  
 13 of these utilities operate under revenue decoupling and other mechanisms that  
 14 insulate the utility from volatility related to fluctuations in sales volumes, as well  
 15 as the ability to implement periodic rate adjustments to reflect changes in a  
 16 diverse range of operating and capital costs, including expenditures related to  
 17 environmental mandates, conservation programs, transmission costs, and storm  
 18 recovery efforts.

19 **Q. IS AN EVALUATION OF THE CAPITAL STRUCTURE MAINTAINED BY**  
 20 **A UTILITY RELEVANT IN ASSESSING ITS RETURN ON EQUITY?**

21 A. Yes. Other things equal, a higher debt ratio, or lower common equity ratio,  
 22 translates into increased financial risk for all investors. A greater amount of debt

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<sup>16</sup> Because this information is widely referenced by the investment community, it is also directly relevant to an evaluation of the risks and prospects that determine the cost of equity.

1 means more investors have a senior claim on available cash flow, thereby  
 2 reducing the certainty that each will receive his contractual payments. This  
 3 increases the risks to which lenders are exposed, and they require correspondingly  
 4 higher rates of interest. From common shareholders' standpoint, a higher debt  
 5 ratio means that there are proportionately more investors ahead of them, thereby  
 6 increasing the uncertainty as to the amount of cash flow, if any, that will remain.

7 **Q. WHAT COMMON EQUITY RATIO IS USED IN KENTUCKY POWER'S**  
 8 **CAPITAL STRUCTURE?**

9 A. As supported in the testimony of Company Witness Reitter, the Company is  
 10 proposing a common equity ratio of approximately 46%.

11 **Q. HOW DOES THIS COMPARE TO THE AVERAGE CAPITALIZATION**  
 12 **MAINTAINED BY THE ELECTRIC GROUP?**

13 A. As shown on Exhibit WEA/AMM 5, common equity ratios for the individual  
 14 firms in the Electric Group ranged from a low of 31.3% to a high of 53.6% at  
 15 year-end 2013, and averaged 47.5%. Meanwhile, Value Line's three-to-five year  
 16 forecast indicates an average common equity ratio of 48.3% for the Electric  
 17 Group, with the individual equity ratios ranging from 37.0% to 56.0%.

18 **Q. WHAT OTHER FACTORS DO INVESTORS CONSIDER IN THEIR**  
 19 **ASSESSMENT OF A COMPANY'S CAPITAL STRUCTURE?**

20 A. Utilities are facing significant capital investment plans, uncertainties over  
 21 accommodating future environmental mandates, and ongoing regulatory risks.  
 22 Coupled with the potential for turmoil in capital markets, these considerations  
 23 warrant a stronger balance sheet to deal with an increasingly uncertain

1 environment. A more conservative financial profile, in the form of a higher  
 2 common equity ratio, is consistent with increasing uncertainties and the need to  
 3 maintain the continuous access to capital that is required to fund operations and  
 4 necessary system investment, even during times of adverse capital market  
 5 conditions.

6 In addition, depending on their specific attributes, contractual agreements  
 7 or other obligations that require the utility to make specified payments may be  
 8 treated as debt in evaluating the Company's financial risk. For example, PPAs  
 9 and leases typically obligate the utility to make specified minimum contractual  
 10 payments. Because investors consider the debt impact of such fixed obligations  
 11 in assessing a utility's financial position, they imply greater risk and reduced  
 12 financial flexibility. Unless the utility takes action to offset this additional  
 13 financial risk by maintaining a higher equity ratio, or takes other action to  
 14 mitigate any additional financial risk, as we understand Kentucky Power has  
 15 attempted in connection with the ecoPower REPA, the resulting leverage will  
 16 weaken its creditworthiness and imply greater risk.

17 **Q. WHAT DOES THIS EVIDENCE SUGGEST WITH RESPECT TO THE**  
 18 **COMPANY'S PROPOSED CAPITAL STRUCTURE?**

19 A. The 46% common equity ratio requested by Kentucky Power falls below the  
 20 average for the Electric Group at year-end 2013 and the 48.3% equity ratio based  
 21 on Value Line's expectations for these utilities over the near-term. Because a  
 22 capitalization that contains relatively more debt leverage implies greater financial  
 23 risk, it also implies a higher required rate of return to compensate investors for

1 bearing additional uncertainty. Based on our evaluation, we conclude that  
 2 Kentucky Power’s requested capital structure represents a conservative mix of  
 3 capital sources from which to calculate the overall rate of return.

**V. CAPITAL MARKET ESTIMATES**

4 **Q. WHAT IS THE PURPOSE OF THIS SECTION?**

5 A. This section presents capital market estimates of the cost of equity. First, we  
 6 address the concept of the cost of common equity, along with the risk-return  
 7 tradeoff principle fundamental to capital markets. Next, we describe DCF,  
 8 ECAPM, and risk premium analyses conducted to estimate the cost of common  
 9 equity for the proxy group of comparable risk firms. Finally, we examine flotation  
 10 costs, which are properly considered in evaluating a fair rate of return on equity.

**A. Economic Standards**

11 **Q. WHAT ROLE DOES THE RATE OF RETURN ON COMMON EQUITY**  
 12 **PLAY IN A UTILITY’S RATES?**

13 A. The ROE compensates common equity investors for the use of their capital to  
 14 finance the plant and equipment necessary to provide utility service. This  
 15 investment is necessary to finance the asset base needed to provide utility service.  
 16 Investors will commit money to a particular investment only if they expect it to  
 17 produce a return commensurate with those from other investments with  
 18 comparable risks. To be consistent with sound regulatory economics and the

1 standards set forth by the United States Supreme Court in the Bluefield<sup>17</sup> and  
 2 Hope<sup>18</sup> cases, a utility’s allowed ROE should be sufficient to: (1) fairly  
 3 compensate investors for capital invested in the utility, (2) enable the utility to  
 4 offer a return adequate to attract new capital on reasonable terms, and (3)  
 5 maintain the utility’s financial integrity. Meeting these objectives allows the  
 6 utility to fulfill its obligation to provide reliable service while meeting the needs  
 7 of customers through necessary system expansion.

8 **Q. WHAT FUNDAMENTAL ECONOMIC PRINCIPLE UNDERLIES THE**  
 9 **COST OF EQUITY CONCEPT?**

10 A. The fundamental economic principle underlying the cost of equity concept is the  
 11 notion that investors are risk averse. In capital markets where relatively risk-free  
 12 assets are available (e.g., U.S. Treasury securities), investors can be induced to  
 13 hold riskier assets only if they are offered a premium, or additional return, above  
 14 the rate of return on a risk-free asset. Because all assets compete with each other  
 15 for investor funds, riskier assets must yield a higher expected rate of return than  
 16 safer assets to induce investors to invest and hold them.

17 Given this risk-return tradeoff, the required rate of return (*k*) from an asset  
 18 (i) can generally be expressed as:

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<sup>17</sup> *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923).

<sup>18</sup> *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).



1 
$$k_i = R_f + RP_i$$

2 where:  $R_f$  = Risk-free rate of return, and  
 3  $RP_i$  = Risk premium required to hold riskier asset i.

4 Thus, the required rate of return for a particular asset at any time is a function of:  
 5 (1) the yield on risk-free assets, and (2) the asset’s relative risk, with investors  
 6 demanding correspondingly larger risk premiums for bearing greater risk.

7 **Q. IS THERE EVIDENCE THAT THE RISK-RETURN TRADEOFF**  
 8 **PRINCIPLE ACTUALLY OPERATES IN THE CAPITAL MARKETS?**

9 A. Yes. The risk-return tradeoff can be readily documented in segments of the  
 10 capital markets where required rates of return can be directly inferred from market  
 11 data and where generally accepted measures of risk exist. Bond yields, for  
 12 example, reflect investors’ expected rates of return, and bond ratings measure the  
 13 risk of individual bond issues. Comparing the observed yields on government  
 14 securities, which are considered free of default risk, to the yields on bonds of  
 15 various rating categories demonstrates that the risk-return tradeoff does, in fact,  
 16 exist.

17 **Q. DOES THE RISK-RETURN TRADEOFF OBSERVED WITH FIXED**  
 18 **INCOME SECURITIES EXTEND TO COMMON STOCKS AND OTHER**  
 19 **ASSETS?**

20 A. It is widely accepted that the risk-return tradeoff evidenced with long-term debt  
 21 extends to all assets. Documenting the risk-return tradeoff for assets other than  
 22 fixed income securities, however, is complicated by two factors. First, there is no  
 23 standard measure of risk applicable to all assets. Second, for most assets –  
 24 including common stock – required rates of return cannot be directly observed.

1 Yet there is every reason to believe that investors exhibit risk aversion in deciding  
 2 whether or not to hold common stocks and other assets, just as when choosing  
 3 among fixed-income securities.

4 **Q. IS THIS RISK-RETURN TRADEOFF LIMITED TO DIFFERENCES**  
 5 **BETWEEN FIRMS?**

6 A. No. The risk-return tradeoff principle applies not only to investments in different  
 7 firms, but also to different securities issued by the same firm. The securities  
 8 issued by a utility vary considerably in risk because they have different  
 9 characteristics and priorities. As noted earlier, long-term debt is senior among all  
 10 capital in its claim on a utility's net revenues and is, therefore, the least risky.  
 11 The last investors in line are common shareholders. They receive only the net  
 12 revenues, if any, remaining after all other claimants have been paid. As a result,  
 13 the rate of return that investors require from a utility's common stock, the most  
 14 junior and riskiest of its securities, must be considerably higher than the yield  
 15 offered by the utility's senior, long-term debt.

16 **Q. DOES THE FACT THAT KENTUCKY POWER IS A SUBSIDIARY OF**  
 17 **AEP IN ANY WAY ALTER THESE FUNDAMENTAL STANDARDS**  
 18 **UNDERLYING A FAIR ROE?**

19 A. No. While the Company has no publicly traded common stock and AEP is its only  
 20 shareholder, this does not change the standards governing the determination of a  
 21 fair ROE for Kentucky Power. Ultimately, the common equity that is required to  
 22 support the utility operations of Kentucky Power must be raised in the capital  
 23 markets, where investors consider the Company's ability to offer a rate of return

1 that is competitive with other risk-comparable alternatives. The Company must  
 2 compete with other investment opportunities and unless there is a reasonable  
 3 expectation that investors will have the opportunity to earn returns commensurate  
 4 with the underlying risks, capital will be allocated elsewhere, Kentucky Power’s  
 5 financial integrity will be weakened, and investors will demand an even higher  
 6 rate of return. Kentucky Power’s ability to offer a reasonable return on  
 7 investment is a necessary ingredient in ensuring that customers continue to enjoy  
 8 economical rates and reliable service.

9 **Q. WHAT DOES THE ABOVE DISCUSSION IMPLY WITH RESPECT TO**  
 10 **ESTIMATING THE COST OF COMMON EQUITY FOR A UTILITY?**

11 A. Although the cost of common equity cannot be observed directly, it is a function  
 12 of the returns available from other investment alternatives and the risks to which  
 13 the equity capital is exposed. Because it is not readily observable, the cost of  
 14 common equity for a particular utility must be estimated by analyzing information  
 15 about capital market conditions generally, assessing the relative risks of the  
 16 company specifically, and employing various quantitative methods that focus on  
 17 investors’ required rates of return. These various quantitative methods typically  
 18 attempt to infer investors’ required rates of return from stock prices, interest rates,  
 19 or other capital market data.

**B. Discounted Cash Flow Analyses**

1 **Q. HOW IS THE DCF MODEL USED TO ESTIMATE THE COST OF**  
 2 **COMMON EQUITY?**

3 A. DCF models attempt to replicate the market valuation process that sets the price  
 4 investors are willing to pay for a share of a company’s stock. The model rests on  
 5 the assumption that investors evaluate the risks and expected rates of return from  
 6 all securities in the capital markets. Given these expectations, the price of each  
 7 stock is adjusted by the market until investors are adequately compensated for the  
 8 risks they bear. Therefore, we can look to the market to determine what investors  
 9 believe a share of common stock is worth. By estimating the cash flows investors  
 10 expect to receive from the stock in the way of future dividends and capital gains,  
 11 we can calculate their required rate of return. That is, the cost of equity is the  
 12 discount rate that equates the current price of a share of stock with the present  
 13 value of all expected cash flows from the stock. The formula for the general form  
 14 of the DCF model is as follows:

$$P_0 = \frac{D_1}{(1+k_e)^1} + \frac{D_2}{(1+k_e)^2} + \dots + \frac{D_t}{(1+k_e)^t} + \frac{P_t}{(1+k_e)^t}$$

where:  $P_0$  = Current price per share;  
 $P_t$  = Expected future price per share in period t;  
 $D_t$  = Expected dividend per share in period t;  
 $k_e$  = Cost of common equity.

1 **Q. WHAT FORM OF THE DCF MODEL IS CUSTOMARILY USED TO**  
 2 **ESTIMATE THE COST OF COMMON EQUITY IN RATE CASES?**

3 A. Rather than developing annual estimates of cash flows into perpetuity, the DCF  
 4 model can be simplified to a “constant growth” form:<sup>19</sup>

$$P_0 = \frac{D_1}{k_e - g}$$

5 where: g = Investors’ long-term growth expectations.

6 The cost of common equity ( $k_e$ ) can be isolated by rearranging terms within the  
 7 equation:

$$k_e = \frac{D_1}{P_0} + g$$

8 This constant growth form of the DCF model recognizes that the rate of return to  
 9 stockholders consists of two parts: 1) dividend yield ( $D_1/P_0$ ); and, 2) growth ( $g$ ).

10 In other words, investors expect to receive a portion of their total return in the  
 11 form of current dividends and the remainder through price appreciation.

12 **Q. WHAT FORM OF THE DCF MODEL DID YOU USE?**

13 A. We applied the constant growth DCF model to estimate the cost of common  
 14 equity for Kentucky Power, which is the form of the model most commonly relied

---

<sup>19</sup> The constant growth DCF model is dependent on a number of strict assumptions, which in practice are never met. These include a constant growth rate for both dividends and earnings; a stable dividend payout ratio; the discount rate exceeds the growth rate; a constant growth rate for book value and price; a constant earned rate of return on book value; no sales of stock at a price above or below book value; a constant price-earnings ratio; a constant discount rate (*i.e.*, no changes in risk or interest rate levels and a flat yield curve); and all of the above extend to infinity.

1 on to establish the cost of common equity for traditional regulated utilities and the  
 2 method most often referenced by regulators.

3 **Q. HOW IS THE CONSTANT GROWTH FORM OF THE DCF MODEL**  
 4 **TYPICALLY USED TO ESTIMATE THE COST OF COMMON EQUITY?**

5 A. The first step in implementing the constant growth DCF model is to determine the  
 6 expected dividend yield ( $D1/P0$ ) for the firm in question. This is usually  
 7 calculated based on an estimate of dividends to be paid in the coming year divided  
 8 by the current price of the stock. The second step is to estimate investors' long-  
 9 term growth expectations ( $g$ ) for the firm. The final step is to sum the firm's  
 10 dividend yield and estimated growth rate to arrive at an estimate of its cost of  
 11 common equity.

12 **Q. HOW DID YOU DETERMINE THE DIVIDEND YIELD FOR THE**  
 13 **ELECTRIC GROUP?**

14 A. Estimates of dividends to be paid by each of these utilities over the next twelve  
 15 months, obtained from Value Line, served as  $D1$ . This annual dividend was then  
 16 divided by the corresponding 30-day average stock price at October 31, 2014 for  
 17 each utility to arrive at the expected dividend yield. The expected dividends,  
 18 stock prices, and resulting dividend yields for the firms in the Electric Group are  
 19 presented on page 1 of Exhibit WEA/AMM 6. As shown there, dividend yields  
 20 for the firms in the Electric Group ranged from 2.6% to 4.6%.

1 **Q. WHAT IS THE NEXT STEP IN APPLYING THE CONSTANT GROWTH**  
2 **DCF MODEL?**

3 A. The next step is to evaluate long-term growth expectations, or “g”, for the firm in  
4 question. In constant growth DCF theory, earnings, dividends, book value, and  
5 market price are all assumed to grow in lockstep, and the growth horizon of the  
6 DCF model is infinite. But implementation of the DCF model is more than just a  
7 theoretical exercise; it is an attempt to replicate the mechanism investors used to  
8 arrive at observable stock prices. A wide variety of techniques can be used to  
9 derive growth rates, but the only “g” that matters in applying the DCF model is  
10 the value that investors expect.

11 **Q. WHAT ARE INVESTORS MOST LIKELY TO CONSIDER IN**  
12 **DEVELOPING THEIR LONG-TERM GROWTH EXPECTATIONS?**

13 A. Given that DCF model is solely concerned with replicating the forward-looking  
14 evaluation of real-world investors, in the case of utilities, dividend growth rates  
15 are not likely to provide a meaningful guide to investors’ current growth  
16 expectations. This is because utilities have significantly altered their dividend  
17 policies in response to more accentuated business risks in the industry, with the  
18 payout ratios falling significantly. As a result of this trend towards a more  
19 conservative payout ratio, dividend growth in the utility industry has remained  
20 largely stagnant as utilities conserve financial resources to provide a hedge  
21 against heightened uncertainties.

22 A measure that plays a pivotal role in determining investors’ long-term  
23 growth expectations are future trends in earnings per share (“EPS”), which

1 provide the source for future dividends and ultimately support share prices. The  
 2 importance of earnings in evaluating investors' expectations and requirements is  
 3 well accepted in the investment community, and surveys of analytical techniques  
 4 relied on by professional analysts indicate that growth in earnings is far more  
 5 influential than trends in dividends per share ("DPS").

6 The availability of projected EPS growth rates also is key to investors  
 7 relying on this measure as compared to future trends in DPS. Apart from Value  
 8 Line, investment advisory services do not generally publish comprehensive DPS  
 9 growth projections, and this scarcity of dividend growth rates relative to the  
 10 abundance of earnings forecasts attests to their relative influence. The fact that  
 11 securities analysts focus on EPS growth, and that DPS growth rates are not  
 12 routinely published, indicates that projected EPS growth rates are likely to  
 13 provide a superior indicator of the future long-term growth expected by investors.

14 **Q. DO THE GROWTH RATE PROJECTIONS OF SECURITY ANALYSTS**  
 15 **CONSIDER HISTORICAL TRENDS?**

16 A. Yes. Professional security analysts study historical trends extensively in  
 17 developing their projections of future earnings. Hence, to the extent there is any  
 18 useful information in historical patterns, that information is incorporated into  
 19 analysts' growth forecasts.



1 **Q. DID PROFESSOR MYRON J. GORDON, WHO ORIGINATED THE DCF**  
 2 **APPROACH, RECOGNIZE THE PIVOTAL ROLE THAT EARNINGS**  
 3 **PLAY IN FORMING INVESTORS' EXPECTATIONS?**

4 A. Yes. Dr. Gordon specifically recognized that “it is the growth that investors  
 5 expect that should be used” in applying the DCF model and he concluded:

6 A number of considerations suggest that investors may, in fact, use  
 7 earnings growth as a measure of expected future growth.”<sup>20</sup>

8 **Q. ARE ANALYSTS' ASSESSMENTS OF GROWTH RATES APPROPRIATE**  
 9 **FOR ESTIMATING INVESTORS' REQUIRED RETURN USING THE**  
 10 **DCF MODEL?**

11 A. Yes. In applying the DCF model to estimate the cost of common equity, the only  
 12 relevant growth rate is the forward-looking expectations of investors that are  
 13 captured in current stock prices. Investors, just like securities analysts and others  
 14 in the investment community, do not know how the future will actually turn out.  
 15 They can only make investment decisions based on their best estimate of what the  
 16 future holds in the way of long-term growth for a particular stock, and securities  
 17 prices are constantly adjusting to reflect their assessment of available information.

18 Any claims that analysts' estimates are not relied upon by investors are  
 19 illogical given the reality of a competitive market for investment advice. If  
 20 financial analysts' forecasts do not add value to investors' decision making, then  
 21 it is irrational for investors to pay for these estimates. Similarly, those financial  
 22 analysts who fail to provide reliable forecasts will lose out in competitive markets

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<sup>20</sup> Gordon, Myron J., “The Cost of Capital to a Public Utility,” *MSU Public Utilities Studies* at 89 (1974).

1 relative to those analysts whose forecasts investors find more credible. The  
 2 reality that analyst estimates are routinely referenced in the financial media and in  
 3 investment advisory publications, as well as the continued success of services  
 4 such as Thomson Reuters and Value Line, provides strong evidence that investors  
 5 use them as a basis for their expectations.

6 While the projections of securities analysts may be proven optimistic or  
 7 pessimistic in hindsight, this is irrelevant in assessing the expected growth that  
 8 investors have incorporated into current stock prices, and any bias in analysts’  
 9 forecasts – whether pessimistic or optimistic – is irrelevant if investors share  
 10 analysts’ views. Earnings growth projections of security analysts provide the  
 11 most frequently referenced guide to investors’ views and are widely accepted in  
 12 applying the DCF model. As explained in *New Regulatory Finance*:

13 Because of the dominance of institutional investors and their  
 14 influence on individual investors, analysts’ forecasts of long-run  
 15 growth rates provide a sound basis for estimating required returns.  
 16 Financial analysts exert a strong influence on the expectations of  
 17 many investors who do not possess the resources to make their own  
 18 forecasts, that is, they are a cause of *g* [growth]. The accuracy of  
 19 these forecasts in the sense of whether they turn out to be correct is  
 20 not an issue here, as long as they reflect widely held expectations.<sup>21</sup>

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<sup>21</sup> Morin, Roger A., “New Regulatory Finance,” *Public Utilities Reports, Inc.* at 298 (2006) (emphasis added).

1 **Q. WHAT ARE SECURITY ANALYSTS CURRENTLY PROJECTING IN**  
 2 **THE WAY OF GROWTH FOR THE FIRMS IN THE UTILITY PROXY**  
 3 **GROUP?**

4 A. The earnings growth projections for each of the firms in the Electric Group  
 5 reported by Value Line, IBES, Zacks Investment Research (“Zacks”), and Reuters  
 6 are displayed on page 2 of Exhibit WEA/AMM 6.<sup>22</sup>

7 **Q. HOW ELSE ARE INVESTORS’ EXPECTATIONS OF FUTURE LONG-**  
 8 **TERM GROWTH PROSPECTS OFTEN ESTIMATED WHEN APPLYING**  
 9 **THE CONSTANT GROWTH DCF MODEL?**

10 A. In constant growth theory, growth in book equity will be equal to the product of  
 11 the earnings retention ratio (one minus the dividend payout ratio) and the earned  
 12 rate of return on book equity. Furthermore, if the earned rate of return and the  
 13 payout ratio are constant over time, growth in earnings and dividends will be  
 14 equal to growth in book value. Despite the fact that these conditions are never  
 15 met in practice, this “sustainable growth” approach may provide a rough guide for  
 16 evaluating a firm’s growth prospects and is frequently proposed in regulatory  
 17 proceedings.

18 The sustainable growth rate is calculated by the formula,  $g = br + sv$ , where  
 19 “b” is the expected retention ratio, “r” is the expected earned return on equity, “s”  
 20 is the percent of common equity expected to be issued annually as new common  
 21 stock, and “v” is the equity accretion rate. Under DCF theory, the “sv” factor is a  
 22 component of the growth rate designed to capture the impact of issuing new

---

<sup>22</sup> Formerly I/B/E/S International, Inc., IBES growth rates are now compiled and published by Thomson Reuters.

1 common stock at a price above, or below, book value. The sustainable, “br+sv”  
 2 growth rates for each firm in the Electric Group are summarized on page 2 of  
 3 Exhibit WEA/AMM 6, with the underlying details being presented on Exhibit  
 4 WEA/AMM 7.<sup>23</sup>

5 **Q. ARE THERE SIGNIFICANT SHORTCOMINGS ASSOCIATED WITH**  
 6 **THE “BR+SV” GROWTH RATE?**

7 A. Yes. First, in order to calculate the sustainable growth rate, it is necessary to  
 8 develop estimates of investors’ expectations for four separate variables; namely,  
 9 “b”, “r”, “s”, and “v.” Given the inherent difficulty in forecasting each parameter  
 10 and the difficulty of estimating the expectations of investors, the potential for  
 11 measurement error is significantly increased when using four variables, as  
 12 opposed to referencing a direct projection for EPS growth. Second, empirical  
 13 research in the finance literature indicates that sustainable growth rates are not as  
 14 significantly correlated to measures of value, such as share prices, as are analysts’  
 15 EPS growth forecasts.<sup>24</sup>

16 The “sustainable growth” approach was included for completeness, but  
 17 evidence indicates that analysts’ forecasts provide a superior and more direct  
 18 guide to investors’ growth expectations. Accordingly, we give less weight to cost  
 19 of equity estimates based on br+sv growth rates in evaluating the results of the  
 20 DCF model.

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<sup>23</sup> Because Value Line reports end-of-year book values, an adjustment factor was incorporated to compute an average rate of return over the year, which is consistent with the theory underlying this approach.

<sup>24</sup> Morin, Roger A., “New Regulatory Finance,” *Public Utilities Reports, Inc.*, at 307 (2006).

1 **Q. WHAT COST OF COMMON EQUITY ESTIMATES WERE IMPLIED**  
 2 **FOR THE ELECTRIC GROUP USING THE DCF MODEL?**

3 A. After combining the dividend yields and respective growth projections for each  
 4 utility, the resulting cost of common equity estimates are shown on page 3 of  
 5 Exhibit WEA/AMM 6.

6 **Q. IN EVALUATING THE RESULTS OF THE CONSTANT GROWTH DCF**  
 7 **MODEL, IS IT APPROPRIATE TO ELIMINATE ESTIMATES THAT ARE**  
 8 **EXTREME LOW OR HIGH OUTLIERS?**

9 A. Yes. In applying quantitative methods to estimate the cost of equity, it is essential  
 10 that the resulting values pass fundamental tests of reasonableness and economic  
 11 logic. Accordingly, DCF estimates that are implausibly low or high should be  
 12 eliminated when evaluating the results of this method.

13 **Q. HOW DID YOU EVALUATE DCF ESTIMATES AT THE LOW END OF**  
 14 **THE RANGE?**

15 A. We based our evaluation of DCF estimates at the low end of the range on the  
 16 fundamental risk-return tradeoff, which holds that investors will only take on  
 17 more risk if they expect to earn a higher rate of return to compensate them for the  
 18 greater uncertainty. Because common stocks lack the protections associated with  
 19 an investment in long-term bonds, a utility's common stock imposes far greater  
 20 risks on investors. As a result, the rate of return that investors require from a  
 21 utility's common stock is considerably higher than the yield offered by senior,  
 22 long-term debt. Consistent with this principle, DCF results that are not

1 sufficiently higher than the yield available on less risky utility bonds must be  
 2 eliminated.

3 **Q. HAVE SIMILAR TESTS BEEN APPLIED BY REGULATORS?**

4 A. Yes. FERC has noted that adjustments are justified where applications of the  
 5 DCF approach produce illogical results. FERC evaluates DCF results against  
 6 observable yields on long-term public utility debt and has recognized that it is  
 7 appropriate to eliminate estimates that do not sufficiently exceed this threshold.<sup>25</sup>  
 8 FERC recently affirmed that:

9 The purpose of the low-end outlier test is to exclude from the proxy  
 10 group those companies whose ROE estimates are below the average  
 11 bond yield or are above the average bond yield but are sufficiently  
 12 low that an investor would consider the stock to yield essentially the  
 13 same return as debt. In public utility ROE cases, the Commission  
 14 has used 100 basis points above the cost of debt as an approximation  
 15 of this threshold, but has also considered the distribution of proxy  
 16 group companies to inform its decision on which companies are  
 17 outliers. As the Presiding Judge explained, this is a flexible test.<sup>26</sup>

18 **Q. WHAT INTEREST RATE BENCHMARK DID YOU CONSIDER IN**  
 19 **EVALUATING THE DCF RESULTS FOR KENTUCKY POWER?**

20 A. As noted earlier, the S&P and Moody’s ratings for Kentucky Power and the  
 21 Electric Group are BBB+ and Baa1, respectively, which fall in the triple-B rating  
 22 category. Accordingly, we referenced average yields on triple-B utilities bonds as  
 23 one benchmark in evaluating low-end DCF results. Monthly yields on triple-B

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<sup>25</sup> See, e.g., *Southern California Edison Co.*, 131 FERC ¶ 61,020 at P 55 (2010) (“*SoCal Edison*”).

<sup>26</sup> *Martha Coakley et al., v. Bangor Hydro-Electric Company, et al.*, Opinion No. 531, 147 FERC ¶ 61,234 at P 122 (2014).

1 bonds reported by Moody’s averaged approximately 4.7% over the six months  
 2 ended October 2014.<sup>27</sup>

3 **Q. WHAT ELSE SHOULD BE CONSIDERED IN EVALUATING DCF**  
 4 **ESTIMATES AT THE LOW END OF THE RANGE?**

5 A. As indicated earlier, while corporate bond yields have declined substantially as  
 6 the worst of the financial crisis has abated, it is generally expected that long-term  
 7 interest rates will rise as the economy returns to a more normal pattern of growth.  
 8 As shown in Table 3 below, forecasts of IHS Global Insight and the EIA imply an  
 9 average triple-B bond yield of approximately 6.8% over the period 2015-2019:

**TABLE 3  
 IMPLIED BBB BOND YIELD**

|                                       |                       |
|---------------------------------------|-----------------------|
|                                       | <u><b>2015-19</b></u> |
| Projected AA Utility Yield            |                       |
| IHS Global Insight (a)                | 6.32%                 |
| EIA (b)                               | <u>6.08%</u>          |
| Average                               | 6.20%                 |
| Current BBB - AA Yield Spread (c)     | <u>0.57%</u>          |
| <b>Implied Triple-B Utility Yield</b> | <b>6.77%</b>          |

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(a) IHS Global Insight, U.S. Economic Outlook at 79 (May 2014)  
 (b) Energy Information Administration, Annual Energy Outlook  
 2014 (May 7, 2014)  
 (c) Based on monthly average bond yields from Moody's Investors  
 Service for the six-month period May 2014 - Oct. 2014

10 The increase in debt yields anticipated by IHS Global Insight and EIA is also  
 11 supported by the widely referenced Blue Chip Financial Forecasts, which projects

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<sup>27</sup> Moody’s Investors Service, <http://credittrends.moody.com/chartroom.asp?c=3>.

1 that yields on corporate bonds will climb on the order of 200 basis points through  
 2 2019.<sup>28</sup>

3 **Q. WHAT DOES THIS TEST OF LOGIC IMPLY WITH RESPECT TO THE**  
 4 **DCF RESULTS FOR THE ELECTRIC GROUP?**

5 A. Adding FERC’s 100 basis-point premium to the historical and projected average  
 6 utility bond yields implies a low-end threshold on the order of 5.7% to 7.8%. As  
 7 highlighted on page 3 of Exhibit WEA/AMM 6, after considering this test and the  
 8 distribution of individual estimates, we eliminated low-end DCF estimates  
 9 ranging from -0.4% to 7.4%. Based on our professional experience and the risk-  
 10 return principle that is fundamental to finance, it is inconceivable that investors  
 11 are not requiring a substantially higher rate of return for holding common stock.  
 12 As a result, consistent with the threshold established by historical and projected  
 13 utility bond yields, these values provide little guidance as to the returns investors  
 14 require from utility common stocks and should be excluded.

15 **Q. IS THERE ANY JUSTIFICATION TO ELIMINATE HIGH-END DCF**  
 16 **VALUES FOR THE ELECTRIC GROUP?**

17 A. No. As shown on page 3 of Exhibit WEA/AMM 6, the upper end of the cost of  
 18 equity range produced by the DCF analysis for the firms in the Electric Group is  
 19 represented by cost of equity estimates of 13.0%. While these cost of equity  
 20 estimates may exceed expectations for most electric utilities, low-end estimates  
 21 on the order of 7.8% are assuredly far below investors’ required rate of return.  
 22 Taken together and considered along with the balance of the DCF estimates, these

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<sup>28</sup> *Blue Chip Financial Forecasts*, Vol. 33, No. 6 (Jun. 1, 2014).



1 values provide a reasonable basis on which to evaluate investors’ required rate of  
 2 return. In addition, these high-end values fall below the threshold for high-end  
 3 outliers that has been consistently adopted by FERC, which has determined that  
 4 DCF cost of equity estimates above 17.7 percent are “extreme,” and that including  
 5 such results would “skew the results.”<sup>29</sup>

6 **Q. WHAT COST OF COMMON EQUITY ESTIMATES ARE IMPLIED BY**  
 7 **YOUR DCF RESULTS FOR THE ELECTRIC GROUP?**

8 A. As shown on page 3 of Exhibit WEA/AMM 6 and summarized in Table 4, below,  
 9 after eliminating illogical values, application of the constant growth DCF model  
 10 resulted in the following average cost of common equity estimates:

**TABLE 4**  
**DCF RESULTS – UTILITY PROXY GROUP**

| <u>Growth Rate</u> | <u>Cost of Equity</u> |                 |
|--------------------|-----------------------|-----------------|
|                    | <u>Average</u>        | <u>Midpoint</u> |
| Value Line         | 9.5%                  | 10.6%           |
| IBES               | 10.0%                 | 10.8%           |
| Zacks              | 9.4%                  | 10.1%           |
| Reuters            | 10.1%                 | 10.8%           |
| br + sv            | 8.6%                  | 8.9%            |

**C. Empirical Capital Asset Pricing Model**

11 **Q. PLEASE DESCRIBE THE ECAPM.**

12 A. The ECAPM is a variant of the traditional CAPM, which is a theory of market  
 13 equilibrium that measures risk using the beta coefficient. Assuming investors are

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<sup>29</sup> See, e.g., *ISO New England, Inc.*, 109 FERC ¶ 61,147 at P 205 (2004). FERC has continued to utilize this benchmark in evaluating DCF estimates at the upper end of the range. See, e.g., *S. Cal. Edison Co.*, 131 FERC ¶ 61,020 at P 57; *S. Cal. Edison Co.*, 139 FERC ¶ 61,042, at PP 54, 60; *RITELine Ill., LLC*, 137 FERC ¶ 61,039 at PP 68-73; *N. Pass Transmission LLC*, 134 FERC ¶ 61,095 at PP 46, 52-54)..

1 fully diversified, the relevant risk of an individual asset (e.g., common stock) is its  
 2 volatility relative to the market as a whole, with beta reflecting the tendency of a  
 3 stock's price to follow changes in the market. A stock that tends to respond less  
 4 to market movements has a beta less than 1.00, while stocks that tend to move  
 5 more than the market have betas greater than 1.00. The CAPM is mathematically  
 6 expressed as:

$$R_j = R_f + \beta_j(R_m - R_f)$$

Where:  $R_j$  = Required rate of return for stock j;  
 $R_f$  = risk-free rate;  
 $R_m$  = expected return on the market portfolio; and,  
 $\beta_j$  = beta, or systematic risk, for stock j.

7 Like the DCF model, the ECAPM is an *ex-ante*, or forward-looking model  
 8 based on expectations of the future. As a result, in order to produce a meaningful  
 9 estimate of investors' required rate of return, the ECAPM must be applied using  
 10 estimates that reflect the expectations of actual investors in the market, not with  
 11 backward-looking, historical data.

12 **Q. WHY IS THE ECAPM APPROACH AN APPROPRIATE COMPONENT IN**  
 13 **EVALUATING THE COST OF EQUITY FOR THE COMPANY?**

14 A. The CAPM approach, which forms the foundation of the ECAPM, generally is  
 15 considered to be the most widely referenced method for estimating the cost of  
 16 equity among academicians and professional practitioners, with the pioneering  
 17 researchers of this method receiving the Nobel Prize in 1990. Because this is the

1 dominant model for estimating the cost of equity outside the regulatory sphere,<sup>30</sup>  
 2 the ECAPM provides important insight into investors’ required rate of return for  
 3 utility stocks, including Kentucky Power.

4 **Q. HOW DOES THE ECAPM APPROACH DIFFER FROM TRADITIONAL**  
 5 **APPLICATIONS OF THE CAPM?**

6 A. Myriad empirical tests of the CAPM have shown that low-beta securities earn  
 7 returns somewhat higher than the CAPM would predict, and high-beta securities  
 8 earn less than predicted. In other words, the CAPM tends to overstate the actual  
 9 sensitivity of the cost of capital to beta, with low-beta stocks tending to have  
 10 higher returns and high-beta stocks tending to have lower risk returns than  
 11 predicted by the CAPM. This empirical finding is widely reported in the finance  
 12 literature, as summarized in *New Regulatory Finance*:

13 As discussed in the previous section, several finance scholars have  
 14 developed refined and expanded versions of the standard CAPM by  
 15 relaxing the constraints imposed on the CAPM, such as dividend  
 16 yield, size, and skewness effects. These enhanced CAPMs typically  
 17 produce a risk-return relationship that is flatter than the CAPM  
 18 prediction in keeping with the actual observed risk-return  
 19 relationship. The ECAPM makes use of these empirical  
 20 relationships.<sup>31</sup>

21 As discussed in *New Regulatory Finance*, based on a review of the  
 22 empirical evidence, the expected return on a security is related to its risk by the  
 23 ECAPM, which is represented by the following formula:

$$R_j = R_f + 0.25(R_m - R_f) + 0.75[\beta_j(R_m - R_f)]$$

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<sup>30</sup> See, e.g., Bruner, R.F., Eades, K.M., Harris, R.S., and Higgins, R.C., “Best Practices in Estimating Cost of Capital: Survey and Synthesis,” *Financial Practice and Education* (1998).

<sup>31</sup> Morin, Roger A., “New Regulatory Finance,” *Public Utilities Reports* at 189 (2006).

1 This ECAPM equation, and the associated weighting factors, recognize the  
2 observed relationship between standard CAPM estimates and the cost of capital  
3 documented in the financial research, and correct for the understated returns that  
4 would otherwise be produced for low beta stocks.

5 **Q. HOW DID YOU APPLY THE ECAPM TO ESTIMATE THE COST OF**  
6 **COMMON EQUITY?**

7 A. Application of the ECAPM to the Electric Group based on a forward-looking  
8 estimate for investors' required rate of return from common stocks is presented on  
9 Exhibit WEA/AMM 8. In order to capture the expectations of today's investors  
10 in current capital markets, the expected market rate of return was estimated by  
11 conducting a DCF analysis on the 408 dividend paying firms in the S&P 500.

12 The dividend yield for each firm was obtained from Value Line, and the  
13 growth rate was equal to the average of the EPS growth projections for each firm  
14 published by IBES, with each firm's dividend yield and growth rate being  
15 weighted by its proportionate share of total market value. Based on the weighted  
16 average of the projections for the 408 individual firms, current estimates imply an  
17 average growth rate over the next five years of 10.8%. Combining this average  
18 growth rate with a year-ahead dividend yield of 2.3% results in a current cost of  
19 common equity estimate for the market as a whole ( $R_m$ ) of approximately 13.1%.  
20 Subtracting a 3.3% risk-free rate based on the average yield on 30-year Treasury  
21 bonds for the six months ended October 2014 produced a market equity risk  
22 premium of 9.8%.

1 **Q. WHAT WAS THE SOURCE OF THE BETA VALUES YOU USED TO**  
 2 **APPLY THE ECAPM?**

3 A. As indicated earlier, we relied on the beta values reported by Value Line, which in  
 4 our experience is the most widely referenced source for beta in regulatory  
 5 proceedings.

6 **Q. WHAT ELSE SHOULD BE CONSIDERED IN APPLYING THE ECAPM?**

7 A. As explained by Morningstar:

8 One of the most remarkable discoveries of modern finance is that of  
 9 a relationship between firm size and return. The relationship cuts  
 10 across the entire size spectrum but is most evident among smaller  
 11 companies, which have higher returns on average than larger ones.<sup>32</sup>

12 Because financial research indicates that the ECAPM does not fully account for  
 13 observed differences in rates of return attributable to firm size, a modification is  
 14 required to account for this size effect.

15 According to the ECAPM, the expected return on a security should consist  
 16 of the riskless rate, plus a premium to compensate for the systematic risk of the  
 17 particular security. The degree of systematic risk is represented by the beta  
 18 coefficient. The need for the size adjustment arises because differences in  
 19 investors' required rates of return that are related to firm size are not fully  
 20 captured by beta. To account for this, Morningstar has developed size premiums  
 21 that need to be added to the theoretical ECAPM cost of equity estimates to  
 22 account for the level of a firm's market capitalization in determining the ECAPM

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<sup>32</sup> *Morningstar*, "Ibbotson SBBI 2013 Valuation Yearbook," at p. 85.

1 cost of equity.<sup>33</sup> These premiums correspond to the size deciles of publicly traded  
2 common stocks, and range from a premium of approximately 6.0% for a company  
3 in the first decile (market capitalization less than \$338.8 million), to a reduction  
4 of 33 basis points for firms in the tenth decile (market capitalization between  
5 \$21.8 billion and \$428.7 billion). Accordingly, our ECAPM analyses also  
6 incorporated an adjustment to recognize the impact of size distinctions, as  
7 measured by the average market capitalization for the Electric Group.

8 **Q. WHAT COST OF EQUITY IS IMPLIED FOR THE ELECTRIC GROUP**  
9 **USING THE ECAPM APPROACH?**

10 A. As shown on page 1 of Exhibit WEA/AMM 8, a forward-looking application of  
11 the ECAPM approach resulted in an average unadjusted ROE estimate of 11.3%.  
12 After adjusting for the impact of firm size, the ECAPM approach implied an  
13 average cost of equity of 12.2% for the Electric Group.<sup>34</sup>

14 **Q. DID YOU ALSO APPLY THE ECAPM USING FORECASTED BOND**  
15 **YIELDS?**

16 A. Yes. As discussed earlier, there is widespread consensus that interest rates will  
17 increase materially as the economy continues to strengthen. Accordingly, in  
18 addition to the use of current bond yields, we also applied the ECAPM based on  
19 the forecasted long-term Treasury bond yields developed based on projections  
20 published by Value Line, IHS Global Insight and Blue Chip. As shown on page 2  
21 of Exhibit WEA/AMM 8, incorporating a forecasted Treasury bond yield for

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<sup>33</sup> *Id.* at Table C-1.

<sup>34</sup> The midpoints of the unadjusted and size adjusted ECAPM ranges were 11.4% and 12.2%, respectively.

1 2015-2019 implied a cost of equity of approximately 11.6% for the Electric  
 2 Group, or 12.4% after adjusting for the impact of relative size. The midpoints of  
 3 the unadjusted and size adjusted cost of equity ranges were 11.7% and 12.4%,  
 4 respectively.

**D. Utility Risk Premium**

5 **Q. BRIEFLY DESCRIBE THE RISK PREMIUM METHOD.**

6 A. The risk premium method extends the risk-return tradeoff observed with bonds to  
 7 estimate investors' required rate of return on common stocks. The cost of equity  
 8 is estimated by first determining the additional return investors require to forgo  
 9 the relative safety of bonds and to bear the greater risks associated with common  
 10 stock, and by then adding this equity risk premium to the current yield on bonds.  
 11 Like the DCF model, the risk premium method is capital market oriented.  
 12 However, unlike DCF models, which indirectly impute the cost of equity, risk  
 13 premium methods directly estimate investors' required rate of return by adding an  
 14 equity risk premium to observable bond yields.

15 **Q. IS THE RISK PREMIUM APPROACH A WIDELY ACCEPTED METHOD**  
 16 **FOR ESTIMATING THE COST OF EQUITY?**

17 A. Yes. The risk premium approach is based on the fundamental risk-return  
 18 principle that is central to finance, which holds that investors will require a  
 19 premium in the form of a higher return in order to assume additional risk. This  
 20 method is routinely referenced by the investment community and in academia and  
 21 regulatory proceedings, and provides an important tool in estimating a fair ROE  
 22 for Kentucky Power.

1 **Q. HOW DID YOU IMPLEMENT THE RISK PREMIUM METHOD?**

2 A. Estimates of equity risk premiums for utilities were based on surveys of  
 3 previously authorized ROEs. Authorized ROEs presumably reflect regulatory  
 4 commissions' best estimates of the cost of equity, however determined, at the  
 5 time they issued their final order. Moreover, allowed returns are an important  
 6 consideration for investors and have the potential to influence other observable  
 7 investment parameters, including credit ratings and borrowing costs. Thus, these  
 8 data provide a logical and frequently referenced basis for estimating equity risk  
 9 premiums for regulated utilities.

10 **Q. IS IT CIRCULAR TO CONSIDER RISK PREMIUMS BASED ON**  
 11 **AUTHORIZED RETURNS IN ASSESSING A FAIR ROE FOR**  
 12 **KENTUCKY POWER?**

13 A. No. In establishing authorized ROEs, regulators typically consider the results of  
 14 alternative market-based approaches, including the DCF model. Because allowed  
 15 risk premiums consider objective market data (e.g., stock prices dividends, beta,  
 16 and interest rates), and are not based strictly on past actions of other regulators,  
 17 this mitigates concerns over any potential for circularity.

18 **Q. HOW DID YOU CALCULATE THE EQUITY RISK PREMIUMS BASED**  
 19 **ON ALLOWED ROES?**

20 A. The ROEs authorized for electric utilities by regulatory commissions across the  
 21 U.S. are compiled by Regulatory Research Associates and published in its  
 22 Regulatory Focus report. In Exhibit WEA/AMM 9, the average yield on public  
 23 utility bonds is subtracted from the average allowed ROE for electric utilities to



1 calculate equity risk premiums for each year between 1974 and 2013.<sup>35</sup> As shown  
 2 on page 3 of Exhibit WEA/AMM 9, over this period, these equity risk premiums  
 3 for electric utilities averaged 3.53%, and the yield on public utility bonds  
 4 averaged 8.69%.

5 **Q. IS THERE ANY CAPITAL MARKET RELATIONSHIP THAT MUST BE**  
 6 **CONSIDERED WHEN IMPLEMENTING THE RISK PREMIUM**  
 7 **METHOD?**

8 A. Yes. There is considerable evidence that the magnitude of equity risk premiums  
 9 is not constant and that equity risk premiums tend to move inversely with interest  
 10 rates.<sup>36</sup> In other words, when interest rate levels are relatively high, equity risk  
 11 premiums narrow, and when interest rates are relatively low, equity risk  
 12 premiums widen. The implication of this inverse relationship is that the cost of  
 13 equity does not move as much as, or in lockstep with, interest rates. Accordingly,  
 14 for a 1% increase or decrease in interest rates, the cost of equity will rise or fall by  
 15 a lesser amount. Therefore, when implementing the risk premium method, an  
 16 adjustment is required to incorporate this inverse relationship if current interest  
 17 rate levels have diverged from the average interest rate level represented in the  
 18 data set.

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<sup>35</sup> My analysis encompasses the entire period for which published data is available.

<sup>36</sup> See, e.g., Brigham, E.F., Shome, D.K., and Vinson, S.R., “The Risk Premium Approach to Measuring a Utility’s Cost of Equity,” *Financial Management* (Spring 1985); Harris, R.S., and Marston, F.C., “Estimating Shareholder Risk Premia Using Analysts’ Growth Forecasts,” *Financial Management* (Summer 1992).

1 **Q. HAS THIS INVERSE RELATIONSHIP BEEN DOCUMENTED IN THE**  
 2 **FINANCIAL RESEARCH?**

3 A. Yes. There is considerable empirical evidence that when interest rates are  
 4 relatively high, equity risk premiums narrow, and when interest rates are  
 5 relatively low, equity risk premiums are greater.<sup>37</sup> This inverse relationship  
 6 between equity risk premiums and interest rates has been widely reported in the  
 7 financial literature. For example, New Regulatory Finance documented this  
 8 inverse relationship:

9 Published studies by Brigham, Shome, and Vinson (1985), Harris  
 10 (1986), Harris and Marston (1992, 1993), Carelton, Chambers, and  
 11 Lakonishok (1983), Morin (2005), and McShane (2005), and others  
 12 demonstrate that, beginning in 1980, risk premiums varied inversely  
 13 with the level of interest rates – rising when rates fell and declining  
 14 when rates rose.<sup>38</sup>

15 Other regulators have also recognized that the cost of equity does not move in  
 16 tandem with interest rates.<sup>39</sup>

17 **Q. WHAT ARE THE IMPLICATIONS OF THIS RELATIONSHIP UNDER**  
 18 **CURRENT CAPITAL MARKET CONDITIONS?**

19 A. As noted earlier, bond yields are at unprecedented lows. Given that equity risk  
 20 premiums move inversely with interest rates, these uncharacteristically low bond  
 21 yields also imply a sharp increase in the equity risk premium that investors  
 22 require to accept the higher uncertainties associated with an investment in utility

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<sup>37</sup> *Id.*

<sup>38</sup> Morin, Roger A., “New Regulatory Finance,” Public Utilities Reports, at 128 (2006).

<sup>39</sup> *See, e.g.*, California Public Utilities Commission, Decision 08-05-035 (May 29, 2008); Entergy Mississippi Formula Rate Plan FRP-5, [http://www.entergy-mississippi.com/content/price/tariffs/emi\\_frp.pdf](http://www.entergy-mississippi.com/content/price/tariffs/emi_frp.pdf); *Martha Coakley et al.*, 147 FERC ¶ 61,234 at P 147 (2014).

1 common stocks versus bonds. In other words, higher required equity risk  
 2 premiums offset the impact of declining interest rates on the ROE.

3 **Q. WHAT COST OF EQUITY IS IMPLIED BY THE RISK PREMIUM**  
 4 **METHOD USING SURVEYS OF ALLOWED ROES?**

5 A. Because risk premiums move inversely with interest rates and current bond yields  
 6 are significantly lower than the average over the study period, it is necessary to  
 7 adjust the average equity risk premium over the study period to reflect the impact  
 8 of changes in bond yields. Based on the regression output between the interest  
 9 rates and equity risk premiums displayed on page 4 of Exhibit WEA/AMM 9, the  
 10 equity risk premium for electric utilities increased approximately 42 basis points  
 11 for each percentage point drop in the yield on average public utility bonds. As  
 12 illustrated on page 1 of Exhibit WEA/AMM 9, with an average yield on public  
 13 utility bonds for the six-months ending October 2014 of 4.34%, this implied a  
 14 current equity risk premium of 5.38% for electric utilities. Adding this equity risk  
 15 premium to the average yield on triple-B utility bonds of 4.70% implies a current  
 16 cost of equity of 10.08%.

17 **Q. WHAT RISK PREMIUM COST OF EQUITY ESTIMATE WAS**  
 18 **PRODUCED AFTER INCORPORATING FORECASTED BOND YIELDS?**

19 A. As shown on page 2 of Exhibit WEA/AMM 9, incorporating a forecasted yield  
 20 for 2015-2019 and adjusting for changes in interest rates since the study period  
 21 implied an equity risk premium of 4.50% for electric utilities. Adding this equity  
 22 risk premium to the implied average yield on triple-B public utility bonds for  
 23 2015-2019 of 6.77% resulted in an implied cost of equity of 11.27%.

**E. Flotation Costs**

1 **Q. WHAT OTHER CONSIDERATIONS ARE RELEVANT IN SETTING THE**  
 2 **RETURN ON EQUITY FOR A UTILITY?**

3 A. The common equity used to finance the investment in utility assets is provided  
 4 from either the sale of stock in the capital markets or from retained earnings not  
 5 paid out as dividends. When equity is raised through the sale of common stock,  
 6 there are costs associated with “floating” the new equity securities. These  
 7 flotation costs include services such as legal, accounting, and printing, as well as  
 8 the fees and discounts paid to compensate brokers for selling the stock to the  
 9 public. Also, some argue that the “market pressure” from the additional supply of  
 10 common stock and other market factors may further reduce the net amount of  
 11 funds a utility receives when it issues common equity.

12 **Q. IS THERE AN ESTABLISHED MECHANISM FOR A UTILITY TO**  
 13 **RECOGNIZE EQUITY ISSUANCE COSTS?**

14 A. No. While debt flotation costs are recorded on the books of the utility, amortized  
 15 over the life of the issue, and thus increase the effective cost of debt capital, there  
 16 is no similar accounting treatment to ensure that equity flotation costs are  
 17 recorded and ultimately recognized. No rate of return is authorized on flotation  
 18 costs necessarily incurred to obtain a portion of the equity capital used to finance  
 19 plant. In other words, equity flotation costs are not included in a utility’s rate  
 20 base because neither that portion of the gross proceeds from the sale of common  
 21 stock used to pay flotation costs is available to invest in plant and equipment, nor  
 22 are flotation costs capitalized as an intangible asset. Unless some provision is

1 made to recognize these issuance costs, a utility’s revenue requirements will not  
 2 fully reflect all of the costs incurred for the use of investors’ funds. Because there  
 3 is no accounting convention to accumulate the flotation costs associated with  
 4 equity issues, they must be accounted for indirectly, with an upward adjustment to  
 5 the cost of equity being the most appropriate mechanism.

6 **Q. IS THERE A THEORETICAL AND PRACTICAL BASIS TO INCLUDE A**  
 7 **FLOTATION COST ADJUSTMENT IN THIS CASE?**

8 A. Yes. First, an adjustment for flotation costs associated with past equity issues is  
 9 appropriate, even when the utility is not contemplating any new sales of common  
 10 stock. The need for a flotation cost adjustment to compensate for past equity  
 11 issues has been recognized in the financial literature. In a *Public Utilities*  
 12 *Fortnightly* article, for example, Brigham, Aberwald, and Gapenski demonstrated  
 13 that even if no further stock issues are contemplated, a flotation cost adjustment in  
 14 all future years is required to keep shareholders whole, and that the flotation cost  
 15 adjustment must consider total equity, including retained earnings.<sup>40</sup> Similarly,  
 16 *New Regulatory Finance* contains the following discussion:

17 Another controversy is whether the flotation cost allowance should  
 18 still be applied when the utility is not contemplating an imminent  
 19 common stock issue. Some argue that flotation costs are real and  
 20 should be recognized in calculating the fair rate of return on equity,  
 21 but only at the time when the expenses are incurred. In other words,  
 22 the flotation cost allowance should not continue indefinitely, but  
 23 should be made in the year in which the sale of securities occurs,  
 24 with no need for continuing compensation in future years. This  
 25 argument implies that the company has already been compensated  
 26 for these costs and/or the initial contributed capital was obtained

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<sup>40</sup> Brigham, E.F., Aberwald, D.A., and Gapenski, L.C., “Common Equity Flotation Costs and Rate Making,” *Public Utilities Fortnightly*, May, 2, 1985.

1 freely, devoid of any flotation costs, which is an unlikely  
 2 assumption, and certainly not applicable to most utilities. ... The  
 3 flotation cost adjustment cannot be strictly forward-looking unless  
 4 all past flotation costs associated with past issues have been  
 5 recovered.<sup>41</sup>

6 **Q. WHAT IS THE MAGNITUDE OF THE ADJUSTMENT TO THE “BARE**  
 7 **BONES” COST OF EQUITY TO ACCOUNT FOR ISSUANCE COSTS?**

8 A. There are a number of ways in which a flotation cost adjustment can be  
 9 calculated, but the most common methods used to account for flotation costs in  
 10 regulatory proceedings is to apply an average flotation-cost percentage to a  
 11 utility’s dividend yield. Based on a review of the finance literature, Regulatory  
 12 Finance: Utilities’ Cost of Capital concluded:

13 The flotation cost allowance requires an estimated adjustment to the  
 14 return on equity of approximately 5% to 10%, depending on the size  
 15 and risk of the issue.<sup>42</sup>

16 Alternatively, a study of data from Morgan Stanley regarding issuance  
 17 costs associated with utility common stock issuances suggests an average flotation  
 18 cost percentage of 3.6%.<sup>43</sup> Because Kentucky Power does not issue publicly  
 19 traded common stock it does not incur flotation costs directly; however, issuance  
 20 costs associated with AEP’s 2009 public offering of common stock were equal to  
 21 approximately 3.02% of the gross proceeds.<sup>44</sup> Multiplying a representative

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<sup>41</sup> Morin, Roger A., “New Regulatory Finance,” *Public Utilities Reports, Inc.* (2006) at 335.

<sup>42</sup> Roger A. Morin, “Regulatory Finance: Utilities’ Cost of Capital,” *Public Utilities Reports, Inc.* at 166 (1994).

<sup>43</sup> *Application of Yankee Gas Services Company for a Rate Increase*, DPUC Docket No. 04-06-01, Direct Testimony of George J. Eckenroth (Jul. 2, 2004) at Exhibit GJE-11.1. Updating the results presented by Mr. Eckenroth through April 2005 also resulted in an average flotation cost percentage of 3.6%.

<sup>44</sup> American Electric Power Company, Inc., *Prospectus Supplement (To Prospectus dated December 22, 2008)* (Apr. 1, 2009). Net proceeds from AEP’s sale of 69 million shares of common stock raised approximately \$1.64 billion of additional equity capital.

1 dividend yield of 3.9% by this 3.02% expense percentage for AEP implies a  
 2 minimum flotation cost adjustment on the order of 12 basis points.

**VI. OTHER ROE BENCHMARKS**

3 **Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?**

4 A. This section presents alternative tests to demonstrate that the end-results of the  
 5 ROE analyses discussed earlier are reasonable and do not exceed a fair ROE  
 6 given the facts and circumstances of Kentucky Power. The first test is based on  
 7 applications of the traditional CAPM analysis using current and projected interest  
 8 rates. The second test is based on expected earned returns for electric utilities.  
 9 Finally, we present a DCF analysis for a select, low risk group of non-utility  
 10 firms, with which the Company must compete for investors' money.

**A. Capital Asset Pricing Model**

11 **Q. WHAT COST OF EQUITY ESTIMATES WERE INDICATED BY THE**  
 12 **TRADITIONAL CAPM?**

13 A. Our application of the traditional CAPM was based on the same forward-looking  
 14 market rate of return, risk-free rates, and beta values discussed earlier in  
 15 connections with the ECAPM. As shown on page 1 of Exhibit WEA/AMM 10,  
 16 applying the forward-looking CAPM approach to the firms in the Electric Group  
 17 results in an average theoretical cost of equity estimate of 10.7%, or 11.6% after  
 18 incorporating the size adjustment corresponding to the market capitalization of the  
 19 individual utilities.

1           As shown on page 2 of Exhibit WEA/AMM 10, incorporating a forecasted  
 2 Treasury bond yield for 2015-2019 implied a cost of equity of approximately  
 3 11.1% for the Electric Group, or 11.9 % after adjusting for the impact of relative  
 4 size.

**B. Expected Earnings Approach**

5 **Q.   WHAT OTHER ANALYSES DID YOU CONDUCT TO ESTIMATE THE**  
 6 **COST OF COMMON EQUITY?**

7 A.   As noted earlier, we also evaluated the cost of common equity using the expected  
 8 earnings method. Reference to rates of return available from alternative  
 9 investments of comparable risk can provide an important benchmark in assessing  
 10 the return necessary to assure confidence in the financial integrity of a firm and its  
 11 ability to attract capital. This expected earnings approach is consistent with the  
 12 economic underpinnings for a fair rate of return established by the U.S. Supreme  
 13 Court in Bluefield and Hope. Moreover, it avoids the complexities and  
 14 limitations of capital market methods and instead focuses on the returns earned on  
 15 book equity, which are readily available to investors.

16 **Q.   WHAT ECONOMIC PREMISE UNDERLIES THE EXPECTED**  
 17 **EARNINGS APPROACH?**

18 A.   The simple, but powerful concept underlying the expected earnings approach is  
 19 that investors compare each investment alternative with the next best opportunity.  
 20 If the utility is unable to offer a return similar to that available from other  
 21 opportunities of comparable risk, investors will become unwilling to supply the  
 22 capital on reasonable terms. For existing investors, denying the utility an



1 opportunity to earn what is available from other similar risk alternatives prevents  
2 them from earning their opportunity cost of capital. In this situation the  
3 government is effectively taking the value of investors' capital without adequate  
4 compensation. The expected earnings approach is consistent with the economic  
5 rationale underpinning established regulatory standards, which specifies a  
6 methodology to determine an ROE benchmark based on earned rates of return for  
7 a peer group of other utilities.

8 **Q. HOW IS THE EXPECTED EARNINGS APPROACH TYPICALLY**  
9 **IMPLEMENTED?**

10 A. The traditional comparable earnings test identifies a group of companies that are  
11 believed to be comparable in risk to the utility. The actual earnings of those  
12 companies on the book value of their investment are then compared to the  
13 allowed return of the utility. While the traditional comparable earnings test is  
14 implemented using historical data taken from the accounting records, it is also  
15 common to use projections of returns on book investment, such as those published  
16 by recognized investment advisory publications (e.g., Value Line). Because these  
17 returns on book value equity are analogous to the allowed return on a utility's rate  
18 base, this measure of opportunity costs results in a direct, "apples to apples"  
19 comparison.

20 Moreover, regulators do not set the returns that investors earn in the  
21 capital markets, which are a function of dividend payments and fluctuations in  
22 common stock prices- both of which are outside their direct control. Regulators  
23 can only establish the allowed ROE, which is applied to the book value of a

1 utility’s investment in rate base, as determined from its accounting records. This  
 2 is directly analogous to the expected earnings approach, which measures the  
 3 return that investors expect the utility to earn on book value. As a result, the  
 4 expected earnings approach provides a meaningful guide to ensure that the  
 5 allowed ROE is similar to what other utilities of comparable risk will earn on  
 6 invested capital. This expected earnings test does not require theoretical models  
 7 to indirectly infer investors’ perceptions from stock prices or other market data.  
 8 As long as the proxy companies are similar in risk, their expected earned returns  
 9 on invested capital provide a direct benchmark for investors’ opportunity costs  
 10 that is independent of fluctuating stock prices, market-to-book ratios, debates over  
 11 DCF growth rates, or the limitations inherent in any theoretical model of investor  
 12 behavior.

13 **Q. WHAT RATES OF RETURN ON EQUITY ARE INDICATED FOR**  
 14 **UTILITIES BASED ON THE EXPECTED EARNINGS APPROACH?**

15 A. Value Line’s projections imply an average rate of return on common equity for  
 16 the electric utility industry of 10.6% over its forecast horizon.<sup>45</sup> Meanwhile, for  
 17 the firms in the Electric Group specifically, the year-end returns on common  
 18 equity projected by Value Line over its forecast horizon are shown on Exhibit  
 19 WEA/AMM 11. Consistent with the rationale underlying the development of the  
 20 br+sv growth rates, these year-end values were converted to average returns using  
 21 the same adjustment factor discussed earlier and developed on Exhibit  
 22 WEA/AMM 7. As shown on Exhibit No. 11, Value Line’s projections for the

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<sup>45</sup> The Value Line Investment Survey (Aug. 22, Sep. 19, & Oct. 31, 2014). Value Line reports return on year-end equity so the equivalent return on average equity would be higher.

1 Electric Group suggest an average ROE of approximately 9.9%, with a midpoint  
 2 value of 10.8%.

**C. Low Risk Non-Utility DCF**

3 **Q. WHAT OTHER PROXY GROUP DID YOU CONSIDER IN EVALUATING**  
 4 **A FAIR ROE FOR KENTUCKY POWER?**

5 A. Consistent with underlying economic and regulatory standards, we also applied  
 6 the DCF model to a reference group of low-risk companies in the non-utility  
 7 sectors of the economy. We refer to this group as the “Non-Utility Group”.

8 **A. DO UTILITIES HAVE TO COMPETE WITH NON-REGULATED FIRMS**  
 9 **FOR CAPITAL?**

10 A. Yes. The cost of capital is an opportunity cost based on the returns that investors  
 11 could realize by putting their money in other alternatives. Clearly, the total  
 12 capital invested in utility stocks is only the tip of the iceberg of total common  
 13 stock investment, and there are a plethora of other enterprises available to  
 14 investors beyond those in the utility industry. Utilities must compete for capital,  
 15 not just against firms in their own industry, but with other investment  
 16 opportunities of comparable risk. Indeed, modern portfolio theory is built on the  
 17 assumption that rational investors will hold a diverse portfolio of stocks, not just  
 18 companies in a single industry.

1 **Q. IS IT CONSISTENT WITH THE *BLUEFIELD* AND *HOPE* CASES TO**  
 2 **CONSIDER INVESTORS’ REQUIRED ROE FOR NON-UTILITY**  
 3 **COMPANIES?**

4 A. Yes. The cost of equity capital in the competitive sector of the economy form the  
 5 very underpinning for utility ROEs because regulation purports to serve as a  
 6 substitute for the actions of competitive markets. The Supreme Court has  
 7 recognized that it is the degree of risk, not the nature of the business, which is  
 8 relevant in evaluating an allowed ROE for a utility. The Bluefield case refers to  
 9 “business undertakings attended with comparable risks and uncertainties.” It does  
 10 not restrict consideration to other utilities. Similarly, the Hope case states:

11 By that standard the return to the equity owner should be  
 12 commensurate with returns on investments in other enterprises  
 13 having corresponding risks.<sup>46</sup>

14 As in the *Bluefield* decision, there is nothing to restrict “other enterprises” solely  
 15 to the utility industry.

16 **Q. DOES CONSIDERATION OF THE RESULTS FOR THE NON-UTILITY**  
 17 **GROUP MAKE THE ESTIMATION OF THE COST OF EQUITY USING**  
 18 **THE DCF MODEL MORE RELIABLE?**

19 A. Yes. The estimates of growth from the DCF model depend on analysts’ forecasts.  
 20 It is possible for utility growth rates to be distorted by short-term trends in the  
 21 industry, or by the industry falling into favor or disfavor by analysts. The result  
 22 of such distortions would be to bias the DCF estimates for utilities. Because the  
 23 Non-Utility Group includes low risk companies from many industries, it

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<sup>46</sup> *Federal Power Comm’n v. Hope Natural Gas Co.* 320 U.S. 391, (1944).

1 diversifies away any distortion that may be caused by the ebb and flow of  
 2 enthusiasm for a particular sector.

3 **Q. WHAT CRITERIA DID YOU APPLY TO DEVELOP THE NON-UTILITY**  
 4 **GROUP?**

5 A. The comparable risk proxy group was composed of those United States  
 6 companies followed by Value Line that:

- 7 1) pay common dividends;
- 8 2) have a Safety Rank of “1”;
- 9 3) have a Financial Strength Rating of “B++” or greater;
- 10 4) have a beta of 0.70 or less; and
- 11 5) have investment grade credit ratings from S&P.<sup>47</sup>

12 **Q. HOW DO THE OVERALL RISKS OF THIS NON-UTILITY GROUP**  
 13 **COMPARE WITH THE ELECTRIC GROUP?**

14 A. Table 5 compares the Non-Utility Group with the Electric Group and Kentucky  
 15 Power across the risk measures discussed earlier:

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<sup>47</sup> Credit rating firms, such as S&P, use designations consisting of upper- and lower-case letters 'A' and 'B' to identify a bond's credit quality rating. 'AAA', 'AA', 'A', and 'BBB' ratings are considered investment grade. Credit ratings for bonds below these designations ('BB', 'B', 'CCC', etc.) are considered speculative grade, and are commonly referred to as "junk bonds". The term “investment grade” refers to bonds with ratings in the ‘BBB’ category and above.

**TABLE 5  
COMPARISON OF RISK INDICATORS**

| <b>Proxy Group</b> | <b>S&amp;P</b> | <b>Moody's</b> | <b>Value Line</b>  |                           |             |
|--------------------|----------------|----------------|--------------------|---------------------------|-------------|
|                    |                |                | <b>Safety Rank</b> | <b>Financial Strength</b> | <b>Beta</b> |
| Non-Utility        | A              | A2             | 1                  | A+                        | 0.66        |
| Electric Group     | BBB            | Baa2           | 2                  | B++                       | 0.76        |
| Kentucky Power     | BBB            | Baa2           | 2                  | A                         | 0.70        |

1           As shown above, the average credit ratings, Safety Rank, Financial  
 2           Strength Rating, and beta for the Non-Utility Group suggest less risk than for  
 3           Kentucky Power and the proxy group of electric utilities. When considered  
 4           together, a comparison of these objective measures, which consider a broad  
 5           spectrum of risks, including financial and business position, relative size, and  
 6           exposure to company-specific factors, indicates that investors would likely  
 7           conclude that the overall investment risks for the Electric Group and the Company  
 8           are greater than those of the firms in the Non-Utility Group.

9           The sixteen companies that make up the Non-Utility Group are  
 10          representative of the pinnacle of corporate America. These firms, which include  
 11          household names such as Colgate-Palmolive, McDonalds, Proctor & Gamble, and  
 12          Wal-Mart, have long corporate histories, well-established track records, and  
 13          exceedingly conservative risk profiles. Many of these companies pay dividends  
 14          on a par with utilities, with the average dividend yield for the group approaching  
 15          3%. Moreover, because of their significance and name recognition, these  
 16          companies receive intense scrutiny by the investment community, which increases  
 17          confidence that published growth estimates are representative of the consensus  
 18          expectations reflected in common stock prices.

1 **Q. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS FOR THE**  
 2 **NON-UTILITY GROUP?**

3 A. We applied the DCF model to the Non-Utility Group using the same analysts’  
 4 EPS growth projections described earlier for the Electric Group, with the results  
 5 being presented in Exhibit WEA/AMM 12. As summarized in Table 6, below,  
 6 application of the constant growth DCF model resulted in the following cost of  
 7 equity estimates:

**TABLE 6**  
**DCF RESULTS – NON-UTILITY GROUP**

| <u>Growth Rate</u> | <u>Cost of Equity</u> |                 |
|--------------------|-----------------------|-----------------|
|                    | <u>Average</u>        | <u>Midpoint</u> |
| Value Line         | 10.9%                 | 10.9%           |
| IBES               | 10.5%                 | 10.4%           |
| Zacks              | 10.4%                 | 10.7%           |
| Reuters            | 10.6%                 | 11.1%           |

8 As discussed earlier, reference to the Non-Utility Group is consistent with  
 9 established regulatory principles. Required returns for utilities should be in line  
 10 with those of non-utility firms of comparable risk operating under the constraints  
 11 of free competition.

12 **Q. HOW CAN YOU RECONCILE THESE DCF RESULTS FOR THE NON-**  
 13 **UTILITY GROUP AGAINST THE SIGNIFICANTLY LOWER**  
 14 **ESTIMATES PRODUCED FOR YOUR GROUP OF UTILITIES?**

15 A. First, it is important to be clear that the higher DCF results for the Non-Utility  
 16 Group cannot be attributed to risk differences. As documented earlier, the risks  
 17 that investors associate with the group of non-utility firms - as measured by  
 18 S&P’s credit ratings, Value Line’s Safety Rank, Financial Strength, and beta – are

1 lower than the risks investors associate with the Electric Group and Kentucky  
2 Power. The objective evidence provided by these observable risk measures rules  
3 out a conclusion that the higher non-utility DCF estimates are associated with  
4 higher investment risk.

5 Rather, the divergence between the DCF results for these groups of utility  
6 and non-utility firms can be attributed to the fact that DCF estimates invariably  
7 depart from the returns that investors actually require because their expectations  
8 may not be captured by the inputs to the model, particularly the assumed growth  
9 rate. Because the actual cost of equity is unobservable, and DCF results  
10 inherently incorporate a degree of error, the cost of equity estimates for the Non-  
11 Utility Group provide an important benchmark in evaluating a fair ROE for the  
12 Company. There is no basis to conclude that DCF results for a group of utilities  
13 would be inherently more reliable than those for firms in the competitive sector,  
14 and the divergence between the DCF estimates for the group of utilities and the  
15 Non-Utility Group suggests that both should be considered to ensure a balanced  
16 end-result. The DCF results for the Non-Utility Group, which ranged from 10.4%  
17 to 10.9% and averaged 10.6%, provide additional confirmation that a 10.5% ROE  
18 for Kentucky Power before flotation costs is a reasonable estimate of investors'  
19 required return.



1 **Q. PLEASE SUMMARIZE THE RESULTS OF YOUR ALTERNATIVE ROE**  
 2 **BENCHMARKS.**

3 A. The cost of common equity estimates produced by the various tests of  
 4 reasonableness discussed above are shown on page 2 of Exhibit WEA/AMM 3,  
 5 and summarized in Table 7, below:

**TABLE 7**  
**SUMMARY OF ALTERNATIVE ROE BENCHMARKS**

|  | <u>Average</u> | <u>Midpoint</u> |
|--|----------------|-----------------|
| <b><u>CAPM - Historical Bond Yield</u></b> |                |                 |
| Unadjusted                                 | 10.7%          | 10.9%           |
| Size Adjusted                              | 11.6%          | 11.6%           |
| <b><u>CAPM - Projected Bond Yield</u></b>  |                |                 |
| Unadjusted                                 | 11.1%          | 11.2%           |
| Size Adjusted                              | 11.9%          | 11.9%           |
| <b><u>Expected Earnings</u></b>            |                |                 |
| Industry                                   | 10.6%          |                 |
| Proxy Group                                | 9.9%           | 10.8%           |
| <b><u>Non-Utility DCF</u></b>              |                |                 |
| Value Line                                 | 10.9%          | 10.9%           |
| IBES                                       | 10.5%          | 10.4%           |
| Zacks                                      | 10.4%          | 10.7%           |
| Reuters                                    | 10.6%          | 11.1%           |

6 The results of these alternative benchmarks confirm our conclusion that an ROE  
 7 of 10.62% for Kentucky Power’s electric utility operations is reasonable.

1 **Q. WHAT IS YOUR OPINION CONCERNING A REASONABLE RETURN**  
2 **ON ENVIRONMENTAL COMPLIANCE-RELATED CAPITAL**  
3 **EXPENDITURES FOR USE IN CONNECTION WITH THE COMPANY'S**  
4 **ENVIRONMENTAL COST-RECOVERY SURCHARGE?**

5 A. For the reasons I discuss above, 10.62% is a fair, just, and reasonable return on  
6 equity in connection with Kentucky Power's environmental compliance-related  
7 expenditures.

8 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

9 A. Yes.

## **QUALIFICATIONS OF WILLIAM E. AVERA**

**Q. WHAT IS THE PURPOSE OF THIS EXHIBIT?**

A. This exhibit describes Dr. Avera's background and experience and contains the details of his qualifications.

**Q. DR. AVERA, PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.**

A. I received a B.A. degree with a major in economics from Emory University. After serving in the U.S. Navy, I entered the doctoral program in economics at the University of North Carolina at Chapel Hill. Upon receiving my Ph.D., I joined the faculty at the University of North Carolina and taught finance in the Graduate School of Business. I subsequently accepted a position at the University of Texas at Austin where I taught courses in financial management and investment analysis. I then went to work for International Paper Company in New York City as Manager of Financial Education, a position in which I had responsibility for all corporate education programs in finance, accounting, and economics.

In 1977, I joined the staff of the Public Utility Commission of Texas ("PUCT") as Director of the Economic Research Division. During my tenure at the PUCT, I managed a division responsible for financial analysis, cost allocation and rate design, economic and financial research, and data processing systems, and I testified in cases on a variety of financial and economic issues. Since leaving the PUCT, I have been engaged as a consultant. I have participated in a wide range of assignments involving utility-related matters on behalf of utilities, industrial customers, municipalities, and regulatory commissions. I have previously testified before the Federal Energy Regulatory Commission ("FERC"), as well as the Federal Communications Commission, the Surface Transportation

Board (and its predecessor, the Interstate Commerce Commission), the Canadian Radio-Television and Telecommunications Commission, and regulatory agencies, courts, and legislative committees in over 40 states.

In 1995, I was appointed by the PUCT to the Synchronous Interconnection Committee to advise the Texas legislature on the costs and benefits of connecting Texas to the national electric transmission grid. In addition, I served as an outside director of Georgia System Operations Corporation, the system operator for electric cooperatives in Georgia.

I have served as Lecturer in the Finance Department at the University of Texas at Austin and taught in the evening graduate program at St. Edward's University for twenty years. In addition, I have lectured on economic and regulatory topics in programs sponsored by universities and industry groups. I have taught in hundreds of educational programs for financial analysts in programs sponsored by the Association for Investment Management and Research, the Financial Analysts Review, and local financial analysts societies. These programs have been presented in Asia, Europe, and North America, including the Financial Analysts Seminar at Northwestern University. I hold the Chartered Financial Analyst (CFA®) designation and have served as Vice President for Membership of the Financial Management Association. I have also served on the Board of Directors of the North Carolina Society of Financial Analysts. I was elected Vice Chairman of the National Association of Regulatory Commissioners ("NARUC") Subcommittee on Economics and appointed to NARUC's Technical Subcommittee on the National Energy Act. I have also served as an officer of various other professional organizations and societies. A resume containing the details of my experience and qualifications is attached.

**WILLIAM E. AVERA**

FINCAP, INC.  
Financial Concepts and Applications  
*Economic and Financial Counsel*

3907 Red River  
Austin, Texas 78751  
(512) 458-4644  
FAX (512) 458-4768  
fincap@texas.net

**Summary of Qualifications**

Ph.D. in economics and finance; Chartered Financial Analyst (CFA<sup>®</sup>) designation; extensive expert witness testimony before courts, alternative dispute resolution panels, regulatory agencies and legislative committees; lectured in executive education programs around the world on ethics, investment analysis, and regulation; undergraduate and graduate teaching in business and economics; appointed to leadership positions in government, industry, academia, and the military.

**Employment**

*Principal,*  
FINCAP, Inc.  
(Sep. 1979 to present)

Financial, economic and policy consulting to business and government. Perform business and public policy research, cost/benefit analyses and financial modeling, valuation of businesses (almost 200 entities valued), estimation of damages, statistical and industry studies. Provide strategy advice and educational services in public and private sectors, and serve as expert witness before regulatory agencies, legislative committees, arbitration panels, and courts.

*Director, Economic Research  
Division,*  
Public Utility Commission of Texas  
(Dec. 1977 to Aug. 1979)

Responsible for research and testimony preparation on rate of return, rate structure, and econometric analysis dealing with energy, telecommunications, water and sewer utilities. Testified in major rate cases and appeared before legislative committees and served as Chief Economist for agency. Administered state and federal grant funds. Communicated frequently with political leaders and representatives from consumer groups, media, and investment community.

*Manager, Financial Education,*  
International Paper Company  
New York City  
(Feb. 1977 to Nov. 1977)

Directed corporate education programs in accounting, finance, and economics. Developed course materials, recruited and trained instructors, liaison within the company and with academic institutions. Prepared operating budget and designed financial controls for corporate professional development program.

*Lecturer in Finance,*  
The University of Texas at Austin  
(Sep. 1979 to May 1981)  
Assistant Professor of Finance,  
(Sep. 1975 to May 1977)

Taught graduate and undergraduate courses in financial management and investment theory. Conducted research in business and public policy. Named Outstanding Graduate Business Professor and received various administrative appointments.

*Assistant Professor of Business,*  
University of North Carolina at  
Chapel Hill  
(Sep. 1972 to Jul. 1975)

Taught in BBA, MBA, and Ph.D. programs. Created project course in finance, Financial Management for Women, and participated in developing Small Business Management sequence. Organized the North Carolina Institute for Investment Research, a group of financial institutions that supported academic research. Faculty advisor to the Media Board, which funds student publications and broadcast stations.

### **Education**

*Ph.D., Economics and Finance,*  
University of North Carolina at  
Chapel Hill  
(Jan. 1969 to Aug. 1972)

Elective courses included financial management, public finance, monetary theory, and econometrics. Awarded the Stonier Fellowship by the American Bankers' Association and University Teaching Fellowship. Taught statistics, macroeconomics, and microeconomics.

Dissertation: *The Geometric Mean Strategy as a Theory of Multiperiod Portfolio Choice*

*B.A., Economics,*  
Emory University, Atlanta, Georgia  
(Sep. 1961 to Jun. 1965)

Active in extracurricular activities, president of the Barkley Forum (debate team), Emory Religious Association, and Delta Tau Delta chapter. Individual awards and team championships at national collegiate debate tournaments.

### **Professional Associations**

Received Chartered Financial Analyst (CFA) designation in 1977; Vice President for Membership, Financial Management Association; President, Austin Chapter of Planning Executives Institute; Board of Directors, North Carolina Society of Financial Analysts; Candidate Curriculum Committee, Association for Investment Management and Research; Executive Committee of Southern Finance Association; Vice Chair, Staff Subcommittee on Economics and National Association of Regulatory Utility Commissioners (NARUC); Appointed to NARUC Technical Subcommittee on the National Energy Act.

### **Teaching in Executive Education Programs**

*University-Sponsored Programs:* Central Michigan University, Duke University, Louisiana State University, National Defense University, National University of Singapore, Texas A&M University, University of Kansas, University of North Carolina, University of Texas.

*Business and Government-Sponsored Programs:* Advanced Seminar on Earnings Regulation, American Public Welfare Association, Association for Investment Management and Research, Congressional Fellows Program, Cost of Capital Workshop, Electricity Consumers Resource Council, Financial Analysts Association of Indonesia, Financial Analysts Review, Financial Analysts Seminar at Northwestern University, Governor's Executive Development Program of Texas, Louisiana Association of Business and Industry, National Association of Purchasing Management, National Association of Tire Dealers, Planning Executives Institute, School of Banking of the South, State of Wisconsin Investment Board, Stock Exchange of Thailand, Texas Association of State Sponsored Computer Centers, Texas Bankers' Association, Texas Bar Association, Texas Savings and Loan League, Texas Society of CPAs, Tokyo Association of Foreign Banks, Union Bank of Switzerland, U.S. Department of State, U.S. Navy, U.S. Veterans Administration, in addition to Texas state agencies and major corporations.

Presented papers for Mills B. Lane Lecture Series at the University of Georgia and Heubner Lectures at the University of Pennsylvania. Taught graduate courses in finance and economics for evening program at St. Edward's University in Austin from January 1979 through 1998.

### **Expert Witness Testimony**

Testified in almost 300 cases before regulatory agencies addressing cost of capital, regulatory policy, rate design, and other economic and financial issues.

*Federal Agencies:* Federal Communications Commission, Federal Energy Regulatory Commission, Surface Transportation Board, Interstate Commerce Commission, and the Canadian Radio-Television and Telecommunications Commission.

*State Regulatory Agencies:* Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Missouri, Nevada, New Mexico, Montana, Nebraska, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

Testified in 42 cases before federal and state courts, arbitration panels, and alternative dispute tribunals (89 depositions given) regarding damages, valuation, antitrust liability, fiduciary duties, and other economic and financial issues.

### **Board Positions and Other Professional Activities**

Co-chair, Synchronous Interconnection Committee established by Texas Legislature to study interconnection of Texas with national grid; Audit Committee and Outside Director, Georgia System Operations Corporation (electric system operator for member-owned electric cooperatives in Georgia); Chairman, Board of Print Depot, Inc. and FINCAP, Inc.; Appointed by Hays County Commission to Citizens Advisory Committee of Habitat Conservation Plan, Operator of AAA

Ranch, a certified organic producer of agricultural products; Appointed to Organic Livestock Advisory Committee by Texas Agricultural Commissioner; Appointed by Texas Railroad Commissioners to study group for *The UP/SP Merger: An Assessment of the Impacts on the State of Texas*; Appointed by Hawaii Public Utilities Commission to team reviewing affiliate relationships of Hawaiian Electric Industries; Chairman, Energy Task Force, Greater Austin-San Antonio Corridor Council; Consultant to Public Utility Commission of Texas on cogeneration policy and other matters; Consultant to Public Service Commission of New Mexico on cogeneration policy; Evaluator of Energy Research Grant Proposals for Texas Higher Education Coordinating Board.

### **Community Activities**

Treasurer, Dripping Springs Presbyterian Church; Board of Directors, Sustainable Food Center; Chair, Board of Deacons, Finance Committee, and Elder, Central Presbyterian Church of Austin; Founding Member, Orange-Chatham County (N.C.) Legal Aid Screening Committee.

### **Military**

Captain, U.S. Naval Reserve (retired after 28 years service); Commanding Officer, Naval Special Warfare Engineering (SEAL) Support Unit; Officer-in-Charge of SWIFT patrol boat in Vietnam; Enlisted service as weather analyst (advanced to second class petty officer).

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## Articles

- “Should Analysts Own the Stocks they Cover?” *The Financial Journalist*, (March 2002)
- “Liquidity, Exchange Listing, and Common Stock Performance,” with John C. Groth and Kerry Cooper, *Journal of Economics and Business* (Spring 1985); reprinted by National Association of Security Dealers
- “The Energy Crisis and the Homeowner: The Grief Process,” *Texas Business Review* (Jan.–Feb. 1980); reprinted in *The Energy Picture: Problems and Prospects*, J. E. Pluta, ed., Bureau of Business Research (1980)
- “Use of IFPS at the Public Utility Commission of Texas,” *Proceedings of the IFPS Users Group Annual Meeting* (1979)
- “Production Capacity Allocation: Conversion, CWIP, and One-Armed Economics,” *Proceedings of the NARUC Biennial Regulatory Information Conference* (1978)
- “Some Thoughts on the Rate of Return to Public Utility Companies,” with Bruce H. Fairchild in *Proceedings of the NARUC Biennial Regulatory Information Conference* (1978)
- “A New Capital Budgeting Measure: The Integration of Time, Liquidity, and Uncertainty,” with David Cordell in *Proceedings of the Southwestern Finance Association* (1977)
- “Usefulness of Current Values to Investors and Creditors,” in *Inflation Accounting/Indexing and Stock Behavior* (1977)
- “Consumer Expectations and the Economy,” *Texas Business Review* (Nov. 1976)
- “Portfolio Performance Evaluation and Long-run Capital Growth,” with Henry A. Latané in *Proceedings of the Eastern Finance Association* (1973)
- Book reviews in *Journal of Finance* and *Financial Review*. Abstracts for *CFA Digest*. Articles in *Carolina Financial Times*.

## Selected Papers and Presentations

- “Economic Perspective on Water Marketing in Texas,” 2009 Water Law Institute, The University of Texas School of Law, Austin, TX (Dec. 2009).
- “Estimating Utility Cost of Equity in Financial Turmoil,” SNL EXNET 15<sup>th</sup> Annual FERC Briefing, Washington, D.C. (Mar. 2009)
- “The Who, What, When, How, and Why of Ethics,” San Antonio Financial Analysts Society (Jan. 16, 2002). Similar presentation given to the Austin Society of Financial Analysts (Jan. 17, 2002)
- “Ethics for Financial Analysts,” Sponsored by Canadian Council of Financial Analysts: delivered in Calgary, Edmonton, Regina, and Winnipeg, June 1997. Similar presentations given to Austin Society of Financial Analysts (Mar. 1994), San Antonio Society of Financial Analysts (Nov. 1985), and St. Louis Society of Financial Analysts (Feb. 1986)
- “Cost of Capital for Multi-Divisional Corporations,” Financial Management Association, New Orleans, Louisiana (Oct. 1996)
- “Ethics and the Treasury Function,” Government Treasurers Organization of Texas, Corpus Christi, Texas (Jun. 1996)
- “A Cooperative Future,” Iowa Association of Electric Cooperatives, Des Moines (December 1995). Similar presentations given to National G & T Conference, Irving, Texas (June 1995), Kentucky

- Association of Electric Cooperatives Annual Meeting, Louisville (Nov. 1994), Virginia, Maryland, and Delaware Association of Electric Cooperatives Annual Meeting, Richmond (July 1994), and Carolina Electric Cooperatives Annual Meeting, Raleigh (Mar. 1994)
- "Information Superhighway Warnings: Speed Bumps on Wall Street and Detours from the Economy," Texas Society of Certified Public Accountants Natural Gas, Telecommunications and Electric Industries Conference, Austin (Apr. 1995)
- "Economic/Wall Street Outlook," Carolinas Council of the Institute of Management Accountants, Myrtle Beach, South Carolina (May 1994). Similar presentation given to Bell Operating Company Accounting Witness Conference, Santa Fe, New Mexico (Apr. 1993)
- "Regulatory Developments in Telecommunications," Regional Holding Company Financial and Accounting Conference, San Antonio (Sep. 1993)
- "Estimating the Cost of Capital During the 1990s: Issues and Directions," The National Society of Rate of Return Analysts, Washington, D.C. (May 1992)
- "Making Utility Regulation Work at the Public Utility Commission of Texas," Center for Legal and Regulatory Studies, University of Texas, Austin (June 1991)
- "Can Regulation Compete for the Hearts and Minds of Industrial Customers," Emerging Issues of Competition in the Electric Utility Industry Conference, Austin (May 1988)
- "The Role of Utilities in Fostering New Energy Technologies," Emerging Energy Technologies in Texas Conference, Austin (Mar. 1988)
- "The Regulators' Perspective," Bellcore Economic Analysis Conference, San Antonio (Nov. 1987)
- "Public Utility Commissions and the Nuclear Plant Contractor," Construction Litigation Superconference, Laguna Beach, California (Dec. 1986)
- "Development of Cogeneration Policies in Texas," University of Georgia Fifth Annual Public Utilities Conference, Atlanta (Sep. 1985)
- "Wheeling for Power Sales," Energy Bureau Cogeneration Conference, Houston (Nov. 1985).
- "Asymmetric Discounting of Information and Relative Liquidity: Some Empirical Evidence for Common Stocks" (with John Groth and Kerry Cooper), Southern Finance Association, New Orleans (Nov. 1982)
- "Used and Useful Planning Models," Planning Executive Institute, 27th Corporate Planning Conference, Los Angeles (Nov. 1979)
- "Staff Input to Commission Rate of Return Decisions," The National Society of Rate of Return Analysts, New York (Oct. 1979)
- "Discounted Cash Life: A New Measure of the Time Dimension in Capital Budgeting," with David Cordell, Southern Finance Association, New Orleans (Nov. 1978)
- "The Relative Value of Statistics of Ex Post Common Stock Distributions to Explain Variance," with Charles G. Martin, Southern Finance Association, Atlanta (Nov. 1977)
- "An ANOVA Representation of Common Stock Returns as a Framework for the Allocation of Portfolio Management Effort," with Charles G. Martin, Financial Management Association, Montreal (Oct. 1976)
- "A Growth-Optimal Portfolio Selection Model with Finite Horizon," with Henry A. Latané, American Finance Association, San Francisco (Dec. 1974)

- “An Optimal Approach to the Finance Decision,” with Henry A. Latané, Southern Finance Association, Atlanta (Nov. 1974)
- “A Pragmatic Approach to the Capital Structure Decision Based on Long-Run Growth,” with Henry A. Latané, Financial Management Association, San Diego (Oct. 1974)
- “Growth Rates, Expected Returns, and Variance in Portfolio Selection and Performance Evaluation,” with Henry A. Latané, Econometric Society, Oslo, Norway (Aug. 1973)

## **QUALIFICATIONS OF ADRIEN M. MCKENZIE**

**Q. WHAT IS THE PURPOSE OF THIS EXHIBIT?**

A. This exhibit describes Mr. McKenzie's background and experience and contains the details of his qualifications.

**Q. MR. MCKENZIE, PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.**

A. Since joining FINCAP in 1984, I have participated in consulting assignments involving a broad range of economic and financial issues, including cost of capital, cost of service, rate design, economic damages, and business valuation. I have extensive experience in economic and financial analysis for regulated industries, and in preparing and supporting expert witness testimony before courts, regulatory agencies, and legislative committees throughout the U.S. and Canada. I have personally sponsored direct and rebuttal testimony concerning the rate of return on equity ("ROE") in proceedings filed with FERC, the Kansas State Corporation Commission, Kentucky Public Service Commission, Montana Public Service Commission, the Washington Utilities and Transportation Commission, and the Wyoming Public Service Commission. My testimony addressed the establishment of risk-comparable proxy groups, the application of alternative quantitative methods, and the consideration of regulatory standards and policy objectives in establishing a fair ROE for regulated electric and gas utility operations. In addition, I have previously prepared prefiled direct and rebuttal testimony in over 250 regulatory proceedings before FERC, the Canadian Radio-Television and Telecommunications Commission, and regulatory agencies in over 30 states. This testimony was sponsored by Dr. William E. Avera, who is President of FINCAP, Inc. In

connection with these assignments, my responsibilities have included performing analytical methods to estimate investors' required rate of return and critically evaluating the results of alternative approaches, preparing direct testimony, responding to data requests, evaluating the positions of other parties and preparing responsive testimony, representing clients in settlement negotiations and hearings, and assisting in the preparation of legal briefs. Prior to joining FINCAP, I was employed by an oil and gas firm and was responsible for operations and accounting. I earned B.A. and M.B.A. degrees with a major in finance from The University of Texas at Austin, and hold the Chartered Financial Analyst (CFA®) designation.

**ADRIEN M. McKENZIE**

FINCAP, INC.  
Financial Concepts and Applications  
*Economic and Financial Counsel*

3907 Red River  
Austin, Texas 78751  
(512) 458-4644  
FAX (512) 458-4768  
fincap3@texas.net

**Summary of Qualifications**

Adrien McKenzie has an MBA in finance from the University of Texas at Austin and holds the Chartered Financial Analyst (CFA) designation. He has over 25 years experience in economic and financial analysis for regulated industries, and in preparing and supporting expert witness testimony before courts, regulatory agencies, and legislative committees throughout the U.S. and Canada. Assignments have included a broad range of economic and financial issues, including cost of capital, cost of service, rate design, economic damages, and business valuation.

**Employment**

*Consultant,*  
FINCAP, Inc.  
(June 1984 to June 1987)  
(April 1988 to present)

Economic consulting firm specializing in regulated industries and valuation of closely-held businesses. Assignments have involved electric, gas, telecommunication, and water/sewer utilities, with clients including utilities, consumer groups, municipalities, regulatory agencies, and cogenerators. Areas of participation have included rate of return, revenue requirements, rate design, tariff analysis, avoided cost, forecasting, and negotiations. Develop cost of capital analyses using alternative market models for electric, gas, and telephone utilities. Prepare pre-filed direct and rebuttal testimony, participate in settlement negotiations, respond to interrogatories, evaluate opposition testimony, and assist in the areas of cross-examination and the preparations of legal briefs. Other assignments have involved preparation of technical reports, valuations, estimation of damages, industry studies, and various economic analyses in support of litigation.

*Manager,*  
McKenzie Energy Company  
(Jan. 1981 to May. 1984)

Responsible for operations and accounting for firm engaged in the management of working interests in oil and gas properties.

## **Education**

*M.B.A., Finance,*  
University of Texas at Austin  
(Sep. 1982 to May. 1984)

Program included coursework in corporate finance, accounting, financial modeling, and statistics. Received Dean's Award for Academic Excellence and Good Neighbor Scholarship.

Professional Report: *The Impact of Construction Expenditures on Investor-Owned Electric Utilities*

*B.B.A., Finance,*  
University of Texas at Austin  
(Jan. 1981 to May 1982)

Electives included capital market theory, portfolio management, and international economics and finance. Elected to Beta Gamma Sigma business honor society. Dean's List 1981-1982.

Simon Fraser University,  
Vancouver, Canada and University  
of Hawaii at Manoa, Honolulu,  
Hawaii  
(Jan. 1979 to Dec 1980)

Coursework in accounting, finance, economics, and liberal arts.

## **Professional Associations**

Received Chartered Financial Analyst (CFA) designation in 1990.

*Member* – CFA Institute.

## **Bibliography**

“A Profile of State Regulatory Commissions,” A Special Report by the Electricity Consumers Resource Council (ELCON), Summer 1991.

“The Impact of Regulatory Climate on Utility Capital Costs: An Alternative Test,” with Bruce H. Fairchild, *Public Utilities Fortnightly* (May 25, 1989).

## **Presentations**

“ROE at FERC: Issues and Methods,” *Expert Briefing on Parallels in ROE Issues between AER, ERA, and FERC*, Jones Day (Sydney, Melbourne, and Perth, Australia) (April 15, 2014)

*Cost of Capital Working Group eforum*, Edison Electric Institute (April 24, 2012)

“Cost-of-Service Studies and Rate Design,” General Management of Electric Utilities (A Training Program for Electric Utility Managers from Developing Countries), Austin, Texas (October 1989 and November 1990 and 1991).

## **Representative Assignments**

Mr. McKenzie has prepared and supported prefiled testimony submitted in over 250 regulatory proceedings. In addition to filings before regulators in 33 states, Mr. McKenzie has considerable expertise in preparing expert analyses and testimony before the Federal Energy Regulatory Commission (“FERC”) on the issue of ROE. Many of these proceedings have been influential in addressing key aspects of FERC’s policies with respect to ROE determinations. Broad experience in applying and evaluating the results of quantitative methods to estimate a fair ROE, including discounted cash flow approaches, the Capital Asset Pricing Model, risk premium methods, and other quantitative benchmarks. Other representative assignments have included the application of econometric models to analyze the impact of anti-competitive behavior and estimate lost profits; development of explanatory models for nuclear plant capital costs in connection with prudence reviews; and the analysis of avoided cost pricing for cogenerated power.



## ROE ANALYSES

### SUMMARY OF RESULTS

| <u>DCF</u>                                    | <u>Average</u> | <u>Midpoint</u> |
|---|----------------|-----------------|
| Value Line                                    | 9.5%           | 10.6%           |
| IBES  | 10.0%          | 10.8%           |
| Zacks   | 9.4%           | 10.1%           |
| Reuters                                       | 10.1%          | 10.8%           |
| Internal br + sv                              | 8.6%           | 8.9%            |
| <u>Empirical CAPM - Historical Bond Yield</u> |                |                 |
| Unadjusted                                    | 11.3%          | 11.4%           |
| Size Adjusted                                 | 12.2%          | 12.2%           |
| <u>Empirical CAPM - Projected Bond Yield</u>  |                |                 |
| Unadjusted                                    | 11.6%          | 11.7%           |
| Size Adjusted                                 | 12.4%          | 12.4%           |
| <u>Utility Risk Premium</u>                   |                |                 |
| Historical Bond Yields                        | 10.1%          |                 |
| Projected Bond Yields                         | 11.3%          |                 |
| <u>Cost of Equity Recommendation</u>          |                |                 |
| Cost of Equity Range                          | 9.7% --        | 11.3%           |
| Recommended Point Estimate                    | 10.50%         |                 |
| <u>Flotation Cost Adjustment</u>              |                |                 |
| Dividend Yield                                | 3.9%           |                 |
| Flotation Cost Percentage                     | 3.0%           |                 |
| Adjustment                                    | 0.12%          |                 |
| <u>ROE Recommendation</u>                     |                |                 |
|   | 10.62%         |                 |

## ROE ANALYSES

### CHECKS OF REASONABLENESS

|  | <u>Average</u> | <u>Midpoint</u> |
|--|----------------|-----------------|
| <b><u>CAPM - Historical Bond Yield</u></b> |                |                 |
| Unadjusted                                 | 10.7%          | 10.9%           |
| Size Adjusted                              | 11.6%          | 11.6%           |
| <b><u>CAPM - Projected Bond Yield</u></b>  |                |                 |
| Unadjusted                                 | 11.1%          | 11.2%           |
| Size Adjusted                              | 11.9%          | 11.9%           |
| <b><u>Expected Earnings</u></b>            |                |                 |
| Industry                                   | 10.6%          |                 |
| Proxy Group                                | 9.9%           | 10.8%           |
| <b><u>Non-Utility DCF</u></b>              |                |                 |
| Value Line                                 | 10.9%          | 10.9%           |
| IBES                                       | 10.5%          | 10.4%           |
| Zacks                                      | 10.4%          | 10.7%           |
| Reuters                                    | 10.3%          | 11.1%           |

## REGULATORY MECHANISMS

### ELECTRIC GROUP

|    | <b>Company (a)</b>  | <b>Mechanism</b>   |
|----|---------------------|--|
| 1  | Ameren Corp.        | FCA, PGA, ICR, DSM, ECA, BDR   |
| 2  | American Elec Pwr   | FCA, ICR, ECA  |
| 3  | Black Hills Corp.   | FCA, PGA, ICR; ECA, TCR, WNA, Construction financing rider to recover financing costs in lieu of AFUDC |
| 4  | CMS Energy Corp.    | FCA, PGA, RDM  |
| 5  | Entergy Corp.       | FCA; PGA; SCR; DSM; Pre-Approval rider for generating facility   |
| 6  | FirstEnergy Corp.   | DSM; ICR; TCR  |
| 7  | Great Plains Energy | FCA in Kansas (no FCA in Missouri); PCR  |
| 8  | Hawaiian Elec.      | FCA, RDM   |
| 9  | IDACORP, Inc.       | FCA, RDM (Fixed Cost Adjustment Mechanism), DSM  |
| 10 | PG&E Corp.          | FCA, RDM   |
| 11 | SCANA Corp.         | FCA, PGA, RDM, ICR, DSM, PCR, SCR  |
| 12 | Sempra Energy       | FCA, RDM   |
| 13 | Westar Energy       | FCA, ECA, PCR  |

(a) Excludes American Electric Power Company, Inc.

BDR -- Bad Debt Cost Recovery Rider

DSM -- Demand Side Management / Conservation Adjustment Clause

ECA -- Environmental and/or Emissions Cost Adjustment Clause

FCA -- Fuel and/or Power Cost Adjustment Clause

FTY - Jurisdiction allows for future test year

ICR -- Infrastructure Investment / Renewables Cost Recovery Mechanism

PCR -- Pension Cost Recovery Mechanism

PGA -- Gas Cost Adjustment Clause

RDM -- Revenue Decoupling Mechanism

SCR - Storm Cost Recovery Tracker

TCR -- Transmission Cost Recovery Tracker

WNC -- Weather Normalization Clause or other mitigants

Source : 2013 Form 10-K Reports

CAPITAL STRUCTURE

ELECTRIC GROUP

| Company               | At Fiscal Year-End 2013 (a) |             |               | Value Line Projected (b) |             |               |
|-----------------------|-----------------------------|-------------|---------------|--------------------------|-------------|---------------|
|                       | Debt                        | Preferred   | Common Equity | Debt                     | Other       | Common Equity |
| 1 Ameren Corp.        | 47.5%                       | 0.0%        | 52.5%         | 45.5%                    | 1.0%        | 53.5%         |
| 2 American Elec Pwr   | 49.0%                       | 0.0%        | 51.0%         | 52.0%                    | 0.0%        | 48.0%         |
| 3 Black Hills Corp.   | 51.6%                       | 0.0%        | 48.4%         | 53.5%                    | 0.0%        | 46.5%         |
| 4 CMS Energy Corp.    | 68.7%                       | 0.0%        | 31.3%         | 62.5%                    | 0.5%        | 37.0%         |
| 5 Entergy Corp.       | 54.1%                       | 1.4%        | 44.5%         | 54.5%                    | 1.0%        | 44.5%         |
| 6 FirstEnergy Corp.   | 57.6%                       | 0.0%        | 42.4%         | 55.0%                    | 0.0%        | 45.0%         |
| 7 Great Plains Energy | 50.0%                       | 0.6%        | 49.4%         | 43.5%                    | 0.5%        | 56.0%         |
| 8 Hawaiian Elec.      | 46.4%                       | 0.0%        | 53.6%         | 50.0%                    | 0.5%        | 49.5%         |
| 9 IDACORP, Inc.       | 43.5%                       | 6.6%        | 49.9%         | 48.5%                    | 0.0%        | 51.5%         |
| 10 PG&E Corp.         | 48.2%                       | 0.9%        | 50.9%         | 48.5%                    | 0.5%        | 51.0%         |
| 11 SCANA Corp.        | 53.9%                       | 0.0%        | 46.1%         | 52.5%                    | 0.0%        | 47.5%         |
| 12 Sempra Energy      | 51.1%                       | 0.1%        | 48.8%         | 52.0%                    | 0.0%        | 48.0%         |
| 13 Westar Energy      | 51.4%                       | 0.0%        | 48.6%         | 50.0%                    | 0.0%        | 50.0%         |
| <b>Average</b>        | <b>51.8%</b>                | <b>0.7%</b> | <b>47.5%</b>  | <b>51.4%</b>             | <b>0.3%</b> | <b>48.3%</b>  |

(a) Company Form 10-K and Annual Reports.

(b) The Value Line Investment Survey (Aug. 22, Sep. 19, & Oct. 31, 2014).

## DCF MODEL - ELECTRIC GROUP

### DIVIDEND YIELD

|    |                     | (a)          | (b)              |              |
|----|---------------------|--------------|------------------|--------------|
|    | <u>Company</u>      | <u>Price</u> | <u>Dividends</u> | <u>Yield</u> |
| 1  | Ameren Corp.        | \$ 39.78     | \$ 1.64          | 4.1%         |
| 2  | American Elec Pwr   | \$ 54.29     | \$ 2.12          | 3.9%         |
| 3  | Black Hills Corp.   | \$ 49.95     | \$ 1.62          | 3.2%         |
| 4  | CMS Energy Corp.    | \$ 30.73     | \$ 1.13          | 3.7%         |
| 5  | Entergy Corp.       | \$ 79.19     | \$ 3.32          | 4.2%         |
| 6  | FirstEnergy Corp.   | \$ 34.88     | \$ 1.44          | 4.1%         |
| 7  | Great Plains Energy | \$ 25.17     | \$ 0.96          | 3.8%         |
| 8  | Hawaiian Elec.      | \$ 26.99     | \$ 1.24          | 4.6%         |
| 9  | IDACORP, Inc.       | \$ 56.77     | \$ 1.88          | 3.3%         |
| 10 | PG&E Corp.          | \$ 45.81     | \$ 1.82          | 4.0%         |
| 11 | SCANA Corp.         | \$ 50.85     | \$ 2.15          | 4.2%         |
| 12 | Sempra Energy       | \$105.56     | \$ 2.76          | 2.6%         |
| 13 | Westar Energy       | \$ 35.40     | \$ 1.40          | 4.0%         |
|    | <b>Average</b>      |              |                  | <b>3.8%</b>  |

(a) Average of closing prices for 30 trading days ended Oct. 31, 2014.

(b) The Value Line Investment Survey, Summary & Index (Oct. 31, 2014).

## DCF MODEL - ELECTRIC GROUP

### GROWTH RATES

|    |                     | (a)                    | (b)         | (c)          | (d)            | (e)           |
|----|---------------------|------------------------|-------------|--------------|----------------|---------------|
|    |                     | <b>Earnings Growth</b> |             |              |                | <b>br+sv</b>  |
|    | <u>Company</u>      | <u>V Line</u>          | <u>IBES</u> | <u>Zacks</u> | <u>Reuters</u> | <u>Growth</u> |
| 1  | Ameren Corp.        | 4.5%                   | 8.9%        | 8.3%         | 8.9%           | 4.0%          |
| 2  | American Elec Pwr   | 4.5%                   | 5.0%        | 4.9%         | 5.0%           | 3.9%          |
| 3  | Black Hills Corp.   | 9.5%                   | 7.0%        | NA           | NA             | 4.1%          |
| 4  | CMS Energy Corp.    | 6.5%                   | 6.8%        | 6.1%         | 6.8%           | 6.3%          |
| 5  | Entergy Corp.       | 1.0%                   | 1.7%        | -1.1%        | 1.7%           | 4.2%          |
| 6  | FirstEnergy Corp.   | 4.5%                   | -0.5%       | -4.5%        | -3.3%          | 3.9%          |
| 7  | Great Plains Energy | 6.0%                   | 5.0%        | 5.0%         | 5.0%           | 3.1%          |
| 8  | Hawaiian Elec.      | 4.0%                   | 4.0%        | 4.0%         | 4.0%           | 3.9%          |
| 9  | IDACORP, Inc.       | 1.5%                   | 4.0%        | 4.0%         | NA             | 3.6%          |
| 10 | PG&E Corp.          | 5.0%                   | 7.0%        | 5.6%         | 8.2%           | 3.0%          |
| 11 | SCANA Corp.         | 5.0%                   | 4.6%        | 4.4%         | 4.6%           | 5.0%          |
| 12 | Sempra Energy       | 7.0%                   | 7.5%        | 7.5%         | 7.5%           | 6.1%          |
| 13 | Westar Energy       | 6.0%                   | 3.2%        | 3.8%         | 3.2%           | 4.9%          |

(a) The Value Line Investment Survey (Aug. 22, Sep. 19, & Oct. 31, 2014).

(b) [www.finance.yahoo.com](http://www.finance.yahoo.com) (retrieved Oct. 31, 2014).

(c) [www.zacks.com](http://www.zacks.com) (retrieved Oct. 31, 2014).

(d) [www.reuters.com/finance/stocks](http://www.reuters.com/finance/stocks) (retrieved Oct. 31, 2014).

(e) See Exhibit No. 7.

DCF MODEL - ELECTRIC GROUP

DCF COST OF EQUITY ESTIMATES

| <u>Company</u>        | (a)           | (a)          | (a)          | (a)            | (a)                 |
|-----------------------|---------------|--------------|--------------|----------------|---------------------|
|                       | <u>V Line</u> | <u>IBES</u>  | <u>Zacks</u> | <u>Reuters</u> | <u>br+sv Growth</u> |
| 1 Ameren Corp.        | 8.6%          | 13.0%        | 12.4%        | 13.0%          | 8.1%                |
| 2 American Elec Pwr   | 8.4%          | 8.9%         | 8.8%         | 8.9%           | 7.8%                |
| 3 Black Hills Corp.   | 12.7%         | 10.2%        | NA           | NA             | 7.4%                |
| 4 CMS Energy Corp.    | 10.2%         | 10.5%        | 9.8%         | 10.5%          | 10.0%               |
| 5 Entergy Corp.       | 5.2%          | 5.9%         | 3.1%         | 5.8%           | 8.4%                |
| 6 FirstEnergy Corp.   | 8.6%          | 3.6%         | -0.4%        | 0.8%           | 8.1%                |
| 7 Great Plains Energy | 9.8%          | 8.8%         | 8.8%         | 8.8%           | 6.9%                |
| 8 Hawaiian Elec.      | 8.6%          | 8.6%         | 8.6%         | 8.6%           | 8.5%                |
| 9 IDACORP, Inc.       | 4.8%          | 7.3%         | 7.3%         | NA             | 6.9%                |
| 10 PG&E Corp.         | 9.0%          | 10.9%        | 9.6%         | 12.2%          | 6.9%                |
| 11 SCANA Corp.        | 9.2%          | 8.8%         | 8.6%         | 8.8%           | 9.2%                |
| 12 Sempra Energy      | 9.6%          | 10.1%        | 10.1%        | 10.1%          | 8.7%                |
| 13 Westar Energy      | 10.0%         | 7.2%         | 7.8%         | 7.2%           | 8.8%                |
| <b>Average (b)</b>    | <b>9.5%</b>   | <b>10.0%</b> | <b>9.4%</b>  | <b>10.1%</b>   | <b>8.6%</b>         |
| <b>Midpoint (c)</b>   | <b>10.6%</b>  | <b>10.8%</b> | <b>10.1%</b> | <b>10.8%</b>   | <b>8.9%</b>         |

(a) Sum of dividend yield (Exhibit No. 6, p. 1) and respective growth rate (Exhibit No. 6, p. 2).

(b) Excludes highlighted figures.

(c) Average of low and high values.

DCF MODEL - ELECTRIC GROUP

BR+SV GROWTH RATE

|                       | (a)    |        | (a)     |       | (b)    | (c)   | (d)    |            |        | (e)  | br + sv |
|-----------------------|--------|--------|---------|-------|--------|-------|--------|------------|--------|------|---------|
|                       | EPS    | DPS    | BVPS    | 2018  |        |       | Factor | Adjusted r | s      |      |         |
| 1 Ameren Corp.        | \$3.00 | \$1.80 | \$32.00 | 40.0% | 1.0210 | 9.6%  | 0.0095 | 0.2000     | 0.19%  | 4.0% |         |
| 2 American Elec Pwr   | \$4.00 | \$2.50 | \$40.50 | 37.5% | 1.0223 | 10.1% | 0.0056 | 0.2636     | 0.15%  | 3.9% |         |
| 3 Black Hills Corp.   | \$3.25 | \$1.90 | \$35.50 | 41.5% | 1.0218 | 9.4%  | 0.0078 | 0.2900     | 0.23%  | 4.1% |         |
| 4 CMS Energy Corp.    | \$2.25 | \$1.35 | \$17.25 | 40.0% | 1.0338 | 13.5% | 0.0215 | 0.4250     | 0.92%  | 6.3% |         |
| 5 Entergy Corp.       | \$6.50 | \$3.80 | \$66.75 | 41.5% | 1.0220 | 10.0% | 0.0016 | 0.2147     | 0.03%  | 4.2% |         |
| 6 FirstEnergy Corp.   | \$3.00 | \$1.60 | \$36.50 | 46.7% | 1.0213 | 8.4%  | 0.0060 | 0.0267     | 0.02%  | 3.9% |         |
| 7 Great Plains Energy | \$2.00 | \$1.20 | \$26.00 | 40.0% | 1.0160 | 7.8%  | 0.0033 | (0.0400)   | -0.01% | 3.1% |         |
| 8 Hawaiian Elec.      | \$2.00 | \$1.30 | \$20.50 | 35.0% | 1.0275 | 10.0% | 0.0226 | 0.1800     | 0.41%  | 3.9% |         |
| 9 IDACORP, Inc.       | \$3.75 | \$2.20 | \$44.90 | 41.3% | 1.0206 | 8.5%  | 0.0045 | 0.1448     | 0.06%  | 3.6% |         |
| 10 PG&E Corp.         | \$3.00 | \$2.10 | \$36.50 | 30.0% | 1.0242 | 8.4%  | 0.0226 | 0.1889     | 0.43%  | 3.0% |         |
| 11 SCANA Corp.        | \$4.25 | \$2.35 | \$43.50 | 44.7% | 1.0380 | 10.1% | 0.0270 | 0.1714     | 0.46%  | 5.0% |         |
| 12 Sempra Energy      | \$6.50 | \$3.40 | \$56.25 | 47.7% | 1.0248 | 11.8% | 0.0106 | 0.4231     | 0.45%  | 6.1% |         |
| 13 Westar Energy      | \$2.90 | \$1.60 | \$29.65 | 44.8% | 1.0266 | 10.0% | 0.0139 | 0.2588     | 0.36%  | 4.9% |         |



DCF MODEL - ELECTRIC GROUP

BR+SV GROWTHRATE

| Company               | 2013     |          |          | 2018     |          |          | Chg  | 2018 Price |         |       | Avg.    | Common Shares |        | Growth |
|-----------------------|----------|----------|----------|----------|----------|----------|------|------------|---------|-------|---------|---------------|--------|--------|
|                       | Eq Ratio | Tot Cap  | Com Eq   | Eq Ratio | Tot Cap  | Com Eq   |      | High       | Low     | M/B   |         | 2013          | 2018   |        |
| 1 Ameren Corp.        | 53.7%    | \$12,190 | \$6,546  | 53.5%    | \$15,100 | \$8,079  | 4.3% | \$45.00    | \$35.00 | 1.250 | \$40.00 | 242.63        | 252.00 | 0.76%  |
| 2 American Elec Pwr   | 48.9%    | \$32,913 | \$16,094 | 48.0%    | \$41,900 | \$20,112 | 4.6% | \$65.00    | \$45.00 | 1.358 | \$55.00 | 487.78        | 498.00 | 0.42%  |
| 3 Black Hills Corp.   | 48.4%    | \$2,705  | \$1,309  | 46.5%    | \$3,500  | \$1,628  | 4.5% | \$60.00    | \$40.00 | 1.408 | \$50.00 | 44.50         | 45.75  | 0.56%  |
| 4 CMS Energy Corp.    | 32.2%    | \$10,730 | \$3,455  | 37.0%    | \$13,100 | \$4,847  | 7.0% | \$35.00    | \$25.00 | 1.739 | \$30.00 | 266.10        | 283.00 | 1.24%  |
| 5 Entergy Corp.       | 43.6%    | \$22,109 | \$9,640  | 44.5%    | \$27,000 | \$12,015 | 4.5% | \$100.00   | \$70.00 | 1.273 | \$85.00 | 178.37        | 179.50 | 0.13%  |
| 6 FirstEnergy Corp.   | 44.5%    | \$28,523 | \$12,693 | 45.0%    | \$34,900 | \$15,705 | 4.4% | \$45.00    | \$30.00 | 1.027 | \$37.50 | 418.63        | 431.00 | 0.58%  |
| 7 Great Plains Energy | 49.4%    | \$7,029  | \$3,472  | 56.0%    | \$7,275  | \$4,074  | 3.2% | \$30.00    | \$20.00 | 0.962 | \$25.00 | 153.87        | 156.50 | 0.34%  |
| 8 Hawaiian Elec.      | 55.0%    | \$3,143  | \$1,729  | 49.5%    | \$4,600  | \$2,277  | 5.7% | \$30.00    | \$20.00 | 1.220 | \$25.00 | 101.26        | 111.00 | 1.85%  |
| 9 IDACORP, Inc.       | 53.4%    | \$3,466  | \$1,851  | 51.5%    | \$4,415  | \$2,274  | 4.2% | \$60.00    | \$45.00 | 1.169 | \$52.50 | 50.23         | 51.20  | 0.38%  |
| 10 PG&E Corp.         | 52.5%    | \$27,311 | \$14,338 | 51.0%    | \$35,800 | \$18,258 | 5.0% | \$55.00    | \$35.00 | 1.233 | \$45.00 | 456.67        | 500.00 | 1.83%  |
| 11 SCANA Corp.        | 46.4%    | \$10,059 | \$4,667  | 47.5%    | \$14,375 | \$6,828  | 7.9% | \$60.00    | \$45.00 | 1.207 | \$52.50 | 141.00        | 157.50 | 2.24%  |
| 12 Sempra Energy      | 49.4%    | \$22,281 | \$11,007 | 48.0%    | \$29,400 | \$14,112 | 5.1% | \$110.00   | \$85.00 | 1.733 | \$97.50 | 244.46        | 252.00 | 0.61%  |
| 13 Westar Energy      | 50.0%    | \$6,131  | \$3,066  | 50.0%    | \$8,000  | \$4,000  | 5.5% | \$45.00    | \$35.00 | 1.349 | \$40.00 | 128.25        | 135.00 | 1.03%  |

- (a) The Value Line Investment Survey (Aug. 22, Sep. 19, & Oct. 31, 2014).
- (b) Computed using the formula  $2 * (1+5\text{-Yr. Change in Equity}) / (2+5 \text{ Yr. Change in Equity})$ .
- (c) Product of average year-end "r" for 2018 and Adjustment Factor.
- (d) Product of change in common shares outstanding and M/B Ratio.
- (e) Computed as  $1 - B/M$  Ratio.
- (f) Product of total capital and equity ratio.
- (g) Five-year rate of change.
- (h) Average of High and Low expected market prices divided by 2018 BVPS.

EMPIRICAL CAPM - CURRENT BOND YIELD

ELECTRIC GROUP

| Company               | (a)                             |        | (b)       |              | (c)            |                |                     | (d)               |                 |                  | (e)    |                     | (f)        |                 | (g)                     |                 |
|-----------------------|---------------------------------|--------|-----------|--------------|----------------|----------------|---------------------|-------------------|-----------------|------------------|--------|---------------------|------------|-----------------|-------------------------|-----------------|
|                       | Market Return (R <sub>m</sub> ) |        | Div Yield | Proj. Growth | Cost of Equity | Risk-Free Rate | Market Risk Premium | Unadjusted Weight | RP <sup>1</sup> | Beta Adjusted RP |        | Total Unadjusted RP | Market Cap | Size Adjustment | Adjusted K <sub>e</sub> |                 |
|                       | Yield                           | Growth |           |              |                |                |                     |                   |                 | Beta             | Weight |                     |            |                 |                         | RP <sup>2</sup> |
| 1 Ameren Corp.        | 2.3%                            | 10.8%  | 13.1%     | 3.3%         | 9.8%           | 25%            | 2.5%                | 0.75              | 75%             | 5.5%             | 8.0%   | \$ 10,329.9         | 0.80%      | 12.1%           |                         |                 |
| 2 American Elec Pwr   | 2.3%                            | 10.8%  | 13.1%     | 3.3%         | 9.8%           | 25%            | 2.5%                | 0.70              | 75%             | 5.1%             | 7.6%   | \$ 28,507.2         | -0.33%     | 10.6%           |                         |                 |
| 3 Black Hills Corp.   | 2.3%                            | 10.8%  | 13.1%     | 3.3%         | 9.8%           | 25%            | 2.5%                | 0.90              | 75%             | 6.6%             | 9.1%   | \$ 2,437.4          | 1.72%      | 14.1%           |                         |                 |
| 4 CMS Energy Corp.    | 2.3%                            | 10.8%  | 13.1%     | 3.3%         | 9.8%           | 25%            | 2.5%                | 0.75              | 75%             | 5.5%             | 8.0%   | \$ 9,015.0          | 0.93%      | 12.2%           |                         |                 |
| 5 Entergy Corp.       | 2.3%                            | 10.8%  | 13.1%     | 3.3%         | 9.8%           | 25%            | 2.5%                | 0.70              | 75%             | 5.1%             | 7.6%   | \$ 15,125.6         | 0.80%      | 11.7%           |                         |                 |
| 6 FirstEnergy Corp.   | 2.3%                            | 10.8%  | 13.1%     | 3.3%         | 9.8%           | 25%            | 2.5%                | 0.70              | 75%             | 5.1%             | 7.6%   | \$ 15,764.4         | 0.80%      | 11.7%           |                         |                 |
| 7 Great Plains Energy | 2.3%                            | 10.8%  | 13.1%     | 3.3%         | 9.8%           | 25%            | 2.5%                | 0.85              | 75%             | 6.2%             | 8.7%   | \$ 4,135.3          | 1.19%      | 13.2%           |                         |                 |
| 8 Hawaiian Elec.      | 2.3%                            | 10.8%  | 13.1%     | 3.3%         | 9.8%           | 25%            | 2.5%                | 0.80              | 75%             | 5.9%             | 8.3%   | \$ 2,846.7          | 1.72%      | 13.4%           |                         |                 |
| 9 IDACORP, Inc.       | 2.3%                            | 10.8%  | 13.1%     | 3.3%         | 9.8%           | 25%            | 2.5%                | 0.80              | 75%             | 5.9%             | 8.3%   | \$ 3,176.4          | 1.72%      | 13.4%           |                         |                 |
| 10 PG&E Corp.         | 2.3%                            | 10.8%  | 13.1%     | 3.3%         | 9.8%           | 25%            | 2.5%                | 0.65              | 75%             | 4.8%             | 7.2%   | \$ 23,655.5         | -0.33%     | 10.2%           |                         |                 |
| 11 SCANA Corp.        | 2.3%                            | 10.8%  | 13.1%     | 3.3%         | 9.8%           | 25%            | 2.5%                | 0.75              | 75%             | 5.5%             | 8.0%   | \$ 7,702.6          | 0.93%      | 12.2%           |                         |                 |
| 12 Sempra Energy      | 2.3%                            | 10.8%  | 13.1%     | 3.3%         | 9.8%           | 25%            | 2.5%                | 0.75              | 75%             | 5.5%             | 8.0%   | \$ 27,146.1         | -0.33%     | 10.9%           |                         |                 |
| 13 Westar Energy      | 2.3%                            | 10.8%  | 13.1%     | 3.3%         | 9.8%           | 25%            | 2.5%                | 0.75              | 75%             | 5.5%             | 8.0%   | \$ 4,869.7          | 1.19%      | 12.5%           |                         |                 |
| <b>Average</b>        |                                 |        |           |              |                |                |                     |                   |                 |                  |        |                     |            | <b>11.3%</b>    | <b>12.2%</b>            |                 |
| <b>Midpoint (h)</b>   |                                 |        |           |              |                |                |                     |                   |                 |                  |        |                     |            |                 | <b>11.4%</b>            | <b>12.2%</b>    |

- (a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueine.com (Retrieved Sep. 19, 201)
- (b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from <http://finance.yahoo.com> (retrieved Sep. 22, 2014).
- (c) Average yield on 30-year Treasury bonds for the six-months ending Oct. 2014 based on data from the <http://www.federalreserve.gov/releases/h15/data.htm>
- (d) Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 190 (2006).
- (e) The Value Line Investment Survey (Aug. 22, Sep. 19, & Oct. 31, 2014)
- (f) [www.valueine.com](http://www.valueine.com) (retrieved Nov. 5, 2014)
- (g) Morningstar, "2014 Ibbotson S&BBI Market Report," at Table 10 (2014).
- (h) Average of low and high values

**EMPIRICAL CAPM - PROJECTED BOND YIELD**

**ELECTRIC GROUP**

| Company               | (a)                             |              | (b)            |                | (c)     |      | (d)    |                 | (e)           |        | (f)              |              | (g)              |            |                 |                         |
|-----------------------|---------------------------------|--------------|----------------|----------------|---------|------|--------|-----------------|---------------|--------|------------------|--------------|------------------|------------|-----------------|-------------------------|
|                       | Market Return (R <sub>m</sub> ) |              |                |                | Market  |      | Risk   |                 | Unadjusted RP |        | Beta Adjusted RP |              | Total Unadjusted |            | Size            |                         |
|                       | Div Yield                       | Proj. Growth | Cost of Equity | Risk-Free Rate | Premium | Risk | Weight | RP <sup>1</sup> | Beta          | Weight | RP <sup>2</sup>  | RP           | K <sub>e</sub>   | Market Cap | Size Adjustment | Adjusted K <sub>e</sub> |
| 1 Ameren Corp.        | 2.3%                            | 10.8%        | 13.1%          | 4.7%           | 8.4%    | 25%  | 2.1%   | 0.75            | 75%           | 4.7%   | 6.8%             | 11.5%        | \$ 10,329.9      | 0.80%      |                 | 12.3%                   |
| 2 American Elec Pwr   | 2.3%                            | 10.8%        | 13.1%          | 4.7%           | 8.4%    | 25%  | 2.1%   | 0.70            | 75%           | 4.4%   | 6.5%             | 11.2%        | \$ 28,507.2      | -0.33%     |                 | 10.9%                   |
| 3 Black Hills Corp.   | 2.3%                            | 10.8%        | 13.1%          | 4.7%           | 8.4%    | 25%  | 2.1%   | 0.90            | 75%           | 5.7%   | 7.8%             | 12.5%        | \$ 2,437.4       | 1.72%      |                 | 14.2%                   |
| 4 CMS Energy Corp.    | 2.3%                            | 10.8%        | 13.1%          | 4.7%           | 8.4%    | 25%  | 2.1%   | 0.75            | 75%           | 4.7%   | 6.8%             | 11.5%        | \$ 9,015.0       | 0.93%      |                 | 12.5%                   |
| 5 Entergy Corp.       | 2.3%                            | 10.8%        | 13.1%          | 4.7%           | 8.4%    | 25%  | 2.1%   | 0.70            | 75%           | 4.4%   | 6.5%             | 11.2%        | \$ 15,125.6      | 0.80%      |                 | 12.0%                   |
| 6 FirstEnergy Corp.   | 2.3%                            | 10.8%        | 13.1%          | 4.7%           | 8.4%    | 25%  | 2.1%   | 0.70            | 75%           | 4.4%   | 6.5%             | 11.2%        | \$ 15,764.4      | 0.80%      |                 | 12.0%                   |
| 7 Great Plains Energy | 2.3%                            | 10.8%        | 13.1%          | 4.7%           | 8.4%    | 25%  | 2.1%   | 0.85            | 75%           | 5.4%   | 7.5%             | 12.2%        | \$ 4,135.3       | 1.19%      |                 | 13.3%                   |
| 8 Hawaiian Elec.      | 2.3%                            | 10.8%        | 13.1%          | 4.7%           | 8.4%    | 25%  | 2.1%   | 0.80            | 75%           | 5.0%   | 7.1%             | 11.8%        | \$ 2,846.7       | 1.72%      |                 | 13.6%                   |
| 9 IDACORP, Inc.       | 2.3%                            | 10.8%        | 13.1%          | 4.7%           | 8.4%    | 25%  | 2.1%   | 0.80            | 75%           | 5.0%   | 7.1%             | 11.8%        | \$ 3,176.4       | 1.72%      |                 | 13.6%                   |
| 10 PG&E Corp.         | 2.3%                            | 10.8%        | 13.1%          | 4.7%           | 8.4%    | 25%  | 2.1%   | 0.65            | 75%           | 4.1%   | 6.2%             | 10.9%        | \$ 23,655.5      | -0.33%     |                 | 10.6%                   |
| 11 SCANA Corp.        | 2.3%                            | 10.8%        | 13.1%          | 4.7%           | 8.4%    | 25%  | 2.1%   | 0.75            | 75%           | 4.7%   | 6.8%             | 11.5%        | \$ 7,702.6       | 0.93%      |                 | 12.5%                   |
| 12 Sempra Energy      | 2.3%                            | 10.8%        | 13.1%          | 4.7%           | 8.4%    | 25%  | 2.1%   | 0.75            | 75%           | 4.7%   | 6.8%             | 11.5%        | \$ 27,146.1      | -0.33%     |                 | 11.2%                   |
| 13 Westar Energy      | 2.3%                            | 10.8%        | 13.1%          | 4.7%           | 8.4%    | 25%  | 2.1%   | 0.75            | 75%           | 4.7%   | 6.8%             | 11.5%        | \$ 4,869.7       | 1.19%      |                 | 12.7%                   |
| <b>Average</b>        |                                 |              |                |                |         |      |        |                 |               |        |                  | <b>11.6%</b> |                  |            |                 | <b>12.4%</b>            |
| <b>Midpoint (h)</b>   |                                 |              |                |                |         |      |        |                 |               |        |                  | <b>11.7%</b> |                  |            |                 | <b>12.4%</b>            |

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (Retrieved Sep. 19, 201).

(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from <http://finance.yahoo.com> (retrieved Sep. 22, 2014).

(c) Average yield on 30-year Treasury bonds for 2015-2019 based on data from the Value Line Investment Survey, Forecast for the U.S. Economy (Aug. 22, 2014); IHS Global Insight, U.S. Economy Outlook at 79 (May 2014); & Blue Chip Financial Forecasts, Vol. 33, No. 6 (Jun. 1, 2014).

(d) Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 190 (2006).

(e) The Value Line Investment Survey (Aug. 22, Sep. 19, & Oct. 31, 2014)

(f) www.valueline.com (retrieved Nov. 5, 2014)

(g) Morningstar, "2014 Ibbotson SBBI Market Report," at Table 10 (2014).

(h) Average of low and high values

## ELECTRIC UTILITY RISK PREMIUM

### CURRENT BOND YIELD

#### Current Equity Risk Premium

|   |                |
|---|----------------|
| (a) Avg. Yield over Study Period            | 8.69%          |
| (b) Average Utility Bond Yield              | <u>4.34%</u>   |
| Change in Bond Yield                        | -4.35%         |
| (c) Risk Premium/Interest Rate Relationship | <u>-0.4246</u> |
| Adjustment to Average Risk Premium          | 1.85%          |
| (a) Average Risk Premium over Study Period  | <u>3.53%</u>   |
| <b>Adjusted Risk Premium</b>                | <b>5.38%</b>   |

#### Implied Cost of Equity

|                                    |               |
|------------------------------------|---------------|
| (b) BBB Utility Bond Yield         | 4.70%         |
| Adjusted Equity Risk Premium       | <u>5.38%</u>  |
| <b>Risk Premium Cost of Equity</b> | <b>10.08%</b> |

(a) Exhibit No. 9, page 3.

(b) Average bond yield for six-months ending Oct. 2014 based on data from Moody's Investors Service at [www.credittrends.com](http://www.credittrends.com).

(c) Exhibit No. 9, page 4.

## ELECTRIC UTILITY RISK PREMIUM

### PROJECTED BOND YIELD

#### Current Equity Risk Premium

|   |                |
|---|----------------|
| (a) Avg. Yield over Study Period            | 8.69%          |
| (b) Average Utility Bond Yield 2015-2019    | <u>6.41%</u>   |
| Change in Bond Yield                        | -2.28%         |
| (c) Risk Premium/Interest Rate Relationship | <u>-0.4246</u> |
| Adjustment to Average Risk Premium          | 0.97%          |
| (a) Average Risk Premium over Study Period  | <u>3.53%</u>   |
| <b>Adjusted Risk Premium</b>                | <b>4.50%</b>   |

#### Implied Cost of Equity

|                                      |               |
|--------------------------------------|---------------|
| (b) BBB Utility Bond Yield 2015-2019 | 6.77%         |
| Adjusted Equity Risk Premium         | <u>4.50%</u>  |
| <b>Risk Premium Cost of Equity</b>   | <b>11.27%</b> |

- (a) Exhibit No. 9, page 3.
- (b) Based on data from IHS Global Insight, U.S. Economic Outlook at 79 (May 2014); Energy Information Administration, Annual Energy Outlook 2014 (May 7, 2014); & Moody's Investors Service at [www.credittrends.com](http://www.credittrends.com).
- (c) Exhibit No. 9, page 4.

**ELECTRIC UTILITY RISK PREMIUM**

**AUTHORIZED RETURNS**

| <b>Year</b>    | <b>(a)<br/>Allowed<br/>ROE</b> | <b>(b)<br/>Average Utility<br/>Bond Yield</b> | <b>Risk<br/>Premium</b> |
|----------------|--------------------------------|---|-------------------------|
| 1974           | 13.10%                         | 9.27%   | 3.83%                   |
| 1975           | 13.20%                         | 9.88%   | 3.32%                   |
| 1976           | 13.10%                         | 9.17%   | 3.93%                   |
| 1977           | 13.30%                         | 8.58%   | 4.72%                   |
| 1978           | 13.20%                         | 9.22%   | 3.98%                   |
| 1979           | 13.50%                         | 10.39%  | 3.11%                   |
| 1980           | 14.23%                         | 13.15%  | 1.08%                   |
| 1981           | 15.22%                         | 15.62%  | -0.40%                  |
| 1982           | 15.78%                         | 15.33%  | 0.45%                   |
| 1983           | 15.36%                         | 13.31%  | 2.05%                   |
| 1984           | 15.32%                         | 14.03%  | 1.29%                   |
| 1985           | 15.20%                         | 12.29%  | 2.91%                   |
| 1986           | 13.93%                         | 9.46%   | 4.47%                   |
| 1987           | 12.99%                         | 9.98%   | 3.01%                   |
| 1988           | 12.79%                         | 10.45%  | 2.34%                   |
| 1989           | 12.97%                         | 9.66%   | 3.31%                   |
| 1990           | 12.70%                         | 9.76%   | 2.94%                   |
| 1991           | 12.55%                         | 9.21%   | 3.34%                   |
| 1992           | 12.09%                         | 8.57%   | 3.52%                   |
| 1993           | 11.41%                         | 7.56%   | 3.85%                   |
| 1994           | 11.34%                         | 8.30%   | 3.04%                   |
| 1995           | 11.55%                         | 7.91%   | 3.64%                   |
| 1996           | 11.39%                         | 7.74%   | 3.65%                   |
| 1997           | 11.40%                         | 7.63%   | 3.77%                   |
| 1998           | 11.66%                         | 7.00%   | 4.66%                   |
| 1999           | 10.77%                         | 7.55%   | 3.22%                   |
| 2000           | 11.43%                         | 8.09%   | 3.34%                   |
| 2001           | 11.09%                         | 7.72%   | 3.37%                   |
| 2002           | 11.16%                         | 7.53%   | 3.63%                   |
| 2003           | 10.97%                         | 6.61%   | 4.36%                   |
| 2004           | 10.75%                         | 6.20%   | 4.55%                   |
| 2005           | 10.54%                         | 5.67%   | 4.87%                   |
| 2006           | 10.36%                         | 6.08%   | 4.28%                   |
| 2007           | 10.36%                         | 6.11%   | 4.25%                   |
| 2008           | 10.46%                         | 6.65%   | 3.81%                   |
| 2009           | 10.48%                         | 6.28%   | 4.20%                   |
| 2010           | 10.34%                         | 5.56%   | 4.78%                   |
| 2011           | 10.29%                         | 5.13%   | 5.16%                   |
| 2012           | 10.17%                         | 4.26%   | 5.91%                   |
| 2013           | <u>10.02%</u>                  | <u>4.55%</u>                                  | <u>5.47%</u>            |
| <b>Average</b> | 12.21%                         | 8.69%   | 3.53%                   |

(a) Major Rate Case Decisions, Regulatory Focus, Regulatory Research Associates; *UtilityScope Regulatory Service*, Argus.

(b) Moody's Investors Service.

**ELECTRIC UTILITY RISK PREMIUM**

**REGRESSION RESULTS**

SUMMARY OUTPUT

| <i>Regression Statistics</i> |           |
|------------------------------|-----------|
| Multiple R                   | 0.9186517 |
| R Square                     | 0.8439209 |
| Adjusted R Square            | 0.8398135 |
| Standard Error               | 0.0051378 |
| Observations                 | 40        |

ANOVA

|            | <i>df</i> | <i>SS</i>   | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
|------------|-----------|-------------|-----------|----------|-----------------------|
| Regression | 1         | 0.005423795 | 0.005424  | 205.4662 | 6.5706E-17            |
| Residual   | 38        | 0.001003105 | 2.64E-05  |          |                       |
| Total      | 39        | 0.0064269   |           |          |                       |

|              | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> | <i>Lower 95.0%</i> | <i>Upper 95.0%</i> |
|--------------|---------------------|-----------------------|---------------|----------------|------------------|------------------|--------------------|--------------------|
| Intercept    | 0.0721319           | 0.002698047           | 26.73484      | 3.02E-26       | 0.06666996       | 0.07759379       | 0.066669963        | 0.077593786        |
| X Variable 1 | -0.4245597          | 0.02961887            | -14.3341      | 6.57E-17       | -0.48451992      | -0.36459938      | -0.48451992        | -0.36459938        |

CAPM - CURRENT BOND YIELD

ELECTRIC GROUP

|                       | (a)   | (b)    |        | (c)     |           | (d)  | (e)            |             | (f)        |                |          |
|-----------------------|-------|--------|--------|---------|-----------|------|----------------|-------------|------------|----------------|----------|
|                       |       | Div    | Proj.  | Cost of | Risk-Free |      | Risk           | Unadjusted  | Market     | Size           | Adjusted |
| Company               | Yield | Growth | Equity | Rate    | Premium   | Beta | K <sub>e</sub> | Cap         | Adjustment | K <sub>e</sub> | Size     |
| 1 Ameren Corp.        | 2.3%  | 10.8%  | 13.1%  | 3.3%    | 9.8%      | 0.75 | 10.7%          | \$ 10,329.9 | 0.80%      | 11.5%          | 11.5%    |
| 2 American Elec Pwr   | 2.3%  | 10.8%  | 13.1%  | 3.3%    | 9.8%      | 0.70 | 10.2%          | \$ 28,507.2 | -0.33%     | 9.8%           | 9.8%     |
| 3 Black Hills Corp.   | 2.3%  | 10.8%  | 13.1%  | 3.3%    | 9.8%      | 0.90 | 12.1%          | \$ 2,437.4  | 1.72%      | 13.8%          | 13.8%    |
| 4 CMS Energy Corp.    | 2.3%  | 10.8%  | 13.1%  | 3.3%    | 9.8%      | 0.75 | 10.7%          | \$ 9,015.0  | 0.93%      | 11.6%          | 11.6%    |
| 5 Entergy Corp.       | 2.3%  | 10.8%  | 13.1%  | 3.3%    | 9.8%      | 0.70 | 10.2%          | \$ 15,125.6 | 0.80%      | 11.0%          | 11.0%    |
| 6 FirstEnergy Corp.   | 2.3%  | 10.8%  | 13.1%  | 3.3%    | 9.8%      | 0.70 | 10.2%          | \$ 15,764.4 | 0.80%      | 11.0%          | 11.0%    |
| 7 Great Plains Energy | 2.3%  | 10.8%  | 13.1%  | 3.3%    | 9.8%      | 0.85 | 11.6%          | \$ 4,135.3  | 1.19%      | 12.8%          | 12.8%    |
| 8 Hawaiian Elec.      | 2.3%  | 10.8%  | 13.1%  | 3.3%    | 9.8%      | 0.80 | 11.1%          | \$ 2,846.7  | 1.72%      | 12.9%          | 12.9%    |
| 9 IDACORP, Inc.       | 2.3%  | 10.8%  | 13.1%  | 3.3%    | 9.8%      | 0.80 | 11.1%          | \$ 3,176.4  | 1.72%      | 12.9%          | 12.9%    |
| 10 PG&E Corp.         | 2.3%  | 10.8%  | 13.1%  | 3.3%    | 9.8%      | 0.65 | 9.7%           | \$ 23,655.5 | -0.33%     | 9.3%           | 9.3%     |
| 11 SCANA Corp.        | 2.3%  | 10.8%  | 13.1%  | 3.3%    | 9.8%      | 0.75 | 10.7%          | \$ 7,702.6  | 0.93%      | 11.6%          | 11.6%    |
| 12 Sempra Energy      | 2.3%  | 10.8%  | 13.1%  | 3.3%    | 9.8%      | 0.75 | 10.7%          | \$ 27,146.1 | -0.33%     | 10.3%          | 10.3%    |
| 13 Westar Energy      | 2.3%  | 10.8%  | 13.1%  | 3.3%    | 9.8%      | 0.75 | 10.7%          | \$ 4,869.7  | 1.19%      | 11.8%          | 11.8%    |
| <b>Average</b>        |       |        |        |         |           |      | <b>10.7%</b>   |             |            | <b>11.6%</b>   |          |
| <b>Midpoint (g)</b>   |       |        |        |         |           |      | <b>10.9%</b>   |             |            | <b>11.6%</b>   |          |

- (a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueine.com (Retrieved Sep. 19, 2014).
- (b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from http://finance.yahoo.com (retrieved Sep. 22, 2014).
- (c) Average yield on 30-year Treasury bonds for the six-months ending Oct. 2014 based on data from the
- (d) The Value Line Investment Survey (Aug. 22, Sep. 19, & Oct. 31, 2014).
- (e) www.valueine.com (retrieved Nov. 5, 2014).
- (f) Morningstar, "2014 Ibbotson S&P Market Report," at Table 10 (2014).
- (g) Average of low and high values.



**CAPM - PROJECTED BOND YIELD**

**ELECTRIC GROUP**

|                       | (a)   | (b)    |        | (c)  | (d)     | (e)            |                | (f)          |            | Size Adjusted  |
|-----------------------|-------|--------|--------|------|---------|----------------|----------------|--------------|------------|----------------|
|                       |       | Div    | Proj.  |      |         | Cost of Equity | Risk-Free Rate | Risk Premium | Beta       |                |
| Company               | Yield | Growth | Equity | Rate | Premium | Beta           | K <sub>e</sub> | Cap          | Adjustment | K <sub>e</sub> |
| 1 Ameren Corp.        | 2.3%  | 10.8%  | 13.1%  | 4.7% | 8.4%    | 0.75           | 11.0%          | \$ 10,329.9  | 0.80%      | 11.8%          |
| 2 American Elec Pwr   | 2.3%  | 10.8%  | 13.1%  | 4.7% | 8.4%    | 0.70           | 10.6%          | \$ 28,507.2  | -0.33%     | 10.3%          |
| 3 Black Hills Corp.   | 2.3%  | 10.8%  | 13.1%  | 4.7% | 8.4%    | 0.90           | 12.3%          | \$ 2,437.4   | 1.72%      | 14.0%          |
| 4 CMS Energy Corp.    | 2.3%  | 10.8%  | 13.1%  | 4.7% | 8.4%    | 0.75           | 11.0%          | \$ 9,015.0   | 0.93%      | 11.9%          |
| 5 Entergy Corp.       | 2.3%  | 10.8%  | 13.1%  | 4.7% | 8.4%    | 0.70           | 10.6%          | \$ 15,125.6  | 0.80%      | 11.4%          |
| 6 FirstEnergy Corp.   | 2.3%  | 10.8%  | 13.1%  | 4.7% | 8.4%    | 0.70           | 10.6%          | \$ 15,764.4  | 0.80%      | 11.4%          |
| 7 Great Plains Energy | 2.3%  | 10.8%  | 13.1%  | 4.7% | 8.4%    | 0.85           | 11.8%          | \$ 4,135.3   | 1.19%      | 13.0%          |
| 8 Hawaiian Elec.      | 2.3%  | 10.8%  | 13.1%  | 4.7% | 8.4%    | 0.80           | 11.4%          | \$ 2,846.7   | 1.72%      | 13.1%          |
| 9 IDACORP, Inc.       | 2.3%  | 10.8%  | 13.1%  | 4.7% | 8.4%    | 0.80           | 11.4%          | \$ 3,176.4   | 1.72%      | 13.1%          |
| 10 PG&E Corp.         | 2.3%  | 10.8%  | 13.1%  | 4.7% | 8.4%    | 0.65           | 10.2%          | \$ 23,655.5  | -0.33%     | 9.8%           |
| 11 SCANA Corp.        | 2.3%  | 10.8%  | 13.1%  | 4.7% | 8.4%    | 0.75           | 11.0%          | \$ 7,702.6   | 0.93%      | 11.9%          |
| 12 Semptra Energy     | 2.3%  | 10.8%  | 13.1%  | 4.7% | 8.4%    | 0.75           | 11.0%          | \$ 27,146.1  | -0.33%     | 10.7%          |
| 13 Westar Energy      | 2.3%  | 10.8%  | 13.1%  | 4.7% | 8.4%    | 0.75           | 11.0%          | \$ 4,869.7   | 1.19%      | 12.2%          |
| <b>Average</b>        |       |        |        |      |         |                | <b>11.1%</b>   |              |            | <b>11.9%</b>   |
| <b>Midpoint (g)</b>   |       |        |        |      |         |                | <b>11.2%</b>   |              |            | <b>11.9%</b>   |

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from [www.valueline.com](http://www.valueline.com) (Retrieved Sep. 19, 2014).

(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from <http://finance.yahoo.com> (retrieved Sep. 22, 2014).

(c) Average yield on 30-year Treasury bonds for 2015-2019 based on data from the Value Line Investment Survey, Forecast for the U.S. Economy (Aug. 22, 2014); IHS Global Insight, U.S. Economic Outlook at 79 (May 2014); & Blue Chip Financial Forecasts, Vol. 33, No. 6 (Jun. 1, 2014).

(d) The Value Line Investment Survey (Aug. 22, Sep. 19, & Oct. 31, 2014).

(e) [www.valueline.com](http://www.valueline.com) (retrieved Nov. 5, 2014).

(f) Morningstar, "2014 Ibbotson S&P Market Report," at Table 10 (2014).

(g) Average of low and high values.

## EXPECTED EARNINGS APPROACH

### ELECTRIC GROUP

|                       | (a)   | (b)                          | (c)   |
|-----------------------|---|------------------------------|---|
| <u>Company</u>        | <u>Expected Return<br/>on Common Equity</u> | <u>Adjustment<br/>Factor</u> | <u>Adjusted Return<br/>on Common Equity</u> |
| 1 Ameren Corp.        | 9.5%  | 1.0210                       | 9.7%  |
| 2 American Elec Pwr   | 10.0%                                       | 1.0223                       | 10.2%                                       |
| 3 Black Hills Corp.   | 9.0%  | 1.0218                       | 9.2%  |
| 4 CMS Energy Corp.    | 13.5%                                       | 1.0338                       | 14.0%                                       |
| 5 Entergy Corp.       | 10.0%                                       | 1.0220                       | 10.2%                                       |
| 6 FirstEnergy Corp.   | 8.5%  | 1.0213                       | 8.7%  |
| 7 Great Plains Energy | 7.5%  | 1.0160                       | 7.6%  |
| 8 Hawaiian Elec.      | 10.0%                                       | 1.0275                       | 10.3%                                       |
| 9 IDACORP, Inc.       | 8.5%  | 1.0206                       | 8.7%  |
| 10 PG&E Corp.         | 8.5%  | 1.0242                       | 8.7%  |
| 11 SCANA Corp.        | 10.0%                                       | 1.0380                       | 10.4%                                       |
| 12 Sempra Energy      | 11.5%                                       | 1.0248                       | 11.8%                                       |
| 13 Westar Energy      | 9.5%  | 1.0266                       | 9.8%  |
| <b>Average (d)</b>    |   |                              | <b>9.9%</b>                                 |
| <b>Midpoint (e)</b>   |   |                              | <b>10.8%</b>                                |

(a) The Value Line Investment Survey (Aug. 22, Sep. 19, & Oct. 31, 2014).

(b) Adjustment to convert year-end return to an average rate of return from Exhibit No. 7.

(c) (a) x (b).

(d) Excludes highlighted figures.

(e) Average of low and high values.

**DCF MODEL - NON-UTILITY GROUP**

**DIVIDEND YIELD**

|    | <u>Company</u>    | <u>Industry Group</u> | (a)<br><u>Price</u> | (b)<br><u>Dividends</u> | <u>Yield</u>       |
|----|-------------------|-----------------------|---------------------|-------------------------|--------------------|
| 1  | Church & Dwight   | Household Products    | \$ 70.12            | \$ 1.24                 | 1.8%               |
| 2  | Coca-Cola         | Beverage              | \$ 42.42            | \$ 1.30                 | 3.1%               |
| 3  | Colgate-Palmolive | Household Products    | \$ 65.22            | \$ 1.50                 | 2.3%               |
| 4  | ConAgra Foods     | Food Processing       | \$ 33.60            | \$ 1.00                 | 3.0%               |
| 5  | Gen'l Mills       | Food Processing       | \$ 50.32            | \$ 1.66                 | 3.3%               |
| 6  | Hormel Foods      | Food Processing       | \$ 51.55            | \$ 0.86                 | 1.7%               |
| 7  | Johnson & Johnson | Medical Supply        | \$ 103.52           | \$ 2.80                 | 2.7%               |
| 8  | Kellogg           | Food Processing       | \$ 61.46            | \$ 1.96                 | 3.2%               |
| 9  | Kimberly-Clark    | Household Products    | \$ 108.99           | \$ 3.36                 | 3.1%               |
| 10 | McCormick & Co.   | Food Processing       | \$ 67.75            | \$ 1.60                 | 2.4%               |
| 11 | McDonald's Corp.  | Restaurant            | \$ 92.83            | \$ 3.40                 | 3.7%               |
| 12 | PepsiCo, Inc.     | Beverage              | \$ 93.56            | \$ 2.74                 | 2.9%               |
| 13 | Procter & Gamble  | Household Products    | \$ 84.36            | \$ 2.58                 | 3.1%               |
| 14 | Smucker (J.M.)    | Food Processing       | \$ 99.73            | \$ 2.59                 | 2.6%               |
| 15 | Verizon Communic. | Telecommunications    | \$ 49.24            | \$ 2.20                 | 4.5%               |
| 16 | Wal-Mart Stores   | Retail Store          | \$ 76.45            | \$ 1.92                 | 2.5%               |
|    | <b>Average</b>    |                       |                     |                         | <b><u>2.9%</u></b> |

(a) Average of closing prices for 30 trading days ended Oct. 31, 2014.

(b) The Value Line Investment Survey, Summary & Index(Oct. 31, 2014).

**DCF MODEL - NON-UTILITY GROUP**

**GROWTH RATES**

|                      | (a)                          | (b)         | (c)          | (d)            |
|----------------------|------------------------------|-------------|--------------|----------------|
|                      | <b>Earnings Growth Rates</b> |             |              |                |
| <u>Company</u>       | <u>V Line</u>                | <u>IBES</u> | <u>Zacks</u> | <u>Reuters</u> |
| 1 Church & Dwight    | 9.5%                         | 9.88%       | 9.93%        | 8.80%          |
| 2 Coca-Cola          | 6.5%                         | 3.83%       | 6.22%        | 3.83%          |
| 3 Colgate-Palmolive  | 10.5%                        | 8.50%       | 8.60%        | 8.00%          |
| 4 ConAgra Foods      | 8.0%                         | 9.35%       | 8.23%        | 10.70%         |
| 5 Gen'l Mills        | 7.0%                         | 6.50%       | 7.64%        | 6.00%          |
| 6 Hormel Foods       | 11.0%                        | 11.00%      | 8.00%        | NA             |
| 7 Johnson & Johnson  | 6.5%                         | 6.55%       | 6.04%        | 6.63%          |
| 8 Kellogg            | 6.5%                         | 5.80%       | 5.93%        | 4.20%          |
| 9 Kimberly-Clark     | 9.0%                         | 6.70%       | 7.22%        | 6.70%          |
| 10 McCormick & Co.   | 8.0%                         | 8.60%       | 7.97%        | 8.60%          |
| 11 McDonald's Corp.  | 7.0%                         | 5.43%       | 7.26%        | 4.92%          |
| 12 PepsiCo, Inc.     | 8.5%                         | 7.76%       | 7.88%        | 7.45%          |
| 13 Procter & Gamble  | 7.5%                         | 8.30%       | 8.05%        | 8.30%          |
| 14 Smucker (J.M.)    | 8.0%                         | 7.60%       | 7.13%        | 7.50%          |
| 15 Verizon Communic. | 8.0%                         | 7.18%       | 8.24%        | 8.35%          |
| 16 Wal-Mart Stores   | 6.5%                         | 5.54%       | 6.75%        | 4.16%          |

(a) The Value Line Investment Survey (Aug. 22, Aug. 29, Sep. 19, Sep. 26, Oct. 24 & Oct. 31, 2014).

(b) [www.finance.yahoo.com](http://www.finance.yahoo.com) (retrieved Nov. 5, 2014).

(c) [www.zacks.com](http://www.zacks.com) (Retrieved Nov. 6, 2014).

(d) [www.reuters.com](http://www.reuters.com) (retrieved Nov. 6, 2014).

**DCF MODEL - NON-UTILITY GROUP**

**DCF COST OF EQUITY ESTIMATES**

|                      | (a)                             | (a)          | (a)          | (a)            |
|----------------------|---------------------------------|--------------|--------------|----------------|
|                      | <b>Cost of Equity Estimates</b> |              |              |                |
| <u>Company</u>       | <u>V Line</u>                   | <u>IBES</u>  | <u>Zacks</u> | <u>Reuters</u> |
| 1 Church & Dwight    | 11.3%                           | 11.6%        | 11.7%        | 10.6%          |
| 2 Coca-Cola          | 9.6%                            | 6.9%         | 9.3%         | 6.9%           |
| 3 Colgate-Palmolive  | 12.8%                           | 10.8%        | 10.9%        | 10.3%          |
| 4 ConAgra Foods      | 11.0%                           | 12.3%        | 11.2%        | 13.7%          |
| 5 Gen'l Mills        | 10.3%                           | 9.8%         | 10.9%        | 9.3%           |
| 6 Hormel Foods       | 12.7%                           | 12.7%        | 9.7%         | NA             |
| 7 Johnson & Johnson  | 9.2%                            | 9.3%         | 8.7%         | 9.3%           |
| 8 Kellogg            | 9.7%                            | 9.0%         | 9.1%         | 7.4%           |
| 9 Kimberly-Clark     | 12.1%                           | 9.8%         | 10.3%        | 9.8%           |
| 10 McCormick & Co.   | 10.4%                           | 11.0%        | 10.3%        | 11.0%          |
| 11 McDonald's Corp.  | 10.7%                           | 9.1%         | 10.9%        | 8.6%           |
| 12 PepsiCo, Inc.     | 11.4%                           | 10.7%        | 10.8%        | 10.4%          |
| 13 Procter & Gamble  | 10.6%                           | 11.4%        | 11.1%        | 11.4%          |
| 14 Smucker (J.M.)    | 10.6%                           | 10.2%        | 9.7%         | 10.1%          |
| 15 Verizon Communic. | 12.5%                           | 11.6%        | 12.7%        | 12.8%          |
| 16 Wal-Mart Stores   | 9.0%                            | 8.1%         | 9.3%         | 6.7%           |
| <b>Average (b)</b>   | <b>10.9%</b>                    | <b>10.5%</b> | <b>10.4%</b> | <b>10.3%</b>   |
| <b>Midpoint (c)</b>  | <b>10.9%</b>                    | <b>10.4%</b> | <b>10.7%</b> | <b>11.1%</b>   |

(a) Sum of dividend yield (Exhibit No. 12, p. 1) and respective growth rate (Exhibit No. 12, p. 2).

(b) Excludes highlighted figures.

(c) Average of low and high values.

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

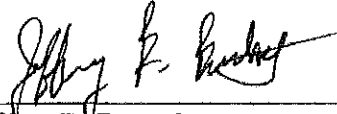
**In the Matter of:**

|   |   |                            |
|---|---|----------------------------|
| <b>Application Of Kentucky Power Company For</b>      | ) |                            |
| <b>A General Adjustment Of Its Rates For Electric</b> | ) |                            |
| <b>Service; (2) An Order Approving Its 2014</b>       | ) |                            |
| <b>Environmental Compliance Plan; (3) An Order</b>    | ) | <b>Case No. 2014-00396</b> |
| <b>Approving Its Tariffs And Riders; And (4) An</b>   | ) |                            |
| <b>Order Granting All Other Required Approvals</b>    | ) |                            |
| <b>And Relief</b>                                     | ) |                            |

**DIRECT TESTIMONY OF**  
**JEFFREY B. BARTSCH**  
**ON BEHALF OF KENTUCKY POWER COMPANY**

**VERIFICATION**

The undersigned, Jeffrey B. Bartsch, being duly sworn, deposes and says he is the Director, Tax Accounting and Regulatory Services for American Electric Power Service Corporation and that he has personal knowledge of the matters set forth in the forgoing testimony and the information contained therein is true and correct to the best of his information, knowledge and belief.



\_\_\_\_\_  
Jeffrey B. Bartsch

STATE OF OHIO

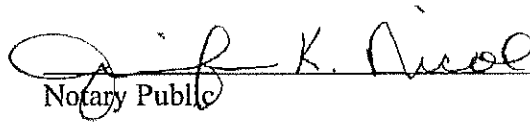
)

) Case No. 2014-00396

COUNTY OF FRANKLIN

)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Jeffrey B. Bartsch, this the 10 day of December, 2014.



\_\_\_\_\_  
Notary Public

My Commission Expires: 12/14/2015

**DIRECT TESTIMONY OF  
JEFFREY B. BARTSCH, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
JEFFREY B. BARTSCH, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

2 A. My name is Jeffrey B. Bartsch. I am the Director of Tax Accounting and  
3 Regulatory Support for American Electric Power Service Corporation  
4 (“AEPSC”), a wholly owned subsidiary of American Electric Power Company,  
5 Inc. (“AEP”), the parent company of Kentucky Power Company (“Kentucky  
6 Power” or “Company”). My business address is 1 Riverside Plaza, Columbus,  
7 Ohio 43215.

**II. BACKGROUND**

8 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND  
9 AND BUSINESS EXPERIENCE.**

10 A. I earned a Bachelor of Business Administration Degree in Accounting from Ohio  
11 University in 1979. I am a Certified Public Accountant and have been licensed in  
12 Ohio since 1981. I am also a member of the American Institute of Certified  
13 Public Accountants. I was first employed by Arthur Andersen & Co. in 1979 in  
14 the Audit section where I was assigned to various clients, including those in the  
15 electric utility industry. In 1985, I accepted a position with the AEPSC Tax  
16 Department. Since that time I have held various positions until June 2000 when I  
17 was promoted to my current position.

18 **Q. WHAT ARE YOUR RESPONSIBILITIES?**

1 A. As Director of Tax Accounting and Regulatory Support, my responsibilities  
2 include oversight of the recording of the tax accounting entries and records of  
3 AEP and its subsidiaries, including Kentucky Power. I am also responsible for  
4 coordinating the development of state and federal tax data to be provided by the  
5 AEPSC Tax Department in regulatory proceedings. I have attended numerous  
6 tax, accounting and regulatory seminars throughout my professional career.

7 **Q. HAVE YOU PREVIOUSLY TESTIFIED IN ANY REGULATORY**  
8 **PROCEEDINGS?**

9 A. Yes. In addition to previous testimony before the Public Service Commission of  
10 Kentucky (“Commission”), I have filed testimony before the Public Utilities  
11 Commission of Ohio on behalf of Columbus Southern Power Company and Ohio  
12 Power Company; with the Michigan Public Service Commission on behalf of  
13 Indiana Michigan Power Company; with the Louisiana Public Service  
14 Commission on behalf of Southwestern Electric Power Company; and with the  
15 Federal Energy Regulatory Commission in a transmission rate case for the eastern  
16 AEP Operating Companies. I have also filed testimony with and testified before  
17 the Public Utility Commission of Texas on behalf of AEP Texas Central  
18 Company, AEP Texas North Company, Southwestern Electric Power Company  
19 and Electric Transmission Texas, LLC. In addition, I have filed testimony with  
20 and testified before the Virginia State Corporation Commission on behalf of  
21 Appalachian Power Company, the Public Service Commission of West Virginia  
22 on behalf of Appalachian Power Company and Wheeling Power Company and  
23 with the Indiana Utility Regulatory Commission on behalf of Indiana Michigan

1 Power Company. Like Kentucky Power, all of these companies, except Electric  
2 Transmission Texas, LLC, are AEP operating companies.

### **III. PURPOSE OF DIRECT TESTIMONY**

3 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS**  
4 **PROCEEDING?**

5 A. The purpose of my testimony in this proceeding is to calculate the Gross Revenue  
6 Conversion Factor, to present and support the jurisdictional federal, state and  
7 local income taxes to which Kentucky Power is subject, and to support certain  
8 fixed, known and measurable ratemaking adjustments to the test year ended  
9 September 30, 2014 related to these income taxes.

10 **Q. ARE YOU SPONSORING ANY EXHIBITS?**

11 A. Yes, I am sponsoring Exhibit JBB-1 which represents Kentucky Power's Stand  
12 Alone § 199 Deduction.

### **IV. GROSS REVENUE CONVERSION FACTOR**

13 **Q. PLEASE DESCRIBE THE GROSS REVENUE CONVERSION FACTOR**  
14 **(GRCF).**

15 A. The GRCF represents the factor necessary to determine the incremental amount of  
16 gross revenue required to generate an additional dollar of operating income after  
17 accounting for the effects of uncollectible accounts, Commission assessment fees  
18 and State and Federal income taxes.

19 **Q. HOW WAS THE GRCF RATE DETERMINED?**

20 A. The same methodology was used in this case as was utilized in the Company's  
21 prior base rate cases. The uncollectible accounts rate and commission assessment

1 fees rate were provided to me by Company Witness Wohnhas and the state  
2 income tax rates and apportionment factors are based on the most recent state  
3 income tax return information and are currently being used in the monthly closing  
4 accrual process. Please see Section V, Workpaper S-2, Page 2.

5 **Q. DID THE COMPANY REFLECT A SECTION 199 MANUFACTURING**  
6 **DEDUCTION AS A COMPONENT OF THE GRCF?**

7 A. No.

8 **Q. HAS THE COMMISSION INCLUDED A SECTION 199**  
9 **MANUFACTURING DEDUCTION AS A COMPONENT OF THE GRCF**  
10 **IN PREVIOUS ENVIRONMENTAL RATE CASE ORDERS?**

11 A. Yes. In Case No. 2005-00068 the Commission held that the Section 199  
12 deduction “should be recognized and reflected in the gross-up factor ... to the rate  
13 of return calculations for Big Sandy’s environmental surcharge rate base.”<sup>1</sup> That  
14 decision was affirmed on appeal by the Kentucky Court of Appeals in  
15 *Commonwealth ex rel. Stumbo v. Kentucky Public Service Comm’n.*<sup>2</sup>

16 **Q. DID THE COMPANY FOLLOW THE COMMISSION’S**  
17 **METHODOLOGY FROM THE ENVIRONMENTAL RATE FILINGS**  
18 **AND INCLUDE THE SECTION 199 MANUFACTURING DEDUCTION**  
19 **AS A COMPONENT OF THE GRCF?**

---

<sup>1</sup> Order, *In the Matter of: Application of Kentucky Power Company for Approval of an Amended Compliance Plan for Purposes of Recovering Additional Costs of Pollution Control Facilities and to Amend Its Environmental Cost Recovery Tariff*, Case No. 2005-00068 at 26-27 (Ky. P.S.C. September 7, 2005).

<sup>2</sup> 243 S.W.3d 374, 383 (Ky. App. 2007).

1 A. No. The Environmental Rate Orders were made before the Commission had the  
2 benefit of history with regards to the actual amount of manufacturing deduction  
3 that the Company would be able to claim on its tax returns. The Section 199  
4 deduction was a new permanent Federal Income tax deduction that started in  
5 2005. As described later in my testimony, AEP has not been able to claim this  
6 deduction on most of its Consolidated Federal Income Tax returns and Kentucky  
7 Power would not have been able to claim this deduction on many of its Federal  
8 Income Tax returns had it filed on a stand-alone basis.

9 **Q. DOES IT MAKE A DIFFERENCE WHETHER THE SECTION 199**  
10 **DEDUCTION IS INCLUDED IN THE GRCF AS OPPOSED TO IT BEING**  
11 **INCLUDED AS A SEPARATE SCHEDULE M ADJUSTMENT IN THE**  
12 **FEDERAL INCOME TAX CALCULATIONS?**

13 A. Yes. If the Section 199 deduction is included in the GRCF, it assumes that the  
14 Company will be able to claim a deduction on each and every income tax return.  
15 The Section 199 deduction is not an automatic deduction that can be taken on the  
16 income tax returns. It is determined on an annual basis based on the facts and  
17 circumstances and is more closely aligned with taxable income not book income.  
18 Including the Section 199 deduction as a component of the GRCF assumes that  
19 the book return on production activities will approximate the Qualified Production  
20 Activities Income (QPAI) which would be used in calculating the Section 199  
21 manufacturing deduction.

22 **Q. PLEASE EXPLAIN WHY BOOK INCOME WOULD BE DIFFERENT**  
23 **THAN QPAI?**

1 A. The primary difference between book income and QPAI is that QPAI is derived  
2 from taxable income associated with generation activities only. By using  
3 generation related book income, the impact of all book/tax temporary differences,  
4 including bonus tax depreciation, is excluded. There is no direct link between  
5 book income and QPAI due to the differences in the reporting of revenues and  
6 expenses between book and tax purposes.

7 **Q. WHAT IS THE IMPACT IF THE COMMISSION CONTINUES TO**  
8 **INCLUDE THE SECTION 199 MANUFACTURING DEDUCTION AS A**  
9 **COMPONENT OF THE GRCF?**

10 A. The years in which the Company would have been able to claim this deduction on  
11 a stand-alone tax return basis are very limited. By embedding this deduction in  
12 rates by way of the GRCF, the Commission is passing along a permanent tax  
13 deduction in rates (through reduced income tax expense) that simply does not  
14 exist. See Exhibit JBB-1.

15 **Q. WHAT IS THE COMPANY'S RECOMMENDATION FOR INCLUDING**  
16 **THE BENEFIT OF THE SECTION 199 MANUFACTURING**  
17 **DEDUCTION IN BASE RATES?**

18 A. As outlined later in my testimony, the Company recommends that the  
19 Commission take advantage of historical evidence by including a Schedule M for  
20 the Section 199 Manufacturing Deduction in the income tax calculations rather  
21 than using hypothetical information by including it as a component of the GRCF.  
22 In this Case, the Company has used the average Schedule M deduction from the  
23 last three Kentucky Power stand-alone Federal income tax returns.

1 **Q. WHY USE THE STAND-ALONE TAX METHOD FOR KENTUCKY**  
2 **POWER INSTEAD OF AN ALLOCATION OF A SHARE FROM THE**  
3 **AEP CONSOLIDATED FEDERAL INCOME TAX RETURNS?**

4 A. We believe that a stand-alone approach is more consistent with rate-making  
5 concepts than the consolidated tax return result. If the consolidated Federal tax  
6 return approach had been used, Kentucky Power would have only been eligible  
7 for the Section 199 deduction one time since 2005. However, the tax deduction  
8 computed on a stand-alone basis yields a deduction for the Company unrelated to  
9 the limitations associated with the computations in the consolidated AEP tax  
10 return. Unlike the GRCF gross-up method, which overstates the deduction and  
11 the consolidated Federal tax return method which may understate the benefit, we  
12 believe the stand-alone approach best reflects the true value of the benefit to  
13 Kentucky Power.

14 The stand-alone approach also is consistent with the court of appeals explanation  
15 in the appeal from the Commission's decision in Case No. 2005-00068:

16 Here the Commission is applying the method it has used  
17 historically - the stand-alone entity method - which, it  
18 appears, KP is in overall agreement with. Use of that  
19 method will, no doubt, have its ups and downs for the  
20 utility. However, a new federal tax deduction has been  
21 passed into law which the Commission reasonably  
22 recognized in calculating KP's allowable tax expense.<sup>3</sup>

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<sup>3</sup>243 S.W.3d 374, 383 (Ky. App. 2007).

**V. JURISDICTIONAL STATE AND FEDERAL INCOME TAXES**

1 **Q. PLEASE DESCRIBE THE COMPUTATION OF JURISDICTIONAL**  
2 **STATE AND CURRENT FEDERAL INCOME TAXES.**

3 A. The computation of jurisdictional Current Federal Income Tax is accomplished by  
4 first allocating the Pre-Tax Book Income and the various Schedule M  
5 Adjustments used in the determination of the Company's total separate return  
6 federal taxable income, and applying the statutory federal income tax rate of 35%,  
7 as shown in Section V, Exhibit 3. The computation of jurisdictional Deferred  
8 Federal income tax is accomplished by applying the appropriate federal income  
9 tax rate to the allocated normalized timing differences, as shown in Section V,  
10 Exhibit 3, and by amortizing the allocated balances of the embedded Deferred  
11 Federal income taxes balances over the appropriate remaining lives. The  
12 computation of jurisdictional Deferred Investment Tax Credit is accomplished by  
13 amortizing the allocated balances over the appropriate remaining lives. The State  
14 income tax is calculated on the same basis as the Federal income tax expense as  
15 shown in Section V, Exhibit 3. Company Witnesses Vaughn and Listebarger  
16 prepared the jurisdictional allocation factors.

17 **Q. WERE DEFERRED TAXES AND INVESTMENT TAX CREDITS**  
18 **ALLOCATED TO THE KENTUCKY RETAIL JURISDICTION?**

19 A. Yes. Each component was allocated to the Kentucky retail jurisdiction as shown  
20 in Section V, Exhibit 3.



## **VI. RATEMAKING ADJUSTMENTS**

1 **Q. WHICH RATEMAKING ADJUSTMENTS ARE YOU SPONSORING?**

2 A. I am sponsoring ratemaking Adjustments in Section V, Specifically; I am  
3 sponsoring the following ratemaking adjustments in Schedule 5:

| ADJ | Description   | Reference in<br>Section V,<br>Exhibit 2 |
|-----|---|---|
| 46  | Sales & Use Tax   | W46                                     |
| 47  | State Franchise Tax   | W47                                     |
| 49  | Removal Cost Schedule M   | W49                                     |
| 50  | Section 199 Manufacturing<br>Deduction                          | W50                                     |
| 51  | Mitchell Depreciation Schedule M                                | W51                                     |
| 56  | ADIT Related to Big Sandy Coal<br>Assets Removed from Rate Base | W56                                     |
| 59  | Deferred State Income Tax<br>Amortization                       | W59                                     |

4 Each of these adjustments is necessary in order to reflect an adjusted test year  
5 level of tax expense representative of ongoing operations. In addition, I have  
6 reviewed each of the ratemaking adjustments proposed by other Company  
7 witnesses and determined the proper income tax consequences as shown on  
8 Section V, Schedule 5.

9 **Q. PLEASE DESCRIBE THE TAX ADJUSTMENTS THAT YOU ARE**  
10 **SPONSORING.**

11 A. Adjustment 59 on tab W59 of Section V Exhibit 2 is necessary to amortize the  
12 Deferred State Income Tax (DSIT) balance that was recorded by Kentucky Power  
13 as part of the Mitchell Plant acquisition. Historically, Kentucky Power has not  
14 recorded Deferred State Income Taxes in ratemaking, so the Company proposes

1 that this balance be amortized as a credit to tax expense over the remaining life of  
2 the Mitchell Plant. This amortization period is based on the new book  
3 depreciation rates which are being recommended in this rate filing by Company  
4 Witness Davis. Additional detail regarding this adjustment is provided below.

5 Adjustment 56 on tab W56 of Section V Exhibit 2 adjusts the ADFIT as of  
6 September 30, 2014 to be removed from rate base as a result of the net book value of  
7 the Big Sandy coal assets being removed from rate base.

8 Adjustment 49 on tab W49 of Section V Exhibit 2 adjusts the Removal  
9 Cost Schedule M to reflect the average of the deduction claimed on the last three tax  
10 returns filed. Since this Schedule M is treated as flow-through for ratemaking  
11 purposes and can fluctuate significantly between years, a three year average would  
12 be more representative of a normal annual Schedule M Adjustment.

13 Adjustment 50 on tab W50 of Section V Exhibit 2 adjusts the Section 199  
14 Manufacturing Deduction that would have been claimed by Kentucky Power had it  
15 filed a separate Federal income tax return rather than been included in the AEP System  
16 Consolidated Tax Return. This adjustment was based on the average of the last  
17 three stand-alone tax returns. Additional detail regarding this adjustment is provided  
18 below.

19 Adjustment 51 on tab W51 of Section V Exhibit 2 incorporates the  
20 annualization of the depreciation Schedule M's related to the Mitchell Plant  
21 acquisition. The test period currently only reflects 9 months of Mitchell Plant  
22 depreciation Schedule M's.

1 Adjustment 46 on tab W46 of Section V Exhibit 2 adjusts the Sales & Use  
2 Tax Expense to remove an out-of-period adjustment related to the settlement of a  
3 Sales & Use Tax Audit that was recorded during the test period.

4 Adjustment 47 on tab W47 of Section V Exhibit 2 adjusts the State  
5 Franchise Tax Expense to zero to reflect the fact that the West Virginia Franchise  
6 Tax will by law be completely phased-out starting in 2015.

7 **Deferred State Income Tax Amortization Adjustment (59)**

8 **Q. WHY IS KENTUCKY POWER PROPOSING A DEFERRED STATE**  
9 **INCOME TAX AMORTIZATION ADJUSTMENT?**

10 A. Historically, Kentucky Power has not included deferred state income tax expense  
11 in the ratemaking process. As a result of the Mitchell Plant acquisition which was  
12 recorded as a tax-free reorganization under §368 of the Internal Revenue Code,  
13 Kentucky Power also acquired their share of the existing Accumulated DSIT  
14 balance that was recorded on Ohio Power Company's books related to the  
15 Mitchell Plant. As of the acquisition date of December 31, 2013, Kentucky  
16 Power recorded \$4,723,865 of Accumulated DSIT related to the Mitchell Plant.  
17 The Company is proposing that this balance be amortized over the remaining  
18 book life of the Mitchell Plant of 23.59 years. This remaining book life was  
19 obtained from Company Witness Davis. The effect of this adjustment is to  
20 decrease Kentucky Power's jurisdictional State Income tax expense by \$197,446  
21 as shown on Section V, Schedule 5.

1                                    **Section 199 Manufacturing Deduction (50)**

2    **Q.    HAS THE COMPANY REFLECTED THE ANNUAL EFFECT OF THE**  
3                    **SECTION 199 DEDUCTION UNDER THE INTERNAL REVENUE CODE**  
4                    **IN THE CALCULATION OF THE FEDERAL INCOME TAX**  
5                    **OBLIGATION?**

6    A.    Yes. The Company reflected a Section 199 manufacturing deduction in the  
7                    calculation of the Federal income tax liability in Section V, Schedule 5, even  
8                    though Kentucky Power has not been able to claim this deduction since 2006. The  
9                    Company has not been eligible to take advantage of the Section 199 deduction as  
10                   a result of its participation in the AEP Consolidated Federal income tax return,  
11                   however, a Section 199 deduction has been computed for this rate filing as if the  
12                   Company had filed a separate stand-alone Federal Income Tax Return with the  
13                   IRS. The Company has utilized this separate stand-alone tax return approach  
14                   consistently in its tax calculations in previous rate filings with this Commission.

15   **Q.    HOW DID KENTUCKY POWER CALCULATE A SECTION 199**  
16                    **DEDUCTION FOR PURPOSES OF THIS RATE PROCEEDING?**

17   A.    Kentucky Power used a three year average of what its Section 199 deduction  
18                    would have been on its 2011, 2012 and 2013 Federal income tax returns had it  
19                    filed separate stand-alone corporate tax returns for those years.

20   **Q.    DOES KENTUCKY POWER EXPECT TO CLAIM A SECTION 199**  
21                    **DEDUCTION ON ITS 2014 OR ITS 2015 TAX RETURN?**

1 A. At this time it is uncertain whether or not Kentucky Power will actually have  
2 positive qualified manufacturing income in 2014 or 2015 in order to receive a  
3 Section 199 deduction in either year.

4 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

5 A. Yes.

**Kentucky Power  
Stand-Alone §199 Deduction**

Exhibit JBB-1

|   | <u>2005</u>         | <u>2006</u>        | <u>2007</u>        | <u>2008</u>         | <u>2009</u>         | <u>2010</u>        | <u>2011</u>        | <u>2012</u>        | <u>2013</u>        |
|---|---------------------|--------------------|--------------------|---------------------|---------------------|--------------------|--------------------|--------------------|--------------------|
| 1 Domestic Production Gross Receipts                      | 852,995,718         | 740,947,246        | 616,038,125        | 688,653,583         | 484,208,134         | 556,866,990        | 556,188,427        | 458,864,027        | 500,669,202        |
| 2 Allocable Cost of Goods Sold                            | 818,622,334         | 672,394,297        | 508,176,022        | 683,279,907         | 521,833,674         | 531,997,257        | 534,169,872        | 435,216,736        | 488,061,007        |
| 3 Directly Allocable Deductions, Expenses, or Losses      | 41,643,928          | 52,424,256         | 100,567,894        | 8,830,760           | 6,195,533           | 12,381,964         | 13,758,302         | 12,466,302         | 13,610,845         |
| 4 Indirectly Allocable Deductions, Expenses, or Losses    | 9,797,178           | 9,242,596          | 9,620,284          | 10,124,326          | 9,868,191           | 8,811,852          | 7,784,907          | 7,707,973          | 6,654,824          |
| 5 Add lines 2 Through 4                                   | <u>870,063,440</u>  | <u>734,061,149</u> | <u>618,364,200</u> | <u>702,234,993</u>  | <u>537,897,398</u>  | <u>553,191,073</u> | <u>555,713,081</u> | <u>455,391,011</u> | <u>508,326,676</u> |
| 6 Qualified Production Activities Income (Loss)           | <u>(17,067,722)</u> | <u>6,886,097</u>   | <u>(2,326,075)</u> | <u>(13,581,410)</u> | <u>(53,689,264)</u> | <u>3,675,917</u>   | <u>475,346</u>     | <u>3,473,016</u>   | <u>(7,657,474)</u> |
| 7 Federal Taxable Income Limitation - Form 1040 - Line 30 | <u>11,852,070</u>   | <u>34,659,105</u>  | <u>26,773,624</u>  | <u>1,377,727</u>    | <u>(79,923,011)</u> | <u>30,366,964</u>  | <u>29,192,737</u>  | <u>19,277,355</u>  | <u>21,088,012</u>  |
| 8 Enter Smaller of line 6 or Line 7                       | (17,067,722)        | 6,886,097          | (2,326,075)        | (13,581,410)        | (79,923,011)        | 3,675,917          | 475,346            | 3,473,016          | (7,657,474)        |
| 9 Domestic Production Activities %                        | <u>3.00%</u>        | <u>3.00%</u>       | <u>6.00%</u>       | <u>6.00%</u>        | <u>6.00%</u>        | <u>9.00%</u>       | <u>9.00%</u>       | <u>9.00%</u>       | <u>9.00%</u>       |
| 10 Preliminary Domestic Production Activities Deduction   | <u>-</u>            | <u>206,583</u>     | <u>-</u>           | <u>-</u>            | <u>-</u>            | <u>330,833</u>     | <u>42,781</u>      | <u>312,571</u>     | <u>-</u>           |
| 11 Form W-2 Wages   | 32,421,805          | 2,575,769          | 11,561,463         | 13,130,297          | 12,782,302          | 13,993,234         | 11,985,467         | 10,586,304         | 9,154,598          |
| 12 Wage Limitation Percentage                             | <u>50.00%</u>       | <u>50.00%</u>      | <u>50.00%</u>      | <u>50.00%</u>       | <u>50.00%</u>       | <u>50.00%</u>      | <u>50.00%</u>      | <u>50.00%</u>      | <u>50.00%</u>      |
| 13 Form W-2 Wage Limitation                               | <u>16,210,903</u>   | <u>1,287,885</u>   | <u>5,780,732</u>   | <u>6,565,149</u>    | <u>6,391,151</u>    | <u>6,996,617</u>   | <u>5,992,734</u>   | <u>5,293,152</u>   | <u>4,577,299</u>   |
| 14 Enter the Smaller of Line 10 or Line 13                | <u>-</u>            | <u>206,583</u>     | <u>-</u>           | <u>-</u>            | <u>-</u>            | <u>330,833</u>     | <u>42,781</u>      | <u>312,571</u>     | <u>-</u>           |
| 15 Domestic Production Activities Deduction               | <u>-</u>            | <u>206,583</u>     | <u>-</u>           | <u>-</u>            | <u>-</u>            | <u>330,833</u>     | <u>42,781</u>      | <u>312,571</u>     | <u>-</u>           |

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

|                              |   |                     |
|------------------------------|---|---------------------|
| THE APPLICATION FOR GENERAL  | ) |                     |
| ADJUSTMENT OF ELECTRIC RATES | ) | Case No. 2014-00396 |
| OF KENTUCKY POWER COMPANY    | ) |                     |

**DIRECT TESTIMONY OF**  
**ANDREW R. CARLIN**  
**ON BEHALF OF KENTUCKY POWER COMPANY**





**DIRECT TESTIMONY OF  
ANDREW R. CARLIN, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
ANDREW R. CARLIN, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

2 **A.** My name is Andrew R. Carlin. My business address is American Electric Power,  
3 15th Floor, One Riverside Plaza, Columbus, Ohio 43215. My position is Director of  
4 Compensation & Executive Benefits for the American Electric Power Service  
5 Corporation (“AEPSC”), a wholly owned subsidiary of American Electric Power  
6 Company, Inc. (“AEP”). AEP is the parent company of Kentucky Power Company  
7 (“Kentucky Power” or the “Company”). AEPSC supplies engineering, financing,  
8 accounting and similar planning and advisory services to AEP’s eleven electric  
9 operating companies, including Kentucky Power.

10 **Q. PLEASE DESCRIBE YOUR EDUCATION, PROFESSIONAL**  
11 **QUALIFICATIONS AND BUSINESS EXPERIENCE.**

12 **A.** I received a Bachelor of Arts Degree from Bowdoin College in 1988 with majors in  
13 Economics and Government. I also received a Masters of Business Administration  
14 Degree from the J. L. Kellogg Graduate School of Management at Northwestern  
15 University in 1992, with concentrations in finance, management strategy, and  
16 accounting.

17 From 1987 to 1988, I worked for Putnam Investor Services as a Shareholder  
18 Services Representative. From 1988 to 1990 and in the summer of 1991, I worked as

1 an Associate Consultant and Research Analyst in the U.S. Compensation Practice for  
2 William M. Mercer, a leading international human resource consulting firm. From  
3 1992 to 2000, I worked for Bank One Corporation, now part of J.P. Morgan Chase, in  
4 multiple planning, finance and compensation capacities.

5 I joined AEPSC as the Director of Executive Compensation & Benefits in  
6 2000. In 2002 I took on responsibility for employee compensation, in addition to my  
7 executive compensation and benefits responsibilities. In my current position, I am  
8 responsible for, among other things, developing and maintaining effective and  
9 cost-efficient compensation programs for the Company and its subsidiaries.

10 **Q. WHAT SERVICES DOES THE AEPSC COMPENSATION SECTION**  
11 **PROVIDE TO KENTUCKY POWER, AEP AND AEPSC?**

12 **A.** The compensation department is responsible for the design, development, and  
13 administration of compensation and some of the benefit plans for the AEP System.  
14 The compensation group develops and administers the employee compensation  
15 programs to be fair and market competitive which enables the Company to attract,  
16 retain and motivate employees with the skills and experience necessary to provide  
17 reliable electric service, efficiently and effectively, for Kentucky Power customers.  
18 The compensation team conducts ongoing research and recommends changes to  
19 compensation programs as necessary to prudently manage total employee  
20 compensation. The compensation group also develops communications materials to  
21 manage and execute the plans, while monitoring compliance with federal and state  
22 regulations related to compensation.

23 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE A REGULATORY BODY?**

1 A. Yes. I have testified in person or submitted written testimony in the following  
2 regulatory proceedings:

- 3 • On behalf of Kentucky Power Company in Kentucky Case No. 2013-00197;
- 4 • On behalf of Appalachian Power Company in Virginia S.C.C. Case  
5 No. PUE-2011-00037;
- 6 • On behalf of Indiana Michigan Power Company in Michigan Case  
7 No. U-16180;
- 8 • On behalf of Appalachian Power Company and Wheeling Power Company in  
9 West Virginia Case No. 10-0699-E-42T;
- 10 • On behalf of Public Service Company of Oklahoma in Oklahoma Cause  
11 No. 201300217; and
- 12 • On behalf of Southwestern Electric Power Company in Texas P.U.C. Docket  
13 No. 40443.

14 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

15 A. The purpose of my testimony is to demonstrate that the compensation for Kentucky  
16 Power employees and Kentucky Power's allocated share of compensation for AEPSC  
17 employees, which are the amounts Kentucky Power seeks to include in its cost of  
18 service, is reasonable, necessary, market-competitive, vital for the attraction and  
19 retention of employees with the skills and experience necessary to efficiently and  
20 effectively operate Kentucky Power's business, and beneficial to customers. In  
21 addition, I will discuss the steps that the Company has taken, in light of economic  
22 conditions and the Company's financial situation, to reduce compensation costs and  
23 total labor expense.

24

25 **II. OVERVIEW OF COMPENSATION PRACTICES**

26 **Q. WHAT IS THE COMPANY'S OVERALL APPROACH TO**  
27 **COMPENSATION?**

1 A. The Company's compensation strategy for all levels of positions is to provide a target  
2 total compensation opportunity (a combination of base salary or base rate plus a  
3 variable, at risk incentive portion) that is, on average, at the median of the market for  
4 similar positions.

5 **Q. DOES THE USE OF MEDIANS AS BENCHMARKS MEAN THAT**  
6 **EMPLOYEE COMPENSATION WILL GENERALLY BE AT THE MEDIAN?**

7 A. No. The median is used to assign job grades and ranges to each job as described  
8 above, but the base pay range for each job extends approximately 22.5 percent above  
9 and below the midpoint. Individual base pay rates may fall anywhere within the  
10 assigned range depending on individual performance, qualifications and other factors.

11 **Q. WHAT TYPES OF COMPENSATION DOES THE COMPANY GENERALLY**  
12 **PROVIDE TO EMPLOYEES?**

13 A. The Company compensates all employees with both base pay and an annual incentive  
14 compensation opportunity. I refer to the sum of these two types of compensation as  
15 total cash compensation ("TCC") herein. In addition to base pay and annual incentive  
16 compensation, approximately 550 positions in the AEP system are provided with a  
17 long-term incentive compensation opportunity. I refer to the total compensation  
18 opportunity provided to these management and executive positions (TCC plus long-  
19 term incentive compensation) as total direct compensation ("TDC") herein. For  
20 positions that do not typically receive long-term incentive compensation, TCC and  
21 TDC are the same. In this testimony "Total Compensation" is used to refer to the  
22 definition of compensation that includes all applicable forms of incentive  
23 compensation for the positions in question, TCC or TDC, as appropriate.

1 **Q. HOW DO YOU DETERMINE THAT THE COMPANY'S COMPENSATION**  
2 **LEVELS ARE REASONABLE AND MARKET COMPETITIVE?**

3 A. The Company primarily uses compensation surveys to compare its compensation  
4 rates and practices to those of other similar companies. Changes to the Company's  
5 compensation rates and practices are generally made as needed to maintain  
6 compensation that is competitive for each position relative to these survey  
7 comparisons of market competitive compensation. The Company's compensation  
8 department participates in or purchases numerous third-party compensation surveys  
9 each year that aid in ensuring that the Company's compensation levels are reasonable  
10 and market competitive. These surveys provide extensive compensation information  
11 for statistically significant samples of incumbents in a wide variety of jobs.

12 Specifically, the compensation department matches Company positions to the  
13 jobs included in these surveys and compares the compensation levels and practices  
14 for these positions with those of similar companies for similar positions with similar  
15 responsibilities, size and scope. After accounting for any differences in position  
16 scope, the compensation department uses market median total compensation,  
17 including the target value of all incentive compensation, as the primary compensation  
18 benchmark. Salary is also used as a point of comparison for all positions and TCC is  
19 also used as a point of comparison for positions for which the Company provides a  
20 long-term incentive compensation opportunity. This process for assigning and  
21 reviewing salary ranges and associated target incentive opportunities is consistent  
22 with the compensation practices of the majority of electric utilities and other large

1 U.S. companies. The surveys completed and used in this process for the historical  
2 test year are listed in EXHIBIT ARC-1 (Compensation Survey List).

3 **Q. WHY IS TOTAL COMPENSATION CHOSEN AS THE PRIMARY POINT OF**  
4 **COMPARISON RATHER THAN BASE SALARY LEVELS?**

5 A. Total compensation is chosen as the primary point of comparison because it includes  
6 base salary *and* all statistically significant types of incentive compensation. Survey  
7 information shows that annual incentive compensation is a statistically significant and  
8 often substantial component of market competitive compensation for nearly every  
9 position. Survey information also shows that long-term incentive compensation is a  
10 statistically significant and often substantial component of market competitive  
11 compensation for high level exempt and executive positions. Therefore, no  
12 assessment of market competitive compensation would be complete or valid without  
13 including annual incentive compensation for all positions and including long-term  
14 incentive compensation for high level exempt professional, managerial and executive  
15 positions. Because of the company provides incentive compensation, the Company's  
16 base pay levels are typically lower than those of companies that also seek to pay  
17 market competitively but provide less or no incentive compensation opportunity.

18 **Q. DOES THE INCENTIVE COMPENSATION THE COMPANY PROVIDES TO**  
19 **EMPLOYEES CONTRIBUTE TO A TOTAL COMPENSATION**  
20 **OPPORTUNITY THAT EXCEEDS THE MARKET COMPETITIVE LEVEL?**

21 A. No. The Company's incentive compensation is not a 'bonus' plan. Incentive  
22 compensation is a portion of employee pay that is at risk. This is designed to  
23 motivate employees and provide needed compensation that when it is combined with

1 base pay, the incentive compensation portion brings employee total compensation to a  
2 reasonable market-competitive level. The target value of this incentive compensation  
3 portion of employee pay is a critical component of the market-competitive total  
4 compensation package, which the Company uses to attract and retain qualified  
5 employees.

6 **Q. DO YOU BELIEVE IT WOULD BE REASONABLE FOR THE COMPANY**  
7 **TO ELIMINATE A PORTION OF ITS INCENTIVE COMPENSATION?**

8 A. No, because this would reduce the employees' total compensation provided by the  
9 Company to less than the market competitive range for a substantial number of  
10 positions. Paying market competitive compensation enables the Company to attract,  
11 retain, and motivate the suitably knowledgeable, experienced and qualified  
12 employees it needs to efficiently and effectively provide services to customers, while  
13 minimizing overall expense, which is in the interests of all constituents. For example,  
14 the compensation expense saved by targeting compensation to less than the market  
15 competitive range would likely be more than offset by increased hiring and training  
16 expense due to increased employee turnover, as well as lower employee productivity  
17 while newer employees learn to perform their jobs safely, efficiently and effectively.  
18 This is particularly true for positions that require lengthy apprenticeships to learn the  
19 skills needed to work independently and safely, such as Line Mechanics.

20 **Q. HOW ARE BASE SALARIES, EXCLUDING INCENTIVE COMPENSATION**  
21 **AND OVERTIME, DETERMINED FOR SALARIED EMPLOYEES?**

22 A. Base salary offers for salaried positions are made by the Company management  
23 within the salary range for the job grade assigned to each position based on the



1 qualifications and experience of the prospective employee relative to the requirements  
2 for the position. For jobs with multiple incumbents, the base salaries of other  
3 employees in the same position are also a major factor.

4 The Company also maintains a merit increase program for all salaried  
5 positions. The amount budgeted annually for merit increases is established by senior  
6 AEP management based on salary planning surveys, the market-competitiveness of  
7 the Company's compensation and the budget dollars available for salary increases.  
8 The merit program generally provides an annual salary increase opportunity to  
9 salaried employees based on their individual performance. However, due to financial  
10 constraints, the merit program was suspended for 2009 as part of an overall salary  
11 freeze and constrained to less than the market competitive level for 2010 for all  
12 salaried employees. For executives, the merit program was suspended completely for  
13 both of these years. The merit program was suspended and constrained in these years  
14 due to the Company's financial situation and the extraordinarily difficult economic  
15 conditions in its service territories. For 2011 the Company resumed the merit  
16 program with 3.2 percent merit budget of salary expense for that period, which was  
17 near the market median for such budgets. For 2012 the Company's merit budget was  
18 2.675 percent, which was less than the market median for all employee categories.  
19 For 2013, the Company's merit budget was 3.0 percent which was the same as the  
20 market median. Since the merit budget was less than the market competitive level for  
21 several of these years and since none of these merit budgets were significantly above  
22 market, AEP's pay levels did not keep pace with market competitive compensation  
23 during this period. The Company's 2014 merit budget was 3.0 percent, which was

1 also the market median for the year, and an additional 0.35% was added for line of  
2 progression promotions which had been highly constrained since 2009.

3 As part of the merit program, each employee's individual performance is  
4 evaluated on at least an annual basis. The amount of the "merit" increase awarded to  
5 each employee, if any, is based on a combination of factors, including their individual  
6 performance rating, their performance relative to their peers, the position of their  
7 salary within the salary range for their job, and the size of the merit budget.

8 **Q. HOW DOES THE COMPANY'S OVERALL BASE SALARY INCREASE**  
9 **BUDGET COMPARE TO MARKET FOR THE YEARS 2009 THROUGH**  
10 **2014?**

11 A. Table ARC-1 below compares median utility industry base salary increase budgets  
12 for employees, other than those in hourly/craft positions, to Company's salary  
13 increase budget for the years 2009-2014.

| <b>Table ARC-1</b>  |                            |               |                  |
|---|----------------------------|---------------|------------------|
|   | <b>Non-exempt Salaried</b> | <b>Exempt</b> | <b>Executive</b> |
| <b>Utility Industry Market Median*</b>  |                            |               |                  |
| 2009 Actual   | 2.75%                      | 2.50%         | 2.00%            |
| 2010 Actual   | 2.70%                      | 3.00%         | 2.95%            |
| 2011 Actual   | 3.00%                      | 2.90%         | 3.00%            |
| 2012 Actual   | 2.75%                      | 3.00%         | 3.00%            |
| 2013 Actual   | 3.00%                      | 3.00%         | 3.00%            |
| 2014 Projected  | <u>3.00%</u>               | <u>3.00%</u>  | <u>3.00%</u>     |
| Total   | 17.20%                     | 17.40%        | 16.95%           |
| <b>The Company</b>  |                            |               |                  |
| 2009 Actual   | 0.00%                      | 0.00%         | 0.00%            |
| 2010 Actual   | 2.00%                      | 2.00%         | 0.00%            |
| 2011 Actual   | 3.20%                      | 3.20%         | 3.20%            |
| 2012 Actual   | 2.68%                      | 2.68%         | 2.68%            |
| 2013 Actual   | 3.00%                      | 3.00%         | 3.00%            |
| 2014 Actual**   | <u>3.35%</u>               | <u>3.35%</u>  | <u>3.35%</u>     |
| Total   | 14.23%                     | 14.23%        | 12.23%           |
| Difference  | -2.98%                     | -3.18%        | -4.73%           |
| *The Conference Board Research Report, U.S. Salary Increase Budgets for 2010, 2011, 2012 and 2013 |                            |               |                  |
| **3.00% was merit budget; .35% was Promotional & Equity Adjustment:                               |                            |               |                  |

Also shown in Table ARC-1, the Company's base pay increase budgets have substantially lagged the market median overall for the last several years. While many companies pared back their salary increase budgets in 2009 due to economic conditions, the Company's salary freeze was a far more substantial response. While utility companies generally returned to nearly 3 percent increase for 2010, the

1 Company increased base wages by only 2 percent and maintained a salary freeze for  
2 executive positions. For 2011, the Company's base wage increases basically kept  
3 pace with the market median and did not make up a significant portion of the 2009  
4 and 2010 shortfall. The Company's 2012 salary increase budget of 2.675 percent  
5 again lagged the market before returning to market median levels for 2013. For 2014,  
6 the Company allocated 3.35 percent total salary increase budget, slightly above the  
7 market median of 3.00 percent. Even with this additional funding this year, the  
8 Company's overall total salary increase budgets for non-exempt salaried and exempt  
9 positions still lag the market median by 2.975 percent and 3.175 percent over this  
10 period, while the salary increase budget for AEP executives was a total of 4.725  
11 percent less than the utility industry market median.

12 **Q. HOW ARE BASE PAY INCREASES ADMINISTERED FOR**  
13 **HOURLY/CRAFT EMPLOYEES?**

14 A. Base pay increases for hourly/craft employees, such as line mechanics and meter  
15 readers, are provided as general increases, expressed as percentages of current base  
16 pay rates. General increases are negotiated with the labor unions that represent the  
17 Company's employees. The Company based its position in these negotiations on  
18 survey projections for market median general increases and market median total cash  
19 compensation paid by similar companies for these types of positions. As shown in  
20 Table ARC-2 below, pay increases for these types of employees have also lagged the  
21 market overall.

22

23

|  |                   | <b>Table ARC-2</b>                            |               |
|--|-------------------|---|---------------|
|  |                   | <b>Hourly/Craft Employees</b>                 |               |
|  |                   | <b><u>Utility Industry Market Median*</u></b> |               |
|  | 2009 Actual       |   | 2.50%         |
|  | 2010 Actual       |   | 2.85%         |
|  | 2011 Actual       |   | 2.90%         |
|  | 2012 Actual       |   | 3.00%         |
|  | 2013 Actual       |   | 3.00%         |
|  | 2014 Projected    |   | <u>3.00%</u>  |
|  | <b>Total</b>      |   | <b>17.25%</b> |
|  |                   | <b><u>The Company</u></b>                     |               |
|  | 2009 Actual       |   | 0.00%         |
|  | 2010 Actual       |   | 2.00%         |
|  | 2011 Actual       |   | 3.00%         |
|  | 2012 Actual       |   | 2.00%         |
|  | 2013 Actual       |   | 2.50%         |
|  | 2014 Actual       |   | <u>2.50%</u>  |
|  | <b>Total</b>      |   | <b>12.00%</b> |
|  | <b>Difference</b> |   | <b>-5.25%</b> |
| *The Conference Board Research Report, U.S. Salary Increase Budgets Survey |                   |   |               |

The Company's total increase budget was 5.25 percent less than the market median for hourly/craft employees for the 2009 through projected 2014 period, including a 2.5 percent general increase that has been negotiated with most bargaining units for 2014. Reducing the growth of base wages is one of several difficult steps the Company has taken to address its financial situation and economic conditions in its service territory and such actions directly benefit customers by reducing the cost of the Company's electric service.

1 **Q. WHAT OTHER STEPS HAS THE COMPANY TAKEN TO CONTROL**  
2 **COMPENSATION EXPENSE IN LIGHT OF THE GREAT RECESSION AND**  
3 **WEAK RECOVERY?**

4 A. The additional steps the Company has taken include:

- 5 • Freezing external hiring from November 2008 through 2009;
- 6 • Freezing line of progression promotional increases, such as Accountant to Sr.  
7 Accountant, from November 2008 through 2010, other than for physical/craft  
8 positions;
- 9 • Substantially reducing the use of external contractors and temporary  
10 employees; and
- 11 • Substantially reducing the employee workforce through staff reductions and  
12 severance programs.

13 **Q. HOW HAVE THE STEPS TAKEN TO CONTROL KENTUCKY POWER,**  
14 **AEP AND AEPSC'S COMPENSATION EXPENSES AFFECTED THE**  
15 **COMPETITIVENESS OF THE COMPANY'S COMPENSATION?**

16 A. The below market merit and base pay increases for 2009 and 2012 caused the  
17 Company's base pay, target total cash compensation and target total direct  
18 compensation to decline relative to peer companies. As a result, base compensation  
19 levels for all types of positions (physical/craft, salaried and managerial) are below the  
20 market median on average although the Company's base compensation levels  
21 generally remain within the market competitive range (typically considered to be +/-  
22 10 percent of the median for hourly/craft employees and +/- 15 percent for other  
23 employees). The Company's target annual incentive compensation has also fallen  
24 relative to market because these levels are calculated as a function of base  
25 compensation. As a result, the Company's target total cash compensation (base pay  
26 plus target annual incentive compensation) and target total direct compensation (total

1 cash compensation plus target long-term incentive compensation) were also affected  
2 by the steps the Company has taken to control compensation expense, particularly the  
3 below market base pay increases.

4

5 **III. COMPETITIVENESS OF TOTAL COMPENSATION**

6 **Q. HOW DOES KENTUCKY POWER, AEP AND AEPSC'S TARGET TOTAL**  
7 **COMPENSATION FOR PHYSICAL AND CRAFT POSITIONS COMPARE**  
8 **WITH MARKET DATA?**

9 A. As shown in EXHIBIT ARC-2 (Kentucky Power TCC vs. Market for Technical,  
10 Craft and Clerical Positions), Kentucky Power's average TCC for the physical and  
11 craft positions included in the EAP Data Information Solutions, LLC 2013 Energy  
12 Technical Craft Clerical Survey is 7.2 percent below the market median. Assuming a  
13 market competitive compensation range of +/- 10 percent of the survey median,  
14 which is typical practice for such positions, Kentucky Power's average TCC is within  
15 but in the lower half of the market competitive range. However, if Kentucky Power's  
16 annual incentive compensation were to be excluded, then TCC for 9 of 12  
17 physical/craft positions would fall below the market-competitive range and Kentucky  
18 Power's average TCC would fall 12.5 percent below the market competitive range.  
19 This shows that the annual incentive compensation paid by Kentucky Power is  
20 necessary of market competitive compensation for these positions and, thus, is a  
21 reasonable and appropriate cost of doing business that cannot be eliminated without  
22 an offsetting increase in base pay if total compensation is to remain competitive.

1 **Q. HOW DOES KENTUCKY POWER'S AND AEPSC'S TARGET TOTAL**  
2 **COMPENSATION FOR NON-MANAGERIAL EXEMPT POSITIONS**  
3 **COMPARE WITH MARKET DATA?**

4 A. EXHIBIT ARC-3 (TCC vs. Market for Exempt Positions) compares Kentucky  
5 Power's and AEPSC's compensation for non-executive exempt positions to those of  
6 similar companies, based on applicable external survey data. Using +/- 15 percent of  
7 the market midpoint as the market-competitive range, which is typical for exempt  
8 positions, this exhibit indicates that, on average, the Kentucky Power's and AEPSC's  
9 target TCC for these positions was 0.2 percent below the market median, which is  
10 well within the +/- 15 percent market competitive range. However, if Kentucky  
11 Power's and AEPSC's annual incentive compensation were to be excluded, then TCC  
12 for these positions would fall to 10.8 percent below the market median. While the  
13 Kentucky Power's and AEPSC's average TCC would remain at the low end of the  
14 market competitive range, 7 of 22 individual positions (31.8 percent) would fall below  
15 the market competitive range. This shows that the annual incentive compensation  
16 opportunity Kentucky Power and AEPSC provide to these positions is necessary to  
17 maintain the competitiveness of their total compensation and is a reasonable cost of  
18 doing business that, practically speaking, cannot be eliminated without a  
19 corresponding increase in base pay.

20 **Q. HOW DOES KENTUCKY POWER'S AND AEPSC'S TARGET TOTAL**  
21 **COMPENSATION FOR MANAGEMENT AND LEADERSHIP POSITIONS**  
22 **COMPARE WITH MARKET DATA?**



1 A. The Human Resources Committee of AEP's Board of Directors frequently engages a  
2 nationally recognized, independent executive compensation consulting firms to  
3 conduct a compensation study of AEP's management and executive positions. The  
4 peer group used for this study consists of companies specifically selected by the  
5 Human Resources ("HR") Committee to represent the talent markets from which the  
6 Company must compete to attract and retain management and executive employees.  
7 The independent evaluation found that the Company's average total direct  
8 compensation (base salary, annual incentive compensation, and long-term incentive  
9 compensation) was within the market-competitive range (+/- 15 percent of the  
10 benchmark), although less than the market median. On average, for 27 executive  
11 positions, including all executive officers, the Company's base salaries, total cash  
12 compensation, and total direct compensation were within proximity of market.  
13 Accordingly, on aggregate, the Company's total compensation is market competitive.  
14 However, with respect to many of these positions, total compensation would fall  
15 below the market competitive range if the Company did not provide annual incentive  
16 compensation or replace it with some other form of compensation. Similarly, all of  
17 these positions would fall below the market competitive range if long-term incentive  
18 compensation was eliminated without an offsetting increase in some other form of  
19 compensation.

20           Once again, this shows that the incentive compensation is necessary to  
21 maintain the competitiveness of the total compensation package the Company  
22 provides to its employees. Therefore, the Company's total compensation, including  
23 the full target value of incentive compensation, is a reasonable cost of doing business.

1 Practically speaking, this incentive compensation cannot be eliminated without a  
2 corresponding increase in base pay or without diminishing the Company's ability to  
3 attract and retain the suitably knowledgeable and experienced management and  
4 executive employees that the Company needs to efficiently and effectively provide its  
5 services to customers.

6

7

**IV. TYPES OF INCENTIVE COMPENSATION OFFERED**  
**BY KENTUCKY POWER, AEP AND AEPSC**

8

9 **Q. DO YOU HAVE COMMENTS ABOUT INCENTIVE COMPENSATION**  
10 **TRENDS AND ITS PREVELANCE?**

11 A. Yes. Incentive compensation has withstood the pressures of the great recession and  
12 the unprecedented challenges of cost, risk, scrutiny and talent management issues  
13 facing employers today. It continues to be used nearly universally by public utilities  
14 and other U.S. companies to encourage desired behaviors and provide competitive  
15 total compensation opportunities. The compensation analyses discussed above in this  
16 testimony (EXHIBITS ARC 2 and 3) show that market median total compensation  
17 includes incentive compensation for 100 percent of the positions included in these  
18 studies, including all 12 technical, craft and clerical positions, in which 116 Kentucky  
19 Power employees are incumbents.

20

21

22

23

The Company provides both annual and long-term incentive compensation as part of a market-competitive total compensation package, not as a "bonus" on top of an already market competitive compensation package. As a result, incentive compensation does not increase payroll costs. In other words, if incentive

1 compensation were not provided, the same dollar value of incentive compensation  
2 would need to be added to base pay in order for the Company to maintain the a  
3 market competitive of the total compensation package it provides to employees.  
4 Paying market competitive compensation enables the Company to attract, retain, and  
5 motivate the suitably knowledgeable and experienced employees it needs to  
6 efficiently and effectively provide its electric services to ratepayers. Furthermore,  
7 incentive compensation provides many additional and substantial benefits to  
8 ratepayers, which are described in detail later in this testimony.

9 **Q. HOW COMMON ARE ANNUAL INCENTIVE COMPENSATION PLANS IN**  
10 **THE UTILITY INDUSTRY?**

11 A. Annual incentive compensation plans are widespread in U.S. industry and among  
12 public electric utility companies. Median actual and target short-term incentive  
13 compensation is at least 5 percent of base salary for all levels of salaried energy  
14 services industry employees, including positions with base salaries of less than  
15 \$30,000 (Towers Watson Data Services, 2013 CDB Energy Middle Management,  
16 Professional and Support Compensation Survey Report, p. 140). Over 100 Energy  
17 Services Industry companies participated in this survey. Furthermore, EXHIBIT  
18 ARC-4 (Towers Watson 2010 Annual Incentive Plan Design Survey Findings  
19 Report), states that:

20 In today's turbulent economic environment, organizations face a  
21 'perfect storm' of cost, risk, scrutiny and talent management issues.  
22 Amid these unprecedented challenges, annual incentive plans continue  
23 to play an important role in communicating and reinforcing critical  
24 organizational objectives, encouraging desired behaviors and  
25 providing competitive total direct compensation opportunities. (p. 4)

1 **Q. WHAT ARE THE GENERAL BENEFITS OF ANNUAL INCENTIVE**  
2 **COMPENSATION?**

3 A. The Company provides incentive compensation in lieu of larger base salaries because  
4 it improves the Company's performance without increasing overall compensation  
5 expense. It encourages cost control and aligns work with Company objectives,  
6 thereby increasing both employee and the Company performance. When incentive  
7 compensation is provided as a component of a market competitive total compensation  
8 package, it has no incremental cost above the cost of providing market competitive  
9 compensation using base pay alone.

10 Without compensation linked to the Company performance, management's  
11 compensation would be dependent only on retaining their position, which would  
12 reduce investment by discouraging managers from taking on prudent business  
13 investments. Such a compensation structure would be misaligned with the interests  
14 of both shareholders and customers, who depend on the Company's continued  
15 prudent and efficient investment in maintenance, system upgrades and system  
16 expansion for electric service. Similarly, linking compensation only to short-term  
17 performance is counter to both shareholder and customer interests because it would  
18 discourage investment necessary for the long-term success of the business. The age  
19 old adage "You get what you pay for" generally rings true with compensation.  
20 Paying only base compensation to employees at any level sends a clear signal to them  
21 that they need only perform their job well enough to avoid being fired for poor  
22 performance. For management employees, the absence of incentive compensation  
23 can discourage pursuit of projects that would be prudent investments for shareholders

1 and customers. This is because pursuing major projects requires taking on prudent  
2 business risks that puts management's continued employment at risk. Similarly, a  
3 management compensation package that includes base pay and only short-term  
4 incentive compensation does little to encourage long-term projects, even projects that  
5 would be prudent investments for both shareholders and customers, because most  
6 long-term projects require upfront investment that reduces short-term earnings and  
7 often requires management to forego short-term incentive compensation.

8 **Q. WHAT ADDITIONAL BENEFITS DOES ANNUAL INCENTIVE**  
9 **COMPENSATION PROVIDE?**

10 A. Annual incentive compensation also:

- 11 • Helps to attract, retain and motivate the qualified employees the Company  
12 needs to efficiently and effectively provide electric service to customers;
- 13 • Communicates goals and objectives to employees in a manner that is more  
14 effective than otherwise possible. This focuses and more closely aligns  
15 employee efforts with these goals and objectives;
- 16 • Aligns the goals and objectives of departments throughout the organization  
17 with overall goals and objectives and, thereby, better ensure that all groups are  
18 working towards the same objectives;
- 19 • Encourages and motivates employees to achieve these goals and objectives;
- 20 • Rewards employees for their individual performance along with the  
21 Company's performance;
- 22 • Links some compensation for all employees to performance objectives so that  
23 all employees have a personal stake in achieving these objectives;
- 24 • Shifts a portion of compensation expense from a fixed to a variable expense  
25 that varies based on the performance of the Company. This reduces earnings  
26 volatility, business risk, and borrowing costs as well as the difficulties caused  
27 by more frequent and extensive changes in the size of the Company's work  
28 force that would be necessary without the earnings cushion that incentive  
29 compensation provides;
- 30 • Creates a culture of high performance and cost consciousness; and

- Reduces the Company's cost of service by virtue of the productivity increases, expense savings, and other benefits that it creates and that the Company would otherwise need to incur additional expense to provide.

**A. Annual Incentive Compensation**

**Q. DESCRIBE THE ANNUAL INCENTIVE COMPENSATION PLANS APPLICABLE TO THIS PROCEEDING.**

A. The Company's annual incentive plans cover all employees from hourly positions through executive management. The majority of the goals for Kentucky Power employees participating in this plan are measured at the Kentucky Power (operating company) level. For the test year of October 1, 2013 through September 30, 2014 there were separate annual incentive plans for Kentucky Power Utility Employees, AEPSC Utilities; Generation; Transmission, and several other smaller groups. The remaining employees and all staff function and shared services employees participated in an AEP Annual Incentive Compensation Plan for the Executive Council and Staff. As shown in EXHIBIT ARC-5 (2013 Company-Wide ICP Measures); the Company's annual incentive plans were primarily funded based on AEP's earnings per share (EPS), as has been the case in past years, but the weight on EPS was reduced from 100% to 75% for 2013 and 2014. For these years 10% was funded by safety performance and the remaining 15% was funded by performance on strategic initiatives that typically vary each year. There were also two extra credit measures: a 7.5 percent company-wide zero fatality measure and up to 5% extra credit for achieving cost savings targets and milestone objectives through culture and employee engagement activities. Each incentive plan also includes a balanced scorecard consisting of the following four categories of performance measures: Safety

1 and Health, Operational, Financial or Regulatory and Strategic Initiatives. For  
2 Kentucky Power in 2013, the financial category consisted of a 10 percent Utility  
3 Group operations and maintenance (“O&M”) vs. budget measure, which is a cost  
4 control measure, and a 15 percent Kentucky Power return on equity vs. target  
5 measure, which some may consider to be a rate of return measure, but which is really  
6 also a cost control measure for companies with regulated rates.

7 **Q. PLEASE DESCRIBE THE ANNUAL INCENTIVE PROGRAM FUNDING**  
8 **MECHANISM.**

9 A. As shown in EXHIBIT ARC-5 (2013 Company-Wide ICP Measures); the Company’s  
10 annual incentive plans were primarily funded based on AEP’s earnings per share  
11 (EPS), as has been the case in past years. However, the weight on EPS was reduced  
12 from 100% to 75% for 2013 and 2014. Of the remainder, 10% was funded by safety  
13 performance and 15% was funded by strategic initiative performance. There were  
14 also two extra credit measures: a 7.5 percent company-wide zero fatality measure and  
15 up to 5% extra credit for achieving culture and employee engagement objectives and  
16 cost savings. AEP’s EPS incentive funding measure is set annually by the HR  
17 Committee in consultation with AEP executive management. The EPS performance  
18 measure is generally set at levels that are intended to provide a target payout on  
19 average and to only have about a 10 to 15 percent chance of producing either a zero  
20 or a maximum payout.

21 **Q. HOW DO THE COMPANY’S INCENTIVE COMPENSATION PLAN**  
22 **TARGETS COMPARE TO OTHER COMPANIES IN TERMS OF THE**

1           **PERCENTAGE OF COMPENSATION PAID UNDER THE INCENTIVE**  
2           **PLAN?**

3    A.    Taking the Company's annual incentive compensation program as a whole, for 2013  
4           the aggregate of the target awards for all participants was 9.6 percent of participant's  
5           base pay, including overtime. This is substantially below both the 16 percent median  
6           target for broad based plans. The AEP Systems' target annual incentive compensation  
7           has fallen relative to market because these levels are calculated as a function of base  
8           pay. Partially as a result, the AEP Systems' target TCC (base pay, plus target annual  
9           incentive compensation) is also below market median on average.

10   **Q.    IS IT APPROPRIATE FOR THE COMPANY TO REQUEST THE TOTAL**  
11           **ANNUAL COMPENSATION COST WHICH INCLUDES THE INCENTIVE**  
12           **PLAN TARGETS INCURRED DURING THE TEST YEAR IN THIS CASE?**

13   A.    Yes. The Company's annual incentive compensation program has been in place for  
14           more than 15 years and, as explained further below, the program has produced  
15           substantial additional benefits that have already been reflected in the Company's  
16           actual expenses for many prior years, including the test year. Because of these  
17           benefits, and because the incentive compensation serves only to bring total  
18           compensation to market competitive levels it is reasonable for ratepayers to bear the  
19           cost of incentive compensation as customers continue to receive its financial benefit  
20           through the lower cost of service that efficiencies driven by incentive compensation  
21           already provided in the current and prior base rate proceedings.

22                    While the annual incentive program is expected to produce additional  
23           incremental benefits going forward, these benefits are likely to be small compared to



1 the cumulative total of all ongoing benefits incentive compensation has produced in  
2 past years that have already been captured in rates or will be captured in rates through  
3 this proceeding. To the extent that substantial additional benefits are produced going  
4 forward, shareholders will pay the incremental incentive compensation expense  
5 associated with the above target portion of the incentive payouts this performance  
6 produces. This is appropriate because the financial benefit of this performance  
7 improvement would not be captured by customers until the next base rate case,  
8 although customers would immediately receive the benefits of any operational  
9 improvements. Therefore, as explained in more detail below, it is just and reasonable  
10 to include all of the cost of annual incentive compensation in the Company's cost of  
11 service for rate making purposes, except for the cost of any above target payouts.

12 EXHIBIT ARC-6 (CAHRS, *Evaluating the Utility of Performance Based*  
13 *Pay*), page 37, is an academic study that shows the substantial financial benefits that  
14 can result from linking pay to performance. The financial benefits shown in this  
15 study are the result of improved performance provided by a workforce whose pay was  
16 closely linked to performance.

17 The Company must provide a market competitive total compensation  
18 opportunity to efficiently and effectively attract and retain an adequately skilled and  
19 experienced workforce. Attracting and retaining such a workforce is necessary for  
20 the efficient and effective provision of service to customers and the operation of most  
21 aspects of the Company's business. Since the incentive compensation provided by  
22 the Company is part of this market competitive total compensation package, it has no  
23 incremental cost above the cost of providing market competitive compensation

1 through base pay alone. Therefore, because the Company's annual incentive  
2 compensation (a) has no incremental cost to customers; (b) is likely to improve the  
3 performance of the workforce over time, as shown by the CAHRS study; and (c) is  
4 likely to result in improved operating effectiveness and cost control; it clearly has a  
5 substantial overall net benefit to customers.

6 Eliminating incentive compensation without an offsetting increase in base pay  
7 would result in a significant pay cut for all employees and, as previously shown, this  
8 would reduce total compensation for a substantial percentage of the Company's  
9 positions and employees to below the market-competitive range. Aside from the  
10 severe impact this pay cut would have on employee morale, it would reduce  
11 employee engagement, reduce productivity and increase employee turnover. This, in  
12 turn, would lead to increased hiring and training expense; cause additional reductions  
13 in productivity due to the need to train new employees and the considerable time it  
14 takes for new employees to acquire the work experience and skills necessary to  
15 perform their jobs safely and competently; and, ultimately decrease company  
16 performance while increasing overall costs.

17 Although the compensation that the Company's incentive programs provide  
18 could be replaced with additional base pay to achieve a market-competitive total  
19 direct compensation package, the loss of the many benefits of incentive compensation  
20 would reduce the company's ability to efficiently and effectively provide its electric  
21 services to customers. This in turn would lead to escalating costs and declining  
22 performance that would negatively impact customers.

1 **Q. IS THE COMPANY REQUESTING THE INCLUSION OF ALL TEST YEAR**  
2 **ANNUAL INCENTIVE COMPENSATION IN ITS REVENUE**  
3 **REQUIREMENT IN THIS CASE?**

4 A. No. The Company is requesting that the O&M expense for the *target* amount of  
5 annual incentive compensation for the test year be included in cost of service rather  
6 than the actual per books O&M expense. Annual incentive compensation during the  
7 test year was actually higher than the target amount due to above target EPS results  
8 for the test year. The Company is requesting the normalization of these costs to the  
9 target level, which is the amount of annual incentive compensation that the company  
10 expects to pay in an average year. It is also the amount of annual incentive  
11 compensation that the Company needs to pay, on average, in order to provide market  
12 competitive total compensation. The annual incentive compensation amount was  
13 adjusted to a level as supported by Company Witness Yoder in Section V, Exhibit 2,  
14 W25.

15 **Q. WHAT ARE THE BENEFITS TO CUSTOMERS OF THE EARNINGS AND**  
16 **OTHER FINANCIAL MEASURES INCLUDED IN THE COMPANY'S**  
17 **ANNUAL INCENTIVE PROGRAM?**

18 A. Tying funding for annual incentive compensation to the Company's earnings and cost  
19 control promotes efficient use of financial resources, which is paramount to providing  
20 reliable service at a reasonable cost to customers. The earnings and O&M measures  
21 included in the Company's incentive compensation programs convey the importance  
22 of maintaining financial discipline, and directly encourage employees to reduce  
23 expense, operate efficiently, and conserve financial resources. This has and will

1 continue to directly benefit customers by reducing the Company's cost of service  
2 through cost savings that are passed on to customers in rates that are lower than they  
3 otherwise would if the Company did not use such performance measures.

4 Since annual incentive compensation expense is significant compared to  
5 Kentucky Power's and AEP's earnings, the EPS funding measure also helps ensure  
6 that incentive compensation payments do not impair the Company financially. This  
7 bolsters the Company's financial stability and reduces its earnings volatility, which  
8 benefits customers by reducing its cost of capital and helping to preserve capital  
9 during periods of weak earnings. It would be unreasonable to suggest that the  
10 Company should not have a mechanism, such as the EPS funding measure, to reduce  
11 or eliminate incentive compensation at times when it can ill afford to pay it. This  
12 mechanism benefits ratepayers during such times by better balancing the interests of  
13 other constituents with those of employees, rather than paying 100 percent fixed  
14 compensation to employees and leaving shareholders and ratepayers to absorb all the  
15 risk of economic volatility. Thus the EPS funding measure and incentive  
16 compensation in general, is a mechanism for balancing the interests of employees,  
17 ratepayers and shareholders.

18 Tying funding for incentive compensation to the Company's financial  
19 performance also sends a clear message to all employees that it is imperative for them  
20 to control costs and it provides a direct incentive for them to do so. This, in turn,  
21 enables the Company to complete work less expensively. Past performance with  
22 respect to O&M expense performance measures shows that, when such incentive plan  
23 measures are in place, AEP's business units manage their costs sufficiently to beat

1 even stringent annual O&M budgets when major unbudgeted work additions and  
2 reductions are excluded.

3 Most of such savings have already reduced Kentucky Power's cost of service  
4 and rates for Kentucky customers on a dollar for dollar basis through prior base rate  
5 proceeding. If only 1 percent of the Company's O&M expense is saved each year  
6 due to the incentive compensation program, then millions of dollars per year has been  
7 saved by Kentucky customers by virtue of tying incentive compensation to the  
8 Company's financial performance measures.

9 **Q. ARE THERE ANY INDIRECT COSTS TO CUSTOMERS OF THE**  
10 **COMPANY'S ANNUAL INCENTIVE PROGRAM?**

11 A. No, there are no indirect costs that offset its benefit to customers. The earnings goals  
12 in the Company's annual incentive plan are established with stretch but achievable  
13 earnings targets. This ensures that incentive compensation up to target does not  
14 encourage company employees to pursue excessive earnings to the detriment of  
15 customers. Because the Company is only seeking inclusion of the target value of  
16 incentive compensation in its cost of service, the cost of any above target incentive  
17 compensation would be born entirely by shareholders. Furthermore, since the  
18 Company's revenue is regulated through this and other robust rate case proceedings,  
19 the only remaining way for the Company's employees to achieve these earnings  
20 objectives is through cost control, which benefits customers. In addition, the  
21 balanced scorecard of objectives the Company uses in its annual incentive program  
22 help ensure that some measures are not achieved at the expense of other important  
23 objectives, such as the safety, operations and environment objectives.

1 **Q. DO THE BENEFITS OF THE COMPANY'S ANNUAL INCENTIVE**  
2 **PROGRAM EXCEED ITS COST FOR KENTUCKY POWER CUSTOMERS?**

3 A. Yes. The Company's incentive compensation program does not increase the  
4 Companies' compensation expense beyond that required to provide market-  
5 competitive total cash compensation. Therefore, any reduction or elimination of  
6 incentive compensation would need to be offset by increases in base pay to maintain  
7 market competitive total cash compensation levels. The Company achieves  
8 substantial but unquantifiable cost savings through the financial discipline and other  
9 benefits that the Company's annual incentive compensation program provides,  
10 including reducing the overall cost of service and increasing the dollars available for  
11 investment in the maintenance and expansion of the Company's electrical system.

12 In summary, the Company's annual incentive program provides substantial  
13 benefits to customers and has no direct or indirect cost, above the cost of providing  
14 market competitive compensation through base pay alone. Therefore, it is just and  
15 reasonable to include the full cost of the Company's target level of incentive  
16 compensation in its cost of service.

17 **B. Long-Term Incentive Compensation**

18 **Q. EXPLAIN THE COMPANY'S LONG-TERM INCENTIVE PROGRAM**

19 A. The primary purpose of the Company's long-term incentive program is to encourage  
20 managers to make business decisions from a long-term perspective. For 2013 and  
21 2014, the company provided long-term incentive awards in the form of performance  
22 units and restricted stock units ("RSUs").

1 Performance units are generally similar in value to shares of AEP common  
2 stock, except that the number of performance units that participants ultimately earn is  
3 tied to AEP's long-term performance and the participants' satisfaction of vesting  
4 conditions over a three-year period. All performance units granted and outstanding in  
5 the test year were granted with two equally weighted performance measures: three-  
6 year total shareholder return ("TSR") measured relative to a peer group of similar  
7 utility companies and three-year cumulative EPS relative to a Board-approved target.  
8 Both the TSR and EPS measures are capped at reasonable and appropriate levels so  
9 that they do not encourage the Company management to pursue these financial  
10 objectives at the expense of other objectives, such as safety.

11 RSUs are also generally similar in value to shares of AEP common stock,  
12 except that the number of RSUs that participants ultimately earn is tied to the  
13 participants' satisfaction of vesting conditions. Participants who remain employed  
14 with AEP through a vesting date receive a share of AEP common stock, or the cash  
15 equivalent, for each vesting RSU.

16 **Q. IS THE COMPANY REQUESTING THAT LONG-TERM INCENTIVE**  
17 **COMPENSATION EXPENSE BE INCLUDED IN THE COST OF SERVICE**  
18 **IN THIS CASE?**

19 A. Yes, the Company is requesting that the amount of long-term incentive compensation  
20 expense for the test year be included in its cost of service.

21 **Q. IS THE LONG-TERM INCENTIVE PROGRAM REASONABLE AND**  
22 **NECESSARY TO EFFECTIVELY AND EFFICIENTLY SUPPORT**  
23 **RELIABLE ELECTRIC SERVICE?**

1 A. Yes. The Company's long-term incentive compensation is a substantial component  
2 of the compensation for management employees and is critical to maintaining the  
3 market-competitiveness of compensation for such employees. As with annual  
4 incentive compensation, the Company's long-term incentive compensation is not  
5 incremental to an already market-competitive level of total direct compensation, and  
6 any reduction of this type of compensation would need to be offset by increases in  
7 other types of compensation in order to maintain the Company's ability to attract and  
8 retain the suitably skilled and experienced employees it needs to efficiently and  
9 effectively provide its electric service to customers. A large majority of public  
10 companies of AEP's size and complexity have similar programs, as do a large  
11 majority of public utility companies. Long-term incentive compensation is a  
12 substantial component that results in AEP's market competitive compensation for 100  
13 percent of the 27 executive positions. Towers Perrin, a leading compensation  
14 consulting firm, reports that 99 of 102 companies that participated in their 2009  
15 Energy Services Executive Compensation Survey have long-term incentive programs  
16 for top management employees.

17 **Q. WHAT ARE THE DIRECT BENEFITS TO CUSTOMERS OF THE**  
18 **COMPANY'S LONG-TERM INCENTIVE PROGRAM?**

19 A. As with annual incentive compensation, tying long-term incentive compensation to  
20 financial performance measures promotes the efficient use of financial resources,  
21 which is paramount to providing reliable service at a reasonable cost. Maintaining  
22 long-term financial discipline is imperative for the Company, its shareholders and its  
23 customers. The EPS and TSR measures associated with the performance units



1 granted as part of the long-term incentive plan communicate this and strongly  
2 encourage its continued pursuit by tying a substantial portion of the compensation for  
3 management and executive employees to both internal and external measures of the  
4 Company's long-term financial performance. This encourages these employees to  
5 reduce expense, operate efficiently, and conserve financial resources, which directly  
6 benefits customers by keeping rates low.

7 Tying funding for long-term incentive compensation to AEP's earnings also  
8 retains additional capital in the Company during periods of weaker earnings  
9 performance, which bolsters the Company's financial stability and provides more  
10 capital for system maintenance during periods in which other sources of capital may  
11 be overly expensive or inaccessible. My discussion above regarding the benefits of  
12 reduced earnings volatility is also one of the benefits of long term incentive  
13 compensation. Tying long-term compensation to the Company's financial  
14 performance sends a clear message to participants that it is imperative for them to  
15 maintain financial discipline and it provides a direct incentive for them to do so.  
16 This, in turn, enables the Company to complete work less expensively. As with  
17 annual incentive compensation, if the long-term incentive program results in only a 1  
18 percent annual O&M expense savings, then millions of dollars per year has been  
19 saved by Kentucky customers by virtue of this program.

20 **Q. ARE THERE ANY INDIRECT COSTS TO CUSTOMERS FOR THE**  
21 **COMPANY'S LONG-TERM INCENTIVE PROGRAM?**

22 A. No. AEP's long-term incentive goals are established at stretch but achievable targets.  
23 This ensures that customers are not paying for long-term incentive compensation that

1 may encourage company employees to generate excessive earnings. In addition, any  
2 increase in long-term incentive compensation expense above the amount requested  
3 would be born entirely by shareholders, not customers.

4 The goals in the Company's long-term incentive plan are also balanced by the  
5 scorecard goals in the annual incentive plan to assure that the EPS and TSR goals are  
6 not achieved at the expense of other important objectives. As with annual incentive  
7 compensation, any increase in long-term incentive compensation that might be  
8 achieved by reducing spending in operations areas, for example, would likely be at  
9 least partially offset by a decrease in annual incentive funding due to the decline in  
10 the operating performance scores. As a result of this balanced approach to incentive  
11 compensation, AEP's long-term incentive compensation does not encourage  
12 behaviors that would be counter to customers' interests and there are not any  
13 significant indirect costs that would offset the benefits of long-term incentive  
14 compensation to customers.

15 **Q. DO THE TOTAL BENEFITS OF THE COMPANY'S LONG-TERM**  
16 **INCENTIVE PROGRAM EXCEED ITS COST TO KENTUCKY POWER**  
17 **CUSTOMERS?**

18 A. Yes. Similar to annual incentive compensation, the Company provides long-term  
19 incentive compensation as part of a market-competitive total direct compensation  
20 package. Therefore, the Company's long-term incentive compensation does not have  
21 an incremental cost to customers, beyond the cost of providing a market competitive  
22 total direct compensation package through other types of compensation. As with  
23 annual incentive compensation, the long-term incentive program has been in place for

1 many years, so its accumulated ongoing benefits are already reflected in the  
2 Company's expense for the test year and incorporated into rates in prior rate  
3 proceedings. It is not appropriate for shareholders to pay the cost of maintaining  
4 long-term incentive compensation from which customers have already captured the  
5 financial benefit through a lower cost of service that is reflected in this and prior rate  
6 proceedings. While the long-term incentive program is expected to produce  
7 additional marginal benefit going forward, these additional benefits are likely to be  
8 small and incremental compared to the total benefit this program has created to date.  
9 It is not reasonable for the shareholders to be assigned the cost of this program while  
10 customers reap its benefits through a lower cost of service.

11

12

### **V. SUMMARY**

13 **Q.**

**PLEASE SUMMARIZE YOUR TESTIMONY WITH RESPECT TO COST  
14 RECOVERY FOR COMPENSATION EXPENSE.**

15 **A.**

The design of the Company's compensation programs and, specifically, its annual  
16 and long-term incentive compensation programs, are reasonable and appropriate from  
17 the customer's perspective. These programs are necessary to ensure that the  
18 Company is able to attract, retain, and motivate the employees needed to efficiently  
19 and effectively provide electric service to its customers. The compensation that the  
20 Company provides, including annual and long-term incentive compensation, is a just,  
21 reasonable and prudent cost of doing business. This compensation is market  
22 competitive on a base pay, target total cash compensation, and target total direct  
23 compensation basis. Annual and long-term incentive compensation is provided as

1 part of this overall market-competitive compensation package and does not represent  
2 an incremental expense to Kentucky Power's ratepayers. Therefore, I respectfully  
3 submit that it is just and reasonable to include the full cost of the Company's  
4 compensation, including the target level of both annual and long-term incentive  
5 compensation, in the Company's cost of service.

6 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

7 A. Yes, it does.

## **Surveys Completed and Used for Compensation Comparisons During the Historical Test Year**

Towers Watson U.S. Compensation Data Bank (CDB):

2013 Energy Services Industry - Executive Compensation Survey Report

2013 Energy Services Industry - Middle Management, Professional & Support Compensation Survey Report

2013 General Industry - Executive Compensation Survey Report

2013 General Industry - Middle Management, Professional and Support Compensation Survey Report

2013 Custom AEP Peer Group - Executive Compensation Surveys

EAPDIS, LLC, 2013 Energy Technical Craft Clerical Survey – ETCCS

The Conference Board, U.S. Salary Increase Budgets for 2013

EXHIBIT ARC-2 (KPCO Target TCC vs. Market for Technical, Craft and Clerical Jobs)

Exhibit ARC-2

KPCO Target Total Cash Compensation (Target TCC) vs.  
2013 EAPDIS Energy Technical, Craft & Clerical Survey (Southeast Region Data)

| Survey Job                     | AEP Title               | EEs          | Base <sup>1</sup> | Target  | Target   | ETC&C Survey Median |           |                | % Difference           | % Difference            |
|--------------------------------|-------------------------|--------------|-------------------|---------|----------|---------------------|-----------|----------------|------------------------|-------------------------|
|                                |                         |              |                   | Annual  | TCC      | Base <sup>3</sup>   | Incentive | TCC            | AEP TCC vs. Survey TCC | AEP Base vs. Survey TCC |
| Line Mechanic (OH/UG)          | Line Mechanic-A         | 32           | \$68,080          | \$3,404 | \$71,484 | \$76,856            | \$1,456   | \$78,312       | -9.6%                  | -15.0%                  |
| Storekeeper/Handler            | Stores Attendant A      | 4            | \$54,662          | \$2,733 | \$57,396 | \$52,500            | \$1,575   | \$54,075       | 5.8%                   | 1.1%                    |
| Substation Mechanic/Technician | Station Electrician A   | 5            | \$68,370          | \$3,418 | \$71,788 | \$76,856            | \$1,456   | \$78,312       | -9.1%                  | -14.5%                  |
| Motor Vehicle Mechanic         | Fleet Technician A      | 5            | \$63,993          | \$3,200 | \$67,193 | \$64,500            | \$1,935   | \$66,435       | 1.1%                   | -3.8%                   |
| Meter Mechanic                 | Meter Electrician-A     | 5            | \$67,442          | \$3,372 | \$70,814 | \$74,090            | \$2,018   | \$76,107       | -7.5%                  | -12.8%                  |
| Trouble Service Mechanic       | Line Servicer           | 30           | \$69,186          | \$3,459 | \$72,646 | \$80,954            | \$2,787   | \$83,741       | -15.3%                 | -21.0%                  |
| Control Operator               | Unit Operator           | 8            | \$70,845          | \$3,542 | \$74,387 | \$78,582            | \$3,286   | \$81,869       | -10.1%                 | -15.6%                  |
| Certified Welder               | Maintenance Welder      | 12           | \$71,157          | \$3,558 | \$74,715 | \$75,608            | \$2,850   | \$78,458       | -5.0%                  | -10.3%                  |
| Instrument and Control Tech    | Control Technician-Sr   | 7            | \$70,182          | \$3,509 | \$73,691 | \$77,750            | \$2,475   | \$80,226       | -8.9%                  | -14.3%                  |
| Plant Machinist                | Maintenance Machinist   | 1            | \$69,098          | \$3,455 | \$72,552 | \$71,614            | \$4,222   | \$75,837       | -4.5%                  | -9.8%                   |
| Coal Yard Equipment Operator   | Coal Equipment Operator | 3            | \$61,603          | \$3,080 | \$64,683 | \$67,579            | \$2,787   | \$70,366       | -8.8%                  | -14.2%                  |
| Plant Equipment Operator       | Equipment Operator      | 4            | \$61,298          | \$3,065 | \$64,362 | \$71,781            | \$1,706   | \$73,486       | -14.2%                 | -19.9%                  |
|                                |                         | <b>Total</b> | 116               |         |          |                     |           | <b>Average</b> | <b>-7.2%</b>           | <b>-12.5%</b>           |

**Notes**

(1) As of September 30, 2014

(2) The Company's target payout is 5 percent of base earnings for all physical and craft jobs

(3) Annualized from April 2013 to September 2014 @ 2.0% salary growth rate

(4) A market competitive range of +/- 10 percent has been used for all physical and craft positions

% of Jobs Above Market Competitive Range<sup>4</sup>

None

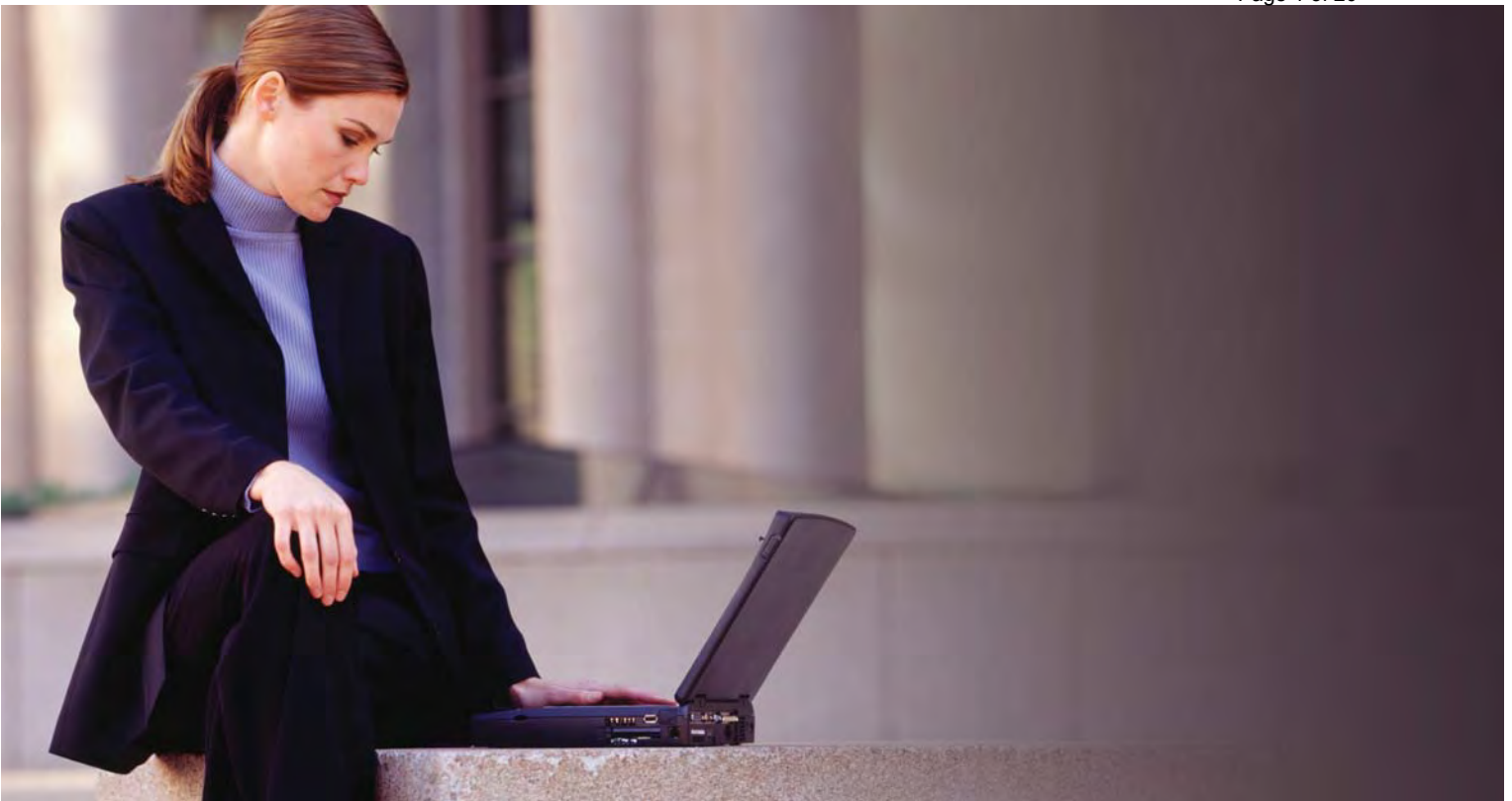
None

% of Jobs Below Market Competitive Range<sup>4</sup>

25%

83%

| EXHIBIT ARC-3 (TCC vs. Market for Exempt Positions)  |   |          |                    |                          |            |                             |           |                |                   |                | Exhibit ARC-3   |                  |       |
|--|---|----------|--------------------|--------------------------|------------|-----------------------------|-----------|----------------|-------------------|----------------|---|------------------|-------|
| Compensation Survey Analysis- Exempt Positions   |   |          |                    |                          |            |                             |           |                |                   |                |   |                  |       |
|  |   |          |                    |                          |            |                             |           |                |                   |                | % Difference AEP                                      | % Difference AEP |       |
|  |   |          |                    |                          |            |                             |           |                |                   |                | Total Comp vs   | Base vs Survey   |       |
| Survey Job   | AEP Title                               | EE Count | AEP Incumbent Data |                          |            | Survey Results <sup>1</sup> |           |                | Total Comp vs     | Base vs Survey |   |                  |       |
|  |   |          | Avg Base           | Incentive <sup>(2)</sup> | Total Comp | Base                        | Incentive | Total Comp     | Survey Total Comp | Total Comp     |   |                  |       |
| <b>KPCO Positions<sup>(3)</sup></b>  |   |          |                    |                          |            |                             |           |                |                   |                |   |                  |       |
| Electric Distribution Operations-Career Level  | EDD010-P3 Distr Dispatcher I            | 2        | \$85,950           | \$8,595                  | \$94,545   | \$87,100                    | \$8,800   | \$95,900       | -1.4%             | -11.6%         |   |                  |       |
| Energy Delivery/Distribution Supervisor  | EDD020-M1 Supv Distribution System      | 3        | \$100,667          | \$10,067                 | \$112,605  | \$99,600                    | \$9,800   | \$109,400      | 2.8%              | -8.7%          |   |                  |       |
| Energy Delivery/Distribution Generalist/Multidiscipline - Career (P3)                                  | EDD000-P3 Distribution Line Coordinator | 2        | \$76,813           | \$7,681                  | \$84,494   | \$82,700                    | \$13,500  | \$96,200       | -13.9%            | -25.2%         |   |                  |       |
| Electric Distribution Engineering - Entry (P1)   | AZE543-P1 Engineer III                  | 1        | \$73,645           | \$5,155                  | \$78,800   | \$64,900                    | \$2,900   | \$67,800       | 14.0%             | 7.9%           |   |                  |       |
| Electric Distribution Engineering-Intermediate Level (P2)  | AZE543-P2 Engineer II                   | 3        | \$77,864           | \$7,786                  | \$85,650   | \$76,400                    | \$5,000   | \$81,400       | 5.0%              | -4.5%          |   |                  |       |
| Electric Distribution Engineering-Career Level (P3)  | AZE543-P3 Engineer I                    | 1        | \$93,959           | \$9,396                  | \$103,355  | \$97,100                    | \$9,500   | \$106,600      | -3.1%             | -13.5%         |   |                  |       |
| Budget Analysis - Career (P3)  | AFT020-P3 Resource Analyst I            | 1        | \$85,000           | \$10,500                 | \$95,500   | \$79,300                    | \$2,900   | \$82,200       | 13.9%             | 3.3%           |   |                  |       |
| Land/Right of Way - Career (P3)  | ARE040-P3 Right of Way Agent Sr         | 1        | \$76,926           | \$9,500                  | \$86,426   | \$87,200                    | \$8,500   | \$95,700       | -10.7%            | -24.4%         |   |                  |       |
| <b>AEPS Human Resources<sup>(4)</sup></b>  |   |          |                    |                          |            |                             |           |                |                   |                |   |                  |       |
| Diversity/EEO-Multi - Specialist (P4)  | AHR110-P4 Sr Workforce Diversity Cons   | 1        | \$108,306          | \$16,246                 | \$124,552  | \$113,300                   | \$19,776  | \$133,076      | -6.43%            | -22.9%         |   |                  |       |
| HR-Multi - Career (P3)   | AHR000-P3 HR Representative Sr          | 3        | \$71,497           | \$7,150                  | \$78,646   | \$84,460                    | \$5,562   | \$90,022       | -14.46%           | -25.91%        |   |                  |       |
| Recruitment-Multi - Intermediate (P2)  | AHR140-P2 Recruiter-Senior              | 3        | \$77,220           | \$7,722                  | \$84,942   | \$66,538                    | \$2,266   | \$68,804       | 19.00%            | 10.90%         |   |                  |       |
| <b>AEPS Business Logistics<sup>(4)</sup></b>   |   |          |                    |                          |            |                             |           |                |                   |                |   |                  |       |
| Materials Planning/Scheduling - Career (P3)  | ASC015-P3 Material Coordinator          | 4        | \$76,304           | \$7,630                  | \$83,934   | \$85,593                    | \$5,562   | \$91,155       | -8.60%            | -19.46%        |   |                  |       |
| <b>AEPS Information Technology<sup>(4)</sup></b>   |   |          |                    |                          |            |                             |           |                |                   |                |   |                  |       |
| Database Design and Analysis - Specialist (P4)   | AID060-P4 IT Database Analyst Senior    | 7        | \$105,698          | \$15,855                 | \$121,552  | \$117,317                   | \$7,931   | \$125,248      | -3.04%            | -18.50%        |   |                  |       |
| Application Development Support - Intermediate (P2)  | AID055-P2 IT Systems Analyst III        | 2        | \$70,825           | \$7,083                  | \$77,908   | \$76,220                    | \$2,472   | \$78,692       | -1.01%            | -11.11%        |   |                  |       |
| Application Development - Specialist (P4)  | AID010-P4 IT Software Developer-Sr      | 38       | \$99,732           | \$14,960                 | \$114,691  | \$109,180                   | \$7,828   | \$117,008      | -2.02%            | -17.32%        |   |                  |       |
| Application Development - Career (P3)  | AID010-P3 IT Software Developer I       | 45       | \$89,529           | \$8,953                  | \$98,481   | \$94,760                    | \$4,532   | \$99,292       | -0.82%            | -10.91%        |   |                  |       |
| Computer Systems Administration - Intermediate (P2)  | AIT010-P2 IT System Administrator II    | 16       | \$74,370           | \$7,437                  | \$81,807   | \$72,409                    | \$3,811   | \$76,220       | 6.83%             | -2.49%         |   |                  |       |
| Business Systems Analysis - Career (P3)  | AID020-P3 IT Business Systems Analyst I | 13       | \$90,592           | \$9,059                  | \$99,652   | \$89,198                    | \$5,047   | \$94,245       | 5.43%             | -4.03%         |   |                  |       |
| IT Development - Career (P3)   | AID055-P3 IT Systems Analyst I          | 16       | \$89,160           | \$8,916                  | \$98,076   | \$91,876                    | \$8,652   | \$100,528      | -2.50%            | -12.75%        |   |                  |       |
| <b>AEPS Accounting/Finance/Audit/Legal<sup>(4)</sup></b>   |   |          |                    |                          |            |                             |           |                |                   |                |   |                  |       |
| General Accounting - Career (P3)   | AFB010-P3 Sr Accountant                 | 8        | \$74,725           | \$7,473                  | \$82,198   | \$76,735                    | \$4,635   | \$81,370       | 1.01%             | -8.89%         |   |                  |       |
| General Accounting - Entry (P1)  | AFB010-P1 Accountant III                | 11       | \$52,225           | \$2,611                  | \$54,837   | \$54,590                    | \$2,884   | \$57,474       | -4.81%            | -10.05%        |   |                  |       |
| General Accounting - Intermediate (P2)   | AFB010-P2 Accountant I                  | 13       | \$63,508           | \$4,446                  | \$67,953   | \$64,787                    | \$3,090   | \$67,877       | 0.11%             | -6.88%         |   |                  |       |
|  | <b>Incumbent Count</b>                  | 194      |                    |                          |            |                             |           | <b>Average</b> | -0.2%             | -10.8%         |   |                  |       |
| <b>Notes:</b>  |   |          |                    |                          |            |                             |           |                |                   |                |   |                  |       |
| (1) All survey data aged to September 2014 at 3% annual rate   |   |          |                    |                          |            |                             |           |                |                   |                |   |                  |       |
| (2) Reflects annual target incentive payout for job  |   |          |                    |                          |            |                             |           |                |                   |                | % of Jobs Above Market Competitive Range <sup>5</sup> | 4.5%             | 0.0%  |
| (3) Survey Data from March 2014 Towers Watson Energy Services Middle Management & Professional Survey  |   |          |                    |                          |            |                             |           |                |                   |                | % of Jobs Below Market Competitive Range <sup>5</sup> | 0.0%             | 31.8% |
| (4) Survey Data from March 2014 Towers Watson General Industry Middle Management & Professional Survey |   |          |                    |                          |            |                             |           |                |                   |                |   |                  |       |
| (5) A market competitive range of +/- 15 percent has been used for all exempt positions                |   |          |                    |                          |            |                             |           |                |                   |                |   |                  |       |



# 2010 Annual Incentive Plan Design

## Survey Findings Report



Key incentive plan changes clients have either discussed or implemented include:

- Discretionary awards, possible adjustments to plan metrics and associated communications
- Additional/new metrics (e.g., focus on expense management, use of capital)
- Broader performance ranges, through lower thresholds
- More emphasis on individual objectives
- More ongoing communication to help build employee line of sight

To help companies ensure that their annual incentive plans provide competitive reward opportunities and remain effective in supporting key business and talent goals, Towers Watson conducts ongoing research in annual incentive plan design and operations. Our latest survey of annual incentive plan practices highlights the continuing evolution in plan design, along with some emerging trends in plan management.

# 2010 Annual Incentive Plan Design

## Survey Findings Report



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## Overview

In today's turbulent economic environment, organizations face a "perfect storm" of cost, risk, scrutiny and talent management issues. Amid these unprecedented challenges, annual incentive plans continue to play an important role in communicating and reinforcing critical organizational objectives, encouraging desired behaviors and providing competitive total compensation opportunities.

As economic uncertainty continues to cloud the picture, Towers Watson's work with clients during 2009 and the first quarter of 2010 confirms that many pay interventions introduced in response to the current financial crisis have been temporary and tactical, rather than strategic.

Among most companies, decisions about cost still predominate, but the importance of weighing short- and long-term implications is growing. Given that financial and operational results are below historical norms, annual incentive compensation plans are under pressure to respond. But whether adjustments to overall plan design are warranted or have occurred is unclear.

Against this backdrop, Towers Watson's latest survey of annual incentive plan design practices has uncovered some areas where changes have occurred and others where previous plan designs remain the same.


The Towers Watson 2010 Annual Incentive Plan Design Survey is based on a profile of 212 large companies (see Appendix on page 19 for survey participant data). This survey provides detailed information about how organizations based in the U.S. and Canada design annual incentive plans for their top executives. U.S. companies represent 83% of the sample, and Canadian companies represent 17%. Although additional companies can and have joined the survey, the results in this report are based on participants as of December 1, 2009. Towers Watson first conducted the Annual Incentive Plan Design Survey in 1996, following up in 2001 and 2005.

Current plan design practice data are presented, by section, in the remainder of this report of survey findings. Highlights of key trends, developments and changes are organized into three groups:

### **1. Trends identified in our 2005 survey that remain stable and/or have expanded in practice/prevalence in 2010:**

- There is continuing consistency in incentive plan designs within organizations, reflected by the finding that more companies are altering eligibility requirements and offering a single annual incentive plan for executives and other employees.
- Companies continue to be thoughtful about the specific definition of earnings used to measure performance, with relatively less use of earnings per share (EPS) and greater use of earnings before interest and taxes (EBIT or EBITDA) and operating earnings in their annual incentive plans.
- Most companies use two or more performance measures in their annual incentive plans, and the use of sales/revenue as a performance measure has maintained high prevalence.
- There is continued use of a broader and more complex range of performance measures to improve measurement and line of sight.
- Incentive zones and associated payout ranges remain largely unchanged over the past 10 years.
- There is a continued decrease in the use of voluntary deferred compensation arrangements, as companies have adjusted to the additional 409A restrictions that took effect in 2005.

“There is continued use of a broader and more complex range of performance measures to improve measurement and line of sight.”



“In addition to using individual performance, companies are showing increased use of measures at group/sector and business unit/division levels.”

**2. Practices identified as emerging/evolving in 2005 that have not taken a firm hold in the market and/or have retreated in 2010:**

- The movement away from thresholds and maximum performance levels to mark the bottom and upper limits of bonus payout zones has not occurred.
- Tying target bonus opportunities to peer group or market is a near-universal practice, and the trend away from this approach, as reported in 2005, has reversed.
- In some areas, the use of discretion in annual incentive plan design remains steady. There has not been significant growth in this practice and, in some areas, the use of discretion has decreased. These findings suggest that even in the midst of economic uncertainty — and often increased pressure to exert more discretion — companies have not made significant changes in this area.

**3. New approaches in designing annual incentive plans:**

- Plan costs — spending on annual incentive plans as a percentage of net income or revenue — are mostly aligned with data collected in 2005, except that actual spending for the most recently completed year (as of October-November 2009) was below target and historical levels. In addition, actual spending for the current/ongoing year is generally expected to be 20% to 30% below target.

- Plan funding — the method used to determine aggregate spending — has seen continued growth in the use of financial results-based funding formulas; the most prevalent funding measures are cash flow and operating income (versus net income in 2005).
- While the number of performance measures used has not changed and there have been small adjustments to the overall list of measures, there has been an increase in the prevalence of cash flow and EBIT/EBITDA.
- The use of individual performance as a weighted measure has been stable for the CEO position at about one-third prevalence, and has increased from one-third to about half for positions below the CEO level.
- In addition to using individual performance, companies are showing increased use of measures at group/sector and business unit/division levels. Companies appear to be willing to increase the complexity and differentiation within the plans in exchange for greater line of sight and linkages to performance.
- The area of setting performance expectations has changed, with a majority of companies currently basing goals on “expected business conditions.” In the past, this method was used less frequently and was less common than goal setting based on budgeted performance and year-over-year growth or improvement. This trend may be a temporary reaction to the current economic environment, or it may continue into the future.

# Eligibility

This study focuses on annual incentive plans that include the highest level of corporate management, typically the CEO and the company's senior management group. Over the past decade, a majority of companies have shifted away from offering an executive-only annual incentive plan and separate plans for other employees. Today, most companies offer an annual incentive plan to both executives and employees below the executive level.

All the surveyed plans are grouped into the following categories, according to the types of eligible participants:

- **Top-level executive plans** cover only the CEO, direct reports to the CEO and second-tier executives (i.e., direct reports to the CEO's direct reports) — 13% of the sample.
- **Middle management and above plans** cover not only the CEO and senior executives, but also middle managers — 25% of the sample.
- **Broad-based plans** typically extend to certain professional and administrative employees in addition to the CEO, other senior executives and middle management — 62% of the sample.

Continuing a trend started in 2005, a majority of the surveyed plans fall into the category of broad-based plans. In 2001, over half of the surveyed plans were top-level executive plans. An increasing number of companies align their incentives across the organization, most likely to encourage greater consistency of focus and effort.

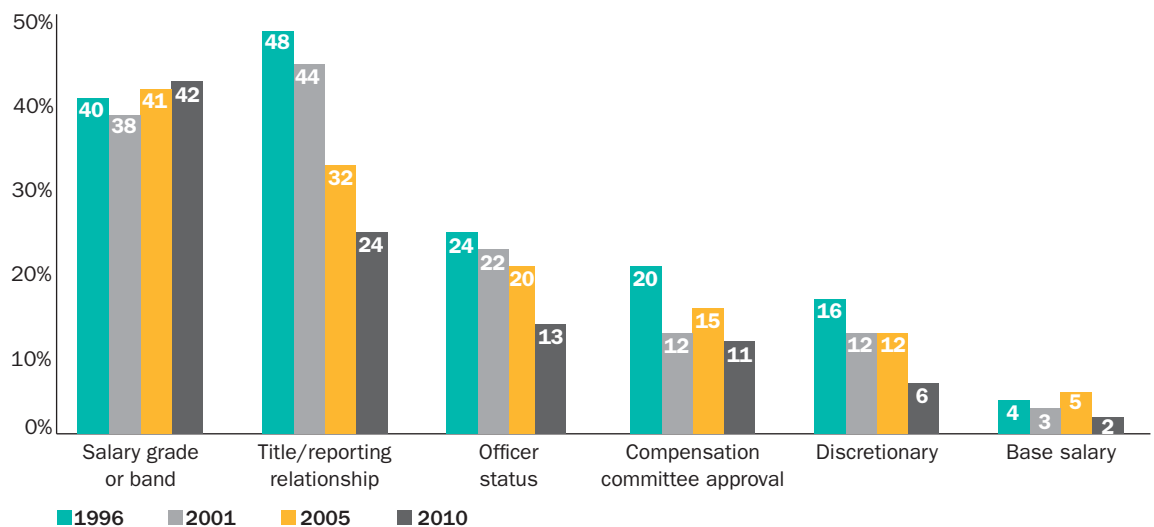
The number of plan participants, as a percentage of total employees, varies by the type of plan:

- **Top-level executive plans** — 0.4% of total employees at the median
- **Middle management and above plans** — 3.1% of total employees at the median
- **Broad-based plans** — over half of these plans include all (or all nonunion) employees in the company; of the broad-based plans that do not include all employees, the median participation is 20% of total employees

## Eligibility Criteria

Eligibility to participate in an incentive plan is determined at each company by one or more factors (*Exhibit 1*). In the 2010 survey, the most common factor for determining eligibility is an employee's salary grade or band. This differs from prior years, when position title, reporting relationship or officer status was a more common factor used to determine incentive plan eligibility. This finding is consistent with the trend toward including employees at various levels in the organization in one plan. In the past, when most survey plans were top-level executive plans that included only the CEO, direct reports to the CEO and their direct reports, an employee's reporting relationship was a simple, straightforward identifier of role and contribution. With plans now extending further into the organization, a more rigorous, contribution-based system (such as salary grades or bands) is used to determine eligibility.

**Exhibit 01. Historical Comparison of the Basis for Determining Plan Eligibility**



“An increasing number of companies align their incentives across the organization, most likely to encourage greater consistency of focus and effort.”

## Plan Costs

Incentive plan costs are always a challenging issue for companies as they seek to strike a balance between cost management and competitive bonus levels that will motivate top performance. Given these pressures, often made more intense by heightened executive pay-level scrutiny by shareholders, analysts and the media, companies are carefully monitoring the cost of incentives.

In the 2010 survey, we collected information that allows us to summarize costs for the most recently completed fiscal year (both actual and target) and the current/ongoing fiscal year at target. Across all plans and comparison approaches, reflecting recent economic challenges among participants, actual plan costs are below target levels. These figures may not reflect the total costs of incentives for the

companies, because costs may be incurred under other incentive plans not reported in this survey. However these figures do provide a comparison point against which to judge incentive spending.

One insightful way to assess plan costs is to compare the cost of an incentive plan in a given year to the net income generated by the company in that year. The percentage of net income spent on a particular incentive plan is a function of, among other things, how many people participate in the plan, the measures used for incentive purposes and the size of the organization.

### Median Plan Cost as % of Net Income

In this year's survey, the portion of net income spent on incentive plans at all three levels is relatively closely aligned with the data in the 2005 survey, except for the actual most recent fiscal-year costs.

|                                   | 2010 Survey Plan                 |                                  |                                      | 2005 Survey Plan                 |
|-----------------------------------|----------------------------------|----------------------------------|--------------------------------------|----------------------------------|
|                                   | Most Recent Fiscal Year — Target | Most Recent Fiscal Year — Actual | Current/Ongoing Fiscal Year — Target | Most Recent Fiscal Year — Actual |
| Top-level executive plans         | 1.9%                             | 1.9%                             | 1.7%                                 | 2.9%                             |
| Middle management and above plans | 4.9%                             | 2.8%                             | 5.3%                                 | 5.5%                             |
| Broad-based plans                 | 6.9%                             | 5.0%                             | 7.1%                                 | 6.9%                             |

### Median Plan Cost as % of Revenue

Incentive plan costs as a percentage of company revenue provide an indication of how incentives relate to the size of the organization, with 2010 results similar to 2005 results.

|                                   | 2010 Survey Plan                 |                                  |                                      | 2005 Survey Plan                 |
|-----------------------------------|----------------------------------|----------------------------------|--------------------------------------|----------------------------------|
|                                   | Most Recent Fiscal Year — Target | Most Recent Fiscal Year — Actual | Current/Ongoing Fiscal Year — Target | Most Recent Fiscal Year — Actual |
| Top-level executive plans         | 0.14%                            | 0.12%                            | 0.16%                                | 0.13%                            |
| Middle management and above plans | 0.29%                            | 0.17%                            | 0.34%                                | 0.37%                            |
| Broad-based plans                 | 0.63%                            | 0.44%                            | 0.69%                                | 0.64%                            |



**Median Plan Cost as % of Aggregate Base Salaries of Participants**

It is important to evaluate the amount spent on incentives in relation to the aggregate base salaries of employees in the plan. Not surprisingly, top-level executive plans pay out the highest percentage of the aggregate base salaries of plan participants.

|                                   | 2010 Survey Plan                 |                                  |                                      | 2005 Survey Plan                 |
|-----------------------------------|----------------------------------|----------------------------------|--------------------------------------|----------------------------------|
|                                   | Most Recent Fiscal Year — Target | Most Recent Fiscal Year — Actual | Current/Ongoing Fiscal Year — Target | Most Recent Fiscal Year — Actual |
| Top-level executive plans         | 41%                              | 36%                              | 41%                                  | 44%                              |
| Middle management and above plans | 27%                              | 24%                              | 28%                                  | 32%                              |
| Broad-based plans                 | 16%                              | 12%                              | 16%                                  | 17%                              |

**Plan Costs for Current/Ongoing Fiscal Year**

Since the survey data were collected during October-November 2009, we asked participants to report the anticipated/estimated plan costs for the current/ongoing fiscal year (generally, the 2009 fiscal year). This was a new data point in the survey and was not reported by a majority of participants. While we cannot report statistics similar to the plan cost tables above, we conclude that actual spending for the current/ongoing year is generally expected to be in the range of 20% to 30% below target.

# Plan Funding

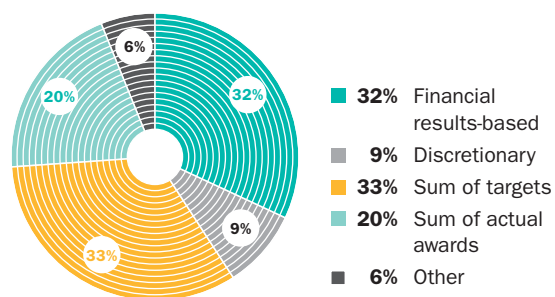
The method used to determine the aggregate size of an incentive pool from which all incentives will be paid plays an important role in achieving a fair balance between the interests of shareholders and plan participants.

Under the *sum-of-targets approach*, the aggregate amount of awards to be paid under the plan in a given year is determined by adding the target awards of all participants. The *sum-of-actual-awards method* is similar, except that actual awards are aggregated rather than target awards. Although over half of the survey plans use one of these approaches, the *financial results-based approach* has shown an increase in comparison to 2001 and 2005 survey findings.

## Financial Results-Based Formula

As noted, the use of a funding formula based on financial results, which applies specific financial objectives designed to strengthen the link to company performance, is becoming more prevalent. Almost one-third (32%) of the survey respondents reported using this approach, compared to only 13% of companies in 2001 (*Exhibit 2*).

**Exhibit 02. How Incentive Funding Is Determined**



Companies that use this method will either create a bonus fund equal to a percentage of a financial measure (e.g., 3% of net income) or a percentage of a financial measure that exceeds a hurdle rate (e.g., 5% of net income in excess of an 8% return on net assets).

The most common performance measures used for plan funding are operating income and cash flow. Net income and pretax income are also used frequently (*Exhibit 3*). In 2005, net income was the most common measure, and in 2001 EPS was the most commonly used measure in financial results-based formulas.

**Exhibit 03. Measures Used in Incentive Plans With a Financial Results-Based Plan Funding Approach**

|                  | 2010 Survey* | 2005 Survey |
|------------------|--------------|-------------|
| Operating income | 29%          | 21%         |
| Cash flow        | 28%          | 20%         |
| Net income       | 22%          | 25%         |
| Pretax income    | 22%          | 16%         |

\*Percentages total more than 100% due to multiple responses.

Almost one-half of companies that use a financial results-based formula allocate funds to business units based on performance (e.g., a corporate funding pool is allocated to business units based on business unit performance). The remaining companies are relatively evenly split between allocating at an individual level without first allocating to the business unit level and requiring business units to generate their own award pools.

When it comes to plan funding, it is less common to use a purely discretionary approach to determine the aggregate amount of award money (one unrelated to any established formula). For example, the board or management might look at the year's results and decide the company can afford to pay a total of \$10 million in bonuses. Nine percent of companies reported using this approach in 2010, up from 5% in 2005, likely due to the difficulty of budgeting and setting performance expectations in the current economic environment.

“The use of a funding formula based on financial results, which applies specific financial objectives designed to strengthen the link to company performance, is becoming more prevalent.”



# Measuring Performance

In the drive to improve measurement and make compensation practices more effective, organizations continue to adjust their annual incentive plans by altering design features, usually in ways that are important to individual participants but don't involve a wholesale redesign. While cost is always a consideration for employers sponsoring these plans, typical design changes are made with an eye toward improving the line of sight between individual behavior and the organization's business objectives.

Consistent with our 2001 and 2005 findings, nearly nine out of 10 companies (89%) rely on two or more performance measures. Two-thirds of survey respondents (66%) reported that they currently use three or more performance measures.

While sales or revenue is the single most common annual incentive financial performance measure, four of the next five most common measures are earnings- or profit-based, and cash flow is now tied as the second-most prevalent performance measure (*Exhibit 4*, and *Exhibit 5* on page 11). Performance measures that show the largest increases in prevalence, compared to 2005, are cash flow and EBIT/EBITDA. The combination of sales or revenue

with the other most common financial measures suggests that the drive for profitable growth is as strong as ever.

## Use of Nonfinancial Performance Measures

Nonfinancial performance measures are often considered effective leading indicators of shareholder value creation and continue to gain in popularity (*Exhibit 6*, page 11). Due to the increasing prevalence of these measures, we have captured a wider range of metrics and categories.

## Individual Performance and the Level of Performance Measurement

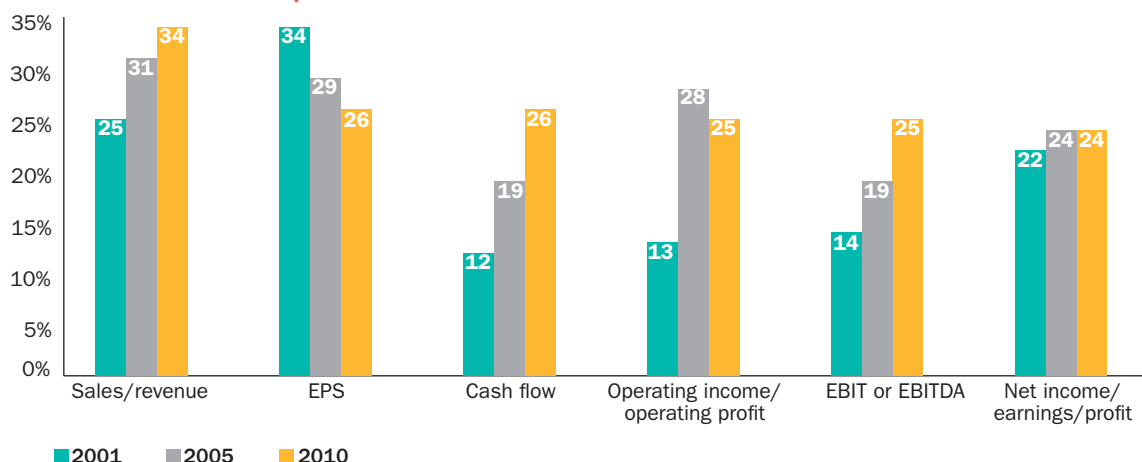
We asked survey participants to report the level at which performance is measured. While some organizations measure performance for the entire company, others measure performance at lower levels. In the latter approach, these companies possibly consider performance for each business unit or division, for the group (which includes several business units or divisions) and/or at the individual performance level.

**Exhibit 04. Prevalence of Financial Performance Measures**

|  | 2010 Survey | 2005 Survey |
|--|-------------|-------------|
| Sales/revenue  | 34%         | 31%         |
| EPS  | 26%         | 29%         |
| Cash flow  | 26%         | 19%         |
| Operating income/operating profit                          | 25%         | 28%         |
| EBIT or EBITDA   | 25%         | 19%         |
| Net income/earnings/profit                                 | 24%         | 24%         |
| Cost/expense control/reduction                             | 17%         | —           |
| Return on investment/return on invested capital (ROI/ROIC) | 8%          | 7%          |
| Return on equity (ROE)                                     | 7%          | 9%          |
| Operating measures (e.g., operating margin)                | 7%          | 12%         |
| Pretax income  | 5%          | 7%          |
| Working capital  | 4%          | —           |
| Economic profit/economic value added (EP/EVA)              | 4%          | 3%          |
| Gross margin   | 4%          | —           |
| Return on assets/return on net assets (ROA/RONA)           | 3%          | 4%          |
| Total shareholder return                                   | 3%          | —           |
| Net operating profit after tax (NOPAT)                     | 2%          | —           |

Percentages total more than 100% due to multiple responses.

### Exhibit 05. Historical Comparison of Most Prevalent Financial Performance Measures



A majority (61%) of the surveyed companies measure the CEO solely on corporate performance. In those cases where the CEO's award is based on more than corporate performance, it is usually based on a combination of corporate and individual performance. In short, the two most common CEO performance weightings and combinations are:

- 100% corporate performance
- 80% corporate, 20% individual performance

At lower levels in the organization, it is most common to base awards on two or more levels of performance. Performance measurement for non-CEOs generally depends on the employee's level within the organization.

At the group/sector executive level, common weightings and combinations are:

- 100% corporate performance
- 50% corporate, 50% individual performance
- 50% corporate, 50% group/sector performance

Common weightings and combinations for top business unit or division executives are:

- 25% corporate, 75% business unit/division performance
- 25% corporate, 25% business unit/division, 50% individual performance

Compared to our findings in 2005 and 2001, an increasing number of companies assign a specified weight to individual performance, especially below the CEO level (*Exhibit 7*). When an individual performance component is included in the CEO's measurement calculation, which is used in 32% of the sample, it is typically assigned a weight of 20%. Individual performance is used below the CEO level by about half of companies, and the typical weighting is 50% of the total incentive opportunity.

### Exhibit 06. Prevalence of Nonfinancial Performance Measures

|                            | 2010 Survey | 2005 Survey |
|----------------------------|-------------|-------------|
| Strategic objectives       | 27%         | —           |
| Safety/environmental       | 17%         | —           |
| Customer satisfaction      | 16%         | 14%         |
| Team/department objectives | 16%         | —           |
| Volume/production          | 7%          | —           |
| Employee satisfaction      | 4%          | 4%          |

### Exhibit 07. Level of Performance Measurement

|                                      | % of Organizations Using Measures at Each Level |                       |                                 |                     |
|--------------------------------------|---|-----------------------|---------------------------------|---------------------|
|                                      | Corporate Measures                              | Group/Sector Measures | Business Unit/Division Measures | Individual Measures |
| CEO                                  | 93%   | —                     | —                               | 32%                 |
| Corporate staff                      | 92%   | 13%                   | 5%                              | 55%                 |
| Top group/sector executive           | 85%   | 46%                   | —                               | 42%                 |
| Group/sector staff                   | 47%   | 79%                   | —                               | 67%                 |
| Top business unit/division executive | 52%   | 15%                   | 71%                             | 49%                 |
| Business unit/division staff         | 38%   | 5%                    | 65%                             | 52%                 |

## Calculating the Award

Companies that use more than one performance measure must define how these measures will be combined to calculate an individual's bonus. There are three principal approaches:

- The most common method is the *additive approach*, which calculates performance separately for each measure and then adds the associated incentive awards to determine the final award. The prevalence of this approach is 69% and is consistent with prior survey results.
- 16% of respondents use a *multiplicative method* to calculate individual awards, representing an increase over our 2005 and 2001 results. Under this approach, performance under one measure is adjusted by performance under another measure. For example, a bonus calculated on EPS growth is multiplied by a factor based on a second performance measure to determine the bonus award.
- Similar to 2005 and 2001, fewer than 10% of respondents use the *matrix approach*, in which the levels of performance for two separate measures are each assigned an axis on a matrix. The employee's annual award, usually expressed as a percentage of the target amount, is determined by the intersection of the performance levels for the two measures.

“Similar to our previous findings, the use of circuit breakers and/or modifiers was reported by approximately one-third of respondents.”

### Circuit Breakers

When several measures are used to calculate bonuses, employees generally do not have to meet all the measures to receive some level of bonus. Some plans designate one or more measure(s) as a “circuit breaker” that essentially requires the achievement of a certain minimum level of

performance to receive any award payout. Similar to our findings in 2005 and 2001, plans with some sort of circuit-breaker feature were reported by about one-third of respondents. The four most common corporate performance measures used as a circuit breaker, in order of prevalence, are EPS, EBIT or EBITDA, operating income and cash flow. Individual performance is used as a circuit-breaker measure among 9% of companies. For example, some plans are structured so that, no matter how well the company performs, an individual will not receive any bonus unless his or her performance is at least at some threshold level.

### Modifiers

Some plans incorporate a final adjustment to the award calculation by applying a modifier. For example, an otherwise determined award can be increased or decreased by a certain percentage based on how well a certain goal is achieved. While this might be similar to the multiplicative approach, typically the modifier makes a smaller adjustment to a calculated award (e.g., an award calculated using the additive approach is modified by 105% if the modifier goal is achieved).

This practice is reported by 30% of survey respondents, versus 20% in 2005. Most often, this modification is based on an individual performance rating. Other common modifiers are EBIT or EBITDA and sales/revenue.

### Performance Incentive Zones and Bonus Payout Ranges

The *performance incentive zone* describes the range of performance outcomes for which incremental increases in performance will result in incremental increases in bonus awards. Some plans place no hard limits on performance that can earn a bonus, creating unlimited upside opportunities. Other plans have thresholds and maximums, creating an incentive zone that represents all possible performance levels between the floor and the maximum or cap.

The *bonus payout range* describes the actual dollar amount that can be earned at each level in the performance incentive zone. Like performance incentive zones, payout ranges can be uncapped if there is no maximum. *Exhibit 8* shows an example of an 80% to 120% performance incentive zone, tied to a bonus payout range of 50% to 200% of target bonus. As this example illustrates, an employee in this plan would receive no bonus for performance up to 80% of target and could not earn more than 200% of his or her target bonus even if performance exceeded 120% of target performance.

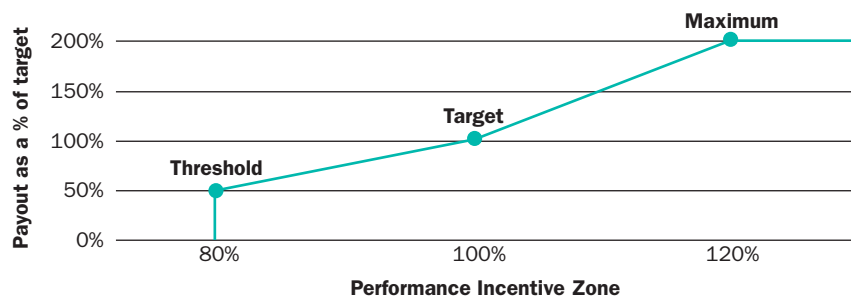
The size of performance incentive zones and bonus payout ranges varies considerably among survey participants. The median performance incentive zone for most measures is 40%. In other words, the difference between threshold performance as a percentage of target and maximum performance as a percentage of target is 40%. For example, if the performance threshold is 80% of target, the maximum would be 120% of target.

The median bonus payout range is 150% for most performance measures, indicating a payout range, for example, of 50% at the threshold level of performance and 200% at the maximum level of performance.

The 2010 findings regarding performance incentive zones and bonus payout ranges are consistent with our 2005 and 2001 results. This suggests that companies are comfortable with the leverage inherent in their existing plans.

In previous years, performance incentive zones and bonus payout ranges varied slightly according to the performance measure evaluated. In 2010, the median incentive zones and payout ranges were generally the same for all of the most prevalent performance measures. *Exhibit 9* shows slight differences in the median ranges reported for sales/revenue, EPS, cash flow, operating income/operating profit, EBIT, and net income/earnings/profit.

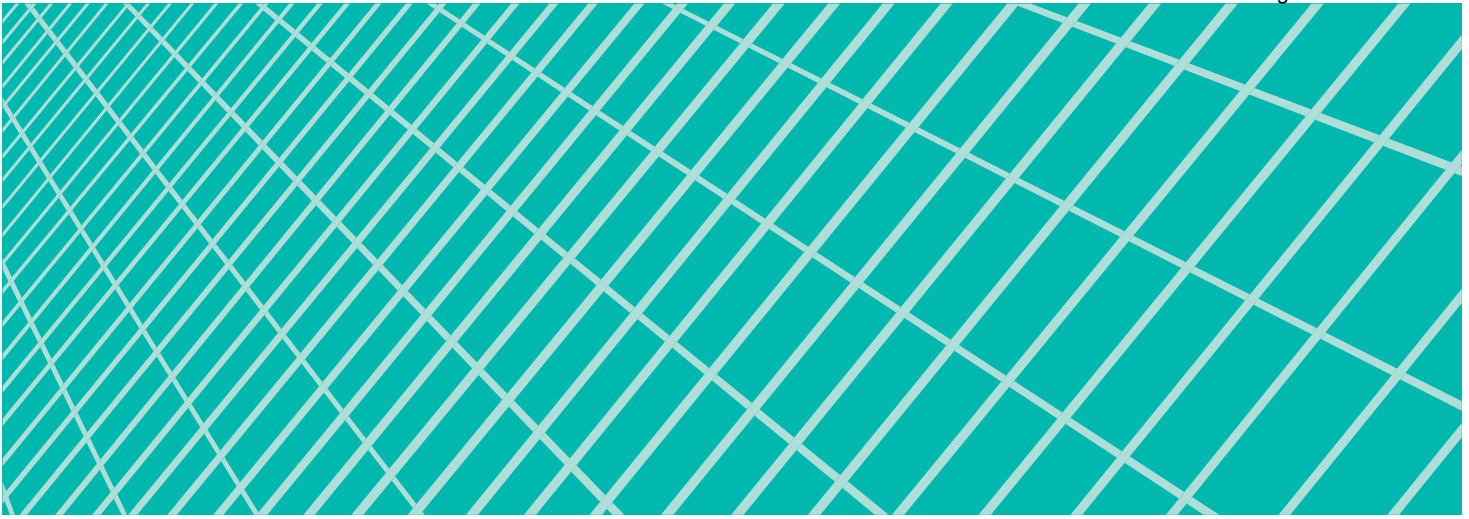
**Exhibit 08. Sample Performance Incentive Zone**



**Exhibit 09. Performance Payout Zones**

Median responses

| Measure                           | Performance as % of Target |        |         | Payout as % of Target |        |         |
|-----------------------------------|----------------------------|--------|---------|-----------------------|--------|---------|
|                                   | Threshold                  | Target | Maximum | Threshold             | Target | Maximum |
| Sales/revenue                     | 80%                        | 100%   | 120%    | 50%                   | 100%   | 200%    |
| EPS                               | 80%                        | 100%   | 120%    | 50%                   | 100%   | 200%    |
| Cash flow                         | 80%                        | 100%   | 130%    | 50%                   | 100%   | 200%    |
| Operating income/operating profit | 80%                        | 100%   | 120%    | 35%                   | 100%   | 200%    |
| EBIT or EBITDA                    | 80%                        | 100%   | 120%    | 50%                   | 100%   | 150%    |
| Net income/earnings/profit        | 80%                        | 100%   | 120%    | 50%                   | 100%   | 200%    |



## Performance Expectations

Companies must manage performance expectations by establishing standards to identify what constitutes target performance and to assess the extent to which the target has been achieved. In prior years, budgeted performance was the most widely used approach. In 2010, however, the most common approach to establish a performance standard was based on expected business conditions. As many companies use more than one method to set performance expectations, other common approaches include budgeted performance, year-over-year growth or improvement, investor expectations and performance relative to a peer group.

The approach used to establish performance standards usually varies, based on the performance measure. *Exhibit 10* shows the frequency with which various performance measures are used to set standards. As might be expected, the standards for financial measures are more likely to be based on budgeted performance or year-to-year growth than nonfinancial measures (e.g., customer satisfaction and employee satisfaction), which are often determined by a peer group comparison, or set by management or the board.

“In 2010, the most common approach to establish a performance standard is expected business conditions.”

**Exhibit 10. Factors That Determine Performance Expectations — by Performance Measure**

|   | 2010 Survey | 2005 Survey |
|---|-------------|-------------|
| Determined by management/board based on business conditions | <b>58%</b>  | <b>25%</b>  |
| Based on budgeted performance                               | <b>49%</b>  | <b>37%</b>  |
| Year-to-year growth or improvement                          | <b>30%</b>  | <b>27%</b>  |
| Peer group performance or some other external standard      | <b>15%</b>  | <b>1%</b>   |
| Achievement of strategic milestones                         | <b>11%</b>  | <b>1%</b>   |
| Based on expectations of investors                          | <b>10%</b>  | <b>3%</b>   |
| Timeless/absolute standard                                  | <b>5%</b>   | <b>1%</b>   |
| Company's cost of capital                                   | <b>4%</b>   | —           |

## Payout Levels

We asked survey participants to report the level of bonus payouts made over the past five years, generally covering the period between 2004 and 2008. The pattern of payout levels follows the general economic environment (*Exhibit 11*). The prevalence of payments in the target-to-maximum range was consistent during the 2004-2007 time frame. In 2008, there was a sizable increase in the prevalence of payments between minimum and target.

## Overriding Plan Design

To address unforeseen shifts in the business climate, many companies maintain a degree of flexibility in the administration of annual incentive awards. Companies also want the flexibility to retain key people and keep high performers motivated in difficult times. Generally, for those positions not subject to IRC Section 162(m), companies have the right to adjust individual awards under the established plan formula — either paying an extra reward as a portion of a bonus not warranted by the level of performance or declining to pay a portion of the bonus that was earned based on the level of achievement.

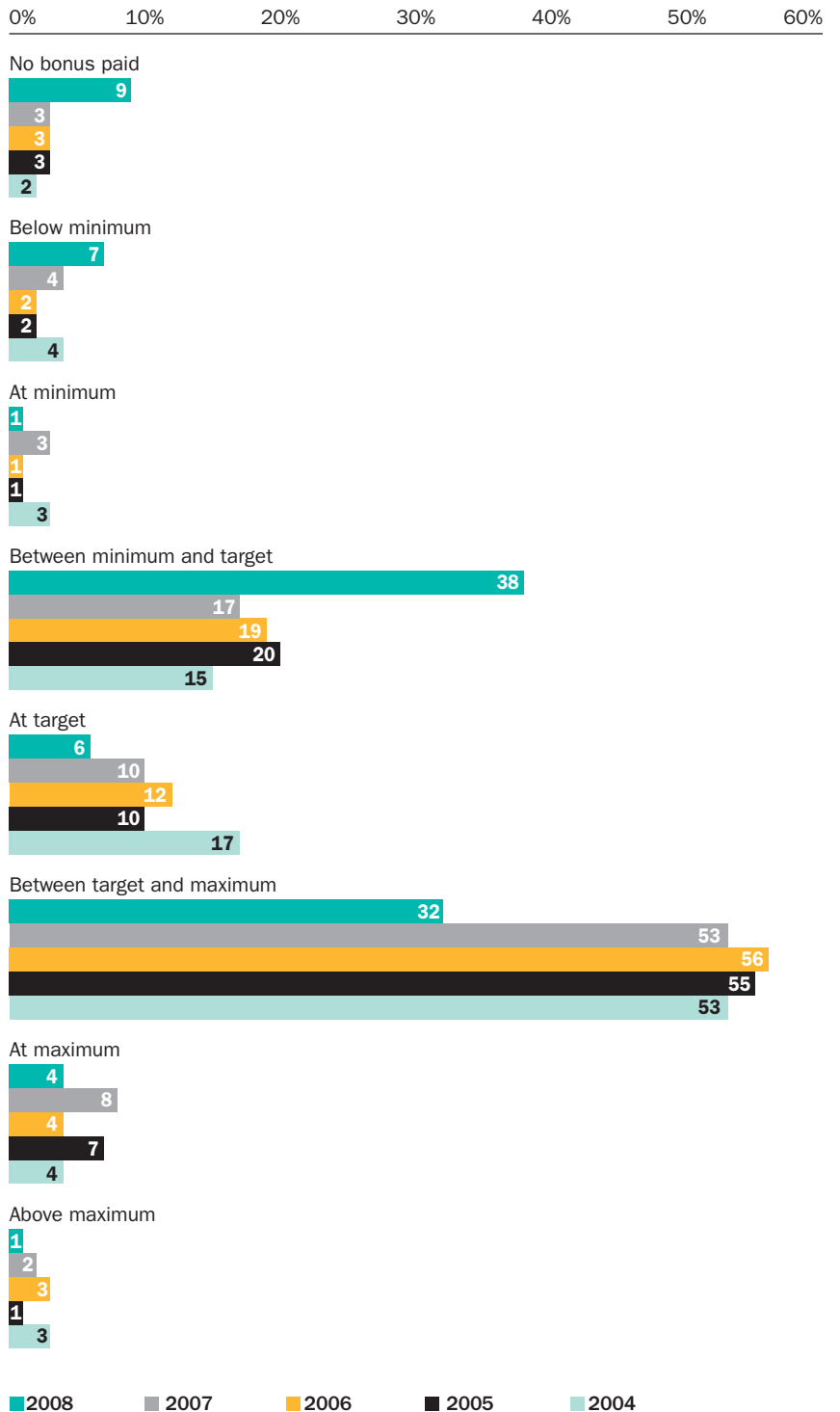
In this survey, we wanted to examine companies' experience with paying awards when performance thresholds were not reached. We learned that about 40% of survey participants had not been faced with such decisions in the previous five years because their organizations had met their thresholds each year.

Another 38% of participants reported they have not overridden the plan when threshold performance was not achieved. This finding suggests that more companies are deciding against overriding plan design. About 20% of survey respondents indicated they have overridden plan formulas and paid a portion of an award either to individuals or groups that did not meet the threshold level of performance. We found that this exception was usually made for a select few individuals rather than for the entire group.

Consistent with our findings in previous surveys, a much smaller percentage of companies (15%) have overridden their plans in the opposite direction, withholding a portion of an award that was earned under their formula. Again, if such an override does occur, it is usually done selectively for some participants.

**Exhibit 11. Payout Levels Over Past Five Fiscal Years**

% of companies paying out at each level



# Award Payment

## Size of Awards

The external market exerts considerable influence over incentive practices at individual companies as employers seek to balance their costs with their desire to attract and retain key talent. Of the companies using target bonuses, nearly all (91%) set target opportunities based on external market levels.

## External Guidelines

Companies also often look at the bigger picture when trying to calculate the role bonuses will play in an overall compensation package. Again, this helps keep costs in line with objectives while ensuring the organization continues to attract, motivate and retain key talent.

We asked our survey respondents to tell us how competitive they would like to be in both base salary and total cash compensation (base salary plus annual bonus). *Exhibit 12* shows that most companies have targeted pay at the median for base salary and for total cash compensation. However, 26% of companies indicated that they target the 75th percentile for total cash compensation. (Note that target pay is different from actual pay levels.)

**Exhibit 12. Desired Competitive Level of Each Compensation Component**

|                 | Base Salary | Target Total Cash |
|-----------------|-------------|-------------------|
| Below median    | 2%          | 0%                |
| Median          | 89%         | 51%               |
| 60th percentile | 2%          | 5%                |
| 75th percentile | 3%          | 26%               |
| 90th percentile | 0%          | 4%                |
| Not specified   | 2%          | 12%               |
| Other           | 2%          | 1%                |

## Use of Discretion

The use of discretion in awarding incentive payments has become a common practice. Discretion is most likely to come into play with individual performance assessments, but payments can also be adjusted at the discretion of management or the board, or based on business circumstances. A few companies (5%) reported maintaining a special discretionary bonus fund outside the surveyed plans. Thirteen percent of companies reported that awards are not subject to discretion.

## Payments in Cash

Most companies reported that their incentive payments are entirely or mostly in cash. About 5% of companies require an alternative, usually some combination of cash and stock. Thirteen percent of companies surveyed have a plan provision that allows bonuses to be paid totally or partially in stock. Among these organizations, it is slightly more common for the company to decide whether the bonus will be paid in stock, in lieu of cash. In some companies, however, participants are allowed to make that decision.

## Deferred Payment Arrangements

One-third of the survey group offers plan participants the opportunity to defer payment for individual tax planning or other purposes. However, this practice has decreased significantly since 2001, when over two-thirds of companies reported offering deferral opportunities. This is most likely due to changes in U.S. tax rules, which impose additional restrictions on nonqualified deferred compensation.

“Most companies have targeted pay at the median for base salary and for total cash compensation.”

## Provisions for Employees Who Leave

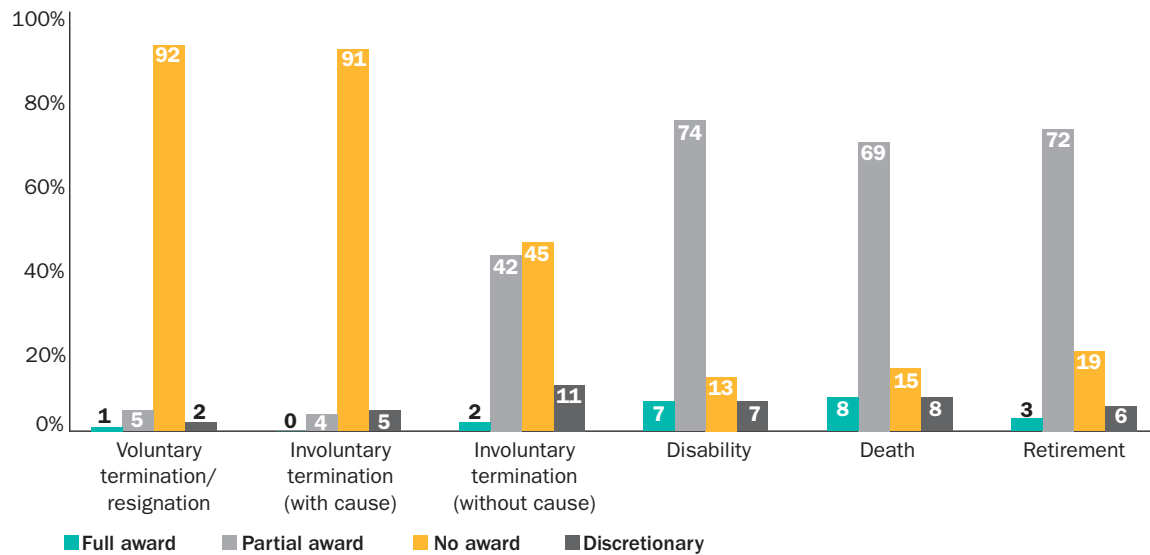
Most companies have policies in place for employees who leave during the plan year or after the plan year has ended, but before bonus payments have been made.

If an employee leaves *during the plan year* due to disability, death or retirement, most companies pay a prorated portion of the award (Exhibit 13). If, however, the employee is terminated (for cause) or resigns during the plan year, more than nine out of 10 companies will not pay any bonus. If a person is laid off without cause (e.g., due to a downsizing), companies are divided among paying a partial award, no award or making decisions on a case-by-case basis, with the most common choice being no award.

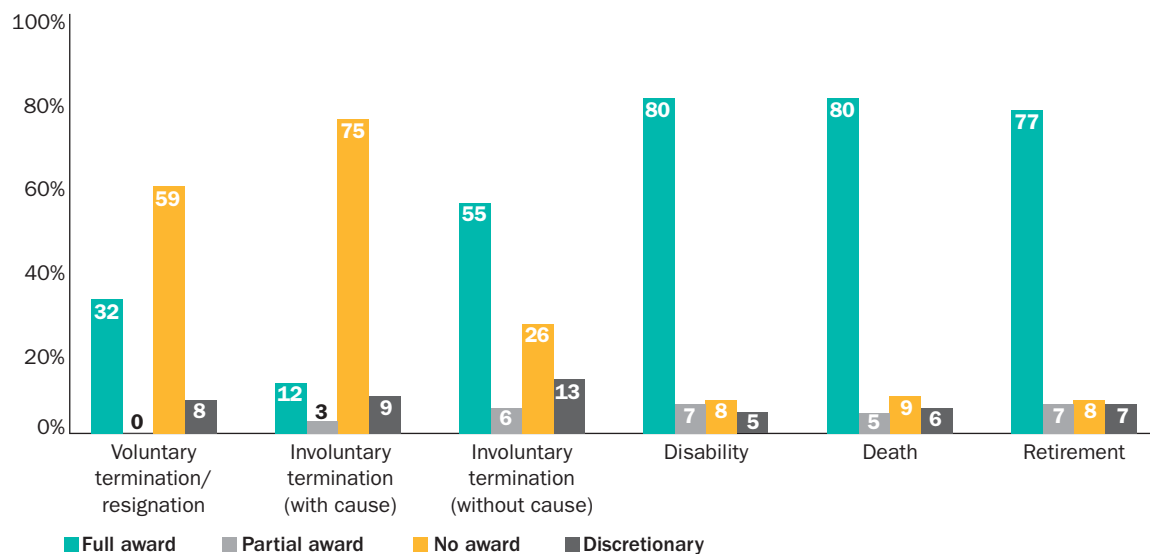
If an employee leaves *after plan year-end* (but before bonus payments are made) due to disability, death or retirement, most companies will pay the full award (Exhibit 14). If the employee is terminated or resigns after plan year-end, companies are more likely to pay than if the termination occurred midyear. If the individual is laid off without cause after the end of the year, companies are again divided among partial award, no award or making decisions on a case-by-case basis, with the most common choice being to pay the full award.

For the most part, these practices are similar to those reported in the 2005 and 2001 surveys.

**Exhibit 13. Bonus Treatment for Status Changes Occurring During Plan Year**



**Exhibit 14. Bonus Treatment for Status Changes Occurring After Plan Year-End**





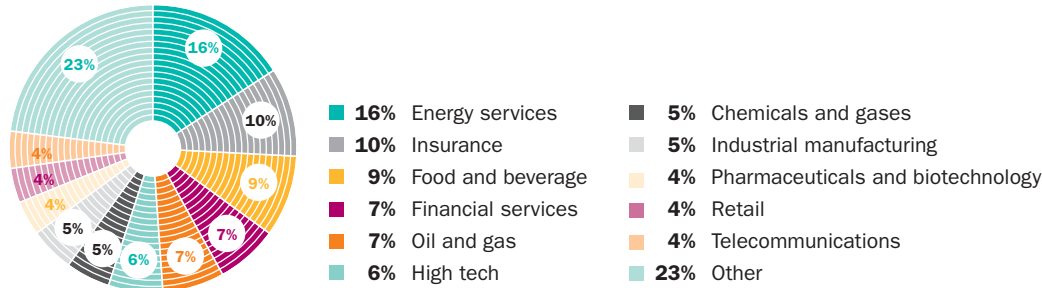


## International Issues

About 60% of the companies surveyed include employees outside the home country (either the U.S. or Canada) in their surveyed incentive plan. Almost all of these companies (95%) use a similar plan design to deliver annual incentives to local and third-country national employees on a worldwide basis. Statutory restrictions and market practices are reasons cited by those companies that do not use a similar plan design in other countries.

# Appendix

## Exhibit A. Participants by Industry



## Exhibit B. Participant List

Number of Participants: 212

|                                  |                               |  |   |                                |
|----------------------------------|-------------------------------|--|---|--------------------------------|
| Advanced Micro Devices           | CBS                           | Hanesbrands                                  | McDermott                                 | Security Benefit Group         |
| Agilent Technologies             | CDI                           | Harris                                       | McGraw-Hill                               | Shaw Group                     |
| AGL Resources                    | Century Aluminum              | Hayes Lemmerz                                | MDS                                       | Spirit AeroSystems             |
| Agrium                           | CF Industries                 | H.B. Fuller                                  | MDU Resources                             | SPX                            |
| AIG                              | Chevron                       | Henry Schein                                 | Medicines                                 | SRA International              |
| Alberta Electric System Operator | Chicago Mercantile Exchange   | Herman Miller                                | Methanex                                  | Starbucks                      |
| Alberta Investment Management    | Chrysler                      | Hertz  | M/I Homes                                 | Starwood Hotels & Resorts      |
| Alliant Energy                   | Chubb                         | Hewlett-Packard                              | Milacron                                  | Sunoco                         |
| Allstate                         | CIGNA                         | Hexion Specialty Chemicals                   | Mine Safety Appliances                    | Syncrude Canada                |
| AMC Entertainment                | CIGNA                         | Hoffmann-La Roche                            | Molson Coors Brewing                      | Takeda Pharmaceutical          |
| American Airlines                | Clearwire                     | Horizon Blue Cross Blue Shield of New Jersey | M&T Bank                                  | Tarion                         |
| American Commercial Lines        | Cobank                        | Hormel Foods                                 | MTS Allstream                             | Teradata                       |
| American Crystal Sugar           | Comerica                      | Hospira                                      | MTS Systems                               | Time Warner Cable              |
| American Electric Power          | ConocoPhillips                | Houghton Mifflin                             | National Bank of Canada                   | T-Mobile USA                   |
| American Family Insurance        | Constellation Brands          | Humana                                       | NAV Canada                                | Toro                           |
| American United Life             | CPP Investment Board          | IAMGOLD                                      | New York Life                             | Toronto Hydro Electric Systems |
| American Water Works AMETEK      | Crown Castle                  | IDACORP                                      | Nexen                                     | TransCanada                    |
| Anheuser-Busch                   | Dana                          | IKON Office Solutions                        | Nicor                                     | Trinity Industries             |
| A.O. Smith                       | Del Monte Foods               | IMS Health                                   | Nordstrom                                 | Tupperware                     |
| A&P                              | Dick's Sporting Goods         | Independent Electricity System Operator      | Northeast Utilities                       | UniSource Energy               |
| ARC Resources                    | Dominion Resources            | Independent Order of Foresters               | NRG Energy                                | United States Steel            |
| A.T. Cross                       | Domino's Pizza                | Insurance Corporation of British Columbia    | Ontario Power Generation                  | United Technologies            |
| Atomic Energy of Canada          | Dow Chemical                  | International Flavors & Fragrances           | Oshkosh Truck                             | Unum Group                     |
| AT&T                             | Dow Corning                   | J.M. Smucker                                 | Owens-Illinois                            | Valero Energy                  |
| Automatic Data Processing        | DPL                           | Kellogg                                      | Pacific Gas & Electric                    | Valmont                        |
| Avaya                            | Duke Energy                   | Kendle International                         | Pacific Life                              | Vectren                        |
| Avista                           | DuPont                        | Kennametal                                   | Papa John's                               | Vermilion Energy Trust         |
| BB&T                             | Duquesne Light                | Koppers                                      | Pennsylvania Real Estate Investment Trust | Viacom                         |
| BC Transmission                  | Eaton                         | Kroger                                       | People's Bank                             | Viad                           |
| Black Hills Power and Light      | EMC                           | Land O'Lakes                                 | Petro-Canada                              | Vulcan Materials               |
| Blockbuster                      | Energy Future Holdings        | Lenovo                                       | Plexus                                    | VWR International              |
| Boeing                           | Entergy                       | Leprino Foods                                | PolyOne                                   | Warner Chilcott                |
| BOK Financial                    | EQT                           | Level 3 Communications                       | Portland General Electric                 | Waste Management               |
| BP                               | Equity Residential Properties | Liberty Property Trust                       | Principal Financial                       | Wells' Dairy                   |
| Bremer Financial                 | Expedia                       | Life Technologies                            | Prudential Financial                      | Western Digital                |
| Brown-Forman                     | Exterran                      | Loto-Québec                                  | QUALCOMM                                  | Western Union                  |
| Campbell Soup                    | ExxonMobil                    | Manulife Financial                           | RGA Reinsurance Group of America          | Whirlpool                      |
| Canadian Broadcasting            | First American                | Maple Leaf Foods                             | Royal & SunAlliance Canada                | Williams Companies             |
| Canadian Oil Sands               | FirstEnergy                   | Marathon Oil                                 | Schreiber Foods                           | Wm. Wrigley Jr.                |
| Canadian Pacific Railway         | First Solar                   | Massachusetts Mutual                         | Schwans                                   | World Color Press              |
| Capital Power                    | Genzyme                       | McCormick                                    | S.C. Johnson                              | Xcel Energy                    |
| Carlson Companies                | GNC                           |  | Securian Financial Group                  | Zale                           |
| Carpenter Technology             | Great Canadian Gaming         |  |   |                                |
|                                  | Greene Tweed                  |  |   |                                |

## About Towers Watson

Towers Watson is a leading global professional services company that helps organizations improve performance through effective people, risk and financial management. With 14,000 associates around the world, we offer solutions in the areas of employee benefits, talent management, rewards, and risk and capital management.



## Compensation Strategy Recommendations 2013 Performance Measures and Weights

- A balanced scorecard of earnings, safety and strategic measures

| Performance Category  | 2013   | 2012                    | 2011                    | 2010               |
|---|--|-------------------------|-------------------------|--------------------|
| Funding Measures  | 75% EPS<br>10% Safety<br>15% Strategic Initiatives | 100% EPS                | 100% EPS                | 100% EPS           |
| Funding Adjustments   | Zero Fatality Adj. (+7.5%)<br>Culture (5%)         | Fatality Adj. (+/- 10%) | Fatality Adj. (+/- 10%) | Fatality Deduction |
| <b><u>Allocation Measures</u></b>                                     |  |                         |                         |                    |
| Safety & Health   | N/A  | 25%                     | 30%                     | 25%                |
| Operations  | N/A  | 25%                     | 30%                     | 25%                |
| Regulatory  | N/A  | -                       | 20%                     | 25%                |
| Strategic Initiatives   | N/A  | 50%                     | 20%                     | 25%                |
| The funding measures above would apply to all annual incentive groups |  |                         |                         |                    |



# Compensation Strategy Recommendations

## 2013 Company-Wide Annual Incentive Compensation

### Zero Fatality Adjustment (+7.5%)

- **Zero Fatality Adjustment:**
  - In the event AEP does not experience a fatal work related employee incident, the overall net composite score would increase by 7.5% of target for all employees
    - This changes the Fatality Adjustment used for the past two years to eliminate the potential negative impact of a fatality in favor of a positive adjustment for zero fatality years only
    - It changes the potential impact from a percentage of the actual score, to a percentage of target
    - It also changes the magnitude of the potential impact:
      - From +/- 10% of the actual score for officers to +7.5% of target,
      - From +/- 5% of the actual score for other employees to +7.5% of target, and
      - From - 10% of the actual score for employees in any business unit that experiences a fatality to no impact



## **Culture Goal (Up to 5% Addition to Overall Score)**

- **The linkage between a healthy organization culture and business performance is clear**
- **AEP will launch the cultural transformation by the end of Q1 to meet the following milestones:**
  - **Conduct 50 plus focus groups across business units and levels of employees by end of February**
  - **Analyze data to develop roadmap for Cultural Transformation with 2013 actions and communication campaign**
  - **Engage leaders at the February Leadership Summit and obtain personal commitments to action plans for ICP goals and 360 degree reviews**
    - Action plans for all participants (200% maximum score)
    - Action plans for 95% of participants (100% of target score)
    - Action plans for 90% or less of participants (0% score)
  - **Launch 2013 Roadmap in March to all employees outlining short-term and long-term actions in 4 focus areas:**
    - Strategic Direction
    - Leadership
    - Rewards and Recognition
    - Employee Engagement
- **Hold offsite meeting for Executive Council to gain commitment, ensure alignment, and create actions to support and drive the transformation of the culture**
- **Conduct focus groups in the last quarter to gauge progress and areas of focus for 2014**
  - **A progress assessment will be provided to the HRC**



## Compensation Strategy Recommendations 2013 EPS Measure (75% weight)

- **Maximum Score:** EPS at or above \$3.30 results in a 200% of target award pool
- **Target Score:** EPS of \$3.15 results in a target award pool
- **Threshold Score:** EPS at or below \$3.00 results in no award payout

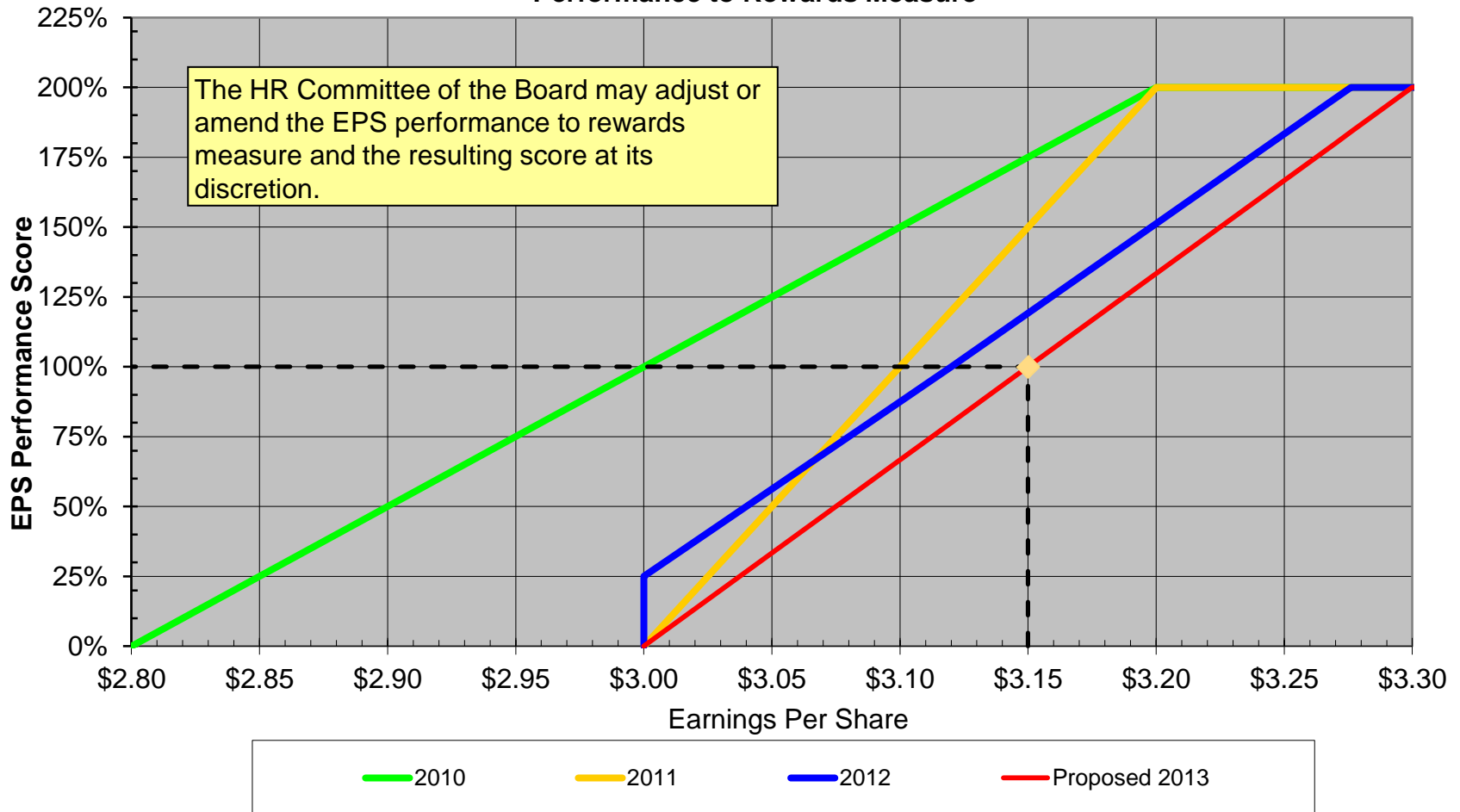
|               | EPS Requirement | Award Score |
|---------------|-----------------|-------------|
| Maximum Award | $\geq \$3.30$   | 200%        |
| Target        | $= \$3.15$      | 100%        |
| Threshold     | $\leq \$3.00$   | 0%          |



# Compensation Strategy Recommendations

## 2013 EPS Performance Requirement (75% Weight)

2013 EPS  
Performance to Rewards Measure







## **Compensation Strategy Recommendations 2013 Strategic, Operating and Safety Goals (25% Weight)**

- **Repositioning Implementation Savings – 10% Weight**
  - **Maximum 200% score: achieve  $\geq$  \$225 million in O&M savings for 2013 and projected savings for future years**
  - **Target 100% score: achieve \$200 million in O&M savings for 2013 and projected savings for future years**
  - **Threshold 0% score: achieve  $\leq$  \$150 million in O&M savings for 2013 and projected savings for future years**
  - **In addition this measure includes a subjective component to reflect further repositioning of the growth businesses; the manner in which the repositioning was implemented, including open, honest and clear employee communications; and maintaining an appropriate balance of shareholder, employee and customer interests**
  
- **Safety Matrix – 10% Weight**
  - **This measure will have severity rate (50%), incident rate (40%) and contractor incident rate (10%) components**
  - **Maintaining AEP's safety culture remains a primary priority**



## Compensation Strategy Recommendations Strategic, Operating and Safety Goals (continued)

- **Competitive Business Development – 5% Weight**
  - **Grow, evolve the competitive business including trading, retail energy sales and services, and prepare to receive unregulated generation**
    - **AEP Energy EBITDA of \$37 million with +/- 15% of target threshold (0% score) and maximum (200% score) points**
  - **Continued progress on Ohio corporate separation and pool termination**
    - **Obtain authorizations from FERC, KY, VA, WV and OH (on rehearing) that are sufficient to**
      1. **Complete the corporate separation of AEP Ohio,**
      2. **Transfer Amos 3 and the two Mitchell units to Kentucky Power and Appalachian Power, and**
      3. **Terminate the AEP Interconnection (Pool) Agreement, as of Jan 2014**
    - **Prepare and/or file all documentation required to execute corporate separation, including real estate transfer documents, assignments of contracts, applications for the reissuance of environmental or other governmental permits, and obtain a private letter ruling from the IRS confirming the tax-free nature of the transfer of assets**
  - **The effect of material uncontrollable events shall be considered for removal to avoid score impact.**
- **150% maximum aggregate score for all Strategic, Operating and Safety Goals**
- **No payout if EPS is less than threshold (\$3.00 for 2013)**

*Center for Advanced Human Resource Studies  
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Is It Worth It To Win The Talent War?  
Evaluating the Utility of  
Performance-Based Pay

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University of Wisconsin-Madison



Center for Advanced Human Resource Studies

CAHRS / Cornell University  
187 Ives Hall  
Ithaca, NY 14853-3901 USA  
Tel. 607 255-9358  
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# **Is It Worth It To Win The Talent War? Evaluating the Utility of Performance-Based Pay**

**Michael C. Sturman**

Management: Operations, Human Resources, and Law  
School of Hotel Administration  
Cornell University

**Charlie O. Trevor**

Department of Management and Human Resources  
University of Wisconsin-Madison

**John W. Boudreau**

Center for Advanced Human Resources Studies (CAHRS)  
ILR School  
Cornell University  
393 Ives Hall  
Ithaca, New York 14853-3901  
(607) 255-7785  
jwb6@cornell.edu

**Barry Gerhart**

Department of Management and Human Resources  
University of Wisconsin-Madison

September 2003

<http://www.ilr.cornell.edu/cahrs>

This paper has not undergone formal review or approval of the faculty of the ILR School. It is intended to make results of Center research available to others interested in preliminary form to encourage discussion and suggestions.

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### **Abstract**

While the business press suggests that “winning the talent war,” the attraction and retention of key talent, is increasingly pivotal to organization success, executives often report that their organizations do not fare well on this dimension. We demonstrate how, through integrating turnover and compensation research, the Boudreau and Berger (1985) staffing utility framework can be used by industrial/organizational (I/O) psychologists and other human resource (HR) professionals to address this issue. Employing a step-by-step process that combines organization-specific information about pay and performance with research on the pay-turnover linkage, we estimate the effects of incentive pay on employee separation patterns at various performance levels. We then use the utility framework to evaluate the financial consequences of incentive pay as an employee retention vehicle. The demonstration illustrates the limitations of standard accounting and behavioral cost-based approaches and the importance of considering both the costs and benefits associated with pay-for-performance plans. Our results suggest that traditional accounting or behavioral cost-based approaches, used alone, would have supported rejecting a potentially lucrative pay-for-performance investment. Additionally, our approach should enable HR professionals to use research findings and their own data to estimate the retention patterns and subsequent financial consequences of their existing, and potential, company-specific performance-based pay policies.

## **Is it Worth it to Win the Talent War? Evaluating the Utility of Performance-Based Pay**

The ability to achieve competitive advantage through people depends in large part on the composition of the work force. This, in turn, is a function of who is hired, how they are developed, and who is retained—the latter of which is the focus of this study. Voluntary employee turnover can be either dysfunctional or functional for the organization, depending on who leaves (Boudreau, 1991; Boudreau & Berger, 1985; Hollenbeck & Williams, 1986; Trevor, 2001). Both low and high performers are generally more likely to leave an organization than are average performers (Jackofsky, 1984; Trevor, Gerhart, & Boudreau, 1997; Williams & Livingstone, 1994). Thus, organizations often will shed poor employees (functional turnover), but will also fail to retain star employees (dysfunctional turnover). It appears, however, that organizational practices can influence the performance distribution of leavers. Specifically, though high performers typically may leave the organization more often than do average performers, they do not necessarily do so. While research consistently reports that an organization's pay system affects the probability of voluntary turnover (Dreher, 1982; Gerhart & Milkovich, 1992; Griffeth, Hom, & Gaertner, 2000; Harrison, Virick, & William, 1996; Porter & Lawler, 1968; Schwab, 1991; Steers & Mowday, 1981; Trevor et al., 1997), the probability of high-performer turnover is particularly sensitive to the strength of the pay-for-performance link (Trevor et al., 1997). Consequently, organizations may be able to design compensation systems to enhance organizational value by targeting retention efforts at the dysfunctional high performer turnover.

This may in fact be increasingly happening as organizations in the United States and abroad are progressing toward linking pay more strongly to performance (Milkovich & Newman, 2002). Although many organizations have expanded their use of plans that reward team, business unit, and corporate performance (Milkovich & Newman, 2002), the predominant basis for pay-for-performance continues to be individual performance (IOMA, 2002; Hewitt Associates, 2002), and survey data indicate that companies believe individual pay-for-

performance programs are effective (IOMA, 2002). While there are concerns about the wisdom of pay-for-performance (e.g., Kohn, 1993; Pfeffer, 1998), particularly for individual performance, research reviews find ample evidence that pay-for-performance is associated with higher performance at both the individual (Jenkins, Mitra, Gupta, & Shaw, 1998) and organizational levels of analysis (Gerhart, 2000). Such research, however, has not explicitly examined the mechanisms through which pay-for-performance plans affect individual behaviors to influence the organizational bottom line. One such mechanism involves pay-for-performance's effects on performance-specific turnover, and the associated costs and benefits that contribute to organizational financial performance.

The professional HR literature suggests that influencing the retention of high performers in particular is a crucial matter. Many articles cite the increasing difficulty in obtaining and keeping top talent (e.g., Bartlett & Ghoshal, 2002; Branch, 1998; Chambers, 1998; Rich, 1999). A report based on interviews of over 5,000 executives and managers (McKinsey & Company, 1998), for example, found that 65% of executives believed that they had insufficient talent in the ranks of their top 300 leaders and only 10% strongly believed that their companies retained most of their high performers. Even with the recent economic slowdown, organizations face increased pressures to attract and retain top talent in their most pivotal talent areas. The Bureau of Labor Statistics projects that, by 2010, the labor supply will grow by 17 million (Fullerton & Toosi, 2001) while labor demand will increase by 22.2 million (Berman, 2001), indicating that labor shortages will play increasing roles in the future. Moreover, even if a company is reducing employee headcount, voluntary attrition is often the first and most attractive option (Sherwyn & Sturman, 2002). Each of these circumstances highlights the potential benefits of managerial investments that particularly facilitate top-performer retention.

Few would debate the merits of a performance-based pay practice that, all else equal, resulted in greater retention of high performers. Unfortunately, all else is far from equal when changing an organization's pay systems. Because such changes will affect total labor costs, individual employee pay levels, and subsequent employee behaviors, the critical question



becomes one of whether the benefits of such a practice outweigh the costs. We propose that while the potential retention benefits of incentive pay have been recognized, they have yet to be quantified in dollar terms. Moreover, researchers have failed to adequately address actual costs of performance-based pay. Our goal here is to provide the first empirical cost-benefit assessment of the viability of performance-based pay. Our approach should contribute to the pay-for-performance literature by specifying the circumstances that affect the success of pay-for-performance plans.

Our results should also contribute to practice, as the likelihood that HR professionals would apply the research findings to their own organizations should increase if these professionals are provided with a viable technique for doing so. In this paper we demonstrate such a technique. The employee movement utility model of Boudreau and Berger (1985) provides the means to evaluate the dollar value implications of various pay-for-performance strategies, which we illustrate with a step-by-step application to a published turnover and pay-for-performance article. In doing so, we (a) demonstrate how organizational representatives can use research findings, publicly available compensation and turnover data, or their own data to diagnose, inform, and evaluate their own company-specific incentive pay decisions; and (b), demonstrate that this technique will often provide different conclusions from typical decision models that use only traditional cost or accounting analysis.

### **Utility Analysis Applied to Pay Decisions**

Utility analysis is a tool for cost-benefit analysis that helps quantify the impact of human resource interventions (Cascio, 2000). While utility analysis has been applied to numerous human resource program areas, most applications have concentrated in the areas of employee selection and training (Boudreau & Ramstad, 2003b; 1999; Boudreau, 1991). The Boudreau and Berger (1985) framework represents one of the few applications to employee retention. Klass and McClendon (1996) used that framework to examine the pay policy decision of whether to lead, lag or match the market. They gathered parameter information from published studies and simulated effects on employee separation and offer acceptance patterns. Results

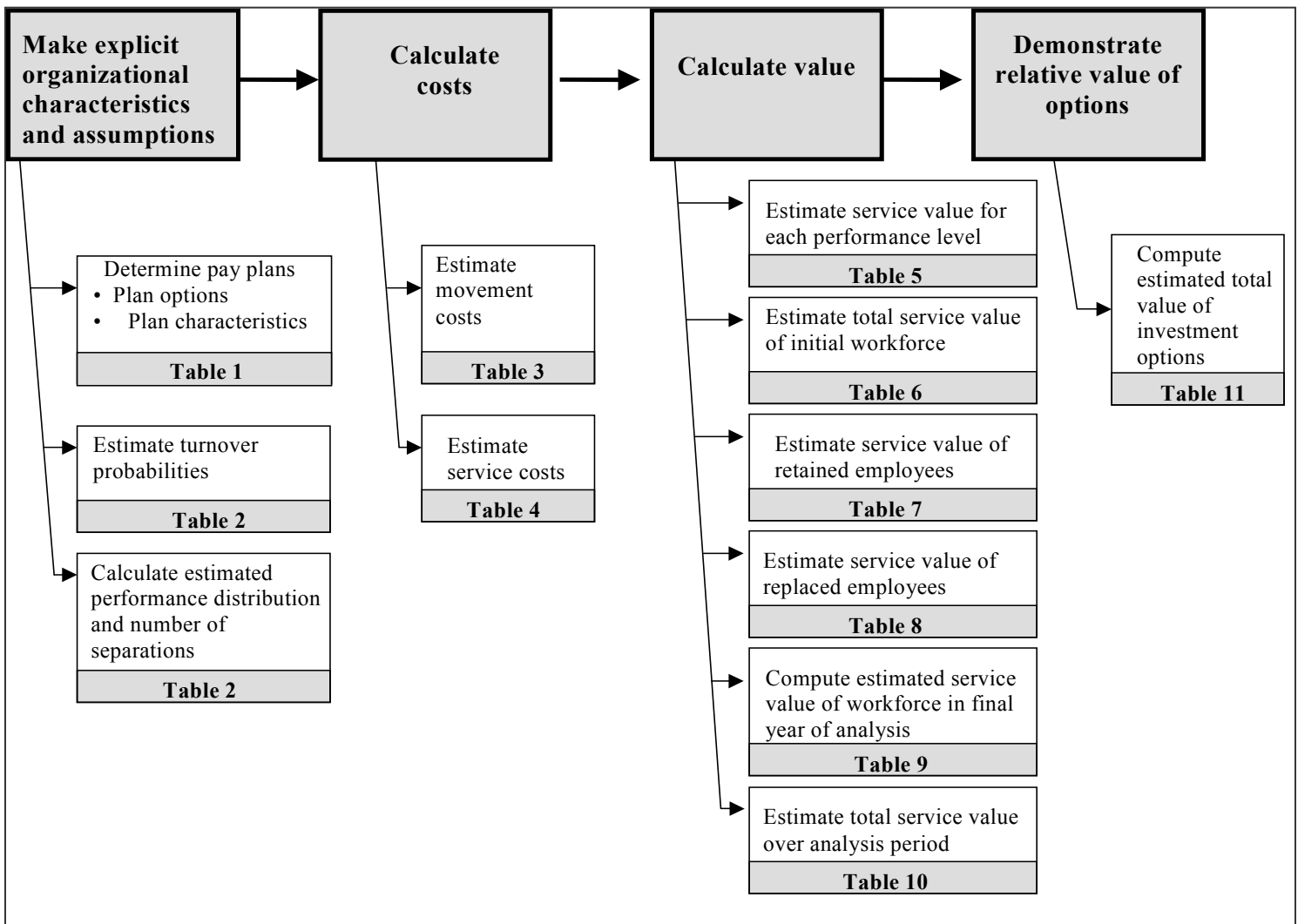
for bank tellers suggested that a lag policy produced higher payoffs, although “leading the market” (paying higher than the average) did enhance retention and attraction of top candidates. The authors noted that these results did not necessarily suggest using a particular pay policy, and showed how simulated reductions in citizenship behavior due to low pay might change the results. This was an important initial application of employee movement utility principles to decisions about pay.

In this paper, we focus on a different type of pay decision – how to allocate pay increases across employees at different performance levels. Trevor et al. (1997) found that pay policies providing greater pay growth for high performers (and less for low performers) substantially increased retention among high performers, encouraged separation among low performers, and thus increased the value of the work force. This is an appealing prospect, but it is unclear whether the enhanced workforce value would offset the cost associated with such a reward system. Such costs are quite apparent using traditional accounting or behavioral costing models, but such models have limited ability to reflect effects on workforce value; furthermore, little data exists on the actual implications of these limitations (Boudreau & Ramstad, 2003a; 2003b). It is also unclear to what extent the enhanced workforce value would depend on such factors as the pay policy specifics, the retention pattern, and the variability in performance. The Boudreau-Berger utility framework provides a method to address these questions.

Using the Boudreau and Berger (1985) separation/acquisition utility model, our paper presents a model that captures the value associated with employee separations (turnover) and acquisitions (hires) over time. The model estimates three components in each time period: (a) movement costs—the costs associated with employee separations and acquisitions; (b) service costs—the pay, benefits, and associated expenses required to support the work force; and (c) service value—the value of the goods and services produced by the work force. The dollar-valued implications of a given pay plan, and of the subsequent separation and acquisition patterns over time, are estimated by subtracting the movement costs and service costs from the

service value (i.e., subtracting the pay plan's costs from its benefits). Figure 1 shows the steps necessary to compute this estimate and the tables we employ here to illustrate these steps.

**Figure 1**  
**Flow Chart of Utility Analysis Procedure**



**The Illustrative Case Study**

We illustrate our approach using a scenario in which a hypothetical company is considering implementing a pay-for-performance plan at the end of the year 2003. We assume that the company does not currently relate pay to performance, so under the current strategy all employees would receive the same pay increases over time. We compare the effects of this

strategy with those of two alternative strategies that place different emphases on pay-for-performance. We choose to evaluate the implications of the three possible approaches over a four-year period (2004 to 2007). Thus, because pay-for-performance affects turnover differently at different levels of performance (Trevor et al., 1997), the 2007 workforce would reflect a different performance distribution under each of the three pay strategies. By calculating the movement costs, service costs, and service values from 2004 to 2007, we can estimate the cumulative effects of the pay strategies over the four-year period.<sup>1</sup>

We used a number of spreadsheets to make the necessary calculations, with each spreadsheet corresponding to a table in this paper. The spreadsheets are available from the lead author upon request, although the descriptions we provide here should be sufficient for many readers to create their own. We also make a number of assumptions to perform the necessary calculations. These assumptions are all based on published research (e.g., Trevor et al., 1997) or publicly available data (e.g., BLS, 2002). First, we draw directly from the Trevor et al. (1997) study to estimate (a) the relationship between pay growth, performance, and turnover that is captured in their survival analysis (see Appendix) and is used to calculate the turnover probabilities at each performance level under each pay strategy; (b) the baseline turnover probability necessary to compute those turnover probabilities that are specific to each performance level-pay strategy combination; and (c) the performance distribution at the beginning of our utility analysis timeframe.

It should be noted that the Trevor et al. (1997) data are from all 5,143 exempt employees hired by a large petrochemical organization between 1983 and 1988. Furthermore, Trevor et al. (1997) examined the effects of various strengths of pay-for-performance relationships based on archival data on individuals' performance and pay levels; they did not specifically manipulate the pay-for-performance link as part of either an experimental or quasi-experimental design. Nonetheless, these data represent a wide variety of exempt jobs over several years, and the results provide valuable insight into the relationships between turnover,

pay, and performance. Thus, the results of the Trevor et al. (1997) study are useful for our purpose of illustrating our technique.

Second, we use published surveys (WorldatWork, 2002; BLS, 2002) to help generate realistic pay strategies, determine starting average pay levels, and estimate benefit costs. Finally, we employ the results of published research studies to help provide realistic estimates of the cost of turnover (e.g., Solomon, 1988; Johnson, 1995) and the value of different levels of employee performance (Becker and Huselid, 1992; Boudreau, 1991; Cascio, 2000; Schmidt and Hunter, 1983). We describe the rationale for our assumptions and suggest how professionals might apply each rationale or gather their own data to customize the application for their organizations. Thus, our demonstration is intended (a) to provide information on the value of pay-for-performance plans and the extent that they should ultimately lead to improved organizational financial success; and (b) to enable others to use the method with their own company's data, new research findings, and/or their own estimates to create company-specific evaluations to facilitate their own decision-making regarding the implementation of pay-for-performance policies.

### **Pay-For-Performance Plans and Performance-Specific Turnover**

#### **Step 1: Specify the Pay-for-Performance Options**

As is evident in Figure 1, the first major phase in estimating the costs and benefits of performance-based pay is to make explicit the relevant organizational characteristics and assumptions. The initial step within this phase is to specify the pay policy scenarios to be considered. The two key parameters needed are: (a) the current pay level in each performance category for the employees to be considered; and (b) the relationship between pay growth and performance levels (usually expressed in terms of the percentage increase awarded for each performance level). For this second parameter, we constructed three hypothetical, but realistic, performance-based pay strategies. Because we intend to provide a broad range of potential outcomes, within which most particular organizational results should fall, the strategies were

chosen to range from conservative to aggressive in terms of the pay-for-performance link. In terms of performance categories, we adopted the nine performance-rating categories used by Trevor et al. (1997), which range from 1.0 (lowest performance) to 5.0 (highest performance) in 0.5 increments, because this will facilitate using other aspects of the Trevor et al. situation as an illustration. Trevor et al. (1997) created the nine categories by computing average performance over time from a rating system in which “The performance scale ranged from 1 = lowest to 5 = highest, with the five categories representing levels of consistency in meeting and exceeding the basic requirements of the job” (p. 49). Professionals adopting our utility analysis framework should change the performance categories to reflect their own performance assessment approach.

**Table 1  
Pay Strategies and Estimated Four-Year Pay Levels for Each Strategy**

| Performance Ratings:   | 1.0             | 1.5             | 2.0             | 2.5             | 3.0             | 3.5             | 4.0             | 4.5             | 5.0             |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Pay Increase for Pay Strategy 1  | 4%              | 4%              | 4%              | 4%              | 4%              | 4%              | 4%              | 4%              | 4%              |
| Pay Increase for Pay Strategy 2  | 4%              | 4%              | 4%              | 4%              | 4%              | 5%              | 6%              | 7%              | 8%              |
| Pay Increase for Pay Strategy 3  | 0%              | 1%              | 2%              | 3%              | 4%              | 5%              | 6%              | 7%              | 8%              |
| 2003 Average Pay   | <b>\$47,983</b> | <b>\$47,983</b> | <b>\$47,983</b> | <b>\$47,983</b> | <b>\$47,983</b> | <b>\$47,983</b> | <b>\$47,983</b> | <b>\$47,983</b> | <b>\$47,983</b> |
| Pay Strategy 1: No pay/performance link                                |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 2007 Average Pay   | \$56,133        | \$56,133        | \$56,133        | \$56,133        | \$56,133        | \$56,133        | \$56,133        | \$56,133        | \$56,133        |
| Pay Strategy 2: Pay for performance e link for above average performer |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 2007 Average Pay   | \$56,133        | \$56,133        | \$56,133        | \$56,133        | \$56,133        | \$58,324        | \$60,577        | \$62,896        | \$65,280        |
| Pay Strategy 3: Pay for performance link for all performers            |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 2007 Average Pay   | \$47,983        | \$49,931        | \$51,938        | \$54,005        | \$56,133        | \$58,324        | \$60,577        | \$62,896        | \$65,280        |

Note: Data provided by the user are in bold.

The details of our three illustrative pay-for-performance plans are shown in Table 1. Pay strategy 1 gives all employees the same average pay increase, regardless of performance level. Data suggest that current pay increases average 4% (WorldatWork, 2002; BLS, 2002; Peck, 2002), so we used this value for all performance categories in pay strategy 1. Pay strategy 2 creates a pay-performance link (i.e., larger pay increases as performance improves) for performers above the middle “3.0” rating, and average pay increases (i.e., 4%) to those rated

3.0 and below. Pay strategy 3 maintains the positive reinforcement of pay strategy 2, and extends the pay-for-performance link to those below the middle rating (i.e., smaller pay increases as performance worsens). Thus, pay strategy 1 provides no performance link, pay strategy 2 is more aggressive, and pay strategy 3 is the most aggressive.

As noted above, in addition to the pay raise strategy, step one requires the setting of an initial pay level upon which the pay strategies will be applied. Because our example involves evaluating the pay-for-performance strategies for white-collar employees, we used the Bureau of Labor Statistics (BLS, 2002) estimate of average 2001 white collar (non-sales) pay, adjusted for the average salary increases of exempt workers for 2002 and 2003 (WorldatWork, 2002). This ultimately yielded a pay level of \$47,983 for the year 2003.<sup>2</sup> For illustration, we simply assigned this same initial pay level to every performance category. Then, applying the percentage increase associated with each pay strategy and extrapolating for four future years, we projected the resulting performance-specific pay levels for the year 2007, as reported in Table 1.

In actual organizations, of course, the current pay levels would be available from company records. The same forward-projection method can be used based on these initial values. With observations of real data, it seems likely that initial pay levels will vary across performance categories, reflecting past pay policies, demographics, and performance distributions. While quite easy to observe in practice, pay-performance distributions are likely quite variable, so no obvious method exists to simulate them for our example. Our decision to begin with a uniform pay distribution across categories simplifies the presentation but does not otherwise reduce the generalizability of our approach.

## **Step 2: Determine Turnover Probabilities**

The second step in the making explicit of organizational characteristics and assumptions (i.e., the first major phase in Figure 1) is to estimate the probability of separation at each performance level for each pay strategy. This step defines the key link between performance-based pay and workforce composition. For practitioners, this may represent the most novel

element of the model, yet we believe it is quite feasible. We describe several methods for estimating these probabilities.

#### Estimation using existing research literature

Perhaps the most straightforward approach is to refer to existing empirical findings. For our hypothetical example, we use the performance level/pay strategy specific separation results generated by Trevor et al. (1997). Professionals employing utility analysis likely would prefer to access separation probabilities from a study of an employee population that resembled their own employees in terms of occupations, industry, and demographics. To date, however, the Trevor et al. (1997) study is the only published work from which the performance level/pay strategy specific separation probabilities can be estimated. While future research providing such information for different employee populations would be helpful, in their absence, the Trevor et al. (1997) results offer a useful starting point.

#### Estimation using organizational data

A second option for generating the performance level/pay strategy specific separation probabilities that are necessary for the cost-benefit analysis would be for professionals to estimate them using their own organization's data. In most companies, separation rates are customarily calculated for entire job categories and are seldom broken down by performance levels. Even when separation rates are reported by performance levels, they are rarely further broken down to reflect pay growth. Yet, if yearly individual-level information on performance, pay level, and separation is available, it can rather easily be converted into the required separation probabilities estimates.

First, professionals can compute each employee's average pay growth and average employee performance over a specified time period (e.g., over the last three years). These relatively continuous data can then be used to slot employees into performance level/pay strategy categories, such as Table 1's 27 categories that were created from all combinations of three pay strategies and nine performance levels. This approach would be repeated for all appropriate performance level and pay growth combinations, thus yielding counts of employees



that fit each category. After compiling these counts, the second step would be simply to divide each category's number of voluntary separations by the number of employees in that category. This would yield the estimates of the separation probabilities specific to each performance level/pay strategy combination that are necessary for conducting the cost-benefit analysis of performance-based pay.

While relatively simple to describe, estimating category-specific separation probabilities from one's own organization involves two potentially difficult hurdles. First, to estimate the separation probabilities with any degree of reliability, there must be an adequate number of employees in the categories of interest. If the number of employees in a given category is low, then the resultant average rate of turnover may be strongly influenced by sampling error rather than reflecting an accurate estimate of that category's true turnover likelihood (e.g., a category with one employee mandates an unrealistic separation probability estimate of either one or zero). Thus, the HR professional or I/O psychologist must be working with relatively few categories and/or with large employee populations. A second serious problem with the approach described above is that it will produce separation probabilities that are likely to be confounded by other factors that are related to turnover, performance, and pay growth, such as pay level, age, gender, and tenure with the organization. Hence, though computing performance level/pay strategy specific separation probabilities for one's own organization is relatively simple, its value may be limited.

Fortunately, two statistical methods are available for dealing with the confounding and employee-per-category problems. While both of these methods require a statistical package and reasonable statistical sophistication, I/O psychologists may well have been exposed to one or both of the methods. If not, their training still may well have provided them with a methodological foundation sufficient to allow them to learn the techniques, particularly with the advances in user-friendly statistical software. Alternatively, HR professionals or I/O psychologists could simply hire a consultant to assist with the analyses.

Logistic regression and survival analysis can be used to estimate separation probabilities. Both explicitly account for the potential confound described above by statistically controlling for the effects of these other variables. The analyses yield partial coefficients that are net of the effects of the potentially confounding variables. The partial coefficients are then used to compute separation probabilities needed to conduct the cost-benefit analysis. Both methods also exploit the full range of the relatively continuous salary growth and performance data, rather than requiring pre-established categories that necessarily result in a loss of information. Logistic regression estimates the probability of separation over a specified time period. Survival analysis (Kalbfleisch & Prentice, 1980) computes the probability of survival (i.e., not separating) over a specified time span, and accounts for the length of time an individual stays before leaving the organization. In other words, survival analysis specifically models how long an individual remains with an employer before leaving, whereas logistic regression models whether a person leaves or not. While both methods are appropriate for estimating the separation probabilities specific to the performance level/pay strategy combinations of interest, each offers advantages under certain circumstances (for a complete discussion of this issue, see Morita, Lee, & Mowday, 1993). Our Appendix describes the use of survival analysis to calculate the required separation probabilities that are specific to each of our performance level/pay strategy combinations.

#### Estimated separation probabilities for the example.

For our example, we used the survival analysis results reported in Trevor et al. (1997), which estimated a survival model from data on a sample of exempt employees in one organization. The analysis produced a mathematical function describing survival probabilities as a function of salary growth and performance, which we present in the Appendix. Substituting a specific salary growth amount and performance level into the equation produces an estimated survival probability that is appropriate for that performance level and salary growth combination. Thus, we used the equation reported in Trevor et al.'s (1997) Table 4 (p. 54) to compute the separation probability (1.0 minus the survival probability), for each performance category under

each pay strategy, at the end of our example's 4-year period. The estimated separation probabilities are presented in the top part of Table 2.

**Table 2**

**Turnover Probabilities, and Estimate Number of Retained and Replaced Employees**

| Performance Ratings:  | 1           | 1.5         | 2           | 2.5         | 3           | 3.5         | 4           | 4.5         | 5           | Total |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------|
| Number of employees   | <b>60</b>   | <b>97</b>   | <b>1171</b> | <b>1090</b> | <b>1667</b> | <b>672</b>  | <b>317</b>  | <b>46</b>   | <b>23</b>   | 5143  |
| Turnover Probabilities <sup>1</sup> (Probability of leaving the organization by 2007) |             |             |             |             |             |             |             |             |             |       |
| Pay Strategy 1  | <b>0.96</b> | <b>0.65</b> | <b>0.38</b> | <b>0.25</b> | <b>0.21</b> | <b>0.22</b> | <b>0.27</b> | <b>0.41</b> | <b>0.66</b> |       |
| Pay Strategy 2  | <b>0.96</b> | <b>0.65</b> | <b>0.38</b> | <b>0.25</b> | <b>0.21</b> | <b>0.14</b> | <b>0.11</b> | <b>0.11</b> | <b>0.14</b> |       |
| Pay Strategy 3  | <b>0.99</b> | <b>0.88</b> | <b>0.60</b> | <b>0.35</b> | <b>0.21</b> | <b>0.14</b> | <b>0.11</b> | <b>0.11</b> | <b>0.14</b> |       |
| Retained Employees (2007)   |             |             |             |             |             |             |             |             |             |       |
| Pay Strategy 1  | 2           | 34          | 726         | 818         | 1317        | 524         | 231         | 27          | 8           | 3687  |
| Pay Strategy 2  | 2           | 34          | 726         | 818         | 1317        | 578         | 282         | 41          | 20          | 3818  |
| Pay Strategy 3  | 1           | 12          | 468         | 709         | 1317        | 578         | 282         | 41          | 20          | 3428  |
| Replaced Employees (2004 - 2007) <sup>2</sup>   |             |             |             |             |             |             |             |             |             |       |
| Pay Strategy 1  | 58          | 63          | 445         | 273         | 350         | 148         | 86          | 19          | 15          | 1457  |
| Pay Strategy 2  | 58          | 63          | 445         | 273         | 350         | 94          | 35          | 5           | 3           | 1326  |
| Pay Strategy 3  | 59          | 85          | 703         | 382         | 350         | 94          | 35          | 5           | 3           | 1716  |

- Notes: 1. These values were based on analyses from the Trevor et al. (1997) study. Those performing their own analyses would need to complete the table with their own company-specific data, or use approximations from the Trevor et al. results. See the Appendix for how we used the Trevor et al. results to obtain our values above.
2. Recall that we are evaluating the effects of the different pay policies going into effect at the end of 2004. Thus, while our data are based on the state of the workforce at the end of 2003, we are evaluating the effects of the programs in 2004-2007.
3. Data provided by the user **are in bold**.

We caution that our use of the Trevor et al. (1997) survival analysis provides reasonable separation probability estimates, rather than definitive ones. It is certainly probable that other factors could also influence the probability of turnover. For example, equity theory suggests that even when high performers receive the same pay increase (such as under Pay Strategy 2 and Pay Strategy 3), their turnover likelihoods may differ as a function of how referent others (e.g., low performers) are compensated. Our approach does not take this into consideration. Thus, the reader should keep in mind the imperfections associated with relying on any single study, model of turnover, or data set to estimate turnover probabilities.

**Step 3: Determine Performance Distribution and Number of Separations**

So far, we have established the pay increase that individuals in each performance level will receive under the different pay policies, and we have subsequently established the separation probabilities for each performance level/pay strategy category. Next, we need to project the number of separations in each performance level/pay strategy category over time. We specified our initial hypothetical employee group (those at the end of year 2003) to mirror in size and performance distribution the 5,143 employees analyzed by Trevor et al. (1997), which is shown in Table 2 (in actual organizations, the initial number of employees in each performance category would be identified through a straightforward count). We then multiplied the initial number of employees in each performance level/pay strategy category by the appropriate separation probability. Table 2 presents the resultant category-specific numbers of employees that separated (and will need to be replaced) and employees retained.

At this point, a traditional analysis of total separations would likely lead to a decision to adopt pay strategy 2, the moderately-aggressive policy through which performers above the midpoint receive higher pay increases. As Table 2 indicates, the number of separations over the four-year analysis period is 1,326 for pay strategy 2, while it is 1,457 for pay strategy 1 and 1,716 for pay strategy 3. Based only on separation rates, pay strategy 3 seems the least attractive policy. However, such conclusions are simplistic and superficial from a cost/benefits perspective; a more sophisticated and meaningful inference regarding the implications of the three pay strategies requires an analysis incorporating critical financial data.

**Estimating the Cost of Pay-For-Performance Plans****Step 4: Determine Movement Costs**

In steps one through three, we specified the pay-for-performance options, the estimated separation probabilities, and the subsequent numbers of separations and necessary replacements from each performance level/pay strategy combination. Hence, one key financial outcome to be considered is the projected cost of employee movements into and out of the

workforce under each pay policy. As we see in Table 2, relative to the retention effects of simply providing everyone with the same salary increase (pay strategy 1), pay strategy 2 reduces overall separations, while pay strategy 3 increases them. We next translate these projected separations and replacements into financial costs.

We refer to the combined costs of employee separations and replacement acquisitions as movement costs. These costs include direct expenses, such as separation costs (e.g., exit interview, separation pay), replacement costs (e.g., advertising, travel expenses, interviewing and testing candidates), and training costs (e.g., informational literature costs, paying trainers). Movement costs also include indirect expenses, such as the lower productivity of new employees as they learn the job, time spent by managers having to supervise new employees more directly, and diminished productivity of veteran employees as they mentor and help new employees (Cascio, 2000). While such costs are not standard elements of traditional accounting systems, organizations increasingly employ software and reporting algorithms that calculate such metrics as turnover costs, costs per hire, etc. If these are available, one can simply multiply the relevant cost by the number of separations and/or replacements that emerge under each pay strategy.

Data available to calculate movement costs varies widely across companies. When movement costs are not readily available from the organization, one can turn to research. For example, Solomon (1988) suggested that movement costs range from 1.5 to 2.5 times the annual salary paid for a job (Solomon, 1988), while Johnson (1995) suggested that movement costs range from 93% to 200% of the position's salary. In our example, we estimated the movement cost associated with each separation as two times the average salary of all employees in the year of the separation (note that average salary will vary according to pay strategy). We also assumed that each separation is replaced, and thus we combined all separation and acquisition costs into a single estimate labeled movement costs. Should replacement not be expected, such as during a downsizing, separation cost estimates should

be applied to the number of separations, and replacement acquisition costs should be applied to the number of replacements (Boudreau & Berger, 1985).

Table 3 provides the necessary information to estimate movement costs for our example. At the top of the table is the workforce's average salary in 2003 and in 2007 under each of the three pay strategies. As noted above, we multiplied this salary by 2.0 to estimate the average movement costs for each separation, which is shown for years 2003 and 2007. We then subtracted the 2003 average movement cost from the 2007 average movement cost and divided by four to get yearly movement cost increase, which we added to the 2003 average movement cost to get the 2004 average movement cost. This was added to the 2007 average movement cost and the sum was divided by two to compute the average (2004-2007) movement cost per separation. Table 3 also provides the total projected number of separations/replacements from Years 2004 to 2007, which were calculated in Table 2. Total movement costs for each pay strategy over the four-year period were then calculated by multiplying each pay strategy's total number of projected separations/replacements by each pay strategy's average movement cost per separation/replacement.

**Table 3**

**Estimated Four-Year Movement Costs Under Different Pay Strategies**

|  | Pay Strategy 1 | Pay Strategy 2 | Pay Strategy 3 |
|--|----------------|----------------|----------------|
| Average Salary   |                |                |                |
| 2003   | \$47,983       | \$47,983       | \$47,983       |
| 2007   | \$56,133       | \$56,914       | \$55,966       |
| Movement Cost Multiplier<br>(cost of separation as multiple of salary;<br>same for all three Pay Strategies) | <b>2.0</b>     |                |                |
| Average Movement Costs (per separation)  |                |                |                |
| 2003   | \$95,966       | \$95,966       | \$95,966       |
| 2007   | \$112,266      | \$113,828      | \$111,932      |
| Yearly Increase in Average Movement Cost   | \$4,075        | \$4,466        | \$3,992        |
| 2004 Average Movement Cost   | \$100,041      | \$100,432      | \$99,958       |
| Average Movement Cost (2004 - 2007)  | \$106,154      | \$107,130      | \$105,945      |
| Number of Separations  | 1,457          | 1,326          | 1,716          |
| Total Movement Costs <sup>1</sup>  | \$154,666,378  | \$142,054,380  | \$181,801,620  |

Notes: 1. Total Movement Costs were calculated assuming a linear growth in movement costs and an equal number of separations in each year. Thus, Total Movement Costs could be calculated as the number of separations times the average 2004 - 2007 movement costs. For simplicity, we assumed a constant rate of movement cost increase over time. This could easily be modified if an organization projected very significant increases or decreases in costs per movement in a given year, but such large discontinuities seem unlikely.  
2. Data provided by the user are in bold.

Table 3's total estimated movement costs were \$154.67 million, \$142.05 million, and \$181.80 million for pay strategies 1, 2, and 3, respectively. Compared to pay strategy 1 (giving equal pay increases to everyone), the turnover reduction associated with the policy of linking pay and performance for high performers (pay strategy 2) saves \$12.61 million in movement costs over four years. Linking pay and performance for both high and low performers (pay strategy 3), however, creates additional separations among low performers and thus incurs four-year movement costs of \$27.13 million and \$39.75 million more than those incurred through pay strategies 1 and 2, respectively.

Some of these costs would be evident with standard accounting tools, to the extent that they represent “out-of-pocket” costs such as fees to search firms or consultants providing exit interviews. However, as mentioned above, many of these costs (e.g., staff time spent in processing separations and acquisitions) are “opportunity costs,” and only a portion of these savings (costs) would be recorded by the accounting system. Thus, our analytical approach offers the advantage of a more complete cost analysis for incentive pay strategies. Still, movement costs represent only one of the crucial financial implications of using pay-for-performance to manage performance and turnover. Hence, we next address the pay strategies’ substantial implications for differences in costs associated with pay levels, benefits, and other service costs.

#### **Step 5: Estimate Future Service Costs**

Service costs are the total costs required to retain and support the work force, and thus include pay and benefits (Boudreau & Berger, 1985), the latter of which is typically the largest service cost component other than pay. In some cases, service costs may vary with employee performance. For example, there may be significant bonuses or stock options, or higher performers may use significantly more materials or resources than lower performers. In these cases, which would tend to be of more relevance in executive populations, such variability in service costs should also be taken into account. Absent such factors, estimating service costs simply involves adjusting projected salary levels upward to reflect additional service costs (i.e., benefits), multiplying the resulting values by the number of employees in each year, and summing the products across years. Because we define total service costs as salary plus benefits in our example, we estimate each year’s service costs by estimating the ratio of total remuneration (employee benefits plus salary) to salary, and then multiplying this ratio by projected salary levels under each pay policy.

In Table 3 we had established, for each pay strategy, the average salary levels for the full work force in 2003 and 2007. Because we assumed that benefits were 37% of salary (U.S. Department of Labor, 2001), we multiplied Table 3’s average salary levels by 1.37 to reflect the



2003 and 2007 average service costs for each pay strategy (see Table 4). Using the assumption that service costs increased linearly from 2003 to 2007, we then computed, for each of the three pay strategies, (a) the average service cost increase (2007 service cost minus 2003 service cost, divided by four), (b) 2004 service cost (2003 service cost plus the average service cost increase), (c) the average 2004-2007 service cost (2004 service cost plus 2007 service cost, divided by two), and (d) the total 2004-2007 service cost (average 2004-2007 service cost times four, the number of years in our simulation, times 5143, the total number of employees in each year).

**Table 4**  
**Estimated Four-Year Service Costs Under Different Pay Strategies**

|  | Pay Strategy 1  | Pay Strategy 2  | Pay Strategy 3  |
|--|-----------------|-----------------|-----------------|
| Average Service Cost Multiplier (per employee) | <b>1.37</b>     | <b>1.37</b>     | <b>1.37</b>     |
| Average Service Cost                           |                 |                 |                 |
| 2003   | \$65,737        | \$65,737        | \$65,737        |
| 2007   | \$76,902        | \$77,972        | \$76,673        |
| Yearly Increase in Service Costs               | \$2,791         | \$3,059         | \$2,734         |
| 2004 Average Service Cost                      | \$68,528        | \$68,796        | \$68,471        |
| Average Service Cost (2004 - 2007)             | \$72,715        | \$73,384        | \$72,572        |
| Total Service Costs (2004 - 2007)              | \$1,495,892,980 | \$1,509,655,648 | \$1,492,951,184 |

Notes: 1. Average service cost per employee is assumed to equal 1.37 times Table 3's average salary under each pay strategy. Total costs were calculated assuming a linear growth in service costs. Thus, it was estimated to equal the number of employees times the number of years times the average service costs (2004-2007).

2. Data provided by the user **are in bold**.

An implication of our decision to use the workforce average service costs to estimate total service costs is that it implicitly assumes that replacement employees will be paid at the average level of the workforce they enter. The framework of this model can certainly accommodate other assumptions (e.g., stronger pay-performance links will attract better performers who will be paid more), and would allow practitioners to incorporate such data when appropriate. We adopted the workforce-average assumption for simplicity.

Pay strategy 2 yielded the highest service costs; it is projected to cost \$13.76 million more than pay strategy 1 (no performance-pay relationship). Under pay strategy 2, pay is always equal (for performers at or below the performance midpoint) or higher (for performers above the midpoint) than pay in strategy 1. Pay strategy 3 raises the pay for higher performers, but also lowers pay for lower performers, resulting in costs of \$2.94 million less over four years than pay strategy 1, and \$16.70 million less than pay strategy 2.

Service costs (i.e., pay and benefits) are highly visible to standard accounting systems. In fact, one could argue that they are the most visible elements of human capital in standard accounting. Thus, if standard accounting were used to evaluate these pay policies, the costs shown in Table 4 would likely be quite evident, and would perhaps suggest an argument for pay strategy 3 to organizational constituents who rely on accounting information for their decisions. Given that the movement costs analysis suggested pay strategy 3 as the least economical approach, however, it is clear that relying on only a single type of cost information may well provide an inaccurate basis for a decision. When we do aggregate the total movement and total service cost data from Tables 3 and 4, we see that pay strategy 3 is the most expensive, costing over \$23 million more than pay strategy 2 and over \$24 million more than pay strategy 1.

Consequently, from a cost-based perspective, we might conclude that undertaking an aggressive pay-for-performance system to “win the talent war” is not worth the investment. We instead caution that such an inference (and any decisions based on it) is at the least premature and is potentially detrimental to the organization. High performers provide greater value than do low performers, and any assessment of an HR program that differentially affects the performance distribution of the workforce must account for this. HR investments must be examined for both their “efficiency” and “effectiveness” (Boudreau & Ramstad, 2003b). Hence, having addressed the movement and service costs implications of the three pay strategies’ effects on turnover, we next turn to the strategies’ implications for workforce’s value, an often

overlooked but absolutely essential consideration when assessing the financial practicality of human resource interventions.

### **Estimating the Value of Pay-For-Performance Plans**

#### **Step 6: Determine Service Value**

Although our analyses have focused on the cost implications of the pay-for-performance strategies, such strategies also can produce value through the elimination of poor performers (and their subsequent replacement by average performers), and, in particular, the retention of high performers, whose retention is especially sensitive to pay-for-performance effects (Trevor et al., 1997). Moreover, when differences in individual performance are high (i.e., when a high performer is worth much more to the organization than an average performer), retaining top employees and eliminating poor employees may yield value that far outweighs the associated costs (Boudreau & Berger, 1985; Boudreau, 1991; Boudreau & Ramstad, 1999; 2003a; 2003b).

To examine the potential effects of performance-based pay on workforce value, we need to estimate the dollar value of individual performance variation. This will allow us to estimate the effect that changes in the workforce's performance distribution will have on workforce value. Our data provide estimates of changes in the performance ratings, so we must convert ratings to dollar values. This conversion method requires two components (Boudreau & Berger, 1985): (a) the dollar value of the average performance level; and (b) the incremental value of deviations from that average performance level.<sup>3</sup>

We employed the Schmidt and Hunter (1983) approach, which assumes that the value of the average performance level would equal 1.754 times the average wage at that level. For the 2003 work force, we multiplied Table 3's average salary of \$47,983 by 1.754 to obtain a service value of \$84,162 per person. For the 2007 work force, consistent with the estimate of average service costs above, we estimated average salary as that which would have been produced by four years of average salary increases, beginning in 2004. As noted in Table 3, the average 2007 salary under pay strategy 1, which allocates average salary increases across

the performance distribution, is estimated to be \$56,133. Multiplying this salary by 1.754 produces an average work force value estimate of \$98,457 per person. These 2003 and 2007 average service value estimates are shown in “average service value” section of Table 5.

**Table 5**  
**Computations for Estimating Individual Service Value at Each Performance Level**

| Performance Ratings:   | 1          | 1.5       | 2         | 2.5       | 3         | 3.5       | 4         | 4.5       | 5         |
|--|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Number of employees  | 60         | 97        | 1171      | 1090      | 1667      | 672       | 317       | 46        | 23        |
| Mean Performance   |            | 2.764     |           |           |           |           |           |           |           |
| Standard Dev. of Performance   |            | 0.668     |           |           |           |           |           |           |           |
| Z-Score of Performance Ratings   | -2.641     | -1.892    | -1.144    | -0.395    | 0.353     | 1.102     | 1.850     | 2.599     | 3.347     |
| <b>Average Service Value (assumed to equal 1.754 * average salary)</b> |            |           |           |           |           |           |           |           |           |
| 2003   | \$84,162   | \$84,162  | \$84,162  | \$84,162  | \$84,162  | \$84,162  | \$84,162  | \$84,162  | \$84,162  |
| 2007   | \$98,457   | \$98,457  | \$98,457  | \$98,457  | \$98,457  | \$98,457  | \$98,457  | \$98,457  | \$98,457  |
| <b>Incremental Service Value SDy =0.30</b>                             |            |           |           |           |           |           |           |           |           |
| 2003   | -\$38,017  | -\$27,235 | -\$16,468 | -\$5,686  | \$5,081   | \$15,863  | \$26,631  | \$37,412  | \$48,180  |
| 2007   | -\$44,474  | -\$31,861 | -\$19,265 | -\$6,652  | \$5,944   | \$18,558  | \$31,154  | \$43,767  | \$56,363  |
| <b>Incremental Service Value SDy =0.60</b>                             |            |           |           |           |           |           |           |           |           |
| 2003   | -\$76,034  | -\$54,470 | -\$32,936 | -\$11,372 | \$10,163  | \$31,726  | \$53,261  | \$74,825  | \$96,359  |
| 2007   | -\$88,948  | -\$63,722 | -\$38,530 | -\$13,304 | \$11,889  | \$37,115  | \$62,308  | \$87,534  | \$112,726 |
| <b>Incremental Service Value SDy =0.90</b>                             |            |           |           |           |           |           |           |           |           |
| 2003   | -\$114,051 | -\$81,705 | -\$49,403 | -\$17,058 | \$15,244  | \$47,590  | \$79,892  | \$112,237 | \$144,539 |
| 2007   | -\$133,423 | -\$95,583 | -\$57,795 | -\$19,955 | \$17,833  | \$55,673  | \$93,461  | \$131,301 | \$169,089 |
| <b>Total Individual Service Value (SDy = 30%)<sup>1</sup></b>          |            |           |           |           |           |           |           |           |           |
| 2003   | \$46,145   | \$56,927  | \$67,694  | \$78,476  | \$89,243  | \$100,025 | \$110,793 | \$121,574 | \$132,342 |
| 2007   | \$53,983   | \$66,596  | \$79,192  | \$91,805  | \$104,401 | \$117,015 | \$129,611 | \$142,224 | \$154,820 |
| <b>Total Individual Service Value (SDy = 60%)</b>                      |            |           |           |           |           |           |           |           |           |
| 2003   | \$8,128    | \$29,692  | \$51,226  | \$72,790  | \$94,325  | \$115,888 | \$137,423 | \$158,987 | \$180,521 |
| 2007   | \$9,509    | \$34,735  | \$59,927  | \$85,153  | \$110,346 | \$135,572 | \$160,765 | \$185,991 | \$211,183 |
| <b>Total Individual Service Value (SDy = 90%)</b>                      |            |           |           |           |           |           |           |           |           |
| 2003   | -\$29,889  | \$2,457   | \$34,759  | \$67,104  | \$99,406  | \$131,752 | \$164,054 | \$196,399 | \$228,701 |
| 2007   | -\$34,966  | \$2,874   | \$40,662  | \$78,502  | \$116,290 | \$154,130 | \$191,918 | \$229,758 | \$267,546 |

Notes: 1. Total Individual Service Value is computed as the Average Service Value plus the Incremental Service Value, shown in the top portion of this table.

2. Data provided by the user are in bold.

For the second component necessary to estimate the value associated with each employee, we needed an estimate for the value of each performance level above and below the average. Combined with the estimate for the average value of individuals' performance, this will allow us to calculate the value of each of the nine performance levels, in both 2003 and 2007. In this study, and probably characteristic of most organizations, we had no direct estimates of the dollar value of particular performance levels. Hence, we used an estimation approach typical of utility analysis studies (e.g., Boudreau, 1991; Boudreau & Ramstad, 2003b). Utility analysis typically employs an estimate of the value of a one-standard-deviation difference in employee value, referred to as SDy, with SDy often approximated as equal to a given percentage of salary (Boudreau, 1991; Cascio, 2000). Thus, someone who performs one standard deviation above average (i.e., someone who is in the 84th percentile of performance) is estimated to be worth more than an average performer by a value equal to SDy. Using the SDy term, we can compute the value of each performance category relative to the average.

A recurring problem with using SDy is that it is unlikely to be estimated precisely (Boudreau, 1991; Cascio, 2000). Furthermore, its impact on final estimates of the value of a utility estimate is often quite significant (Boudreau, 1991). Thus, we investigated three potential values. As a very conservative approach, we assumed that SDy would equal 30% of average salary. This is substantially less than Schmidt and Hunter's (1983) 40% recommendation, which has been characterized as a conventional benchmark (Becker & Huselid, 1992), a safe estimate (Schmidt, Hunter, Outerbridge, & Trattner, 1986), and a conservative estimate (Judiesch, Schmidt, & Mount, 1992). We also used 60% of average salary as a somewhat conservative estimate, and we used 90% of average salary as what we believe to be a more realistic estimate.<sup>4</sup> In other words, our three estimates suggest that an employee performing better than 84 percent of the employee population is worth 30% of salary, 60% of salary, or 90% of salary more to the organization than an average performer (i.e., someone performing at the 50th percentile) in the same job.

In order to move from these SDy estimates to estimates of each employee's service value, we first used the observed distribution of employee performance to compute the standardized z-score corresponding to each of the nine performance ratings. This transformation, accomplished through subtracting the mean performance score from each performance category rating and then dividing by the performance standard deviation, produces a performance distribution with a mean of zero and a standard deviation of one. For example, performance category 1.5 received a z-score of -1.89 through subtracting the average performance rating of 2.764 from 1.5 and dividing by the standard deviation of 0.668. The z-scores, which represent the number of standard deviations that each performance category rating deviates from the performance mean, are listed in the fifth row of data in Table 5.

We assumed that the z-scores associated with each raw performance score would remain constant from 2003 to 2007. That is, although the actual distribution of workers across performance categories changes from 2003 to 2007, we assumed that the value of performance at each performance level did not change. For example, a performance rating of 4 in 2003, which was 1.850 standard deviations above the mean in 2003, provided value to the employer equal to mean performance's value plus the product of 1.850 and SDy. We assumed, regardless of the actual number of employees who received a score of 4 in 2007, the financial value of an individual with a performance rating of 4 in that year would be equal to 2007 mean performance's value plus the product of 1.850 and SDy.

For 2003, we estimated average salary as \$47,983 (from Table 1), producing SDy estimates of \$14,395 (i.e.,  $0.3 * \$47,983$ ), \$28,790 (i.e.,  $0.6 * \$47,983$ ) and \$43,185 (i.e.,  $0.9 * \$47,983$ ) for the 30%, 60% and 90% SDy scenarios, respectively. For 2007, estimated average salary was \$56,133 (from Table 1), producing, at the 30%, 60%, and 90% SDy scenarios, estimated SDy levels of \$16,840 (i.e.,  $0.3 * \$56,133$ ), \$33,680 (i.e.,  $0.6 * \$56,133$ ), and \$50,520 (i.e.,  $0.9 * \$56,133$ ). Multiplying these SDy estimates (i.e., the appropriate dollar value of a one standard deviation performance difference) by the z-scores (i.e., the number of standard deviations the performance category is from the mean) produced the "incremental" (beyond the

average) dollar values corresponding to each performance rating level for each SDy assumption (see Table 5). Thus, under the 60% assumption in 2007, an employee at performance level 5.0 is worth \$112,726 more than an average employee (i.e.,  $\$56,133 * 0.60 * 3.347$ ). The sums of the average service values for the workforce, and the incremental service values for each performance category, produced the individual service values for each performance category that are reported in the bottom section of Table 5. Thus, the last six lines of data in Table 5 represent, for each unique combination of performance level (1.0 – 5.0 at half point intervals), year (2003 and 2007), and SDy scenario (30%, 60%, and 90%), the individual service value for each employee.

With individual service values determined for both 2003 and 2007, we can now compute the total service value for the workforce under each of the three pay strategies. For 2003 (for all three pay strategies), we calculated the total service value of the workforce by multiplying each performance category's individual service value by the corresponding quantity of employees in the performance category, and adding the products. Thus, for example, Table 5's individual service value of \$115,888 for SDy = 60% and performance = 3.5 in 2003 is multiplied by 672 (the number of employees in that performance category) to yield the \$77,876,736 figure in Table 6 (under SDy = 60% and performance = 3.5). This \$77,876,736 is then added to the similarly computed values for the other eight performance categories to produce, when SDy = 60%, Table 6's total 2003 service value of \$432,351,857. This is our estimate of what the workforce is worth to the employer in 2003 under the assumption that being one standard deviation above average in performance is worth 60% of an average performer's salary. We note that the total service values are the same in 2003 regardless of pay strategy (although they do differ across SDy assumptions) because the three pay strategies had yet to result in the different performance-specific turnover patterns that begin in 2004.

**Table 6**  
**Computing Total Service Value (2003 Employees)**

| Performance Ratings:            | 1            | 1.5         | 2            | 2.5          | 3             | 3.5          | 4            | 4.5         | 5           | Total         |
|---------------------------------|--------------|-------------|--------------|--------------|---------------|--------------|--------------|-------------|-------------|---------------|
| Number of employees             | 60           | 97          | 1171         | 1090         | 1667          | 672          | 317          | 46          | 23          | 5143          |
| <b>2003 Total Service Value</b> |              |             |              |              |               |              |              |             |             |               |
| SDy = 30%                       | \$2,768,700  | \$5,521,919 | \$79,269,674 | \$85,538,840 | \$148,768,081 | \$67,216,800 | \$35,121,381 | \$5,592,404 | \$3,043,866 | \$430,072,965 |
| SDy = 60%                       | \$487,680    | \$2,880,124 | \$59,985,646 | \$79,341,100 | \$157,239,775 | \$77,876,736 | \$43,563,091 | \$7,313,402 | \$4,151,983 | \$432,351,857 |
| SDy = 90%                       | -\$1,793,340 | \$238,329   | \$40,702,789 | \$73,143,360 | \$165,709,802 | \$88,537,344 | \$52,005,118 | \$9,034,354 | \$5,260,123 | \$434,631,219 |

Note: The total service values are the same in 2003 regardless of pay strategy (although they do differ across SDy assumptions) because the three pay strategies had yet to result in the different performance-specific turnover patterns that begin in 2004.



For 2007, calculation of the total service value of the workforce is slightly more complex, as the computations for those employees retained over the four-year analysis differ from the computations required for those hired as replacements during the four-year period. For the retained employees, 2007 total service value calculation closely resembles the approach to 2003, where Table 5's 2003 individual service values for each SDy level and performance category combination were multiplied by the quantity of retained employees for each performance category, and these products were summed. In 2007, however, the three pay strategies' different effects on performance-specific turnover result in pay strategy-specific numbers of retained employees in each performance category. Consequently, we need to conduct the individual service value by employee quantity multiplications separately for each pay strategy to get the 2007 estimates. Thus, Table 5's 2007 individual service values for each SDy level and performance category combination were multiplied by the quantity of retained employees for each performance category under each pay strategy, and these products were summed. For example, Table 5's individual service value of \$129,611 for SDy = 30% and performance = 4.0 in 2007 is multiplied by 231, 282, and 282 (the number of retained employees in that performance category under the three pay strategies, as listed in Table 7) to yield the \$29,940,141, \$36,550,302, and \$36,550,302 figures in Table 7 (under SDy = 30%, performance = 4.0, and pay strategies 1, 2, and 3, respectively). Thus, the final nine rows of data in Table 7 chronicle, for each SDy and pay strategy combination, the combined service value of all retained employees in 2007 at each performance level. The final column for each of these nine rows provides total service values across performance categories.

**Table 7**  
**Total Service Value of Retained Employees (2007)**

| Performance Ratings:       | 1         | 1.5         | 2            | 2.5          | 3             | 3.5          | 4            | 4.5         | 5           | Total         |
|----------------------------|-----------|-------------|--------------|--------------|---------------|--------------|--------------|-------------|-------------|---------------|
| Retained Employees         |           |             |              |              |               |              |              |             |             |               |
| Pay Strategy 1             | 2         | 34          | 726          | 818          | 1317          | 524          | 231          | 27          | 8           | 3687          |
| Pay Strategy 2             | 2         | 34          | 726          | 818          | 1317          | 578          | 282          | 41          | 20          | 3818          |
| Pay Strategy 3             | 1         | 12          | 468          | 709          | 1317          | 578          | 282          | 41          | 20          | 3428          |
| Total Service Value (2007) |           |             |              |              |               |              |              |             |             |               |
| SDy = 30%                  |           |             |              |              |               |              |              |             |             |               |
| Pay Strategy 1             | \$107,966 | \$2,264,264 | \$57,493,392 | \$75,096,490 | \$137,496,117 | \$61,315,860 | \$29,940,141 | \$3,840,048 | \$1,238,560 | \$368,792,838 |
| Pay Strategy 2             | \$107,966 | \$2,264,264 | \$57,493,392 | \$75,096,490 | \$137,496,117 | \$67,634,670 | \$36,550,302 | \$5,831,184 | \$3,096,400 | \$385,570,785 |
| Pay Strategy 3             | \$53,983  | \$799,152   | \$37,061,856 | \$65,089,745 | \$137,496,117 | \$67,634,670 | \$36,550,302 | \$5,831,184 | \$3,096,400 | \$353,613,409 |
| SDy = 60%                  |           |             |              |              |               |              |              |             |             |               |
| Pay Strategy 1             | \$19,018  | \$1,180,990 | \$43,507,002 | \$69,655,154 | \$145,325,682 | \$71,039,728 | \$37,136,715 | \$5,021,757 | \$1,689,464 | \$374,575,510 |
| Pay Strategy 2             | \$19,018  | \$1,180,990 | \$43,507,002 | \$69,655,154 | \$145,325,682 | \$78,360,616 | \$45,335,730 | \$7,625,631 | \$4,223,660 | \$395,233,483 |
| Pay Strategy 3             | \$9,509   | \$416,820   | \$28,045,836 | \$60,373,477 | \$145,325,682 | \$78,360,616 | \$45,335,730 | \$7,625,631 | \$4,223,660 | \$369,716,961 |
| SDy = 90%                  |           |             |              |              |               |              |              |             |             |               |
| Pay Strategy 1             | -\$69,932 | \$97,716    | \$29,520,612 | \$64,214,636 | \$153,153,930 | \$80,764,120 | \$44,333,058 | \$6,203,466 | \$2,140,368 | \$380,357,974 |
| Pay Strategy 2             | -\$69,932 | \$97,716    | \$29,520,612 | \$64,214,636 | \$153,153,930 | \$89,087,140 | \$54,120,876 | \$9,420,078 | \$5,350,920 | \$404,895,976 |
| Pay Strategy 3             | -\$34,966 | \$34,488    | \$19,029,816 | \$55,657,918 | \$153,153,930 | \$89,087,140 | \$54,120,876 | \$9,420,078 | \$5,350,920 | \$385,820,200 |

Having computed 2007 service value for retained employees, we next address the 2007 value of those employees hired to replace the employees that separated during the 2004-2007 window. These replacement employees were assumed to have an individual service value equal to the average individual service value of retained employees under pay strategy 1 for each of the SDy assumptions. Thus, for example, Table 8's average individual replacement employee service value of \$101,594 when SDy = 60% was computed by dividing Table 7's total retiree service value of \$374,575,510, which is under pay strategy 1 with SDy = 60%, by 3687, which is Table 7's total retirees under pay strategy 1. We note that using pay strategy 1's retiree service value for all replacements assumes that the recruiting effectiveness and job performance of replacement employees are not affected by the compensation system. Because the average service value of retained employees under pay strategies 2 and 3 is greater than the average service value of employees retained under pay strategy 1, this provides a conservative estimate of replacement service value under the two pay strategies with pay-for-performance links. The total service value of replacement employees for each pay strategy and SDy combination is equal to the pay strategy-specific number of replacements times the SDy-specific average service value. These totals are reported in the bottom three rows of data in Table 8.

**Table 8**  
**Service Value of Replacement Employees (2007)**

|  | Pay Strategy 1 | Pay Strategy 2 | Pay Strategy 3 |
|--|----------------|----------------|----------------|
| Average Service Value                      |                |                |                |
| SDy = 30%                                  | \$100,025      | \$100,025      | \$100,025      |
| SDy = 60%                                  | \$101,594      | \$101,594      | \$101,594      |
| SDy = 90%                                  | \$103,162      | \$103,162      | \$103,162      |
| Number of Separations (2004-2007)          | 1457           | 1326           | 1716           |
| Total Service Value of Replacements (2007) |                |                |                |
| SDy = 30%                                  | \$145,736,425  | \$132,633,150  | \$171,642,900  |
| SDy = 60%                                  | \$148,022,458  | \$134,713,644  | \$174,335,304  |
| SDy = 90%                                  | \$150,307,034  | \$136,792,812  | \$177,025,992  |

Note: We are using the conservative assumption that replacement employees will have the service value of employees under the first pay strategy. Our approach implicitly assumes that the pay strategy has no effect on recruitment or job performance of new employees. If we assumed that new employees had service values equal to the average service values of employees under the new pay strategies, then the total service value of replacements would be higher under pay strategies 2 and 3.

Finally, Table 8's service values of the replacements and Table 7's service values of retained employees were added to produce the estimated 2007 total service value for each pay strategy and SDy level combination, as shown in Table 9. We used these 2007 total service values, as well as the 2003 total service values from Table 6, to compute total service value across all years in Table 10. As we had done with total service costs computations, we calculated the four-year stream of service value levels by assuming that service value rose linearly in each performance category between 2003 and 2007. Thus, for each pay strategy and SDy combination, we computed (a) the average service value increase (2007 service value minus 2003 service value, divided by four); (b) 2004 service value (2003 service value plus the average service value increase); (c) the average 2004-2007 service value (2004 service value plus 2007 service value, divided by 2); and (d), the total 2003-2007 service value (average 2003-2007 service value, times four, the number of years in our simulation).

**Table 9**  
**Total Service Value of the 2007 Workforce**

|                | Value of Retained Employees | + | Value of Replaced Employees | = | Total Value (2007) |
|----------------|-----------------------------|---|-----------------------------|---|--------------------|
| SDy = 30%      |                             |   |                             |   |                    |
| Pay Strategy 1 | \$368,792,838               | + | \$145,736,425               | = | \$514,529,263      |
| Pay Strategy 2 | \$385,570,785               | + | \$132,633,150               | = | \$518,203,935      |
| Pay Strategy 3 | \$353,613,409               | + | \$171,642,900               | = | \$525,256,309      |
| SDy = 60%      |                             |   |                             |   |                    |
| Pay Strategy 1 | \$374,575,510               | + | \$148,022,458               | = | \$522,597,968      |
| Pay Strategy 2 | \$395,233,483               | + | \$134,713,644               | = | \$529,947,127      |
| Pay Strategy 3 | \$369,716,961               | + | \$174,335,304               | = | \$544,052,265      |
| SDy = 90%      |                             |   |                             |   |                    |
| Pay Strategy 1 | \$380,357,974               | + | \$150,307,034               | = | \$530,665,008      |
| Pay Strategy 2 | \$404,895,976               | + | \$136,792,812               | = | \$541,688,788      |
| Pay Strategy 3 | \$385,820,200               | + | \$177,025,992               | = | \$562,846,192      |

**Table 10**  
**Computing Four Year Total Service Value**

|                                  | Pay Strategy 1  | Pay Strategy 2  | Pay Strategy 3  |
|----------------------------------|-----------------|-----------------|-----------------|
| SDy = 30%                        |                 |                 |                 |
| 2003 Service Value               | \$430,072,965   | \$430,072,965   | \$430,072,965   |
| 2007 Service Value               | \$514,529,263   | \$518,203,935   | \$525,256,309   |
| Average Service Value Increase   | \$21,114,075    | \$22,032,743    | \$23,795,836    |
| 2004 Service Value               | \$451,187,040   | \$452,105,708   | \$453,868,801   |
| Avg. (2004 - 2007 Service Value) | \$482,858,152   | \$485,154,822   | \$489,562,555   |
| Total Service Value (2004-2007)  | \$1,931,432,608 | \$1,940,619,288 | \$1,958,250,220 |
| SDy = 60%                        |                 |                 |                 |
| 2003 Service Value               | \$432,351,857   | \$432,351,857   | \$432,351,857   |
| 2007 Service Value               | \$522,597,968   | \$529,947,127   | \$544,052,265   |
| Average Service Value Increase   | \$22,561,528    | \$24,398,818    | \$27,925,102    |
| 2004 Service Value               | \$454,913,385   | \$456,750,675   | \$460,276,959   |
| Avg. (2004 - 2007 Service Value) | \$488,755,677   | \$493,348,901   | \$502,164,612   |
| Total Service Value (2004-2007)  | \$1,955,022,708 | \$1,973,395,604 | \$2,008,658,448 |
| SDy = 90%                        |                 |                 |                 |
| 2003 Service Value               | \$434,631,219   | \$434,631,219   | \$434,631,219   |
| 2007 Service Value               | \$530,665,008   | \$541,688,788   | \$562,846,192   |
| Average Service Value Increase   | \$24,008,447    | \$26,764,392    | \$32,053,743    |
| 2004 Service Value               | \$458,639,666   | \$461,395,611   | \$466,684,962   |
| Avg. (2004 - 2007 Service Value) | \$494,652,337   | \$501,542,200   | \$514,765,577   |
| Total Service Value (2004-2007)  | \$1,978,609,348 | \$2,006,168,800 | \$2,059,062,308 |

Under all assumptions about SDy, the 2007 and total service values are lowest when giving all employees average pay increases (pay strategy 1), are higher when giving high performers high pay increases and all others average increases (pay strategy 2), and are highest when the pay-for-performance link was strongest (pay strategy 3). Compared to pay strategy 1, which gives all employees average pay increases, pay strategy 2 prompts more high-performing and highly-paid employees to stay, and their value enhances the work force. Pay strategy 3 augments this effect by encouraging the turnover of low performers, who subsequently are replaced with workers whose expected value is that of average workers under pay strategy 1.

Hence, whereas our cost analysis suggested that pay strategy 3 was the least effective and pay strategy 1 was the most effective, our analysis of workforce value indicates the exact opposite. Obviously, relying only on either cost or value estimates would be shortsighted. The critical question is whether the service value benefits of a strong pay-for-performance link outweigh the costs (Boudreau, 1991; Boudreau & Ramstad, 2003a; 2003b).

### **Step 7: Determining the Final Utility—Is Pay-for-Performance Worth it?**

At this point, we return to the flow chart in Figure 1 and the question that motivated this research effort: Is it worth it to use pay-for-performance in an attempt to win the war for talent? To speak to this, we began by specifying three pay plan strategies and estimating the subsequent turnover probabilities and performance distributions we would expect under each. Using this turnover and performance information, we then addressed costs for each pay plan through the estimation of expenses associated with employee movement out of and into the workforce and with the pay and benefits for the workforce. Having estimated costs, we turned to the benefits dimension of the cost-benefit analysis and estimated the value of the retained workforce and of the replacement employees. Thus, we have estimated the three components for the decision of whether pay-for-performance makes sense in our example: (a) the four-year stream of movement costs; (b) the four-year stream of service costs; and (c), the four-year stream of service value. Now, we combine these components to estimate the relative value of the three pay strategies by taking the stream of service value and subtracting the stream of service costs and movement costs (Boudreau & Berger, 1985). The relevant amounts are summarized in Table 11 for each pay strategy and SDy assumption combination.

**Table 11**  
**Computation of Four Year Investment Value of Different Pay Strategies (in \$millions)**

|                | Service Value (in \$millions) | - | Service Costs (in \$millions) | - | Movement Costs (in \$millions) | = | Four Year Value (in \$millions) | Difference from Pay Strategy 1 | % Change from Pay Strategy 1 |
|----------------|-------------------------------|---|-------------------------------|---|--------------------------------|---|---------------------------------|--------------------------------|------------------------------|
| SDy = 30%      |                               |   |                               |   |                                |   |                                 |                                |                              |
| Pay Strategy 1 | \$1,931.43                    |   | \$1,495.89                    |   | \$154.67                       |   | \$280.87                        | --                             | --                           |
| Pay Strategy 2 | \$1,940.62                    |   | \$1,509.66                    |   | \$142.05                       |   | \$288.91                        | \$8.04                         | 2.86%                        |
| Pay Strategy 3 | \$1,958.25                    |   | \$1,492.95                    |   | \$181.80                       |   | \$283.50                        | \$2.62                         | 0.91%                        |
| SDy = 60%      |                               |   |                               |   |                                |   |                                 |                                |                              |
| Pay Strategy 1 | \$1,955.02                    |   | \$1,495.89                    |   | \$154.67                       |   | \$304.46                        | --                             | --                           |
| Pay Strategy 2 | \$1,973.40                    |   | \$1,509.66                    |   | \$142.05                       |   | \$321.69                        | \$17.22                        | 5.66%                        |
| Pay Strategy 3 | \$2,008.66                    |   | \$1,492.95                    |   | \$181.80                       |   | \$333.91                        | \$29.44                        | 9.15%                        |
| SDy = 90%      |                               |   |                               |   |                                |   |                                 |                                |                              |
| Pay Strategy 1 | \$1,978.61                    |   | \$1,495.89                    |   | \$154.67                       |   | \$328.05                        | --                             | --                           |
| Pay Strategy 2 | \$2,006.17                    |   | \$1,509.66                    |   | \$142.05                       |   | \$354.46                        | \$26.41                        | 8.05%                        |
| Pay Strategy 3 | \$2,059.06                    |   | \$1,492.95                    |   | \$181.80                       |   | \$384.31                        | \$56.26                        | 15.87%                       |

These results suggest a different conclusion from the cost analysis presented earlier. Recall that traditional compensation-cost analyses may have led decision makers to the conclusion that a strong link between pay and performance would be unwise given its extreme cost, and that although a moderate pay-for-performance link was not much more expensive than having no link, there were no cost-based data to strongly suggest it as a compelling alternative. When the potential benefits of workforce value are accounted for, however, it becomes clear that investments in performance-based pay may hold the potential for significant organizational improvement. Table 11 indicates that even under our most conservative SDy assumption, pay-for-performance plans yielded greater net values than did the non-contingent pay strategy. That is, by fully incorporating both costs and benefits into our assessment, we find that, under all of our conditions, pay-for-performance is indeed a valuable investment. Moreover, as SDy (i.e., the value associated with performance differences) became larger, the payoff to pay-for-performance increased dramatically, ultimately (i.e., at SDy = 90%) resulting in advantages, relative to the non-contingent pay from pay strategy 1, of over \$26 and \$56 million dollars for the partially contingent and highly contingent pay strategies, respectively.

## Discussion

This analysis suggests that even under conservative assumptions about the value of performance variability among employees, the four-year financial benefit of linking pay to performance in this company would be substantial. When these SDy assumptions are closer to what we believe to be more realistic (i.e., if job performance differences have greater value to an organization), the present model reveals the potentially high payoff from investments in performance-based pay. Moreover, our analysis vividly illustrates the limitations of standard accounting and behavioral cost-based approaches for identifying the critical variables and, thus, the appropriate pay strategy.

### **Simplifying decisions**

Because utility analysis can be rather complex, we used a number of simplifying decisions here. First, we assumed that replacement employees would be of average performance level (and, thus, average service value). This implicitly assumes that pay-for-performance would not influence applicant attraction, even though research suggests that the degree to which pay and performance are linked does in fact matter to applicants (Cable & Judge, 1994). Second, in focusing on the relationship between pay-for-performance and turnover, we made no provisions for whether the performance-based pay would actually improve workforce performance (net of retention effects). This implicit modeling of no effect of performance-based pay on performance is particularly noteworthy given that the contingent pay plan in the Trevor et al. (1997) study was sufficiently well designed to elicit a performance-specific retention pattern. Third, we were working with the relatively normally distributed performance distribution from the Trevor et al. sample. While using this distribution simplified matters by allowing us to make use of other aspects of the Trevor et al. study, we recognize that many performance distributions may be characterized by a greater proportion of employees being rated in the top two or three performance categories and by the subsequent negative skew. The Trevor et al. distribution arose because the organization, consistent with its individualistic and hierarchical culture, encouraged differentiation among employees during



performance appraisal. Additionally, because Trevor et al. used averaged performance levels (with a mean of 3.05 performance ratings per employee), such factors as change in performance over time and random error in ratings combined to reduce the likelihood of having an average rating in the very top or bottom performance levels. To the extent that an organization with an aggressive pay-for-performance plan does encourage or mandate a normal performance distribution, however, the implications are noteworthy. For example, the system allocates large raises to the relatively few high performers, who should then be satisfied, motivated, and likely to remain; in contrast, the system also may frustrate, de-motivate, and ultimately result in increased turnover among employees that might be reasonably high performers but were not rated as such as a result of the forced distribution.

We emphasize that each of the three simplifying decisions was made to facilitate our presentation rather than strengthen our results. Indeed, each decision actually weakens the results' apparent support for performance-based pay. In unreported analyses, we incorporated into the utility analysis improved applicant quality under pay strategies 2 and 3, improved performance (net of retention effects) under pay strategies 2 and 3, and a more negative skew in the performance distribution. In each case, these alternative approaches to the decision in question resulted in a larger net advantage for pay strategy 2 and, to an even greater extent, for pay strategy 3. Thus, the analyses we presented here are a simplified and conservative approach. The spreadsheets available from the first author can be adapted to test such alternative assumptions.

### **On Overcoming the “Futility of Utility”**

Our simplifying decisions notwithstanding, the analyses presented here entail much detail and speculation that, according to utility analysis criticism, might hinder their acceptance in managerial ranks. Indeed, we are quite aware of the “futility of utility” (Latham & Whyte, 1997; Whyte & Latham, 1994) findings in which utility analysis appeared to reduce managerial support for an HR intervention. To a large extent, the futility of utility problem likely resides within the presenter and recipients of utility analysis data, rather than with utility analysis itself.

In defense of utility analysis, Sturman (2000) concludes that managers need to understand utility analysis and be trained in the use of the technology. Citing the necessity of managers making decisions based on the Merton and Scholes options pricing formula to have experience in finance and economics, Sturman (2000) argued that “For a complex decision making tool to be useful, the users of the decision aid must desire the information it provides and be trained in its use” (p. 297). Hence, rather than being apologists for the complexity of utility analysis, we believe that in-house I/O psychologists should attempt to convey that it is important for key stakeholders to have some basic grounding in sophisticated human resource decision-making. Given that labor costs often comprise over half of all operating costs (Milkovich & Newman, 2002), training decision makers in a decision tool designed to inform as to the optimal way to allocate these costs would appear to be a valid undertaking. On the presenter side, Cronshaw (1997), after participating as the expert utility presenter in the Whyte and Latham (1997) “futility” study, contended that “it is not utility analysis per se that imperils I/O psychologists, but the intemperate way it is often used. In effect, the messenger kills the message” (p. 614). Cronshaw advocated that utility analysis should be presented as an informational tool rather than as a “persuasive tool in a one-sided (and often self-serving) attempt to ‘sell’ innovations to managers” (p. 614).

Boudreau and Ramstad (1999; 2002) noted that the powerful influence of disciplines such as Finance and Marketing evolved from their focus on enhancing decisions about the key resource (money or customers), rather than on selling accounting or sales programs, and suggested that the influence of HR and I/O professionals will increase with a similar focus on talent decisions. They suggested (Boudreau & Ramstad, 2002, 2003a; 2003b) the HC BRidge® decision model for “talent” resources that draws upon well-developed decision models to delineate three fundamental elements: efficiency, effectiveness and impact. The present analysis vividly shows the value of integrating “efficiency” (payroll and movement costs); “effectiveness” (changes in movement patterns); and “impact” (value of improvements in

performance) into a decision support model, and the dangers of decision frameworks based solely on efficiency or effectiveness alone.

In addition to these emphases on decision maker training and on presenting utility analysis as an informative tool rather than marketing it as a panacea, we also offer a few additional suggestions that might assist the I-O psychologist in communicating utility analyses. First, expectations should be set at the outset by affirming that the evaluation will be somewhat complex, just as would be expected from manufacturing, finance, or accounting. Any simplistic attempt to estimate performance-based pay's effects on the bottom line would be superficial and incomplete. Second, communicating the utility analysis would probably benefit from an initially broad explanation. Perhaps using something similar to our Figure 1 as a guide, the practitioner should emphasize the simple cost-benefit concepts of movement costs, service costs, performance-specific retention, and the critical, but often overlooked, workforce value. We believe that it would be wise to continually hearken back to these big picture concepts, with emphasis on effects rather than on measures (Cascio, 2000) and technical details (Hoffman, 1996). Third, acceptance may be facilitated via emphasis on the conservative nature of the assumptions, decisions, and subsequent estimates (Hoffman, 1996). Finally, highlighting the rationale for these assumptions and decisions should demystify them, and using the spreadsheets to instantaneously show the effects of changing them may provide valuable "best case" and "worse case" scenarios. Together, these recommendations should assist in indicating that well-designed performance-based pay is worth considering, and that HR is able to quantitatively evaluate the relevant alternatives.

### **Limitations and Conclusions**

Several limitations are noteworthy. Our results reflect one organization's characteristics, such as plan specifics, the individual job performance distribution, and the relationship between pay-for-performance and turnover. The extent to which this organization, its employees, and our conclusions are representative of other firms and employees with regard to these factors is unknown. What is critical, however, is that the approach we took to finding these results can be

applied in a wide variety of situations, thus enabling the examination of external validity. A second limiting factor in our study is that there may be additional pay strategy-specific training costs or administrative costs that we did not include. We believe, however, that such costs could easily be incorporated into this framework. Third, as discussed throughout this study, we made a number of assumptions and decisions in order to conduct the analyses. Although we believe that we took the most logical and conservative approaches at these junctures, viable arguments could be made for approaches different from our own. Fourth, although we modeled employees' performance levels as stable over time, research has shown that employee performance levels change over time (e.g., Deadrick, Bennett, & Russell, 1997; Ployhart & Hakel, 1998; Sturman & Trevor, 2001). Furthermore, changes in performance levels are related to the likelihood of turnover, even after controlling for the effects of current performance levels (Harrison et al., 1996; Sturman & Trevor, 2001). Considering the movement of employees between different performance categories across years, and the implications of these movements for forecasting turnover, would certainly add complexity to the model we presented. It may be valuable for future research to explore the implications of these model refinements.

The method we describe involves a significant amount of calculation, but is relatively simple to replicate on a spreadsheet. Actual replication may require some customization to fit a specific company's profile, but the basic premise of the methods should be the same. We hope that this demonstration will inspire organizations to more fully tap available research findings to help them enhance their HR policy decision-making. We also hope that this paper helps demonstrate the value of research findings like those reported in Trevor et al. (1997) and will be complemented by future research on additional factors that may influence the pay-for-performance link with turnover. For example, satisfaction with different types of pay-for-performance plans (e.g., raises versus bonuses) can have different effects on outcomes of organizational interest, such as job satisfaction and organizational commitment (Sturman & Short, 2000). Ideally, the research presented here will encourage extensions of this work that

can prove valuable for both understanding HR practices in general and for evaluating specific HR policies.

Organizations of all types will likely respond to increasing pressures to “win the talent war” by employing all available tools to enhance attraction, selection, and retention processes. A formidable tool in this endeavor is the accumulated knowledge available from industrial/organizational psychology and human resources research. The method described here illustrates how utility analysis can be used to demystify and integrate this research, making it a more practical decision-making tool, and thus a more potent influence on significant strategic organizational goals (Boudreau, 1991; Boudreau & Ramstad, 1997; 1999; 2002; 2003a; 2003b).

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### Footnotes

1. The Boudreau and Berger (1985) model in its purest form would calculate the work force value in each intervening year and apply a discount factor to equalize the time value of the dollar amounts. While these economic corrections can yield substantial changes to the estimated value (Sturman, 2000), such embellishments do not have a significant effect in this case because the changes in dollar amounts are assumed to be linear, the time frame is relatively short, and our focus is on the relative (versus absolute) value of the different strategies. We also did not have information about the organizational tax rate, so we report our results in pre-tax dollars. After-tax effects could be easily calculated by multiplying the final results by an appropriate after-tax proportion, but the relative effects of the options would not be altered.
2. The Bureau of Labor Statistics provides a wealth of information on hourly earnings for diverse groups and occupations (see BLS, 2002). We used the average hourly earnings and weekly hours of all white collar occupations, excluding sales jobs. The most recent information shows that white collar, full-time employees (excluding sales) earned an average hourly wage of \$21.65 and worked an average of 39.4 hours per week in 2001. Based on the 29<sup>th</sup> Annual Report on the 2002-2003 Total Salary Increase Budget Survey (WorldatWork, 2002), salary increases averaged 3.9% for exempt salaried employees in 2002, and is projected to increase 4.1% for 2003. This led us to use an estimated hourly wage of \$23.42, for a total salary for 2003 of \$47,983. Note again that anyone employing the methods described in this paper can simply enter the data from other sources, such as their own company's data. The value we chose was intended to capture a broad, generalizable sample. More importantly, it is intended to be a reasonable estimate to help illustrate our technique.
3. There is no single accepted method of estimating the dollar value of average performance among workers or applicants. Some research has suggested that average performance value can be estimated equal to the average compensation of the work group (Boudreau, 1991, p. 654; Raju, Burke & Normand, 1990, p. 9). However, it seems unlikely that average-performing employees produce only enough value to offset their direct wage costs. Considering the other service costs that are incurred, and the need for organizations to obtain a positive return on costs, a higher level of average service value seems likely. Based on an analysis of wage and productivity estimates in the national income accounts of the United States, Schmidt and Hunter (1983) proposed assuming that the ratio of average dollar value to average wage is approximately 1.754.
4. Support of the 90% approach is provided by Becker and Huselid (1992), who found direct observations of SDy fell in the 74% to 100% of mean salary range. Moreover, because researchers generally contend that SDy increases as job complexity increases (e.g., Judiesch et al., 1992), our 30% and 60% SDy values would appear to have additional support as conservative estimates, given our sample of all exempt hires in a large company.

## Appendix

### Computing Separation Probabilities Using Survival Analysis Results

Our estimation uses the survival analysis from Trevor et al.'s (1997) Table 4 (model 1).

$$\text{Probability of survival} = S(0)e^{(\beta X)}$$

where  $S(0)$  = baseline probability of survival, which was 0.77,

$\beta$  = a vector of survival analysis regression coefficients,

$X$  = a vector of independent variables,

$$(\beta X) = 4.941 + 0.314 * \text{Salary Growth} - 2.541 * \text{Performance} + 0.553 * \text{Performance}^2 - 0.020 * \text{Performance}^3 + 0.007 * \text{Salary Growth}^3 - 0.663 * \text{Salary Growth} * \text{Performance} + 0.071 * \text{Salary Growth} * \text{Performance}^2$$

The salary growth data used to estimate the equation above was measured in thousands of dollars. Thus, to use the equation, our example's percentage increases had to be converted to a parallel salary growth measure for each pay strategy and performance level combination. To do so, we determined the average pay growth under each strategy by subtracting 2003 pay from 2007 pay, dividing by 4, and then dividing this amount by 1000.

For example, under strategy 3 and performance level 2.5, the average pay increase was  $[(\$54,005 - \$47,983) / 4] / 1000 = 1.5055$ . The table below lists the salary growth for each pay strategy and performance level.

| Performance Category | 1.0    | 1.5    | 2.0    | 2.5    | 3.0    | 3.5    | 4.0    | 4.5    | 5.0    |
|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Strategy 1           | 2.0375 | 2.0375 | 2.0375 | 2.0375 | 2.0375 | 2.0375 | 2.0375 | 2.0375 | 2.0375 |
| Strategy 2           | 2.0375 | 2.0375 | 2.0375 | 2.0375 | 2.0375 | 2.5853 | 3.1485 | 3.7283 | 4.3243 |
| Strategy 3           | 0.000  | 0.4870 | 0.9888 | 1.5055 | 2.0375 | 2.5853 | 3.1485 | 3.7283 | 4.3243 |

Next, we need to estimate separation probability (i.e., 1 - probability of survival):  $1 - S(0)e^{(\beta X)}$ .

For example, for performers rated at 5.0 under Pay Strategy 2, the pay increase of 8% translates to an average dollar increase (in thousands) of 4.3243, which yields a separation probability =  $1 - .77e^{(\beta X)} = 1 - .77e^{(4.941 - 5.467)} = 1 - .77e^{(-0.526)} = 1 - .77(0.5910) = 1 - 0.86 = 0.14$ . See Table 2 for separation probabilities at each performance level/pay strategy combination.

The 4.941 constant in the  $(\beta X)$  calculation resulted from adding the estimated model constant (6.810) from Trevor et al.'s equation to the sum of the model terms that included neither performance nor salary growth (e.g. age, promotions). These terms were evaluated at the means of the respective  $X$  variables. As an aside, we advocate centering variables prior to conducting hazard analyses, which causes the model constant and variables set at their means to drop out, thus simplifying the calculation of survival probabilities (Retherford & Choe, 1993; Trevor, 2001). See Trevor (2001) and Morita et al. (1993) for more on computing survival probabilities.

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For )  
A General Adjustment Of Its Rates For Electric )  
Service; (2) An Order Approving Its 2014 )  
Environmental Compliance Plan; (3) An Order ) Case No. 2014-00396  
Approving Its Tariffs And Riders; And (4) An )  
Order Granting All Other Required Approvals )  
And Relief )**

**DIRECT TESTIMONY OF**  
**DAVID A. DAVIS**  
**ON BEHALF OF KENTUCKY POWER COMPANY**

**VERIFICATION**

The undersigned, David A. Davis, being duly sworn, deposes and says he is the Manager, Property Accounting Policy and Research that he has personal knowledge of the matters set forth in the forgoing testimony for which he is identified as the witness contained therein is true and correct to the best of his information, knowledge and belief.

*David A. Davis*

\_\_\_\_\_  
David A. Davis

STATE OF OHIO  
  
County of FRANKLIN

)  
) Case No. 2014-00396  
)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by David A. Davis, this the 10<sup>th</sup> day of December, 2014.

*Kathy J. Messer*  
\_\_\_\_\_  
Notary Public

My Commission Expires: August 18, 2017

**DIRECT TESTIMONY OF  
DAVID A. DAVIS ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**EXHIBITS**

|                     |                                      |
|---------------------|--------------------------------------|
| Exhibit DAD-1. .... | David Davis Rate Case Experience     |
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**DIRECT TESTIMONY OF  
DAVID A. DAVIS ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is David A. Davis. My business address is 1 Riverside Plaza, Columbus,  
3 Ohio 43215.

4 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A. I am an employee of American Electric Power Service Corporation (“AEPSC”) a  
6 wholly owned subsidiary of American Electric Power Company, Inc. (“AEP”). My  
7 position is Manager – Property Accounting Policy and Research.

8 My responsibilities include providing the AEP electric operating subsidiaries  
9 with accounting support for regulatory filings, including the preparation of depreciation  
10 studies and testimony. I also monitor regulatory proceedings and legislation for  
11 accounting implications and assist in determining the appropriate regulatory accounting  
12 treatment.

13 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND  
14 BUSINESS EXPERIENCE.**

15 A. I received a Masters Degree in Business Administration from the University of Dayton  
16 in 1988. I also have a Bachelors degree in Business Administration with a major in  
17 accounting from Ohio University that I received in 1976. I am a Certified Public  
18 Accountant (Inactive) in the state of Ohio. In 1980, I was employed by Columbus

1 Southern Power Company (“CSP”), one of the AEP operating companies, as an  
2 accountant. I have held various positions in the Accounting Department including  
3 Special Studies, Reports and Lease Accounting. From 1984 to 1985, I was employed by  
4 Columbia Gas System Service Corporation as a staff auditor, where my responsibilities  
5 included financial and procedural audits of the Columbia Gas Distribution Companies  
6 and other subsidiary companies. From 1986 to present, I have been employed by AEP  
7 at the Service Corporation, CSP or Ohio Power. At AEP, I have held several positions  
8 including Supervisor of Consolidation Accounting, Manager/Supervisor of Property  
9 Accounting (for 16 years) and my current position of Property Accounting Policy and  
10 Research Manager.

11 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY REGULATORY**  
12 **COMMISSIONS?**

13 A. Yes. See Exhibit DAD-1 which details my rate case experience.

14 **Q. HAVE YOU HAD ANY FORMAL TRAINING RELATING TO**  
15 **DEPRECIATION AND UTILITY ACCOUNTING?**

16 A. Yes. I am a former President of the Society of Depreciation Professionals (SDP) and  
17 have completed training offered by the SDP that included Depreciation Basics, Life  
18 Analysis for Valuations, Life and Net Salvage Analysis, and Preparing and Defending a  
19 Depreciation Study. These training classes included an introduction to Plant and  
20 Depreciation Accounting, Data Requirements and Collection, Depreciation Models,  
21 Life Cycle Analysis, Current Regulatory Issues, Actuarial Life Analysis, Net Salvage  
22 Analysis and Simulation Life Analysis. I am a member of the American Institute of

1 Certified Public Accountants and have attended and participated in numerous Edison  
2 Electric Institute Property Accounting and Valuation meetings.

3 In addition, I traveled to Tirana, Albania in 2010 with the USAID program to  
4 provide a presentation to Albanian utility personnel regarding “Depreciation for a  
5 Regulated Utility”.

## II. PURPOSE OF TESTIMONY

### 6 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

7 A. My testimony recommends revised depreciation accrual rates for Kentucky Power  
8 Company’s (“Kentucky Power” or “Company”) electric plant in service based on a  
9 depreciation study for electric utility plant in service at December 31, 2013. Schedules I  
10 and II in the Depreciation Study Report detail the results of the study. The depreciation  
11 rates determined by the study are intended to provide recovery of invested capital, cost  
12 of removal, and credit for salvage over the expected life of the property.

13 The revised depreciation rates are primarily required due to changes in  
14 investment and changes in the expected life and net salvage of Kentucky Power’s  
15 property that takes into account the December 2013 transfer of a 50% undivided interest  
16 in the Mitchell generating station from AEP affiliate Ohio Power Company to Kentucky  
17 Power as approved by the Kentucky Public Service Commission (“Commission”) in  
18 Case No. 2012-00578. In the Stipulation and Settlement Agreement attached to that  
19 case, the Commission ordered that Kentucky Power would use current Ohio Power  
20 Company depreciation rates for Mitchell Units 1 and 2 until such rates are changed in  
21 the Base Rate Case. Consistent with the Stipulation and Settlement Agreement, the



1 Company is proposing a change in the Mitchell Plant's depreciation rates. The  
2 depreciation rate changes are based on my depreciation study which uses 2040 as the  
3 plant's estimated retirement year.

4 The Company is not recommending any revision to Big Sandy Plant's  
5 depreciation rates in this filing since Unit 2 is planned for retirement at the end of May  
6 2015 and the coal related portions of Unit 1 are planned for retirement in April 2016.

7 The order from the Mitchell transfer Case No. 2012-00578 allows Kentucky  
8 Power to recover the coal-related retirement costs of Big Sandy Unit 1, the retirement  
9 costs of Big Sandy Unit 2 and other site related retirement costs that will no longer be  
10 used. The costs are further detailed in the testimony of Company Witness Yoder. New  
11 depreciation rates will be required for Big Sandy Unit 1 after it is repowered to use  
12 natural gas in 2016.

13 **Q. ARE YOU SPONSORING ANY EXHIBITS IN THIS PROCEEDING?**

14 A. Yes. I am sponsoring EXHIBIT DAD-1 which details my rate case experience,  
15 EXHIBIT DAD-2 which includes my depreciation study report and EXHIBIT DAD-3  
16 which is a copy of the Sargent & Lundy dismantling study performed for Mitchell Plant  
17 to provide terminal removal costs for the Mitchell units.

18 **Q. WERE THESE EXHIBITS PREPARED OR ASSEMBLED BY YOU OR**  
19 **UNDER YOUR DIRECT SUPERVISION?**

20 A. Yes.

### **III. DEFINITION OF DEPRECIATION**

1 **Q. PLEASE EXPLAIN THE DEFINITION OF DEPRECIATION AS USED IN**  
2 **PREPARING YOUR DEPRECIATION STUDY.**

3 A. The definition of depreciation that I used in preparing the study is the same that is used  
4 by the FERC and the National Association of Regulatory Utility Commissioners. That  
5 definition is:

6 Depreciation, as applied to depreciable electric plant, means the loss in  
7 service value not restored by current maintenance, incurred in connection  
8 with the consumption or prospective retirement of electric plant in the course  
9 of service from causes which are known to be in current operation and  
10 against which the utility is not protected by insurance. Among the causes to  
11 be given consideration are wear and tear, decay, action of the elements,  
12 inadequacy, obsolescence, changes in the art, changes in demand and  
13 requirements of public authorities.

14 Service value means the difference between original cost and the net salvage  
15 value (net salvage value means the salvage value of the property retired less  
16 the cost of removal) of the electric plant.

### **IV. DEPRECIATION STUDY OVERVIEW**

17 **Q. HOW DO THE DEPRECIATION RATES AND ANNUAL ACCRUALS**  
18 **CALCULATED IN YOUR 2013 DEPRECIATION STUDY COMPARE WITH**  
19 **KENTUCKY POWER'S CURRENT RATES AND ACCRUALS?**

20 A. A comparison of Kentucky Power's current rates and accruals and the study rates and  
21 accruals is shown below based on total Company depreciable plant balances at  
22 December 31, 2013:

**Table 1 - Depreciation Rates and Accruals**  
Based on Depreciable Plant In Service at December 31, 2013

| <u>Functional Plant Group</u> | <u>Existing</u> |                 | <u>Study</u> |                 | <u>Difference</u> |
|-------------------------------|-----------------|-----------------|--------------|-----------------|-------------------|
|                               | <u>Rates</u>    | <u>Accruals</u> | <u>Rates</u> | <u>Accruals</u> |                   |
| Steam Production (1)          | 3.80%           | 54,851,796      | 3.36%        | 48,418,617      | (6,433,179)       |
| Transmission                  | 1.71%           | 8,478,288       | 2.66%        | 13,169,805      | 4,691,517         |
| Distribution                  | 3.52%           | 24,312,736      | 4.48%        | 30,971,933      | 6,659,197         |
| General                       | 2.54%           | 858,462         | 4.42%        | 1,492,241       | 633,779           |
| Total Depreciable Plant       | 3.32%           | 88,501,282      | 3.50%        | 94,052,596      | 5,551,314         |

Note: (1) Includes Big Sandy and Mitchell plants. The Company is not recommending a change in depreciation rates for Big Sandy Plant due to the planned retirement of Unit 2 in 2015 and the coal related portions of Unit 1 in 2016.

1                   Based on results of the depreciation study which includes a 50% share of the  
2                   Mitchell Generating Station I recommend an increase in annual depreciation expense  
3                   due to a change in depreciation rates of \$5,551,314 using depreciable plant balances at  
4                   December 31, 2013. The changes in depreciation rates are necessary because of  
5                   changes in average service lives and the net salvage estimates used to calculate the  
6                   Company's depreciation rates.

7                   Kentucky Power's current depreciation rates (excluding Mitchell Plant) are  
8                   based on a 1991 settlement agreement in Case No. 91-066 which were made effective  
9                   on April 1, 1991. The Mitchell Plant's depreciation rates were set in Case No. 2012-  
10                  00578 where the Commission ordered Kentucky Power to use Ohio Power Company  
11                  depreciation rates for Mitchell Units 1 and 2 until such rates changed in a future Base  
12                  Rate Case.

**V. STUDY METHODS AND PROCEDURES**

1 **Q. PLEASE BRIEFLY DESCRIBE THE METHODS AND PROCEDURES USED**  
2 **IN THE STUDY.**

3 A. The methods and procedures are fully described in my depreciation study report labeled  
4 Exhibit DAD-2. In summary, all of the property included in the depreciation report was  
5 considered on a group plan. Under the group plan, depreciation is accrued upon the  
6 basis of the original cost of all property included in each depreciable plant group instead  
7 of individual items of property. Upon retirement of any depreciable property, its full  
8 cost, less any net salvage realized, is charged to the accumulated provision for  
9 depreciation regardless of the age of the particular item retired. Also under this plan, the  
10 dollars in each primary plant account are considered as a separate group for depreciation  
11 accounting purposes and an annual depreciation rate for each account is determined.  
12 In this study, the plant groups consisted of the individual primary plant accounts for  
13 Production, Transmission, Distribution and General Plant property. The depreciation  
14 rates were calculated by using the Average Remaining Life Method, which is the same  
15 method that was used to calculate Kentucky Power's current depreciation rates. The  
16 Average Remaining Life Method recovers the original cost of the plant, adjusted for net  
17 salvage, less accumulated depreciation over the average remaining life of the plant.

18 Mitchell Plant original cost, accumulated depreciation and terminal net salvage  
19 was included at Kentucky's 50% share at December 31, 2013. The Big Sandy amounts  
20 listed on Schedules I and II in the Depreciation Study Report are also at December 31,  
21 2013 but due to the planned retirement of Big Sandy Unit 2 in 2015 and the coal related

1 portions of Big Sandy Unit 1 in 2016, new depreciation rates are not recommended for  
2 Big Sandy Plant in this depreciation study.

3 A separate depreciation rate was calculated for Mitchell Plant's SCR catalyst  
4 since AEP Generation determined that the catalyst has a shorter life than other plant  
5 assets (8 years).

6 The average service lives for the Company's Transmission, Distribution and  
7 General Plant were determined using statistical procedures similar to those used in the  
8 insurance industry in studies of human mortality. The historical retirement experience  
9 of property groups was studied and retirement characteristics of the property were  
10 described using the Iowa-type retirement dispersion curves.

11 Net salvage for each property group was determined based on actual historical  
12 experience for Production, Transmission, Distribution and General Plant accounts. In  
13 addition the depreciation rate calculation for Mitchell Plant includes a terminal net  
14 salvage amount. To determine this amount, Kentucky Power commissioned the  
15 independent engineering firm, Sargent & Lundy ("S&L"), to prepare a conceptual  
16 dismantling cost estimate to be included in Kentucky Power's depreciation rates for  
17 Mitchell Plant.

18 **Q. WHY DID KENTUCKY POWER RETAIN S&L TO PERFORM A**  
19 **DISMANTLING STUDY OF THE MITCHELL PLANT'S GENERATING**  
20 **UNITS?**

21 A. The S&L dismantling study provides estimated removal cost and salvage amounts  
22 specific to Mitchell Plant and is therefore a reasonable method to arrive at future

1 expected terminal net salvage amounts. A copy of the S&L dismantling study is  
2 included with my testimony as EXHIBIT DAD-3.

3 **Q. WERE THERE ANY ADJUSTMENTS MADE TO THE RESULTS OF THE**  
4 **MITCHELL PLANT'S DISMANTLING STUDY WHEN ADDING THE S&L**  
5 **NET SALVAGE AMOUNTS TO THE DEPRECIATION STUDY?**

6 A. Yes. S&L provided terminal net salvage amounts, excluding any asbestos, ash pond or  
7 landfill type removal costs, in 2012 dollars. I applied a 2.35% escalation rate factor to  
8 the net salvage amounts provided by the S&L study to determine the terminal net  
9 salvage amount at 2040 the estimated retirement date for the Mitchell Plant. The  
10 terminal net salvage amount after escalation was used in the calculation of net salvage  
11 percentages in the depreciation study.

12 **Q. WHAT IS THE SOURCE OF THE 2.35% ESCALATION RATE USED FOR**  
13 **THIS PURPOSE?**

14 A. The 2.35% escalation rate was taken from a publication titled "The Livingston Survey"  
15 dated December 12, 2013. The Livingston Survey is published by the research  
16 department of the Federal Reserve Bank of Philadelphia and provides a long term  
17 outlook projecting an escalation rate for a 10 year period.

18 **Q. WHY DID S&L'S MITCHELL PLANT DISMANTLING STUDY ESTIMATE**  
19 **EXCLUDE THE COST TO REMOVE ASBESTOS AND TO COVER ASH**  
20 **PONDS AND LANDFILLS?**

21 A. The cost to remove asbestos and to cover ash ponds and landfills are included in the  
22 Company's accounting for asset retirement obligations (ARO) and the depreciation and

1 accretion on these ARO's are incorporated in the cost of service outside of the  
2 depreciation study.

3 **Q. WOULD YOU PLEASE EXPLAIN WHY YOU CALCULATED A SEPARATE**  
4 **DEPRECIATION RATE FOR MITCHELL PLANT'S SELECTIVE**  
5 **CATALYTIC REDUCTION (SCR) CATALYST?**

6 A. Yes. AEP Engineering determined that the depreciable life of the Mitchell Plant SCR  
7 catalyst was approximately 8 years. Since the life of the catalyst is much shorter than  
8 the remaining life of the plant, it is more appropriate to depreciate it over a shorter life  
9 than the remaining life of the plant.

10 **Q. DO YOU HAVE ANY RECOMMENDATIONS REGARDING THE**  
11 **DEPRECIATION RATES CALCULATED BY THE DEPRECIATION STUDY?**

12 A. Yes. Kentucky Power currently applies depreciation rates and maintains accumulated  
13 depreciation by functional plant classification (Production, Transmission, Distribution  
14 and General). I recommend that the Commission authorize Kentucky Power to adopt  
15 and apply the proposed depreciation accrual rates at the primary plant account level, and  
16 that the accumulated depreciation by primary plant account be established as of the date  
17 the revised depreciation rates become effective. Maintaining accumulated depreciation  
18 at the primary account level will facilitate monitoring depreciation accruals and actual  
19 salvage and removal activity for future depreciation study purposes.

## **VI. STUDY RESULTS**

20 **Q. WOULD YOU PLEASE EXPLAIN THE RESULTS OF YOUR STUDY FOR**  
21 **STEAM PRODUCTION PLANT?**

1 A. Yes. The composite depreciation rate for Steam Production Plant decreased from  
2 3.80% to 3.36% primarily due to the change in Mitchell Plant's estimated retirement  
3 year to 2040 from 2031. The current Mitchell Plant depreciation rates (those used by  
4 Ohio Power Company at the December 31, 2013 transfer date) are based on a 2031  
5 retirement date.

6 **Q. WOULD YOU PLEASE EXPLAIN THE RESULTS OF YOUR STUDY FOR**  
7 **TRANSMISSION PLANT?**

8 A. Yes. The depreciation rate for Transmission Plant increased from 1.71% to 2.66% due  
9 to increases in the net salvage ratio for 5 accounts (accounts 352, 353, 354, 355, and  
10 356) and decreases in the average service life for two accounts (354, and 355). These  
11 changes were partially offset by an increase in average service life for account 352.

12 **Q. WOULD YOU PLEASE EXPLAIN THE RESULTS OF YOUR STUDY FOR**  
13 **DISTRIBUTION PLANT?**

14 A. Yes. The depreciation rate for Distribution Plant increased from 3.52% to 4.48% due to  
15 increases in the net salvage ratio for nine accounts (accounts 361, 362, 364, 365, 367,  
16 368, 369, 371 and 373) and a decrease in the average service life for one account  
17 (account 370). The increase was partially offset by an increase in average service life  
18 for five accounts (accounts 361, 362, 366, 369, and 373) and a decrease in the net  
19 salvage ratio for account 370.

20 **Q. WOULD YOU PLEASE EXPLAIN THE RESULTS OF YOUR STUDY FOR**  
21 **GENERAL PLANT?**



1 A. Yes. The depreciation rate for General Plant increased from 2.54% to 4.42% due to an  
2 increase in the net salvage ratio for three accounts (391, 394 and 398) and a reduction in  
3 the average service life for account 390. The increase was partially offset by a decrease  
4 in the net salvage ratio for account 397.

5 **Q. DO YOU SPONSOR ANY ADJUSTMENTS IN THIS CASE?**

6 A. Yes, I sponsor three adjustments in this case. Adjustment No. 37 annualizes  
7 depreciation expense at September 30, 2014 for Transmission, Distribution and General  
8 property using the depreciation rates recommended by the depreciation study and  
9 calculates an adjustment that reflects the difference between the actual twelve month  
10 ended September 30, 2014 book depreciation and the annualized amount. Adjustment  
11 No. 39 annualizes depreciation expense at September 30, 2014 for Mitchell Plant using  
12 depreciation rates recommended by the depreciation study and calculates an adjustment  
13 that reflects the difference between the actual twelve month ended September 30, 2014  
14 book depreciation and the annualized September amount. Adjustment No. 40  
15 annualizes depreciation expense at September 30, 2014 for Big Sandy Plant's remaining  
16 plant in service after the retirement of Big Sandy Unit 2 and the coal related portions of  
17 Unit 1 using current depreciation rates (which are the rates recommended by the  
18 depreciation study) and calculates an adjustment that reflects the difference between the  
19 actual twelve month ended September 30, 2014 book depreciation and the annualized  
20 amount. The support for these adjustments is provided in Section V, Exhibit 2.

21 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

22 A. Yes.

| <b>RATE CASE EXPERIENCE OF DAVID A. DAVIS</b> |             |  |                                     |   |   |
|---|-------------|--|-------------------------------------|---|---|
| <b>No.</b>                                    | <b>Year</b> | <b>Company</b>   | <b>Commission</b>                   | <b>Case, Cause or Docket No.</b>          | <b>Items Provided/Filed</b>                       |
| 1.  | 2006        | Public Service of Oklahoma                             | Oklahoma Corporation Commission     | Cause No. PUD 200600285                   | Oral and written Testimony and Depreciation Study |
| 2.  | 2007        | Southwestern Electric Power Company                    | Louisiana Public Service Commission | Docket No. U-23327, Subdocket A           | Provided a Depreciation Study for Generation      |
| 3.  | 2008        | Public Service of Oklahoma                             | Oklahoma Corporation Commission     | Cause No. PUD 200800144                   | Oral and written Testimony and Depreciation Study |
| 4.  | 2009        | Southwestern Electric Power Company                    | Arkansas Public Service Commission  | Docket No. 09-008-U                       | Filed written Testimony and Depreciation Study    |
| 5.  | 2009        | Southwestern Electric Power Company                    | Public Utility Commission of Texas  | Docket No. 37364                          | Filed written Testimony and Depreciation Study    |
| 6.  | 2010        | Public Service of Oklahoma                             | Oklahoma Corporation Commission     | Cause No. PUD 201000050                   | Filed written Testimony and Depreciation Study    |
| 7.  | 2011        | Columbus Southern Power Company and Ohio Power Company | Public Utility Commission of Ohio   | Case Nos. 11-351-EL-AIR and 11-352-EL-AIR | Filed written Testimony and Depreciation Study    |
| 8.  | 2011        | Southwestern Electric Power Company                    | Louisiana Public Service Commission | Docket No. U-23327, Subdocket F           | Provided a Depreciation Study for Generation      |
| 9.  | 2011        | Indiana Michigan Power Company                         | Michigan Public Service Commission  | Case No. U-16801                          | Oral and written Testimony and Depreciation Study |

| <b>RATE CASE EXPERIENCE OF DAVID A. DAVIS</b> |             |                                     |  |                                  |   |
|---|-------------|-------------------------------------|--|----------------------------------|---|
| <b>No.</b>                                    | <b>Year</b> | <b>Company</b>                      | <b>Commission</b>                          | <b>Case, Cause or Docket No.</b> | <b>Items Provided/Filed</b>   |
| 10.   | 2011        | Indiana Michigan Power Co.          | Indiana Utility Regulatory Commission      | Cause No. 44075                  | Testified and filed Testimony and Depreciation Study  |
| 11  | 2012        | Southwestern Electric Power Company | Public Utility Commission of Texas         | Docket No. 40443                 | Oral and written Testimony and Depreciation Study   |
| 12  | 2012        | Transource Missouri, LLC            | Federal Energy Regulatory Commission       | Docket No. ER12-2554-000         | Testimony and Depreciation Study  |
| 13  | 2012        | Appalachian Power Company           | Federal Energy Regulatory Commission       | Docket No. ER13-0539-000         | Testimony and Exhibits – to show how book depreciation is calculated in formula rates                     |
| 14  | 2013        | Appalachian Power Company           | Virginia State Corporation Commission      | Case No. PUE-2012-00141          | Oral and written rebuttal Testimony in asset transfer case for Mitchell Plant and OPCo's share of Amos U3 |
| 15  | 2013        | Indiana Michigan Power Company      | Michigan Public Service Commission         | Case No. U-17524                 | Filed a Depreciation Study for Steam Generation Plant   |
| 16  | 2014        | Appalachian Power Company           | Virginia State Corporation Commission      | Case No. PUE-2014-00026          | Filed written Testimony and Depreciation Study  |
| 17  | 2014        | Appalachian Power Company           | Public Service Commission of West Virginia | Case No. 14-0546-E-PC            | Filed rebuttal Testimony in asset transfer case for   |

| <b>RATE CASE EXPERIENCE OF DAVID A. DAVIS</b> |             |                                |                                       |                                  |   |
|---|-------------|--------------------------------|---------------------------------------|----------------------------------|---|
| <b>No.</b>                                    | <b>Year</b> | <b>Company</b>                 | <b>Commission</b>                     | <b>Case, Cause or Docket No.</b> | <b>Items Provided/Filed</b>                           |
|   |             |                                |                                       |                                  | Mitchell Plant  |
| 18  | 2014        | Transource Wisconsin, LLC      | Federal Energy Regulatory Commission  | Docket No. ER15-13-000           | Testimony and Depreciation Study                      |
| 19  | 2014        | Indiana Michigan Power Company | Indiana Utility Regulatory Commission | Cause No. 44555                  | Filed a Depreciation Study for Steam Generation Plant |

**KENTUCKY POWER COMPANY**

**DEPRECIATION STUDY REPORT**

**OF**

**ELECTRIC PLANT IN SERVICE**

**AT**

**DECEMBER 31, 2013**

## DEPRECIATION STUDY REPORT

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## **I. INTRODUCTION**

This report presents the results of a depreciation study of Kentucky Power Company's (KPCo) depreciable electric utility plant in service at December 31, 2013. The study was prepared by David A. Davis, Manager – Property Accounting Policy and Research at American Electric Power Service Corporation (AEPSC). The purpose of the depreciation study was to develop appropriate annual depreciation accrual rates for each of the primary plant accounts that comprise the functional groups for which KPCo computes its annual depreciation expense.

The recommended depreciation rates are based on the Average Remaining Life Method of computing depreciation. Further explanation of this method is contained in Section II of this report.

The definition of depreciation used in my Study is the same as that used by the Federal Energy Regulatory Commission (FERC) and the National Association of Regulatory Utility Commissioners:

"Depreciation, as applied to depreciable electric plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of electric plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities."

"Service value means the difference between original cost and the

net salvage value (net salvage value means the salvage value of the property retired less the cost of removal) of the electric plant." (FERC Accounting and Reporting Requirements for Public Utilities and Licensees, ¶15.001.)

Schedule I of this report shows the recommended depreciation accrual rates by primary plant accounts and composited to functional plant classifications. Schedule II compares depreciation expense using rates approved by the Commission and rates recommended by the depreciation study. Schedule III shows a comparison of the current mortality characteristics that were used to compute the recommended depreciation rates and the mortality characteristics used to determine the existing depreciation rates and accruals for Transmission, Distribution and General Plant Functions. A comparison of KPCo's current functional group composite depreciation rates and accruals to recommended functional group rates and accruals based on December 31, 2013 depreciable plant balances follows:

**Table 1 - Depreciation Rates and Accruals**  
Based on Depreciable Plant In Service at December 31, 2013

| <u>Functional Plant Group</u> | <u>Existing</u> |                 | <u>Study</u> |                 | <u>Difference</u> |
|-------------------------------|-----------------|-----------------|--------------|-----------------|-------------------|
|                               | <u>Rates</u>    | <u>Accruals</u> | <u>Rates</u> | <u>Accruals</u> |                   |
| Steam Production (1)          | 3.80%           | 54,851,796      | 3.36%        | 48,418,617      | (6,433,179)       |
| Transmission                  | 1.71%           | 8,478,288       | 2.66%        | 13,169,805      | 4,691,517         |
| Distribution                  | 3.52%           | 24,312,736      | 4.48%        | 30,971,933      | 6,659,197         |
| General                       | 2.54%           | 858,462         | 4.42%        | 1,492,241       | 633,779           |
| Total Depreciable Plant       | 3.32%           | 88,501,282      | 3.50%        | 94,052,596      | 5,551,314         |

Note: (1) Includes Big Sandy and Mitchell plants. The Company is not recommending a change in depreciation rates for Big Sandy Plant due to the planned retirement of Unit 2 in 2015 and the coal related portions of Unit 1 in 2016.



Based on Total Company Depreciable Plant In-Service as of December 31, 2013, I am recommending an increase in depreciation rates that result in an increase in annual depreciation expense of \$5,551,314. The depreciation rate changes are necessary because of changes in average service lives and net salvage estimates used to calculate KPCo's recommended depreciation rates that takes into account the December 31, 2013 transfer of a 50% undivided interest in the Mitchell generating station from AEP affiliate Ohio Power Company as approved by the Kentucky Public Service Commission (or Commission) in Case No. 2012-00578. KPCo's current approved depreciation rates with the exception of Mitchell Plant rates are based on a 1991 settlement agreement in Case No. 91-066 and were made effective on April 1, 1991. The Stipulation and Settlement Agreement in Case No. 2012-00578 ordered Kentucky Power to use the current Ohio Power Company depreciation rates for Mitchell Plant until such rates are changed in a base rate case.

## **II. DISCUSSION OF METHODS AND PROCEDURES USED IN THE STUDY**

### 1. Group Method

All of the depreciable property included in this report was considered on a group plan. Under the group plan, depreciation expense is accrued upon the basis of the original cost of all property included in each depreciable plant account. Upon retirement of any depreciable property, its full cost, less any net salvage realized, is charged to the accrued depreciation reserve regardless of the age of the particular item retired. Also, under this plan, the dollars in each primary plant account are considered as a separate group for depreciation accounting purposes and an annual depreciation rate for each account is determined. The annual accruals by primary account were then summed, to arrive at the total accrual for each functional group. The total accrual divided by the original cost yields the functional group accrual rate.

2. Annual Depreciation Rates Using the Average Remaining Life Method

KPCo's current depreciation rates are based on the Average Remaining Life Method. The Average Remaining Life Method recovers the original cost of the plant, adjusted for net salvage, less accumulated depreciation, over the average remaining life of the plant. By this method, the annual depreciation rate for each account is determined on the following basis:

Annual  
Depreciation Expense =

$$\frac{(\text{Orig. Cost}) (\text{Net Salvage Ratio}) - \text{Accumulated Depreciation}}{\text{Average Remaining Life}}$$

Annual  
Depreciation Rate =  $\frac{\text{Annual Depreciation Expense}}{\text{Original Cost}}$

3. Methods of Life Analysis

Depending upon the type of property and the nature of the data available from the property accounting records, one of three life analyses was used to arrive at the historically realized mortality characteristics and service lives of the depreciable plant investments. These methods are identified and described as follows:

Life Span Analysis

The life span analysis was employed for Mitchell Plant. The life-span method of analysis is particularly suited to specific location property, such as generating plants, where all of the surviving investments are likely to be retired in total at a future date. The key elements in the life span

analysis are the age of the surviving investments, the projected retirement date of the facility and the expected interim retirements. Interim retirements are those retirements that are expected to occur between the date of the depreciation study and the expected final retirement date of the generating plant. Examples of interim retirements include fans, pumps, motors, a set of boiler tubes, a turbine rotor, etc. The interim retirement history for each primary production plant account was analyzed and the results of those analyses were used to project future interim retirements. The age of Mitchell Plant's surviving investments at December 31, 2013 was obtained from the accounting records of affiliate Ohio Power Company (OPCo). American Electric Power Service Corporation (AEPSC) provided the retirement date used in the life-span analysis for Mitchell Plant.

The Company is not recommending any revision to Big Sandy Plant's depreciation rates in this filing since Unit 2 is planned for retirement at the end of May 2015 and the coal related portions of Unit 1 are planned for retirement in April 2016. KPCo expects to repower Big Sandy Unit 1 to use natural gas in 2016.

The order in the Mitchell transfer Case No. 2012-00578 allows Kentucky Power to recover the coal-related retirement costs of Big Sandy Unit 1, the retirement costs of Big Sandy Unit 2 and other site related retirement costs that will not continue in use. New depreciation rates will be required for Big Sandy Unit 1 after it is repowered to use natural gas in 2016.

#### Steam Production Plant

At December 31<sup>st</sup>, 2013, KPCo's depreciable investment in Steam

Production Plant includes the Big Sandy Generating plant and a 50% undivided interest in Mitchell Generation Plant. The Big Sandy plant is located highway 23 near Louisa, Kentucky and includes two generating units. The Mitchell Plant is located on the Ohio River near Moundsville, West Virginia and also consists of two generating units. All generating units at the Big Sandy and Mitchell plants are currently coal fired.

The generating units and their capacities are as follows (also shown on Schedule IV – Estimated Generation Plant Retirement Dates):

| <u>Plant</u> | <u>Unit</u> | <u>Rating</u> | <u>Commercial Operating Date</u> |
|--------------|-------------|---------------|----------------------------------|
| Big Sandy    | 1           | 260 MW        | 1963                             |
| Big Sandy    | 2           | 800 MW        | 1969                             |
| Mitchell     | 1           | 770 MW        | 1971                             |
| Mitchell     | 2           | 790 MW        | 1971                             |

AEPSC evaluated each of the generating units and determined the following retirement dates for the units:

| <u>Plant</u>   | <u>Unit</u> | <u>Retirement Date</u>            |
|----------------|-------------|-----------------------------------|
| Big Sandy      | 2           | 2015                              |
| Big Sandy      | 1           | 2016 coal related portion         |
| Big Sandy      | 1           | 2031 repowered to use natural gas |
| Mitchell Plant | 1,2         | 2040                              |

Since KPCo's last depreciation study (property investment dated December 31, 2008), AEP has reevaluated the expected retirement dates for its generation plant including Big Sandy Units 1-2. The reevaluation for these two Big Sandy units indicated that their current estimated retirement

dates should be 2015 for Big Sandy Unit 2, 2016 for the coal related portion of Big Sandy Unit 1 and 2031 for Big Sandy Unit 1 after it is repowered to use natural gas. AEP previously estimated individual unit retirement dates of 2023 for Unit 1 and 2029 for Unit 2. According to AEP, the earlier Big Sandy Unit 2 and the coal related portion of Unit 1 retirement dates are because it is not economically feasible to equip the units with necessary environmental controls, not because they have reached the end of their service lives.

Current plans are for the Mitchell Plant to operate for a total life of 69 years or until 2040.

#### Actuarial Analysis – Transmission, Distribution and General Plant

This method of analyzing past experience represents the application to industrial property of statistical procedures developed in the life insurance field for investigating human mortality. It is distinguished from other methods of life estimation by the requirement that it is necessary to know the age of the property at the time of its retirement and the age of survivors, or plant remaining in service; that is, the installation date must be known for each particular retirement and for each particular survivor.

The application of this method involves the statistical procedure known as the "annual rate method" of analysis. This procedure relates the retirements during each age interval to the exposures at the beginning of that interval, the ratio of these being the annual retirement ratio. Subtracting each retirement ratio from unity yields a sequence of annual survival ratios from which a survivor curve can be determined. This is

accomplished by the consecutive multiplication of the survivor ratios. The length of this curve depends primarily upon the age of the oldest property. Normally, if the period of years from the inception of the account to the time of the study is short in relation to the expected maximum life of the property, an incomplete or stub survivor curve results.

While there are a number of acceptable methods of smoothing and extending this stub survivor curve in order to compute the area under it from which the average life is determined, the well-known Iowa Type Curve Method was used in this study.

By this procedure, instead of mathematically smoothing and projecting the stub survivor curve to determine the average life of the group, it was assumed that the stub curve would have the same mortality characteristics as the type curve selected. The selection of the appropriate type curve and average life is accomplished by plotting the stub curve, superimposing on it Iowa curves of the various types and average lives drawn to the same scale, and then determining which Iowa type curve and average life best matches the stub.

The Actuarial Method of Life Analysis was used for the following accounts:

- 352.0 Transmission Structures & Improvements
- 353.0 Transmission Station Equipment
- 361.0 Distribution Structures & Improvements
- 362.0 Distribution Station Equipment
- 390.0 General Structures & Improvements

The result of the actuarial analysis for the above accounts is detailed in the depreciation study work papers.

#### Simulated Plant Record Analysis – Transmission and Distribution Plant

The “Simulated Plant Record” (SPR) method designates a class of statistical techniques that provide an estimate of the age distribution, mortality dispersion and average service life of property accounts whose recorded history provides no indication of the age of the property units when retired from service. For each such account, the available property records usually reveal only the annual gross additions, annual retirements and balances with no indication of the age of either plant retirements or annual plant balances. For this study, the “Balances method” of analysis was used.

The SPR Balances Method is a trial and error procedure that attempts to duplicate the annual balance of a plant account by distributing the actual annual gross additions over time according to an assumed mortality distribution. Specifically, the dollars remaining in service at any date are estimated by multiplying each year’s additions by the successive proportion surviving at each age as given by the assumed survivor characteristics. For a given year, the balance indicated is the accumulation of survivors from all vintages and this is compared with the actual book balance. This process is repeated for a different survivor curves and average life combinations until a pattern is discovered which produces a series of “simulated balances” most nearly equaling the actual balances shown in a company’s books.

This determination is based on the distribution producing the minimum sum of squared differences between the simulated balance and the actual balances over a test period of years.

The iterative nature of the simulated methods makes them ideally suited for computerized analysis. For each analysis of a given property account, the computer program provides a single page summary containing the results of each analysis indicating the "best fit" based on criteria selected by the user.

The results of my analysis using the Balance Method is shown in the depreciation study work papers. The analysis also shows the value of the Index of Variation of the difference that is calculated according to the the Balances Method where a lower value for the Index of Variation indicates better agreement with the actual data.

The SPR Method of Life Analysis was utilized for the following accounts:

- 354.0 Transmission Towers & Fixtures
- 355.0 Transmission Poles & Fixtures
- 356.0 Transmission Overhead Conductor & Devices
- 364.0 Distribution Poles, Towers & Fixtures
- 365.0 Distribution OH Conductor & Devices
- 366.0 Distribution Underground Conduit
- 367.0 Distribution Underground Conductor & Devices
- 368.0 Distribution Line Transformers
- 369.0 Distribution Services
- 370.0 Distribution Meters



371.0 Installation on Customers Premises

373.0 Street Lighting & Signal Systems

### Vintage Year Accounting – General Equipment

In 1998, the Company began using a vintage year accounting method for general plant accounts 391 to 398 in accordance with Federal Energy Regulatory Commission Accounting Release Number 15 (AR-15). This accounting method requires the amortization of vintage groups of property over their useful lives. AR-15 also requires that property be retired when it meets its average service life.

As a result, my recommendation for these accounts is that the current useful life approved by the Commission be retained and used to continue amortization of the account balances.

#### 4. Final Selection of Average Life and Curve Type

The final selection of average life and curve type for each depreciable plant account analyzed by the Actuarial and SPR Methods was primarily based on the results of the mortality analyses of past retirement history.

### **III. NET SALVAGE**

#### 1. Net Salvage - Steam Production Plant

The net salvage analysis for steam production plant included a review of the plant's experienced functional interim retirement, salvage and removal history for the period 2001-2013. No interim retirements were estimated for Big Sandy Plant in this depreciation study since Unit 2 is estimated to retire in 2015, the coal

related portions of Unit 1 are estimated to retire in 2016 and the repowered Unit 1 (to use natural gas) is expected to retire in 2031.

While a standard type of analysis was used by the depreciation study to determine the net salvage characteristics applicable to interim retirements for the plants, the most significant net salvage amounts for generating plants occurs at the end of their life. Therefore, to assist in establishing total net salvage applicable to Big Sandy and Mitchell plants, the Company contracted with Sargent & Lundy (S&L) to prepare conceptual demolition cost estimates. The S&L cost estimates to demolish the plants are based on current (2013) price levels which were inflated to retirement dates in the depreciation study. These estimates were incorporated into the calculation of a net salvage ratio for Steam Production Plant. S&L's demolition costs do not include Asset Retirement Obligation (ARO) amounts associated with the removal of asbestos or any cost associated with the final disposition of Big Sandy or Mitchell Plant landfills and ash ponds. The costs to remove asbestos and cover ash ponds are included separately in the cost of service through the accounting for asset retirement obligations.

## 2. Net Salvage – Transmission, Distribution and General Plant

The net salvage percentages used in this report for Transmission, Distribution and General Plant are expressed as percent of original cost and are based on the Company's experience combined with the judgment of the analyst. KPCo maintains salvage and removal costs in its depreciation ledger at the functional plant level, rather than by primary plant accounts. To determine gross salvage, gross removal and net salvage percentages for individual plant accounts, original cost retirements, salvage and removal were taken from the Company's account history in its PowerPlant software which detailed these

amounts by account for the period 2000 to 2013. Gross salvage and cost of removal percentages were calculated using the data from this fourteen year time period for each account. The salvage and removal percentages for each account were then netted to determine a net salvage percentage for each account.

The net salvage percents were converted to net salvage ratios (1 minus the net salvage percentage) and appear in Column IV on Schedule I and were used to determine the total amount to be recovered through depreciation. The same net salvage was also reflected in the determination of the calculated depreciation requirement, which was used to allocate accumulated depreciation at the functional group to the accounts comprising each group.

5. Net Salvage – Ratios

The net salvage ratios shown on Schedule I of this report may be explained as follows:

- a. Where the ratio is shown as unity (1.00), it was assumed that the net salvage in that particular account would be zero.
- b. Where the ratio is less than unity, it was assumed that the salvage exceeded the removal costs. For example, if the net salvage were 20%, the net salvage ratio would be expressed as .80.
- c. Where the ratio is greater than unity, it was assumed that the salvage was less than the cost of removal. For example, if the net salvage were minus 5%, the net salvage ratio would be expressed as 1.05.

**IV. CALCULATION OF DEPRECIATION REQUIREMENT AT  
DECEMBER 31, 2013**

The accumulated depreciation by functional group was allocated to individual plant accounts based on the calculation of a depreciation requirement (theoretical reserve) for each plant account using the average service life, curve type and net salvage amount recommended in this study.

**V. STUDY RESULTS**

Production, Transmission, Distribution and General plant results are discussed below. In addition, Transmission, Distribution and General Plant average service life, retirement dispersion pattern and net salvage percentages used to calculate each primary plant account depreciation rate are shown on Schedule III where the mortality characteristics and net salvage values for the current rates are also shown. The changes to the mortality characteristics follow trends shown by historical retirement experience. Gross salvage and gross cost of removal percentages were largely based on the history of each account for the period 2000-2013.

**Steam Production Plant**

Depreciation rates for Mitchell Plant were calculated by plant account with the expectation that the total cost including net salvage would be recovered by 2040 which is the estimated retirement date for Mitchell Plant. New depreciation rates for Big Sandy Plant were not recommended by the depreciation study. The comparison of steam production depreciation accruals on Schedule II using the currently approved depreciation rates and the study depreciation rates includes

Mitchell Plant. The original cost and accumulated depreciation amounts used for Mitchell Plant are 50% of the plant's original cost and accumulated depreciation on KPCo's books at December 31, 2013.

The decrease in steam production depreciation expense due to a change in depreciation rates was primarily due to the longer life estimate for Mitchell Plant in this proceeding (2040 retirement date) versus a previously estimated 2031 retirement date. The depreciation study doesn't recommend any changes to the Big Sandy Plant's depreciation rates.

Terminal demolition costs are included in the steam production depreciation rates. The estimates of demolition costs were developed by Sargent & Lundy. S&L estimated demolition cost in 2013 dollars for Big Sandy Plant and Mitchell Plant (KPCo's 50% share) was \$28,831,786 and \$21,185,697, respectively.

#### Transmission Plant

The depreciation rates for Transmission plant increased from 1.71% to 2.66% due to increases in the net salvage ratio for five accounts (accounts 352, 353, 354, 355 and 356) and decreases in the average service life for two accounts (accounts 354, and 355). The increase was partially offset by an increase in the average service life for account 352.

#### Distribution Plant

The depreciation rates for Distribution plant increased from 3.52% to 4.48% due to increases in the net salvage ratio for nine accounts (accounts 361, 362, 364, 365, 367, 368, 369, 371 and 373) and a decrease in the average service life for one account (account 370). The increase was partially offset by a decrease in the net salvage ratio for account 370 and by increases in the

average service life for five accounts (accounts 361, 362, 366, 369 and 373).

### General Plant

The depreciation rates for General plant increased from 2.54% to 4.42% due to increases in the net salvage ratio for three accounts (accounts 391, 394 and 398) and a reduction in the average service life for account 390. The increase was partially offset by a decrease in the net salvage ratio for account 397.

**SCHEDULE I – EXPLANATION OF COLUMN HEADINGS**

Schedule I shows the determination of the recommended annual depreciation accrual rate by primary plant accounts by the straight line remaining life method. An explanation of the schedule follows:

|             |   |   |
|-------------|---|---|
| Column I    | - | Account number.   |
| Column II   | - | Account title.  |
| Column III  | - | Original Cost at December 31, 2013  |
| Column IV   | - | Net Salvage Ratio.  |
| Column V    | - | Total to be Recovered (Column III) * (Column IV).   |
| Column VI   | - | Calculated Depreciation Requirement.  |
| Column VII  | - | Allocated Accumulated Depreciation – accumulated depreciation (book reserve) spread to each account on the basis of the Calculated Depreciation Requirement shown in Column VI. |
| Column VIII | - | Remaining to be Recovered (Column V - Column VII).  |
| Column IX   | - | Average Remaining Life.   |
| Column X    | - | Recommended Annual Accrual Amount.  |
| Column XI   | - | Recommended Annual Accrual Percent or Depreciation Rate (Column X/Column III).  |

**KENTUCKY POWER COMPANY**  
**SCHEDULE I - CALCULATION OF DEPRECIATION RATES BY THE REMAINING LIFE METHOD**  
**BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013**  
**AVERAGE LIFE GROUP (ALG) METHOD ACCRUAL RATES**

| Acct. No.                     | Account Title                       | Original Cost        | Net Salvg. Ratio | Total to be Recovered | Calculated Depreciation Requirement | Accumulated Depreciation | Remaining to Be Recovered | Avg. Remain Life | Annual Accrual    |              |
|-------------------------------|-------------------------------------|----------------------|------------------|-----------------------|-------------------------------------|--------------------------|---------------------------|------------------|-------------------|--------------|
|                               |                                     |                      |                  |                       |                                     |                          |                           |                  | Amount            | Percent      |
| (I)                           | (II)                                | (III)                | (IV)             | (V)                   | (VI)                                | (VII)                    | (VIII)                    | (IX)             | (X)               | (XI)         |
| <b>STEAM PRODUCTION PLANT</b> |                                     |                      |                  |                       |                                     |                          |                           |                  |                   |              |
| <b>Big Sandy Plant (1)</b>    |                                     |                      |                  |                       |                                     |                          |                           |                  |                   |              |
| 311                           | Structures & Improvements           | 43,291,665           | (1)              | (1)                   | (1)                                 | 30,726,379               | (1)                       | (1)              | 1,636,425         | 3.78%        |
| 312                           | Boiler Plant Equipment              | 362,456,070          | (1)              | (1)                   | (1)                                 | 177,325,748              | (1)                       | (1)              | 13,700,839        | 3.78%        |
| 312                           | Boiler Plant Equip SCR Catalyst (2) | 8,147,622            | (1)              | (1)                   | (1)                                 | 5,742,300                | (1)                       | (1)              | 389,456           | 4.78%        |
| 314                           | Turbogenerator Units                | 109,522,949          | (1)              | (1)                   | (1)                                 | 61,149,688               | (1)                       | (1)              | 4,139,967         | 3.78%        |
| 315                           | Accessory Electrical Equip.         | 16,513,202           | (1)              | (1)                   | (1)                                 | 12,896,303               | (1)                       | (1)              | 624,199           | 3.78%        |
| 316                           | Misc. Power Plant Equip.            | 8,709,178            | (1)              | (1)                   | (1)                                 | 5,351,493                | (1)                       | (1)              | 329,207           | 3.78%        |
|                               | <b>Total</b>                        | <b>548,640,686</b>   |                  |                       |                                     | <b>293,191,911</b>       |                           |                  | <b>20,820,093</b> | <b>3.79%</b> |
| <b>Mitchell Plant (3)</b>     |                                     |                      |                  |                       |                                     |                          |                           |                  |                   |              |
| 311                           | Structures & Improvements           | 42,000,197           | 1.07             | 44,940,211            | 18,282,178                          | 16,183,402               | 28,756,809                | 25.01            | 1,149,812         | 2.74%        |
| 312                           | Boiler Plant Equipment              | 765,644,984          | 1.07             | 819,240,133           | 245,324,500                         | 238,518,432              | 580,721,701               | 24.25            | 23,947,287        | 3.13%        |
| 312                           | Boiler Plant Equip SCR Catalyst (2) | 8,190,115            | 1.00             | 8,190,115             | 4,023,394                           | 2,378,493                | 5,811,622                 | 4.07             | 1,023,764         | 12.50%       |
| 314                           | Turbogenerator Units                | 53,295,697           | 1.07             | 57,026,396            | 29,106,660                          | 33,613,523               | 23,412,873                | 23.84            | 982,084           | 1.84%        |
| 315                           | Accessory Electrical Equip.         | 17,080,672           | 1.07             | 18,276,319            | 9,466,086                           | 11,043,285               | 7,233,034                 | 25.81            | 280,242           | 1.64%        |
| 316                           | Misc. Power Plant Equip.            | 7,693,412            | 1.07             | 8,231,951             | 3,289,590                           | 3,072,520                | 5,159,431                 | 23.96            | 215,335           | 2.80%        |
|                               | <b>Total</b>                        | <b>893,905,077</b>   | <b>1.07</b>      | <b>955,905,125</b>    | <b>309,492,408</b>                  | <b>304,809,655</b>       | <b>651,095,470</b>        | <b>23.59</b>     | <b>27,598,524</b> | <b>3.09%</b> |
|                               | <b>Total Steam Prod. Plant</b>      | <b>1,442,545,763</b> | <b>0.66</b>      | <b>955,905,125</b>    | <b>309,492,408</b>                  | <b>598,001,566</b>       | <b>651,095,470</b>        | <b>13.45</b>     | <b>48,418,617</b> | <b>3.36%</b> |
| <b>TRANSMISSION PLANT</b>     |                                     |                      |                  |                       |                                     |                          |                           |                  |                   |              |
| 350.1                         | Land Rights                         | 26,456,147           | 1.00             | 26,456,147            | 8,498,622                           | 7,016,166                | 19,439,981                | 50.91            | 381,850           | 1.44%        |
| 352                           | Structures & Improvements           | 6,636,668            | 1.10             | 7,300,335             | 3,172,075                           | 2,618,754                | 4,681,581                 | 33.93            | 137,978           | 2.08%        |
| 353                           | Station Equipment                   | 170,843,671          | 1.03             | 175,968,981           | 34,476,675                          | 28,462,741               | 147,506,240               | 40.20            | 3,669,309         | 2.15%        |
| 354                           | Towers & Fixtures                   | 94,517,543           | 1.10             | 103,969,297           | 56,679,229                          | 46,792,396               | 57,176,901                | 23.20            | 2,464,522         | 2.61%        |
| 355                           | Poles & Fixtures                    | 74,696,720           | 1.61             | 120,261,719           | 28,658,583                          | 23,659,527               | 96,602,192                | 32.75            | 2,949,685         | 3.95%        |
| 356                           | OH Conductor & Devices              | 122,537,908          | 1.27             | 155,623,143           | 70,585,347                          | 58,272,803               | 97,350,340                | 27.32            | 3,563,336         | 2.91%        |
| 357                           | Undergrnd Conduit                   | 11,590               | 1.00             | 11,590                | 4,345                               | 3,587                    | 8,003                     | 23.13            | 346               | 2.99%        |
| 358                           | Undergrnd Conductor                 | 106,066              | 1.00             | 106,066               | 49,568                              | 40,922                   | 65,144                    | 23.44            | 2,779             | 2.62%        |
|                               | <b>Total Transmission Plant</b>     | <b>495,806,313</b>   | <b>1.19</b>      | <b>589,697,279</b>    | <b>202,124,444</b>                  | <b>166,866,896</b>       | <b>422,830,383</b>        | <b>32.11</b>     | <b>13,169,805</b> | <b>2.66%</b> |
| <b>DISTRIBUTION PLANT</b>     |                                     |                      |                  |                       |                                     |                          |                           |                  |                   |              |
| 360.1                         | Land Rights                         | 5,343,520            | 1.00             | 5,343,520             | 1,411,791                           | 1,371,633                | 3,971,887                 | 55.18            | 71,981            | 1.35%        |
| 361                           | Structures & Improvements           | 4,372,006            | 1.12             | 4,896,647             | 1,354,850                           | 1,316,312                | 3,580,335                 | 50.63            | 70,716            | 1.62%        |
| 362                           | Station Equipment                   | 83,664,562           | 1.07             | 89,521,081            | 18,549,279                          | 18,021,648               | 71,499,433                | 26.16            | 2,733,159         | 3.27%        |
| 364                           | Poles, Towers, & Fixtures           | 180,551,331          | 1.30             | 234,716,730           | 68,606,654                          | 66,655,150               | 168,061,580               | 19.82            | 8,479,394         | 4.70%        |
| 365                           | OH Conductor & Devices              | 179,538,721          | 0.94             | 168,766,398           | 33,083,601                          | 32,142,543               | 136,623,855               | 20.90            | 6,537,027         | 3.64%        |
| 366                           | Underground Conduit                 | 6,377,091            | 1.00             | 6,377,091             | 1,464,955                           | 1,423,285                | 4,953,806                 | 34.66            | 142,926           | 2.24%        |
| 367                           | Underground Conductor               | 9,812,956            | 1.13             | 11,088,640            | 1,655,544                           | 1,608,452                | 9,480,188                 | 37.43            | 253,278           | 2.58%        |
| 368                           | Line Transformers                   | 119,012,919          | 1.01             | 120,203,048           | 28,150,578                          | 27,349,840               | 92,853,208                | 19.15            | 4,848,731         | 4.07%        |
| 369                           | Services                            | 53,900,363           | 1.38             | 74,382,501            | 17,054,558                          | 16,569,444               | 57,813,057                | 15.41            | 3,751,658         | 6.96%        |
| 370                           | Meters                              | 24,723,287           | 0.97             | 23,981,588            | 10,273,269                          | 9,981,048                | 14,000,540                | 9.72             | 1,440,385         | 5.83%        |
| 371                           | Installations on Custs. Prem.       | 20,056,550           | 1.32             | 26,474,646            | 7,344,863                           | 7,135,939                | 19,338,707                | 7.95             | 2,432,542         | 12.13%       |
| 373                           | Street Lighting & Signal Sys.       | 3,349,341            | 1.24             | 4,153,183             | 1,231,600                           | 1,196,567                | 2,956,616                 | 14.07            | 210,136           | 6.27%        |
|                               | <b>Total Distribution Plant</b>     | <b>690,702,647</b>   | <b>1.11</b>      | <b>769,905,074</b>    | <b>190,181,542</b>                  | <b>184,771,861</b>       | <b>585,133,213</b>        | <b>18.89</b>     | <b>30,971,931</b> | <b>4.48%</b> |



**KENTUCKY POWER COMPANY**  
**SCHEDULE I - CALCULATION OF DEPRECIATION RATES BY THE REMAINING LIFE METHOD**  
**BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013**  
**AVERAGE LIFE GROUP (ALG) METHOD ACCRUAL RATES**

| Acct. No.                      | Account Title                | Original Cost        | Net Salvg. Ratio | Total to be Recovered | Calculated Depreciation Requirement | Accumulated Depreciation | Remaining to Be Recovered | Avg. Remain Life | Annual Accrual    |              |
|--------------------------------|------------------------------|----------------------|------------------|-----------------------|-------------------------------------|--------------------------|---------------------------|------------------|-------------------|--------------|
|                                |                              |                      |                  |                       |                                     |                          |                           |                  | Amount            | Percent      |
| (I)                            | (II)                         | (III)                | (IV)             | (V)                   | (VI)                                | (VII)                    | (VIII)                    | (IX)             | (X)               | (XI)         |
| <b>GENERAL PLANT</b>           |                              |                      |                  |                       |                                     |                          |                           |                  |                   |              |
| 389.1                          | Land Rights                  | 37,384               | 1.00             | 37,384                | 11,898                              | 6,909                    | 30,475                    | 51.13            | 596               | 1.59%        |
| 390                            | Structures & Improvements    | 19,811,669           | 1.00             | 19,811,669            | 9,535,669                           | 5,537,254                | 14,274,415                | 18.15            | 786,469           | 3.97%        |
| 391                            | Office Furniture & Equipment | 1,683,333            | 1.00             | 1,683,333             | 377,310                             | 219,100                  | 1,464,233                 | 27.15            | 53,931            | 3.20%        |
| 392                            | Transportation Equipment     | 14,768               | 1.00             | 14,768                | 1,742                               | 1,012                    | 13,756                    | 26.46            | 520               | 3.52%        |
| 393                            | Stores Equipment             | 164,548              | 1.00             | 164,548               | 60,496                              | 35,129                   | 129,419                   | 18.97            | 6,822             | 4.15%        |
| 394                            | Tools Shop & Garage Equip.   | 3,553,696            | 1.09             | 3,873,529             | 1,042,908                           | 605,604                  | 3,267,925                 | 21.92            | 149,084           | 4.20%        |
| 395                            | Laboratory Equipment         | 141,765              | 1.00             | 141,765               | 89,929                              | 52,221                   | 89,544                    | 10.97            | 8,163             | 5.76%        |
| 396                            | Power Operated Equipment     | 5,931                | 1.00             | 5,931                 | 2,728                               | 1,584                    | 4,347                     | 13.50            | 322               | 5.43%        |
| 397                            | Communication Equipment      | 7,318,955            | 0.97             | 7,099,386             | 2,872,871                           | 1,668,243                | 5,431,143                 | 13.10            | 414,591           | 5.66%        |
| 398                            | Miscellaneous Equipment      | <u>1,065,616</u>     | 1.03             | <u>1,097,584</u>      | <u>464,407</u>                      | <u>269,676</u>           | <u>827,908</u>            | 11.54            | <u>71,743</u>     | 6.73%        |
| <b>Total General Plant</b>     |                              | <u>33,797,665</u>    | <b>1.00</b>      | <u>33,929,897</u>     | <u>14,459,958</u>                   | <u>8,396,732</u>         | <u>25,533,165</u>         | 17.11            | <u>1,492,241</u>  | 4.42%        |
| <b>Total Depreciable Plant</b> |                              | <u>2,662,852,388</u> |                  | <u>2,349,437,375</u>  | <u>716,258,352</u>                  | <u>958,037,055</u>       | <u>1,684,592,231</u>      |                  | <u>94,052,594</u> | <u>3.53%</u> |

N/A = Not Applicable

Notes:

(1) The Company plans to retire Big Sandy Unit 2 at the end of May 2015 and the coal related portions of Unit 1 in 2016. Since the Commission authorized (Case No. 2012-00578) the Company to recover the coal-related portion of Big Sandy Unit 1, the retirement costs of Big Sandy Unit 2 and any other site related retirement costs, this depreciation recommends that the existing approved depreciation rates for Big Sandy Plant be retained until a future proceeding that includes the remaining portion of Big Sandy Unit 1 and the cost to re-power this unit to use natural gas.

(2) An annualized depreciation rate for Big Sandy Plant's SCR Catalyst was calculated using currently approved rates and included in the above analysis. A separate depreciation rate was calculated for Mitchell Plant's SCR Catalyst using AEP Air Emissions Control estimated average life for the catalyst.

(3) Mitchell Plant cost at December 31, 2013. At December 31, 2013 the Mitchell Plant was jointly owned 50% by Kentucky Power Company and 50% by AEP Generating Resources and therefore the cost shown above is 50% of the total Mitchell Plant depreciable plant in service. The Mitchell Plant cost includes 50% of the investment in the gypsum plant underloader located at the Mountaineer Generating Station.

**KENTUCKY POWER COMPANY**  
**SCHEDULE II - COMPARE DEPRECIATION EXPENSE USING CURRENT AND STUDY RATES**  
**ANNUAL DEPRECIATION RATES AND ACCRUALS BY THE REMAINING LIFE METHOD**  
**BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013**

| ACCT.<br>NO.<br>(1)           | ACCOUNT TITLE<br>(2)                | ORIGINAL<br>COST<br>(3)     | CURRENT<br>APPROVED<br>RATE<br>(4) | ANNUAL<br>ACCRUAL<br>(5) | STUDY<br>RATE<br>(6) | STUDY<br>ACCRUAL<br>(7)  | DIFFERENCE<br>(DECREASE)<br>(8) |
|-------------------------------|-------------------------------------|-----------------------------|------------------------------------|--------------------------|----------------------|--------------------------|---------------------------------|
| <b>STEAM PRODUCTION PLANT</b> |                                     |                             |                                    |                          |                      |                          |                                 |
| <b>BIG SANDY PLANT (a)</b>    |                                     |                             |                                    |                          |                      |                          |                                 |
| 311                           | Structures & Improvements           | 43,291,665                  | 3.78%                              | 1,636,425                | 3.78%                | 1,636,425                | 0                               |
| 312                           | Boiler Plant Equipment              | 362,456,070                 | 3.78%                              | 13,700,839               | 3.78%                | 13,700,839               | 0                               |
| 312                           | Boiler Plant Equip SCR Catalyst     | 8,147,622                   | 4.78%                              | 389,456                  | 4.78%                | 389,456                  | 0                               |
| 314                           | Turbogenerator Units                | 109,522,949                 | 3.78%                              | 4,139,967                | 3.78%                | 4,139,967                | 0                               |
| 315                           | Accessory Electrical Equipment      | 16,513,202                  | 3.78%                              | 624,199                  | 3.78%                | 624,199                  | 0                               |
| 316                           | Misc. Power Plant Equip.            | <u>8,709,178</u>            | 3.78%                              | <u>329,207</u>           | 3.78%                | <u>329,207</u>           | <u>0</u>                        |
|                               | Total                               | <u>548,640,686</u>          | 3.79%                              | <u>20,820,093</u>        | 3.79%                | <u>20,820,093</u>        | <u>0</u>                        |
| <b>MITCHELL PLANT - (b)</b>   |                                     |                             |                                    |                          |                      |                          |                                 |
| 311                           | Structures & Improvements           | 42,000,197                  | 2.87%                              | 1,205,406                | 2.74%                | 1,149,812                | (55,594)                        |
| 312                           | Boiler Plant Equipment              | 765,644,984                 | 3.90%                              | 29,860,154               | 3.13%                | 23,947,287               | (5,912,867)                     |
| 312                           | Boiler Plant Equip SCR Catalyst (c) | 8,190,115                   | 10.00%                             | 819,012                  | 12.50%               | 1,023,764                | 204,752                         |
| 314                           | Turbogenerator Units                | 53,295,697                  | 2.86%                              | 1,524,257                | 1.84%                | 982,084                  | (542,173)                       |
| 315                           | Accessory Electrical Equipment      | 17,080,672                  | 2.39%                              | 408,228                  | 1.64%                | 280,242                  | (127,986)                       |
| 316                           | Misc. Power Plant Equip.            | <u>7,693,412</u>            | 2.79%                              | <u>214,646</u>           | 2.80%                | <u>215,335</u>           | <u>689</u>                      |
|                               | Total                               | <u>893,905,077</u>          | 3.81%                              | <u>34,031,703</u>        | 3.09%                | <u>27,598,524</u>        | <u>(6,433,179)</u>              |
|                               | <b>Total Steam Production Plant</b> | <b><u>1,442,545,763</u></b> | <b>3.80%</b>                       | <b><u>54,851,796</u></b> | <b>3.36%</b>         | <b><u>48,418,617</u></b> | <b><u>(6,433,179)</u></b>       |
| <b>TRANSMISSION PLANT</b>     |                                     |                             |                                    |                          |                      |                          |                                 |
| 350.1                         | Land Rights                         | 26,456,147                  | 1.71%                              | 452,400                  | 1.44%                | 381,850                  | (70,550)                        |
| 352                           | Structures & Improvements           | 6,636,668                   | 1.71%                              | 113,487                  | 2.08%                | 137,978                  | 24,491                          |
| 353                           | Station Equipment                   | 170,843,671                 | 1.71%                              | 2,921,427                | 2.15%                | 3,669,309                | 747,882                         |
| 354                           | Towers & Fixtures                   | 94,517,543                  | 1.71%                              | 1,616,250                | 2.61%                | 2,464,522                | 848,272                         |
| 355                           | Poles & Fixtures                    | 74,696,720                  | 1.71%                              | 1,277,314                | 3.95%                | 2,949,685                | 1,672,371                       |
| 356                           | OH Conductor & Devices              | 122,537,908                 | 1.71%                              | 2,095,398                | 2.91%                | 3,563,336                | 1,467,938                       |
| 357                           | Underground Conduit                 | 11,590                      | 1.71%                              | 198                      | 2.99%                | 346                      | 148                             |
| 358                           | Underground Conductor & Devices     | <u>106,066</u>              | 1.71%                              | <u>1,814</u>             | 2.62%                | <u>2,779</u>             | <u>965</u>                      |
|                               | <b>Total Transmission Plant</b>     | <b><u>495,806,313</u></b>   | <b>1.71%</b>                       | <b><u>8,478,288</u></b>  | <b>2.66%</b>         | <b><u>13,169,805</u></b> | <b><u>4,691,517</u></b>         |
| <b>DISTRIBUTION PLANT</b>     |                                     |                             |                                    |                          |                      |                          |                                 |
| 360.1                         | Land Rights                         | 5,343,520                   | 3.52%                              | 188,092                  | 1.35%                | 71,981                   | (116,111)                       |
| 361                           | Structures & Improvements           | 4,372,006                   | 3.52%                              | 153,895                  | 1.62%                | 70,716                   | (83,179)                        |
| 362                           | Station Equipment                   | 83,664,562                  | 3.52%                              | 2,944,993                | 3.27%                | 2,733,159                | (211,834)                       |
| 364                           | Poles, Towers, & Fixtures           | 180,551,331                 | 3.52%                              | 6,355,407                | 4.70%                | 8,479,394                | 2,123,987                       |
| 365                           | Overhead Conductor & Devices        | 179,538,721                 | 3.52%                              | 6,319,763                | 3.64%                | 6,537,027                | 217,264                         |
| 366                           | Underground Conduit                 | 6,377,091                   | 3.52%                              | 224,474                  | 2.24%                | 142,926                  | (81,548)                        |
| 367                           | Underground Conductor               | 9,812,956                   | 3.52%                              | 345,416                  | 2.58%                | 253,278                  | (92,138)                        |
| 368                           | Line Transformers                   | 119,012,919                 | 3.52%                              | 4,189,255                | 4.07%                | 4,848,731                | 659,476                         |
| 369                           | Services                            | 53,900,363                  | 3.52%                              | 1,897,293                | 6.96%                | 3,751,658                | 1,854,365                       |
| 370                           | Meters                              | 24,723,287                  | 3.52%                              | 870,260                  | 5.83%                | 1,440,385                | 570,125                         |
| 371                           | Installations on Custs. Prem.       | 20,056,550                  | 3.52%                              | 705,991                  | 12.13%               | 2,432,542                | 1,726,551                       |
| 373                           | Street Lighting & Signal Sys.       | <u>3,349,341</u>            | 3.52%                              | <u>117,897</u>           | 6.27%                | <u>210,136</u>           | <u>92,239</u>                   |
|                               | <b>Total Distribution Plant</b>     | <b><u>690,702,647</u></b>   | <b>3.52%</b>                       | <b><u>24,312,736</u></b> | <b>4.48%</b>         | <b><u>30,971,933</u></b> | <b><u>6,659,197</u></b>         |

**KENTUCKY POWER COMPANY**  
**SCHEDULE II - COMPARE DEPRECIATION EXPENSE USING CURRENT AND STUDY RATES**  
**ANNUAL DEPRECIATION RATES AND ACCRUALS BY THE REMAINING LIFE METHOD**  
**BASED ON PLANT IN SERVICE AT DECEMBER 31, 2013**

| ACCT.<br>NO.<br>(1)  | ACCOUNT TITLE<br>(2)           | ORIGINAL<br>COST<br>(3)     | CURRENT<br>APPROVED<br>RATE<br>(4) | ANNUAL<br>ACCRUAL<br>(5) | STUDY<br>RATE<br>(6) | STUDY<br>ACCRUAL<br>(7)  | DIFFERENCE<br>(DECREASE)<br>(8) |
|----------------------|--------------------------------|-----------------------------|------------------------------------|--------------------------|----------------------|--------------------------|---------------------------------|
| <b>GENERAL PLANT</b> |                                |                             |                                    |                          |                      |                          |                                 |
| 389.1                | Land Rights                    | 37,384                      | 2.54%                              | 950                      | 1.59%                | 596                      | (354)                           |
| 390                  | Structures & Improvements      | 19,811,669                  | 2.54%                              | 503,216                  | 3.97%                | 786,469                  | 283,253                         |
| 391                  | Office Furniture & Equipment   | 1,683,333                   | 2.54%                              | 42,757                   | 3.20%                | 53,931                   | 11,174                          |
| 392                  | Transportation Equipment       | 14,768                      | 2.54%                              | 375                      | 3.52%                | 520                      | 145                             |
| 393                  | Stores Equipment               | 164,548                     | 2.54%                              | 4,180                    | 4.15%                | 6,822                    | 2,642                           |
| 394                  | Tools Shop & Garage Equipment  | 3,553,696                   | 2.54%                              | 90,264                   | 4.20%                | 149,084                  | 58,820                          |
| 395                  | Laboratory Equipment           | 141,765                     | 2.54%                              | 3,601                    | 5.76%                | 8,163                    | 4,562                           |
| 396                  | Power Operated Equipment       | 5,931                       | 2.54%                              | 151                      | 5.43%                | 322                      | 171                             |
| 397                  | Communication Equipment        | 7,318,955                   | 2.54%                              | 185,901                  | 5.66%                | 414,591                  | 228,690                         |
| 398                  | Miscellaneous Equipment        | <u>1,065,616</u>            | 2.54%                              | <u>27,067</u>            | 6.73%                | <u>71,743</u>            | <u>44,676</u>                   |
|                      | <b>Total General Plant</b>     | <b><u>33,797,665</u></b>    | <b>2.54%</b>                       | <b><u>858,462</u></b>    | <b>4.42%</b>         | <b><u>1,492,241</u></b>  | <b><u>633,779</u></b>           |
|                      | <b>Total Depreciable Plant</b> | <b><u>2,662,852,388</u></b> | <b>3.32%</b>                       | <b><u>88,501,282</u></b> | <b>3.53%</b>         | <b><u>94,052,596</u></b> | <b><u>5,551,314</u></b>         |

**Notes:**

(a) The depreciation study recommends that the current approved depreciation rates for Big Sandy Plant remain in effect until the next base case which will reflect the retirement of Big Sandy Unit 2 in 2015, the coal related portions of Unit 1 in 2016 and the cost to re-power Unit 1 to burn natural gas. Therefore there is no change in depreciation expense due to a change in depreciation rates for Big Sandy Plant.

(b) The current approved rates for Mitchell Generating Plant are from AEP affiliated company, Ohio Power Company as per the Order in Case No. 2012-00578.

(c) The depreciation rate was revised for the SCR catalyst at Mitchell Generating Station using AEP Generation's estimated average life for the catalyst of 8 years.

**KENTUCKY POWER COMPANY**  
**SCHEDULE III - COMPARISON OF MORTALITY CHARACTERISTICS**  
**DEPRECIATION STUDY AS OF DECEMBER 31, 2013**

| (1)                              | (2)  | (3)                  | (4)                      | (5)                                 | (6)                             | (7)  | (8)                  | (9)                      | (10)                                | (11)                            |      |
|----------------------------------|--|----------------------|--------------------------|-------------------------------------|---------------------------------|--|----------------------|--------------------------|-------------------------------------|---------------------------------|------|
|                                  | <u>Existing Rates (See note, below)</u>      |                      |                          |                                     |                                 | <u>Current Study Rates</u>                   |                      |                          |                                     |                                 |      |
|                                  | Average<br>Service<br><u>Life</u><br>(Years) | Iowa<br><u>Curve</u> | Salvage<br><u>Factor</u> | Cost of<br>Removal<br><u>Factor</u> | Net<br>Salvage<br><u>Factor</u> | Average<br>Service<br><u>Life</u><br>(Years) | Iowa<br><u>Curve</u> | Salvage<br><u>Factor</u> | Cost of<br>Removal<br><u>Factor</u> | Net<br>Salvage<br><u>Factor</u> |      |
| <b><u>TRANSMISSION PLANT</u></b> |  |                      |                          |                                     |                                 |  |                      |                          |                                     |                                 |      |
| 350.1                            | Rights of Way                                | 75                   | R4.0                     | N/A                                 | N/A                             | 0%   | 75                   | R4.0                     | 0%                                  | 0%                              | 0%   |
| 352.0                            | Structures & Improvements                    | 55                   | S1.5                     | N/A                                 | N/A                             | 0%   | 60                   | S3.0                     | 0%                                  | 10%                             | -10% |
| 353.0                            | Station Equipment                            | 50                   | R0.5                     | N/A                                 | N/A                             | 25%  | 50                   | L0.5                     | 8%                                  | 11%                             | -3%  |
| 354.0                            | Towers & Fixtures                            | 55                   | R4.0                     | N/A                                 | N/A                             | 0%   | 51                   | S6.0                     | 3%                                  | 13%                             | -10% |
| 355.0                            | Poles & Fixtures                             | 45                   | R3.0                     | N/A                                 | N/A                             | 0%   | 43                   | L3.0                     | 2%                                  | 63%                             | -61% |
| 356.0                            | Overhead Conductor & Devices                 | 50                   | R3.0                     | N/A                                 | N/A                             | 10%  | 50                   | S6.0                     | 6%                                  | 33%                             | -27% |
| 357.0                            | Underground Conduit                          | 37                   | R2.0                     | N/A                                 | N/A                             | 0%   | 37                   | R2.0                     | 0%                                  | 0%                              | 0%   |
| 358.0                            | Underground Conductor and Devices            | 44                   | R1.0                     | N/A                                 | N/A                             | 0%   | 44                   | R1.0                     | 0%                                  | 0%                              | 0%   |
| <b><u>DISTRIBUTION PLANT</u></b> |  |                      |                          |                                     |                                 |  |                      |                          |                                     |                                 |      |
| 360.1                            | Rights of Way                                | 75                   | R4.0                     | N/A                                 | N/A                             | 0%   | 75                   | R4.0                     | 0%                                  | 0%                              | 0%   |
| 361.0                            | Structures & Improvements                    | 65                   | L0.5                     | N/A                                 | N/A                             | 0%   | 70                   | R2.0                     | 4%                                  | 16%                             | -12% |
| 362.0                            | Station Equipment                            | 25                   | L0.0                     | N/A                                 | N/A                             | 25%  | 33                   | R0.5                     | 10%                                 | 17%                             | -7%  |
| 364.0                            | Poles, Towers, & Fixtures                    | 28                   | L0.0                     | N/A                                 | N/A                             | 25%  | 28                   | R0.5                     | 18%                                 | 48%                             | -30% |
| 365.0                            | Overhead Conductor & Devices                 | 26                   | R1.5                     | N/A                                 | N/A                             | 25%  | 26                   | L0.0                     | 30%                                 | 24%                             | 6%   |
| 366.0                            | Underground Conduit                          | 37                   | R2.0                     | N/A                                 | N/A                             | 0%   | 45                   | R3.0                     | 0%                                  | 0%                              | 0%   |
| 367.0                            | Underground Conductor                        | 44                   | R1.0                     | N/A                                 | N/A                             | 0%   | 44                   | R0.5                     | 1%                                  | 14%                             | -13% |
| 368.0                            | Line Transformers                            | 25                   | R1.5                     | N/A                                 | N/A                             | 15%  | 25                   | L0.0                     | 29%                                 | 30%                             | -1%  |
| 369.0                            | Services                                     | 18                   | R2.0                     | N/A                                 | N/A                             | 0%   | 20                   | L0.0                     | 1%                                  | 39%                             | -38% |
| 370.0                            | Meters                                       | 27                   | R0.5                     | N/A                                 | N/A                             | 0%   | 17                   | R4.0                     | 22%                                 | 19%                             | 3%   |
| 371.0                            | Installations on Custs. Prem.                | 11                   | L0.0                     | N/A                                 | N/A                             | 30%  | 11                   | L0.0                     | 1%                                  | 33%                             | -32% |
| 373.0                            | Street Lighting & Signal Sys.                | 15                   | L0.0                     | N/A                                 | N/A                             | 15%  | 20                   | L0.0                     | 1%                                  | 25%                             | -24% |
| <b><u>GENERAL PLANT</u></b>      |  |                      |                          |                                     |                                 |  |                      |                          |                                     |                                 |      |
| 389.1                            | Rights of Way                                | 75                   | R4.0                     | N/A                                 | N/A                             | 0%   | 75                   | R4.0                     | 0%                                  | 0%                              | 0%   |
| 390.0                            | Structures & Improvements                    | 45                   | L3.0                     | N/A                                 | N/A                             | 0%   | 35                   | L2.0                     | 1%                                  | 1%                              | 0%   |
| 391.0                            | Office Furniture & Equipment                 | 35                   | R0.5                     | N/A                                 | N/A                             | 10%  | 35                   | SQ                       | 0%                                  | 0%                              | 0%   |
| 392.0                            | Transportation Equipment                     | 30                   | R3.0                     | N/A                                 | N/A                             | 0%   | 30                   | SQ                       | 0%                                  | 0%                              | 0%   |
| 393.0                            | Stores Equipment                             | 30                   | R1.0                     | N/A                                 | N/A                             | 0%   | 30                   | SQ                       | 0%                                  | 0%                              | 0%   |
| 394.0                            | Tools Shop & Garage Equipment                | 30                   | R0.5                     | N/A                                 | N/A                             | 0%   | 30                   | SQ                       | 0%                                  | 9%                              | -9%  |
| 395.0                            | Laboratory Equipment                         | 30                   | L5.0                     | N/A                                 | N/A                             | 0%   | 30                   | SQ                       | 0%                                  | 0%                              | 0%   |
| 396.0                            | Power Operated Equipment                     | N/A                  | N/A                      | N/A                                 | N/A                             | N/A  | 25                   | SQ                       | 0%                                  | 0%                              | 0%   |
| 397.0                            | Communication Equipment                      | 22                   | L3.0                     | N/A                                 | N/A                             | 0%   | 22                   | SQ                       | 6%                                  | 3%                              | 3%   |
| 398.0                            | Miscellaneous Equipment                      | 20                   | S5.0                     | N/A                                 | N/A                             | 0%   | 20                   | SQ                       | 0%                                  | 3%                              | -3%  |

Note: Kentucky Power Company's existing depreciation rates are from Case No. 91-066. No detail of Cost of Removal % and Salvage Factor % is available from the order from that Case.



Mitchell Plant Unit 1 & 2  
**CONCEPTUAL DEMOLITION COST ESTIMATE**

Prepared for:  
American Electric Power

Project No. 11488-066  
March 20, 2013  
Revision 0



55 East Monroe Street  
Chicago, IL 60603-5780 USA



Mitchell Plant Unit 1 & 2  
American Electric Power  
Conceptual Demolition Cost Estimate  
March 20, 2013

**Issue Summary Page**

| Revision Number | Date     | Purpose  | Prepared By                         | Reviewed By  | Approved By                             | Pages Affected |
|-----------------|----------|----------|-------------------------------------|--|---|----------------|
| A               | 02/22/13 | Comments | R. Kinsinger                        | J. A. Evanchik<br>D. F. Franczak   |   | All            |
| 0               | 03/20/13 | Use      | R. Kinsinger<br><i>R. Kinsinger</i> | J. A. Evanchik<br><i>J. A. Evanchik</i><br>D. F. Franczak<br><i>D. F. Franczak</i> | S. R. Bertheau<br><i>S. R. Bertheau</i> | All            |



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| <u>EXHIBIT</u> | <u>DESCRIPTION</u>                             |
|----------------|--|
| 1              | Conceptual Demolition Cost Estimate No. 31982B |



**1.0 INTRODUCTION**

The Mitchell Plant is located near Moundsville, West Virginia in Marshall County. The plant consists of two (2) generating units with a total generating capacity of 1,632 megawatts (816, MW per unit). Units 1 & 2 were placed in operation in 1971.

American Electric Power (AEP) recently contracted Sargent & Lundy, LLC. (S&L) to prepare a conceptual demolition cost estimate using 1<sup>st</sup> Quarter 2013 pricing levels. The objective of the conceptual demolition cost estimate is to determine the gross demolition costs for Mitchell Plant Units 1 and 2 (including gross salvage credits and any other benefits). The cost estimate considers the demolition/dismantlement methodology which complies with current OSHA rules and regulations.

**2.0 COST ESTIMATE SUMMARY**

Conceptual Demolition Cost Estimate No. 31982B, dated March 20, 2013, was prepared and is included as Exhibit 1. The cost estimate is structured into a code of accounts as identified in Table 2-1.

**Table 2-1**  
**Cost Estimate Code of Accounts**

| <b>Account Number</b> | <b>Description</b>   |
|-----------------------|--|
| 10                    | Demolition Costs (including steel, equipment & piping scrap value) |
| 18                    | Scrap Value Costs  |
| 91                    | Other Direct & Construction Indirect Costs                         |
| 93                    | Indirect Costs   |
| 94                    | Contingency Costs  |
| 96                    | Escalation Costs   |

The results of the cost estimate are provided in Table 2-2 below:





**Table 2-2**  
**Cost Estimate Results Summary**

| <b>Description</b>   | <b>Total Cost</b> |
|----------------------|-------------------|
| Demolition Cost      | \$62,531,960      |
| Scrap Value          | \$(38,063,765)    |
| Direct Cost Subtotal | \$24,468,195      |
| Indirect Cost        | \$ 2,446,800      |
| Contingency Cost     | \$15,456,400      |
| Total Project Cost   | \$42,371,395      |

### 3.0 TECHNICAL BASIS

The scope of dismantlement includes the complete Mitchell Plant Units 1 & 2 generating facility and plant common services associated with both units. Common facilities include:

- 1,200 ft Chimney
- 1,000 ft Chimney
- Various Buildings
- FGD Common Equipment

The following are excluded from the scope of the conceptual demolition cost estimate.

- Bottom Ash Pond
- Asbestos Removal
- Switchyard

The scope of the demolition cost estimate is based on a review of the facility by two (2) S&L employees conducted in January 2013 for development of the demolition cost estimate.



---

## **4.0 COMMERCIAL BASIS**

### **4.1 General Information**

The Conceptual Demolition Cost Estimate prepared for the Mitchell Plant is a conceptual estimate of the cost to dismantle Mitchell Plant Units 1 and 2.

Costs were calculated for (1) demolition of existing plant structures and equipment and associated site restoration costs, (2) scrap value of steel and copper, (3) associated indirect costs, and (4) contingency. All units used in the cost estimate are U.S. Standard and all costs are in US Dollars (1<sup>st</sup> Quarter 2013 levels). A two (2) year demolition schedule is anticipated not including asbestos removal (to be performed prior to start of demolition work).

### **4.2 Quantities/Material Cost**

Quantities of pieces of equipment and/or bulk material commodities used in this cost estimate were intended to be reasonable and representative of projects of this type. Material quantities were estimated from the site plot plan and other drawings and data provided by AEP and Plant Personnel.

### **4.3 Construction Labor Wages**

Craft labor rates (Craft Hourly Rate) for the cost estimate were calculated as Non-Union West Virginia Craft Labor rates based on Personnel Administration Services (PAS) Inc. "2013 Merit Shop Wage and Benefit Survey". The craft rates were incorporated into work crews appropriate for the activities by adding allowances for small tools, construction equipment, insurance, and site overheads to arrive at crew hourly rates detailed in the cost estimate. A 1.00 regional labor productivity multiplier was included based on Compass International Global Construction Yearbook, 2013 Edition, for non-union work in West Virginia.

#### **4.3.1 Labor Work Schedule and Incentives**

The estimate assumed a 5x8 work week. No other labor incentives are included.

#### **4.3.2 Construction Indirects**

Allowances were included in the cost estimate as direct costs as noted for the following:

- Freight: Material and scrap freight included in the material and scrap costs.



- Additional Crane Allowance: None included. Cost of cranes and construction machinery are included in the labor wage rates.
- Mobilization and Demobilization: Included in labor wage rates.
- Scaffolding: Included in labor wage rates.
- Consumables: Included in material and labor costs.
- Per Diem Costs: Excluded from the estimate.
- Contractor's General and Administrative Costs and Profit: Included in the labor wage rates.

#### 4.4 Scrap Value

The value of scrap was determined by a 12 month average (March 2012 through February of 2013) using Zone 4 (USA Midwest) of the "Scrap Metals Market Watch" ([www.americanrecycler.com](http://www.americanrecycler.com)).

Since the values obtained are delivered pieces, 10% of the values obtained were deducted to pay for separation, preparation and shipping to the mills. This resulted in realized prices of:

- Mixed Steel Value @ \$287/Ton
- Copper Value @ \$6,091/Ton
- Stainless Steel @ \$1,336/Ton

Note: 1 Ton = 2,000 Lbs

All steel is considered to be mixed steel unless otherwise noted.

#### 4.5 Indirect Costs

Allowances were included in the cost estimate as indirect costs as noted for the following:

- Engineering, Procurement and Project Services: None included.
- Construction Management Support: None included.
- Owners Cost: Included as 10.0% of the total direct cost. Owners Costs include owner project engineering, administration and construction management, permits and fees, legal expenses, taxes, etc.

#### 4.6 Escalation

No allowance for escalation was included in the cost estimate. All costs are determined in 1st Quarter 2013 levels.



#### 4.7 Contingency

Allowances were included in the cost estimate as contingency as noted for the following:

- Scrap Value: Included as a 15.0% reduction in the salvage value resulting in a total net reduction in the salvage value. The contingency assumes a potential drop in salvage value thus increasing the project cost.
- Material: Included as 15.0% of the total material cost.
- Labor: Included as 15.0% of the total labor cost.
- Indirect: Included as 15.0% of the total indirect cost.

#### 4.8 Assumptions

The following assumptions apply to the cost estimate.

- All chemicals will be removed by the Owner prior to demolition, from the facilities to be demolished.
- All coal and fuel oil will be consumed prior to demolition.
- Catalyst, if any, is assumed to be removed and returned to the OEM by others, prior to demolition.
- All electrical equipment and wiring is de-energized prior to start of dismantlement.
- No extraordinary environmental costs for demolition have been included. Removal of five (5) feet of fill inside the bermed areas around the oil tanks and metal cleaning waste tank is included.
- Asbestos and PCB's are removed from site by others prior to start of demolition.
- Bottom Ash Pond is not included. These costs will be determined by the Owner.
- Demolition of the two (2) chimneys will be subcontracted. One chimney is 1,200 ft high and the second is 1,000 ft high. The 1,200 ft chimney is approximately 200 ft from WV Route 2 and the 1,000 ft chimney is approximately 600 ft from the same road. Also, in the opposite direction the 1,200 ft chimney is approximately 1,500 ft from the Ohio River and the 1,000 ft chimney is approximately 1,250 ft from the river. Therefore Careful Demolition (top down demolition process) will be used to dismantle the chimneys as opposed to explosive demolition (which can scatter debris onto the road and into the river). Each chimney is demolished by breaking it up from the top and dropping the debris down the throat of the chimney and removing the debris periodically through the duct openings on the sides of the chimney (located 75 to 100 ft above grade). The remaining portion of the chimney below the duct openings is then demolished as any other structure.



- Switchyards within the plant boundaries are not part of the scope, neither are access roads to these facilities. Fences and gates needed to protect the switchyard will be left in place. The other site fences are removed.
- All items above grade and to a depth of 2 foot will be demolished. Any other items buried more than 2 foot will remain in place. All foundations are removed and buried on site with the exception of power block (turbine building, boiler building and service building), FGD building, limestone preparation building, gypsum dewatering building and the two (2) chimney thick mat foundations at grade. These foundations will have two (2) feet of soil spread over them and will be graded into the surrounding area.
- Underground piping, conduit and cable ducts will be abandoned in place.
- Underground piping larger than 4 feet diameter will be filled with sand or slurry and capped at the ends to prevent collapse. Non-metal pipe will be collapsed.
- All demolished materials are considered debris, except for organic combustibles and non-embedded metals which have scrap value.
- The basis for salvage estimating is for scrap value only. No resale of equipment or material is included.
- Handling, on-site and off-site disposal of hazardous materials would be performed in compliance with methods approved by Owner.
- Disturbed areas will be buried under 2 feet of topsoil mulched and seeded with grass – no other landscaping is included.
- All borrow material is assumed to be purchased from nearby (10 mile round trip) offsite sources.
- Debris not suitable for burial is to be disposed of off-site. Assumed distance to final disposal is within a 5 mile haul.



**5.0 REFERENCES**

Drawings utilized in the preparation of this demolition cost estimate are identified in Table 5-1.

**Table 5-1**  
**Reference Drawings**

| Unit | Document Number | Revision | Title  |
|------|-----------------|----------|--|
| 12   | E-1000          | 1        | 34.5KV & Coal Handling-1000  |
| 12   | E-1100          | 0        | Fish Creek Station 69KV/34.5KV One Line Diagram & Protection       |
| 12   | 1200D           | 23       | Coal Handling Barge Unloading Auxiliary One-Line Diagram           |
| 12   | 1200E           | 16       | Coal Handling Auxiliary One-Line Diagram.                          |
| 12   | 1200H           | 1        | Coal Handling Auxiliary One-Line Diagram Car Thawing               |
| 12   | 121001          | 3        | FGD One Line Diagram   |
| 12   | 121102          | 4        | Electrical 138-13.8 KV Substation Line 2 Bus B One Line Diagram    |
| 12   | 121020          | 5        | Dry Sorbent 13.8kv Auxiliary One Line Diagram                      |
| 12   | 121101          | 4        | Electrical 138-13.8 KV Substation Line 1 Bus A One Line Diagram    |
| 12   | 50008           | 8        | General Arrangement Precipitator Install Comp Plan Below El. 676-0 |
| 12   | 50009           | 4        | General Arrangement Precipitator Install Plan Above El 676-0       |
| 12   | 50012           | 3        | General Arrangement Precipitator Access & Rectifier Removal        |
| 12   | 5028A           | 0        | Arrangement And Details Feeder Down Spout Unit 1 And 2             |
| 12   | 5030            | 16       | Plot Plan  |
| 12   | 5031            | 2        | General Cross Sects  |
| 12   | 5032            | 1        | General Cross Sects @ General                                      |
| 12   | 5034            | 2        | Long Sects Thru Heater Bay   |
| 12   | 5035            | 1        | Long Sects Thru Steam General                                      |
| 12   | 5036            | 1        | Cross Sects Pulv Bay   |
| 12   | 5041            | 2        | Plans Heater Bay & Steam General El. 58-0, 70-0, & 80-0            |
| 12   | 5042            | 2        | Slag Blower Platforms - Heater Bay And Turbine Room Roof           |
| 12   | 5043            | 1        | Plans Deaer & Upper Level Slag Blowers Platform                    |
| 12   | 5044            | 1        | Comp Main Floor  |
| 12   | 5044A           | 0        | Property Plan & Ash Storage Area                                   |
| 12   | 5044B           | 2        | Equipment Location - Conners Run Pump House                        |
| 12   | 5070000A        | 1        | Site Layout  |
| 12   | 5070000A        | 0        | General Arrangement FGD Building El. 667'-0"                       |
| 12   | 5070000B        | 0        | General Arrangement FGD Building El. 705'-0"                       |
| 12   | 5070000C        | 0        | General Arrangement FGD Building El. 720'-0"                       |
| 12   | 5070000D        | 0        | General Arrangement FGD Building El. 743'-0"                       |
| 12   | 5070000E        | 0        | General Arrangement FGD Building El. 755'-2 1/2"                   |
| 12   | 5070000F        | 0        | General Arrangement FGD Building El. 776'-3"                       |
| 12   | 5070000G        | 0        | General Arrangement FGD Building El. 798'-0 1/2"                   |
| 12   | 5070000H        | 0        | General Arrangement FGD Building Elevation Looking East            |
| 12   | 5070000I        | 0        | General Arrangement FGD Building Elevation Looking North           |
| 12   | 5070000J        | 0        | General Arrangement FGD Building Laboratory                        |
| 12   | 5070001A        | 0        | General Arrangement Dewatering Area El. 667'-0"                    |
| 12   | 5070001B        | 0        | General Arrangement Dewatering Area El. 695'-0"                    |
| 12   | 5070001C        | 0        | General Arrangement Dewatering Area El. 729'-6"                    |



| Unit | Document Number | Revision | Title   |
|------|-----------------|----------|---|
| 12   | 5070001D        | 0        | General Arrangement Dewatering Area El. 757'-4" & El. 781'-0"               |
| 12   | 5070001E        | 0        | General Arrangement Dewatering Area Elevation Looking North                 |
| 12   | 5070002A        | 0        | General Arrangement Reagent Prep Area El. 667'-0"                           |
| 12   | 5070002B        | 0        | General Arrangement Reagent Prep Area El. 705'-1 1/4"                       |
| 12   | 5070002C        | 0        | General Arrangement Reagent Prep Area El. 729'-6" & El 784'-2"              |
| 12   | 5070003         | 0        | General Arrangement Urea U2a Area   |
| 12   | 5070006         | 0        | General Arrangement Service Water Area Plan View                            |
| 12   | 5070007         | 0        | General Arrangement Existing Aux Boiler Stack Relocation                    |
| 12   | 5070007A        | 0        | Elevation Auxilliary Boiler Stack Relocations                               |
| 12   | 5070008A        | 1        | General Arrangement Dry Solid Sorbent System Enlarged Plan                  |
| 12   | 5070008B        | 0        | General Arrangement Dry Solid Sorbent System Section A-A                    |
| 12   | 5070008C        | 0        | General Arrangement Dry Sorbent System Overall Plan                         |
| 12   | 5070008D        | 0        | General Arrangement Dry Solid Sorbent System Section B-B                    |
| 12   | 5070009         | 0        | General Arrangement Coal Blending System Plan                               |
| 12   | 5070010         | 0        | General Arrangement Gypsum Conveyors To Wallboard Plant                     |
| 12   | 5078000B        | 2        | Hydraulic Profile   |
| 12   | 5078000C        | 2        | Key Plan  |
| 12   | 5078000J        | 2        | Piperack Enlarged Lower Plan  |
| 12   | 5078000K        | 2        | Piperack Enlarged Middle Plan   |
| 12   | 5078000L        | 2        | Piperack Enlarged Upper Plan  |
| 12   | 12-5080022      | 1        | General Arrangement FGD Reagent Prep Area Ground Floor El 667'-0"           |
| 12   | 12-5080023      | 1        | General Arrangement FGD Reagent Prep Area Plan At El. 681'-6-1/4"           |
| 12   | 12-5080024      | 1        | General Arrangement FGD Reagent Prep Area Plan At Platform El 705'-1 1/4"   |
| 12   | 12-5080025      | 1        | General Arrangement FGD Reagent Prep Area Plan At Platform El 741'-1 1/4"   |
| 12   | 12-5080026      | 1        | General Arrangement FGD Reagent Prep Area Front Section F1-F1               |
| 12   | 12-5080027      | 1        | General Arrangement FGD Reagent Prep Area Front Section F2-F2               |
| 12   | 12-5080028      | 1        | General Arrangement FGD Reagent Prep Area Front Section F3-F3               |
| 12   | 12-5080029      | 1        | General Arrangement FGD Reagent Prep Area Front Section F4-F4               |
| 12   | 12-5080030      | 1        | General Arrangement FGD Reagent Prep Area Side Section S1-S1                |
| 12   | 12-5080031      | 1        | General Arrangement FGD Reagent Prep Area Side Section S2-S2                |
| 12   | 5080074         | 2        | General Arrangement FGD Byproduct Dwt Area Side Section S3-S3               |
| 12   | 5080302         | 0        | Design Arrangement Abs Area Pipe Ground Floor To El 692'-0"                 |
| 12   | 548839E         | 1        | General Arrangement FGD Maintenance Storage Area Ground Floor To El 667'-0" |
| 12   | 549320E         | 2        | Erection Arrangement Drb-4z Pc Fired Burner CW                              |
| 12   | 549321E         | 2        | Erection Arrangement Drb-4z Pc Fired Burner CW                              |
| 12   | 549322E         | 2        | Erection Arrangement Drb-4z Pc Fired Burner CW                              |
| 12   | 549323E         | 2        | Erection Arrangement Drb-4z Pc Fired Burner CW                              |



| Unit | Document Number    | Revision | Title  |
|------|--------------------|----------|--|
| 12   | 71002-MA-0-5090100 | 0        | SCR System Equipment Arrangement Plan  |
| 1    | 1200A1             | 20       | Aux One Line Diagram Sheet 1 Of 2  |
| 1    | 1200A2             | 20       | Aux One Line Diagram Sheet 2 Of 2  |
| 1    | 12001              | 5        | Precipitator Auxiliary One-Line  |
| 1    | 12002              | 5        | Precipitator Equip Power Dist Aux One-Line Diagram                             |
| 1    | 121002             | 2        | Unit 1 FGD 13.8kv - 4.16kv Auxiliary One Line Diagram                          |
| 1    | 50003              | 7        | Fly Ash Removal Wet System Unit 1  |
| 1    | 50010              | 2        | General Arrangement Precipitator Install Sections                              |
| 1    | 5033               | 2        | Long Sects Thru Turbine Room   |
| 1    | 5037               | 6        | Basement Plan Elevation 1' -0' Unit 1  |
| 1    | 5038               | 3        | Miscellaneous FI & Platform Below Main Floor                                   |
| 1    | 5039               | 2        | Main FI Plan EI 36-0   |
| 1    | 5040               | 2        | Heater Bay & Steam Gen EI 46'0" 48'0" & 52'6"                                  |
| 1    | 5090000            | 2        | SCR General Arrangement Elevation A/10 Looking South                           |
| 1    | 5090001            | 2        | SCR General Arrangement Elevation B/11 Looking West                            |
| 1    | 5090002            | 2        | SCR General Arrangement Elevation C/12 Looking East                            |
| 1    | 5090003            | 1        | SCR General Arrangement Elevation D/13 Looking West                            |
| 1    | 5090004            | 2        | SCR General Arrangement Elevation H/14 & J/14 Center and Outbound Return Ducts |
| 1    | 5090005            | 1        | SCR General Arrangement Plan View E/20   |
| 1    | 5090006            | 2        | SCR General Arrangement Plan View F/21   |
| 1    | 5090007            | 2        | SCR General Arrangement Plan View G/22   |
| 1    | 5090008            | 1        | SCR General Arrangement Plan View H/23   |
| 2    | 1200A2             | 19       | Aux One Line Diagram Sheet 2 Of 2  |
| 2    | 1200A1             | 19       | Aux One Line Diagram Sheet 1 Of 2  |
| 2    | 121003             | 3        | Unit 2 FGD 13.8kv - 4.16kv Auxiliary One Line Diagram                          |
| 2    | 50011              | 2        | General Arrangement Precipitator Install Sections                              |
| 2    | 50014              | 0        | Arrangement FGD Fan Room New Motors & Rotors                                   |
| 2    | 5033               | 1        | Long Sects Thru Turbine Room   |
| 2    | 5037               | 3        | Basement Plan Elevation 1" - 0"  |
| 2    | 5038               | 2        | Miscellaneous Floors & Platform Below Main Floor                               |
| 2    | 5039               | 3        | Main Floor Plan EI 36-0  |
| 2    | 5040               | 2        | Heater Bay & Steam Generator EI 46-0; 48-0 & 52-6                              |
| 2    | 5090000            | 1        | SCR General Arrangement Elevation A/10 Looking South                           |
| 2    | 5090001            | 1        | SCR General Arrangement Elevation B/11 Looking West                            |
| 2    | 5090002            | 1        | SCR General Arrangement Elevation C/12 Looking East                            |
| 2    | 5090003            | 1        | SCR General Arrangement Elevation D/13 Looking West                            |
| 2    | 5090005            | 1        | SCR General Arrangement Plan View E/20   |
| 2    | 5090006            | 1        | SCR General Arrangement Plan View F/21   |
| 2    | 5090007            | 1        | SCR General Arrangement Plan View G/22   |
| 2    | 5090008            | 1        | SCR General Arrangement Plan View H/23   |

12 = Common For Units 1 & 2

1 = Unit 1

2 = Unit 2





Mitchell Plant Unit 1 & 2  
American Electric Power  
Conceptual Demolition Cost Estimate  
March 20, 2013

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**EXHIBIT 1**  
**Mitchell Plant Units 1 & 2**  
**Conceptual Demolition Cost Estimate No. 31982B**

**AMERICAN ELECTRIC POWER  
Decommissioning Study Mitchell Plant  
Units 1, 2 and Common Facilities**

|                         |                 |
|-------------------------|-----------------|
| <b>Project name</b>     | Mitchell Plant  |
| <b>Estimator</b>        | RCK             |
| <b>Labor rate table</b> | 13NUWV          |
| <b>Project No.</b>      | 11488-066       |
| <b>Station Name</b>     | Mitchell Plant  |
| <b>Unit</b>             | 1, 2 and Common |
| <b>Location</b>         | West Virginia   |
| <b>Product Factor</b>   | 1               |
| <b>Price Level</b>      | 2013            |
| <b>Issue Date</b>       | 3/20/2013       |
| <b>Estimate Date</b>    | 3/14/2013       |
| <b>Reviewed By</b>      | JAE             |
| <b>Approved By</b>      | MNO             |
| <b>Status</b>           | <i>Comments</i> |
| <b>Estimate No.</b>     | 31982B          |
| <b>Estimate Class</b>   | Conceptual      |
| <b>Cost index</b>       | NUWV            |

Estimate Totals

| Description                    | Amount            | Totals            | Hours           | Percent of Total |                |
|--------------------------------|-------------------|-------------------|-----------------|------------------|----------------|
| LABOR                          | 46,995,884        |                   | 589,630.602 hrs | 110.91%          |                |
| MATERIAL                       | 11,136,076        |                   |                 | 26.28%           |                |
| SUBCONTRACT                    | 4,400,000         |                   |                 | 10.38%           |                |
| SCRAP RECOVERY                 | (38,063,765)      |                   |                 | -89.83%          |                |
|                                | <u>24,468,195</u> | <u>24,468,195</u> |                 | <u>57.75</u>     | <u>57.75%</u>  |
| 91-1 SCAFFOLDING               |                   |                   |                 |                  |                |
| 91-2 OT WORKING 5-10 HOUR DAYS |                   |                   |                 |                  |                |
| 91-3 OT Working 7-10 Hr Days   |                   |                   |                 |                  |                |
| 91-2 PER DIEM                  |                   |                   |                 |                  |                |
| 91-5 CONSUMABLES               |                   |                   |                 |                  |                |
| 91-6 FREIGHT ON EQUIPMENT      |                   |                   |                 |                  |                |
| 91-7 FREIGHT ON SPECIAL EQUIP. |                   |                   |                 |                  |                |
| 91-8 FREIGHT ON MATERIAL       |                   |                   |                 |                  |                |
| 91-9 FREIGHT ON SCRAP INCL     |                   |                   |                 |                  |                |
| 91-10 SALES TAX                |                   |                   |                 |                  |                |
| 91-11 CONTRACTOR'S G&A EXPENSE |                   |                   |                 |                  |                |
| 91-12 CONTRACTOR'S PROFIT      |                   |                   |                 |                  |                |
|                                |                   | <u>24,468,195</u> |                 |                  | <u>57.75%</u>  |
| 93-1 EP&P SERVICES             |                   |                   |                 |                  |                |
| 93-2 CM SUPPORT                |                   |                   |                 |                  |                |
| 93-3 START-UP/COMMISSIONING    |                   |                   |                 |                  |                |
| 93-4 START-UP/SPARE PARTS      |                   |                   |                 |                  |                |
| 93-5 EXCESS LIABILITY INSUR.   |                   |                   |                 |                  |                |
| 93-6 SALES TAX ON INDIRECTS    |                   |                   |                 |                  |                |
| 93-7 OWNER'S COST              | 2,446,800         |                   |                 | 5.77%            |                |
| 93-8 EPC FEE                   | <u>2,446,800</u>  | <u>26,914,995</u> |                 | <u>5.77</u>      | <u>63.52%</u>  |
| 94-3 CONTINGENCY ON MATERIAL   | 1,670,400         |                   |                 | 3.94%            |                |
| 94-4 CONTINGENCY ON LABOR      | 7,049,400         |                   |                 | 16.64%           |                |
| 94-5 CONTINGENCY ON SUB.       | 660,000           |                   |                 | 1.56%            |                |
| 94-6 CONTINGENCY ON SCRAP      | 5,709,600         |                   |                 | 13.48%           |                |
| 94-7 CONTINGENCY ON INDIRECTS  | <u>367,000</u>    | <u>42,371,395</u> |                 | <u>0.87%</u>     | <u>100.00%</u> |
|                                | <u>15,456,400</u> | <u>42,371,395</u> |                 | <u>36.48</u>     | <u>100.00%</u> |
| 96-3 ESCALATION ON MATERIAL    |                   |                   |                 |                  |                |
| 96-4 ESCALATION ON LABOR       |                   |                   |                 |                  |                |
| 96-5 ESCALATION ON SUB.        |                   |                   |                 |                  |                |
| 96-6 ESCALATION ON SCRAP       |                   |                   |                 |                  |                |
| 96-7 ESCALATION ON INDIRECTS   |                   |                   |                 |                  |                |
|                                |                   | <u>42,371,395</u> |                 |                  | <u>100.00%</u> |
| 98 INTEREST DURING CONSTR.     |                   |                   |                 |                  |                |
|                                |                   | <u>42,371,395</u> |                 |                  | <u>100.00%</u> |
| <b>Total</b>                   |                   | <b>42,371,395</b> |                 |                  |                |

AMERICAN ELECTRIC POWER  
 Decommissioning Study Mitchell Plant  
 Units 1, 2 and Common Facilities

| Area          | Group    | DESCRIPTION            | LABOR MAN HRS  | LABOR AMOUNT      | MATERIAL AMOUNT   | SUB AMOUNT       | PROCESS EQUIP AMOUNT | TOTAL AMOUNT       |
|---------------|----------|------------------------|----------------|-------------------|-------------------|------------------|----------------------|--------------------|
| <b>Common</b> |          |                        |                |                   |                   |                  |                      |                    |
|               | 10.00.00 | WHOLE PLANT DEMOLITION | 211,270        | 19,483,672        | 11,020,976        | 4,400,000        |                      | 34,904,648         |
|               | 18.00.00 | SCRAP VALUE            |                |                   |                   |                  | (8,643,497)          | (8,643,497)        |
|               |          | <b>Common</b>          | <b>211,270</b> | <b>19,483,672</b> | <b>11,020,976</b> | <b>4,400,000</b> | <b>(8,643,497)</b>   | <b>26,261,150</b>  |
| <b>Unit 1</b> |          |                        |                |                   |                   |                  |                      |                    |
|               | 10.00.00 | WHOLE PLANT DEMOLITION | 190,383        | 13,835,429        | 57,550            |                  |                      | 13,892,979         |
|               | 18.00.00 | SCRAP VALUE            |                |                   |                   |                  | (14,999,173)         | (14,999,173)       |
|               |          | <b>Unit 1</b>          | <b>190,383</b> | <b>13,835,429</b> | <b>57,550</b>     |                  | <b>(14,999,173)</b>  | <b>(1,106,194)</b> |
| <b>Unit 2</b> |          |                        |                |                   |                   |                  |                      |                    |
|               | 10.00.00 | WHOLE PLANT DEMOLITION | 187,978        | 13,676,784        | 57,550            |                  |                      | 13,734,334         |
|               | 18.00.00 | SCRAP VALUE            |                |                   |                   |                  | (14,421,095)         | (14,421,095)       |
|               |          | <b>Unit 2</b>          | <b>187,978</b> | <b>13,676,784</b> | <b>57,550</b>     |                  | <b>(14,421,095)</b>  | <b>(686,761)</b>   |

| Area          | Group    | Phase | Description   | Notes                              | Quantity     | Man Hours     | Crew Rate  | Labor Cost       | Material Cost     | Subcontract Cost | Process Equipment Cost | Total Cost        |
|---------------|----------|-------|---|------------------------------------|--------------|---------------|------------|------------------|-------------------|------------------|------------------------|-------------------|
| <b>Common</b> |          |       |   |                                    |              |               |            |                  |                   |                  |                        |                   |
|               | 10.00.00 |       | <b>WHOLE PLANT DEMOLITION</b>                                 |                                    |              |               |            |                  |                   |                  |                        |                   |
|               | 10.21.00 |       | <b>CIVIL WORK</b>   |                                    |              |               |            |                  |                   |                  |                        |                   |
|               |          |       | COVERED DISTURBED AREAS OF SITE W/2 FT TOPSOIL                | OFFSITE SUPPLY                     | 438,827.00   | 21,941        | 101.99 /MH | 2,237,798        | 10,531,848        | -                | -                      | 12,769,646        |
|               |          |       | SEED AND MULCH  |                                    | 136.00       | 3,672         | 33.72 /MH  | 123,820          | 379,168           | -                | -                      | 502,988           |
|               |          |       | PAVED SURFACES  | LEAVE ROAD TO SWITCHYARD           | 8,900.00     | 1,068         | 101.99 /MH | 108,925          |                   | -                | -                      | 108,925           |
|               |          |       | DEMOLITION - 228000 TRACK FEET of 110# RAILROAD TRACK         |                                    | 228,000.00   | 68,400        | 101.99 /MH | 6,976,116        |                   | -                | -                      | 6,976,116         |
|               |          |       | DEMOLITION - PULL SHEET PILE & CAP FOR BARGE CELLS            |                                    | 654.00       | 1,766         | 101.99 /MH | 180,094          |                   | -                | -                      | 180,094           |
|               |          |       | DEMOLITION - PERIMETER FENCE                                  | LEAVE SWITCHYARD FENCES            | 15,600.00    | 624           | 101.99 /MH | 63,642           |                   | -                | -                      | 63,642            |
|               |          |       | <b>CIVIL WORK</b>   |                                    |              | <b>97,471</b> |            | <b>9,690,395</b> | <b>10,911,016</b> |                  |                        | <b>20,601,411</b> |
|               | 10.22.00 |       | <b>CONCRETE</b>   |                                    |              |               |            |                  |                   |                  |                        |                   |
|               |          |       | BUILDING PAD FOUNDATION 110LB/CY, OUTBUILDINGS & MISC FDNS    |                                    | 6,600.00     | 7,425         | 75.99 /MH  | 564,226          |                   | -                | -                      | 564,226           |
|               |          |       | EQUIPMENT FOUNDATION 110 LB/CY, MISC EQUIPMENT INTAKE CLOSURE | GROUT OR SAND FILL                 | 1,300.00     | 1,321         | 75.99 /MH  | 100,368          |                   | -                | -                      | 100,368           |
|               |          |       | DEMOLITION, CONCRETE - REMOVE BARGE CELL PILE CAPS            |                                    | 800.00       | 800           | 75.99 /MH  | 60,792           | 73,600            | -                | -                      | 134,392           |
|               |          |       | DEMOLITION, CONCRETE - REMOVE BARGE CELL PILE CAPS            |                                    | 780.00       | 1,404         | 75.99 /MH  | 106,690          |                   | -                | -                      | 106,690           |
|               |          |       | <b>CONCRETE</b>   |                                    |              | <b>10,950</b> |            | <b>832,075</b>   | <b>73,600</b>     |                  |                        | <b>905,675</b>    |
|               | 10.24.00 |       | <b>ARCHITECTURAL</b>  |                                    |              |               |            |                  |                   |                  |                        |                   |
|               |          |       | BUILDING, FGD BLDG  |                                    | 2,100,000.00 | 12,600        | 75.09 /MH  | 946,134          |                   | -                | -                      | 946,134           |
|               |          |       | BUILDING, DEWATERING AREA BLDG                                |                                    | 800,000.00   | 4,800         | 75.09 /MH  | 360,432          |                   | -                | -                      | 360,432           |
|               |          |       | BUILDING, REAGENT PREP AREA                                   |                                    | 830,000.00   | 4,980         | 75.09 /MH  | 373,948          |                   | -                | -                      | 373,948           |
|               |          |       | BUILDING, SERVICE BLDG  |                                    | 1,040,400.00 | 12,485        | 75.09 /MH  | 937,484          |                   | -                | -                      | 937,484           |
|               |          |       | BUILDING, CEMS BLDG   |                                    | 1,000.00     | 6             | 75.09 /MH  | 451              |                   | -                | -                      | 451               |
|               |          |       | BUILDING, GYPSUM STORAGE BLDG                                 |                                    | 2,160,000.00 | 12,960        | 75.09 /MH  | 973,166          |                   | -                | -                      | 973,166           |
|               |          |       | BUILDING, RELOCATED WAREHOUSE                                 |                                    | 39,600.00    | 238           | 75.09 /MH  | 17,841           |                   | -                | -                      | 17,841            |
|               |          |       | BUILDING, MAINTENANCE SLURRY BLDG                             |                                    | 10,032.00    | 60            | 75.09 /MH  | 4,520            |                   | -                | -                      | 4,520             |
|               |          |       | BUILDING, CONSTRUCTION FACILITIES BLDG                        |                                    | 184,800.00   | 1,109         | 75.09 /MH  | 83,260           |                   | -                | -                      | 83,260            |
|               |          |       | BUILDING, ID FAN ELECTRICAL BLDG                              |                                    | 19,600.00    | 118           | 75.09 /MH  | 8,831            |                   | -                | -                      | 8,831             |
|               |          |       | BUILDING, RELOCATED ELECTRICAL BLDG                           |                                    | 10,500.00    | 63            | 75.09 /MH  | 4,731            |                   | -                | -                      | 4,731             |
|               |          |       | BUILDING, UREA UNLOADING BLDG                                 |                                    | 10,368.00    | 62            | 75.09 /MH  | 4,671            |                   | -                | -                      | 4,671             |
|               |          |       | BUILDING, UREA HYDOLIZER & TANK BLDG                          |                                    | 265,200.00   | 1,591         | 75.09 /MH  | 119,483          |                   | -                | -                      | 119,483           |
|               |          |       | BUILDING, CPS TREATMENT BLDG                                  |                                    | 918,000.00   | 5,508         | 75.09 /MH  | 413,596          |                   | -                | -                      | 413,596           |
|               |          |       | BUILDING, CPS WASTE TRANSFER HOUSE                            |                                    | 20,000.00    | 120           | 75.09 /MH  | 9,011            |                   | -                | -                      | 9,011             |
|               |          |       | BUILDING, RIVER WATER MAKEUP PUMP HOUSE                       |                                    | 32,000.00    | 192           | 75.09 /MH  | 14,417           |                   | -                | -                      | 14,417            |
|               |          |       | BUILDING, PRECIPITATOR PARTS WAREHOUSE                        |                                    | 266,000.00   | 1,596         | 75.09 /MH  | 119,844          |                   | -                | -                      | 119,844           |
|               |          |       | BUILDING, TRACTOR SHED  |                                    | 72,000.00    | 432           | 75.09 /MH  | 32,439           |                   | -                | -                      | 32,439            |
|               |          |       | BUILDING, HEAVY EQUIPMENT STORAGE BLDG                        |                                    | 208,000.00   | 1,248         | 75.09 /MH  | 93,712           |                   | -                | -                      | 93,712            |
|               |          |       | BUILDING, DELUGE VALVE BLDG                                   |                                    | 1,000.00     | 6             | 75.09 /MH  | 451              |                   | -                | -                      | 451               |
|               |          |       | BUILDING, EXISTING CONSOL TRANSFER STATION #1                 |                                    | 64,800.00    | 389           | 75.09 /MH  | 29,195           |                   | -                | -                      | 29,195            |
|               |          |       | BUILDING, STATION HTS-3                                       |                                    | 31,200.00    | 187           | 75.09 /MH  | 14,057           |                   | -                | -                      | 14,057            |
|               |          |       | BUILDING, STATION HTS-2B                                      |                                    | 56,000.00    | 336           | 75.09 /MH  | 25,230           |                   | -                | -                      | 25,230            |
|               |          |       | BUILDING, STATION HTS-2A                                      |                                    | 96,000.00    | 576           | 75.09 /MH  | 43,252           |                   | -                | -                      | 43,252            |
|               |          |       | BUILDING, COAL BLENDING SYSTEM ELECTRICAL ROOM                |                                    | 9,600.00     | 58            | 75.09 /MH  | 4,325            |                   | -                | -                      | 4,325             |
|               |          |       | BUILDING, UTILITY SHOWER BLDG                                 |                                    | 65,450.00    | 393           | 75.09 /MH  | 29,488           |                   | -                | -                      | 29,488            |
|               |          |       | BUILDING, TRAINING CENTER                                     |                                    | 50,400.00    | 302           | 75.09 /MH  | 22,707           |                   | -                | -                      | 22,707            |
|               |          |       | BUILDING, MAIN GATE HOUSE                                     |                                    | 4,800.00     | 29            | 75.09 /MH  | 2,163            |                   | -                | -                      | 2,163             |
|               |          |       | BUILDING, CONTROL ROOM SIMULATOR BLDG                         |                                    | 73,500.00    | 441           | 75.09 /MH  | 33,115           |                   | -                | -                      | 33,115            |
|               |          |       | BUILDING, SOUTH WARE HOUSE COMPLEX - 4 WAREHOUSES             |                                    | 414,050.00   | 2,484         | 75.09 /MH  | 186,546          |                   | -                | -                      | 186,546           |
|               |          |       | <b>ARCHITECTURAL</b>  |                                    |              | <b>65,368</b> |            | <b>4,908,498</b> |                   |                  |                        | <b>4,908,498</b>  |
|               | 10.25.00 |       | <b>CONCRETE CHIMNEY &amp; STACK</b>                           |                                    |              |               |            |                  |                   |                  |                        |                   |
|               |          |       | 1200' TALL CONCRETE CHIMNEY                                   | PRICE SHOWN IS SUBCONTRACTED PRICE | 1,200.00     |               | 75.99 /MH  |                  |                   | 2,400,000        | -                      | 2,400,000         |
|               |          |       | 1000' TALL CONCRETE CHIMNEY                                   | PRICE SHOWN IS SUBCONTRACTED PRICE | 1,000.00     |               | 75.99 /MH  |                  |                   | 2,000,000        | -                      | 2,000,000         |
|               |          |       | <b>CONCRETE CHIMNEY &amp; STACK</b>                           |                                    |              |               |            |                  |                   | <b>4,400,000</b> |                        | <b>4,400,000</b>  |
|               | 10.31.00 |       | <b>MECHANICAL EQUIPMENT</b>                                   |                                    |              |               |            |                  |                   |                  |                        |                   |
|               |          |       | TANK, DEWATERING HYDROCLONE FEED TANK A, 850,800 GALLON       | 616" DIA X 63' HIGH                | 123.00       | 329           | 65.69 /MH  | 21,589           |                   | -                | -                      | 21,589            |

| Area | Group           | Phase           | Description   | Notes                               | Quantity    | Man Hours      | Crew Rate  | Labor Cost        | Material Cost     | Subcontract Cost | Process Equipment Cost | Total Cost        |
|------|-----------------|-----------------|---|-------------------------------------|-------------|----------------|------------|-------------------|-------------------|------------------|------------------------|-------------------|
|      |                 | <b>10.31.00</b> | <b>MECHANICAL EQUIPMENT</b>   |                                     |             |                |            |                   |                   |                  |                        |                   |
|      |                 |                 | TANK, DEWATERING HYDROCLONE FEED TANK B, 850,800 GALLON                   | 61'6" DIA X 63' HIGH                | 123.00 TN   | 329            | 65.69 /MH  | 21,589            |                   | -                | -                      | 21,589            |
|      |                 |                 | TANK, RECLAIM WATER TANK A, 351,000 GALLONS                               | 45' DIA X 58' HIGH                  | 60.00 TN    | 160            | 65.69 /MH  | 10,531            |                   | -                | -                      | 10,531            |
|      |                 |                 | TANK, RECLAIM WATER TANK B, 351,000 GALLONS                               | 45' DIA X 58' HIGH                  | 60.00 TN    | 160            | 65.69 /MH  | 10,531            |                   | -                | -                      | 10,531            |
|      |                 |                 | TANK, REAGENT SLURRY STORAGE TANK A, 457,920 GALLONS                      | 50' DIA. X 50' HIGH                 | 64.00 TN    | 171            | 65.69 /MH  | 11,234            |                   | -                | -                      | 11,234            |
|      |                 |                 | TANK, REAGENT SLURRY STORAGE TANK B, 457,920 GALLONS                      | 50' DIA. X 50' HIGH                 | 64.00 TN    | 171            | 65.69 /MH  | 11,234            |                   | -                | -                      | 11,234            |
|      |                 |                 | TANK, MAINTENANCE STORAGE TANK, 1,417,000 GALLONS                         | 61'6" DIA X 67' TALL                | 129.00 TN   | 345            | 65.69 /MH  | 22,643            |                   | -                | -                      | 22,643            |
|      |                 |                 | TANK, FGD SERVICE WATER TANK, 399,480 GALLONS                             | 36'6" DIA X 58'6" HIGH              | 37.00 TN    | 99             | 65.69 /MH  | 6,494             |                   | -                | -                      | 6,494             |
|      |                 |                 | TANK, UREA FEED TANK, 200,000 GALLONS                                     | 35' DIA X 30' HIGH                  | 25.00 TN    | 67             | 65.69 /MH  | 4,388             |                   | -                | -                      | 4,388             |
|      |                 |                 | TANK, FUEL OIL STORAGE TANK, 500,000 GALLONS                              | 52' DIA X 32' HIGH                  | 50.00 TN    | 134            | 65.69 /MH  | 8,776             |                   | -                | -                      | 8,776             |
|      |                 |                 | TANKS, FUEL OIL STORAGE TANK, 1,500,000 GALLONS                           | 80' DIA X 42' HIGH                  | 131.00 TN   | 350            | 65.69 /MH  | 22,994            |                   | -                | -                      | 22,994            |
|      |                 |                 | TANK, METAL CLEANING WASTE TREATMENT TANK, 1,000,000 GALLONS              | 70' DIA X 35' HIGH                  | 83.00 TN    | 222            | 65.69 /MH  | 14,568            |                   | -                | -                      | 14,568            |
|      |                 |                 | MECHANICAL EQUIPMENT - FGD EQUIPMENT                                      |                                     | 646.00 TN   | 1,308          | 65.69 /MH  | 85,932            |                   | -                | -                      | 85,932            |
|      |                 |                 | MECHANICAL EQUIPMENT - DRY SORBENT SYSTEM                                 |                                     | 100.00 TN   | 203            | 65.69 /MH  | 13,302            |                   | -                | -                      | 13,302            |
|      |                 |                 | <b>MECHANICAL EQUIPMENT</b>   |                                     |             | <b>4,046</b>   |            | <b>265,807</b>    |                   |                  |                        | <b>265,807</b>    |
|      |                 | <b>10.33.00</b> | <b>MATERIAL HANDLING EQUIPMENT</b>  |                                     |             |                |            |                   |                   |                  |                        |                   |
|      |                 |                 | MATERIAL HANDLING EQUIPMENT - LIMESTONE/GYPSUM GYPSUM CLAMSHELL UNLOADER  |                                     | 400.00 TN   | 810            | 65.69 /MH  | 53,209            |                   | -                | -                      | 53,209            |
|      |                 |                 | MATERIAL HANDLING EQUIPMENT - LIMESTONE/GYPSUM BUCKET BARGE UNLOADER      |                                     | 400.00 TN   | 810            | 65.69 /MH  | 53,209            |                   | -                | -                      | 53,209            |
|      |                 |                 | MATERIAL HANDLING EQUIPMENT - COAL BUCKET BARGE UNLOADER                  |                                     | 400.00 TN   | 810            | 65.69 /MH  | 53,209            |                   | -                | -                      | 53,209            |
|      |                 |                 | MATERIAL HANDLING EQUIPMENT - GYPSUM HANDLING SYSTEM                      |                                     | 2,152.00 TN | 4,358          | 65.69 /MH  | 286,264           |                   | -                | -                      | 286,264           |
|      |                 |                 | MATERIAL HANDLING EQUIPMENT - LIMESTONE HANDLING SYSTEM                   |                                     | 733.00 TN   | 1,484          | 65.69 /MH  | 97,505            |                   | -                | -                      | 97,505            |
|      |                 |                 | MATERIAL HANDLING EQUIPMENT - COAL HANDLING SYSTEM                        |                                     | 2,300.00 TN | 4,658          | 65.69 /MH  | 305,951           |                   | -                | -                      | 305,951           |
|      |                 |                 | MATERIAL HANDLING EQUIPMENT - COAL HANDLING SYSTEM - COAL BLENDING SYSTEM |                                     | 944.00 TN   | 1,912          | 65.69 /MH  | 125,573           |                   | -                | -                      | 125,573           |
|      |                 |                 | <b>MATERIAL HANDLING EQUIPMENT</b>  |                                     |             | <b>14,841</b>  |            | <b>974,920</b>    |                   |                  |                        | <b>974,920</b>    |
|      |                 | <b>10.35.00</b> | <b>PIPING</b>   |                                     |             |                |            |                   |                   |                  |                        |                   |
|      |                 |                 | PIPING - CIRC WATER PIPING AND TUNNELS                                    |                                     | 1.00 LS     | 1,020          | 75.99 /MH  | 77,510            |                   | -                | -                      | 77,510            |
|      |                 |                 | PIPING - DEMO BOP PIPING AND HANGERS                                      |                                     | 1.00 LS     | 509            | 65.69 /MH  | 33,436            |                   | -                | -                      | 33,436            |
|      |                 |                 | <b>PIPING</b>   |                                     |             | <b>1,529</b>   |            | <b>110,946</b>    |                   |                  |                        | <b>110,946</b>    |
|      |                 | <b>10.41.00</b> | <b>ELECTRICAL EQUIPMENT</b>   |                                     |             |                |            |                   |                   |                  |                        |                   |
|      |                 |                 | MISCELLANEOUS ELECTRICAL EQUIPMENT  |                                     | 100.00 TN   | 267            | 65.69 /MH  | 17,552            |                   | -                | -                      | 17,552            |
|      |                 |                 | MISCELLANEOUS ELECTRICAL EQUIPMENT, TRANSFORMERS                          |                                     | 406.60 TN   | 1,086          | 65.69 /MH  | 71,368            |                   | -                | -                      | 71,368            |
|      |                 |                 | <b>ELECTRICAL EQUIPMENT</b>   |                                     |             | <b>1,354</b>   |            | <b>88,920</b>     |                   |                  |                        | <b>88,920</b>     |
|      |                 | <b>10.42.00</b> | <b>RACEWAY, CABLE TRAY, &amp; CONDUIT</b>                                 |                                     |             |                |            |                   |                   |                  |                        |                   |
|      |                 |                 | RACEWAY, CABLE TRAY, & CONDUIT -  |                                     | 396.00 TN   | 40             | 65.69 /MH  | 2,601             |                   | -                | -                      | 2,601             |
|      |                 |                 | <b>RACEWAY, CABLE TRAY, &amp; CONDUIT</b>                                 |                                     |             | <b>40</b>      |            | <b>2,601</b>      |                   |                  |                        | <b>2,601</b>      |
|      |                 | <b>10.86.00</b> | <b>WASTE</b>  |                                     |             |                |            |                   |                   |                  |                        |                   |
|      |                 |                 | WASTE - OIL CONTAMINATED FILL   | ASSUMED 5 FEET DEEP IS CONTAMINATED | 9,204.00 CY | 10,916         | 168.91 /MH | 1,843,812         | 0                 | -                | -                      | 1,843,812         |
|      |                 |                 | WASTE - METAL CLEANING TANK BERMED AREA CONTAMINATED FILL                 | ASSUMED 5 FEET DEEP IS CONTAMINATED | 3,703.00 CY | 4,392          | 168.91 /MH | 741,812           | 0                 | -                | -                      | 741,812           |
|      |                 |                 | WASTE - BUILDING WASTE - COMMON BLDGS                                     |                                     | 3,636.00 CY | 364            | 65.69 /MH  | 23,885            | 36,360            | -                | -                      | 60,245            |
|      |                 |                 | <b>WASTE</b>  |                                     |             | <b>15,671</b>  |            | <b>2,609,509</b>  | <b>36,360</b>     |                  |                        | <b>2,645,869</b>  |
|      |                 |                 | <b>WHOLE PLANT DEMOLITION</b>   |                                     |             | <b>211,270</b> |            | <b>19,483,672</b> | <b>11,020,976</b> | <b>4,400,000</b> |                        | <b>34,904,648</b> |
|      | <b>18.00.00</b> |                 | <b>SCRAP VALUE</b>  |                                     |             |                |            |                   |                   |                  |                        |                   |
|      |                 | <b>18.10.00</b> | <b>MIXED STEEL</b>  |                                     |             |                |            |                   |                   |                  |                        |                   |

| Area | Group | Phase           | Description   | Notes | Quantity     | Man Hours | Crew Rate | Labor Cost | Material Cost | Subcontract Cost | Process Equipment Cost | Total Cost         |
|------|-------|-----------------|---|-------|--------------|-----------|-----------|------------|---------------|------------------|------------------------|--------------------|
|      |       | <b>18.10.00</b> | <b>MIXED STEEL</b>  |       |              |           |           |            |               |                  |                        |                    |
|      |       |                 | MIXED STEEL, DEWATERING HYDROCLONE FEED TANK A, 850,800 GALLON                        |       | -123.00 TN   |           | 65.97 /MH | -          | -             | -                | (35,301)               | (35,301)           |
|      |       |                 | MIXED STEEL, DEWATERING HYDROCLONE FEED TANK B, 850,800 GALLON                        |       | -123.00 TN   |           | 65.97 /MH | -          | -             | -                | (35,301)               | (35,301)           |
|      |       |                 | MIXED STEEL, RECLAIM WATER TANK A, 351,000 GALLONS                                    |       | -60.00 TN    |           | 65.97 /MH | -          | -             | -                | (17,220)               | (17,220)           |
|      |       |                 | MIXED STEEL, RECLAIM WATER TANK B, 351,000 GALLONS                                    |       | -60.00 TN    |           | 65.97 /MH | -          | -             | -                | (17,220)               | (17,220)           |
|      |       |                 | MIXED STEEL, REAGENT SLURRY STORAGE TANK A, 457,920 GALLONS                           |       | -64.00 TN    |           | 65.97 /MH | -          | -             | -                | (18,368)               | (18,368)           |
|      |       |                 | MIXED STEEL, REAGENT SLURRY STORAGE TANK B, 457,920 GALLONS                           |       | -64.00 TN    |           | 65.97 /MH | -          | -             | -                | (18,368)               | (18,368)           |
|      |       |                 | MIXED STEEL, MAINTENANCE STORAGE TANK, 1,417,000 GALLONS                              |       | -129.00 TN   |           | 65.97 /MH | -          | -             | -                | (37,023)               | (37,023)           |
|      |       |                 | MIXED STEEL, FGD SERVICE WATER TANK, 399,480 GALLONS                                  |       | -37.00 TN    |           | 65.97 /MH | -          | -             | -                | (10,619)               | (10,619)           |
|      |       |                 | MIXED STEEL, UREA FEED TANK, 200,000 GALLONS  |       | -25.00 TN    |           | 65.97 /MH | -          | -             | -                | (7,175)                | (7,175)            |
|      |       |                 | MIXED STEEL, FUEL OIL STORAGE TANK, 500,000 GALLONS                                   |       | -50.00 TN    |           | 65.97 /MH | -          | -             | -                | (14,350)               | (14,350)           |
|      |       |                 | MIXED STEEL, FUEL OIL STORAGE TANK, 1,500,000 GALLONS                                 |       | -131.00 TN   |           | 65.97 /MH | -          | -             | -                | (37,597)               | (37,597)           |
|      |       |                 | MIXED STEEL, METAL CLEANING WASTE TREATMENT TANK, 1,000,000 GALLONS                   |       | -83.00 TN    |           | 65.97 /MH | -          | -             | -                | (23,821)               | (23,821)           |
|      |       |                 | MIXED STEEL, FGD BLDG FRAMING & GIRTS   |       | -1,050.00 TN |           | 65.97 /MH | -          | -             | -                | (301,350)              | (301,350)          |
|      |       |                 | MIXED STEEL, DEWATERING AREA BLDG FRAMING & GIRTS                                     |       | -400.00 TN   |           | 65.97 /MH | -          | -             | -                | (114,800)              | (114,800)          |
|      |       |                 | MIXED STEEL, REAGENT PREP AREA FRAMING & GIRTS  |       | -414.00 TN   |           | 65.97 /MH | -          | -             | -                | (118,818)              | (118,818)          |
|      |       |                 | MIXED STEEL, SERVICE BLDG FRAMING & GIRTS   |       | -520.00 TN   |           | 65.97 /MH | -          | -             | -                | (149,240)              | (149,240)          |
|      |       |                 | MIXED STEEL REBAR RECOVERY FROM OUTBUILDINGS FOUNDATIONS & MISC FDNS                  |       | -363.00 TN   |           | 65.97 /MH | -          | -             | -                | (104,181)              | (104,181)          |
|      |       |                 | MIXED STEEL REBAR RECOVERY FROM 1200' CHIMNEY   |       | -680.00 TN   |           | 65.97 /MH | -          | -             | -                | (195,160)              | (195,160)          |
|      |       |                 | MIXED STEEL, STEEL LINER FROM 1200' CHIMNEY   |       | -1,005.00 TN |           | 65.97 /MH | -          | -             | -                | (288,435)              | (288,435)          |
|      |       |                 | MIXED STEEL, EQUIPMENT FOUNDATION 110 LB/CY, MISC EQUIPMENT, REINFORCING              |       | -72.00 TN    |           | 65.97 /MH | -          | -             | -                | (20,664)               | (20,664)           |
|      |       |                 | MIXED STEEL REBAR RECOVERY FROM 1000' CHIMNEY   |       | -730.00 TN   |           | 65.97 /MH | -          | -             | -                | (209,510)              | (209,510)          |
|      |       |                 | MIXED STEEL, MECHANICAL EQUIPMENT - FGD EQUIPMENT                                     |       | -646.00 TN   |           | 65.97 /MH | -          | -             | -                | (185,402)              | (185,402)          |
|      |       |                 | MIXED STEEL, MATERIAL HANDLING EQUIPMENT - LIMESTONE/GYPSUM GYPSUM CLAMSHELL UNLOADER |       | -400.00 TN   |           | 65.97 /MH | -          | -             | -                | (114,800)              | (114,800)          |
|      |       |                 | MIXED STEEL, MATERIAL HANDLING EQUIPMENT - LIMESTONE/GYPSUM BUCKET BARGE UNLOADER     |       | -400.00 TN   |           | 65.97 /MH | -          | -             | -                | (114,800)              | (114,800)          |
|      |       |                 | MIXED STEEL, MATERIAL HANDLING EQUIPMENT - COAL BUCKET BARGE UNLOADER                 |       | -400.00 TN   |           | 65.97 /MH | -          | -             | -                | (114,800)              | (114,800)          |
|      |       |                 | MIXED STEEL, MATERIAL HANDLING EQUIPMENT - GYPSUM HANDLING SYSTEM                     |       | -728.00 TN   |           | 65.97 /MH | -          | -             | -                | (208,936)              | (208,936)          |
|      |       |                 | MIXED STEEL, MATERIAL HANDLING EQUIPMENT - LIMESTONE HANDLING SYSTEM                  |       | -2,158.00 TN |           | 65.97 /MH | -          | -             | -                | (619,346)              | (619,346)          |
|      |       |                 | MIXED STEEL, MATERIAL HANDLING EQUIPMENT - COAL HANDLING SYSTEM, COMMON               |       | -3,244.00 TN |           | 65.97 /MH | -          | -             | -                | (931,028)              | (931,028)          |
|      |       |                 | MIXED STEEL, MECHANICAL EQUIPMENT - DRY SORBENT SYSTEM                                |       | -100.00 TN   |           | 65.97 /MH | -          | -             | -                | (28,700)               | (28,700)           |
|      |       |                 | MIXED STEEL, 228000 TF OF RAILROAD TRACK  |       | -8,388.00 TN |           | 65.97 /MH | -          | -             | -                | (2,407,356)            | (2,407,356)        |
|      |       |                 | MIXED STEEL, DEMOLITION - PULL SHEET PILE & CAP FOR BARGE CELLS                       |       | -654.00 TN   |           | 65.97 /MH | -          | -             | -                | (187,698)              | (187,698)          |
|      |       |                 | MIXED STEEL, RACEWAY, CABLE TRAY, & CONDUIT -   |       | -396.00 TN   |           | 65.97 /MH | -          | -             | -                | (113,652)              | (113,652)          |
|      |       |                 | MIXED STEEL, MISCELLANEOUS ELECTRICAL EQUIPMENT, TRANSFORMERS                         |       | -222.60 TN   |           | 65.97 /MH | -          | -             | -                | (63,886)               | (63,886)           |
|      |       |                 | <b>MIXED STEEL</b>  |       |              |           |           |            |               |                  | <b>(6,864,925)</b>     | <b>(6,864,925)</b> |
|      |       | <b>18.30.00</b> | <b>COPPER</b>   |       |              |           |           |            |               |                  |                        |                    |
|      |       |                 | COPPER SCRAP CABLE & COMMON   |       | -200.00 TN   |           | 65.97 /MH | -          | -             | -                | (1,218,200)            | (1,218,200)        |
|      |       |                 | COPPER, MISCELLANEOUS ELECTRICAL EQUIPMENT, TRANSFORMERS                              |       | -92.00 TN    |           | 65.97 /MH | -          | -             | -                | (560,372)              | (560,372)          |
|      |       |                 | <b>COPPER</b>   |       |              |           |           |            |               |                  | <b>(1,778,572)</b>     | <b>(1,778,572)</b> |

| Area               | Group           | Phase           | Description  | Notes              | Quantity        | Man Hours      | Crew Rate | Labor Cost        | Material Cost     | Subcontract Cost | Process Equipment Cost | Total Cost        |
|--------------------|-----------------|-----------------|--|--------------------|-----------------|----------------|-----------|-------------------|-------------------|------------------|------------------------|-------------------|
| <b>SCRAP VALUE</b> |                 |                 |  |                    |                 |                |           |                   |                   |                  | (8,643,497)            | (8,643,497)       |
| <b>Common</b>      |                 |                 |  |                    |                 | <b>211,270</b> |           | <b>19,483,672</b> | <b>11,020,976</b> | <b>4,400,000</b> | <b>(8,643,497)</b>     | <b>26,261,150</b> |
| <b>Unit 1</b>      | <b>10.00.00</b> |                 | <b>WHOLE PLANT DEMOLITION</b>  |                    |                 |                |           |                   |                   |                  |                        |                   |
|                    |                 | <b>10.22.00</b> | <b>CONCRETE</b>  |                    |                 |                |           |                   |                   |                  |                        |                   |
|                    |                 |                 | BUILDING PAD FOUNDATION 110 LB/CY, UNIT 1 COOLING TOWER BASIN  |                    | 8,840.00 CY     | 9,945          | 75.99 /MH | 755,721           |                   | -                | -                      | 755,721           |
|                    |                 |                 | ELEVATED FOUNDATION 110/CY, UNIT 1 COOLING TOWER SHELL   |                    | 9,200.00 CY     | 5,511          | 75.99 /MH | 418,766           |                   | -                | -                      | 418,766           |
|                    |                 |                 | ELEVATED FOUNDATION, UNIT 1 TURBINE AND BLR BLDGS  |                    | 2,000.00 CY     | 1,198          | 75.99 /MH | 91,036            |                   | -                | -                      | 91,036            |
|                    |                 |                 | TURBINE PEDESTAL FOUNDATION 140 LB/CY, UNIT 1 CONCRETE   |                    | 7,778.00 CY     | 14,000         | 75.99 /MH | 1,063,890         |                   | -                | -                      | 1,063,890         |
|                    |                 |                 |  |                    |                 | <b>30,654</b>  |           | <b>2,329,413</b>  |                   |                  |                        | <b>2,329,413</b>  |
|                    |                 | <b>10.23.00</b> | <b>STEEL</b>   |                    |                 |                |           |                   |                   |                  |                        |                   |
|                    |                 |                 | DUCTWORK W/BREECHINGS AND STEEL SUPPORTS, UNIT 1   |                    | 1,922.00 TN     | 5,136          | 65.97 /MH | 338,794           |                   | -                | -                      | 338,794           |
|                    |                 |                 | STEEL  |                    |                 | <b>5,136</b>   |           | <b>338,794</b>    |                   |                  |                        | <b>338,794</b>    |
|                    |                 | <b>10.24.00</b> | <b>ARCHITECTURAL</b>   |                    |                 |                |           |                   |                   |                  |                        |                   |
|                    |                 |                 | BUILDING, UNIT 1 POWER BLOCK, INCLUDING TURBINE BLDG, BOILER HOUSE PREHTR FAN ENCLOSURE & COAL BUNKERS |                    | 8,500,000.00 CF | 85,000         | 75.09 /MH | 6,382,650         |                   | -                | -                      | 6,382,650         |
|                    |                 |                 | ARCHITECTURAL  |                    |                 | <b>85,000</b>  |           | <b>6,382,650</b>  |                   |                  |                        | <b>6,382,650</b>  |
|                    |                 | <b>10.31.00</b> | <b>MECHANICAL EQUIPMENT</b>  |                    |                 |                |           |                   |                   |                  |                        |                   |
|                    |                 |                 | MAIN BOILER AND APPURTENANCES, UNIT 1  |                    | 12,160.00 TN    | 24,624         | 71.44 /MH | 1,759,139         |                   | -                | -                      | 1,759,139         |
|                    |                 |                 | FD & ID FANS, UNIT 1   |                    | 6,135.00 TN     | 12,423         | 71.44 /MH | 887,526           |                   | -                | -                      | 887,526           |
|                    |                 |                 | FEEDWATER DEARATING EQUIPMENT, UNIT 1  |                    | 215.00 TN       | 435            | 65.69 /MH | 28,600            |                   | -                | -                      | 28,600            |
|                    |                 |                 | TANK, UNIT 1 CLEAN CONDENSATE TANK, 753,000 GALLONS  | 60' DIA X 40' HIGH | 77.00 TN        | 206            | 65.69 /MH | 13,515            |                   | -                | -                      | 13,515            |
|                    |                 |                 | TANK, UNIT 1 CONTAMINATED CONDENSATE TANK, 500,000 GALLONS   | 50' DIA X 35' HIGH | 50.00 TN        | 134            | 65.69 /MH | 8,776             |                   | -                | -                      | 8,776             |
|                    |                 |                 | TANK, UNIT 1 EQUALIZATION TANK. 220,600 GALLONS  | 38' DIA X 30' HIGH | 30.00 TN        | 80             | 65.69 /MH | 5,266             |                   | -                | -                      | 5,266             |
|                    |                 |                 | TANK, UNIT 1 ABSORBER REACTION TANK  |                    | 462.00 TN       | 1,234          | 65.69 /MH | 81,092            |                   | -                | -                      | 81,092            |
|                    |                 |                 | WATER TREATMENT DEMINERALIZATION & CHEMICAL TREATMENT EQUIPMENT, UNIT 1                                |                    | 269.00 TN       | 545            | 65.69 /MH | 35,783            |                   | -                | -                      | 35,783            |
|                    |                 |                 | TURBINE GENERATOR, UNIT 1  |                    | 2,045.00 TN     | 4,141          | 65.69 /MH | 272,031           |                   | -                | -                      | 272,031           |
|                    |                 |                 | CONDENSER, UNIT 1  |                    | 1,165.00 TN     | 2,359          | 65.69 /MH | 154,971           |                   | -                | -                      | 154,971           |
|                    |                 |                 | CIRCULATING WATER EQUIPMENT, UNIT 1  |                    | 484.00 TN       | 980            | 65.69 /MH | 64,383            |                   | -                | -                      | 64,383            |
|                    |                 |                 | COOLING TOWER, UNIT 1 REMOVE FILL  |                    | 690,000.00 CF   | 4,140          | 65.69 /MH | 271,957           |                   | -                | -                      | 271,957           |
|                    |                 |                 | MECHANICAL EQUIPMENT - UNIT 1 MISC. POWER PLANT EQUIPMENT  |                    | 613.00 TN       | 1,241          | 65.69 /MH | 81,543            |                   | -                | -                      | 81,543            |
|                    |                 |                 | MECHANICAL EQUIPMENT - DEMOLISH UNIT 1 TURBINE ROOM OVERHEAD CRANE                                     |                    | 1.00 LS         | 315            | 65.69 /MH | 20,692            |                   | -                | -                      | 20,692            |
|                    |                 |                 | MECHANICAL EQUIPMENT - UNIT 1 DUST COLLECTORS  |                    | 269.00 TN       | 545            | 65.69 /MH | 35,783            |                   | -                | -                      | 35,783            |
|                    |                 |                 | MECHANICAL EQUIPMENT - PRECIPITATORS UNIT 1  |                    | 1,000.00 TN     | 2,025          | 65.69 /MH | 133,022           |                   | -                | -                      | 133,022           |
|                    |                 |                 | MECHANICAL EQUIPMENT - SCR UNIT 1  |                    | 664.00 TN       | 1,345          | 65.69 /MH | 88,327            |                   | -                | -                      | 88,327            |
|                    |                 |                 | MECHANICAL EQUIPMENT   |                    |                 | <b>56,772</b>  |           | <b>3,942,404</b>  |                   |                  |                        | <b>3,942,404</b>  |
|                    |                 | <b>10.33.00</b> | <b>MATERIAL HANDLING EQUIPMENT</b>   |                    |                 |                |           |                   |                   |                  |                        |                   |
|                    |                 |                 | MATERIAL HANDLING EQUIPMENT - UNIT 1 ASH HANDLING EQUIPMENT  |                    | 377.00 TN       | 763            | 65.69 /MH | 50,149            |                   | -                | -                      | 50,149            |
|                    |                 |                 | MATERIAL HANDLING EQUIPMENT - UNIT 1 FUEL EQUIPMENT, CONVEYORS INCL TRUSSES & BENTS                    |                    | 1,432.00 TN     | 2,900          | 65.69 /MH | 190,488           |                   | -                | -                      | 190,488           |
|                    |                 |                 | MATERIAL HANDLING EQUIPMENT  |                    |                 | <b>3,663</b>   |           | <b>240,637</b>    |                   |                  |                        | <b>240,637</b>    |
|                    |                 | <b>10.34.00</b> | <b>HVAC</b>  |                    |                 |                |           |                   |                   |                  |                        |                   |
|                    |                 |                 | HVAC - UNIT 1  |                    | 1.00 LS         | 1,695          | 65.69 /MH | 111,345           |                   | -                | -                      | 111,345           |
|                    |                 |                 | HVAC   |                    |                 | <b>1,695</b>   |           | <b>111,345</b>    |                   |                  |                        | <b>111,345</b>    |
|                    |                 | <b>10.35.00</b> | <b>PIPING</b>  |                    |                 |                |           |                   |                   |                  |                        |                   |
|                    |                 |                 | PIPING - UNIT 1 BOILER PLANT AND TURBINE PIPING  |                    | 2,690.00 TN     | 5,719          | 65.69 /MH | 375,677           |                   | -                | -                      | 375,677           |



| Area            | Group           | Phase | Description   | Notes               | Quantity      | Man Hours      | Crew Rate | Labor Cost        | Material Cost | Subcontract Cost | Process Equipment Cost | Total Cost          |
|-----------------|-----------------|-------|---|---------------------|---------------|----------------|-----------|-------------------|---------------|------------------|------------------------|---------------------|
|                 |                 |       | <b>PIPING</b>   |                     |               | <b>5,719</b>   |           | <b>375,677</b>    |               |                  |                        | <b>375,677</b>      |
|                 | <b>10.41.00</b> |       | <b>ELECTRICAL EQUIPMENT</b>   |                     |               |                |           |                   |               |                  |                        |                     |
|                 |                 |       | GENERATOR BUS TRANSFORMERS UNIT 1 MAIN POWER TRANSFORMER  |                     | 328.00 TN     | 876            | 65.69 /MH | 57,572            |               | -                | -                      | 57,572              |
|                 |                 |       | STATION AUXILIARY TRANSFORMERS, UNIT 1 MAIN AUX TRANSFORMERS  |                     | 109.00 TN     | 291            | 65.69 /MH | 19,132            |               | -                | -                      | 19,132              |
|                 |                 |       | <b>ELECTRICAL EQUIPMENT</b>   |                     |               | <b>1,168</b>   |           | <b>76,704</b>     |               |                  |                        | <b>76,704</b>       |
|                 | <b>10.86.00</b> |       | <b>WASTE</b>  |                     |               |                |           |                   |               |                  |                        |                     |
|                 |                 |       | WASTE - UNIT 1 COOLING TOWER FILL   | FIBERGLASS AND WOOD | 2,555.00 CY   | 256            | 65.69 /MH | 16,784            | 25,550        | -                | -                      | 42,334              |
|                 |                 |       | WASTE - USER DEFINED - UNIT 1 BLDG WASTE  |                     | 3,200.00 CY   | 320            | 65.69 /MH | 21,021            | 32,000        | -                | -                      | 53,021              |
|                 |                 |       | <b>WASTE</b>  |                     |               | <b>576</b>     |           | <b>37,805</b>     | <b>57,550</b> |                  |                        | <b>95,355</b>       |
|                 |                 |       | <b>WHOLE PLANT DEMOLITION</b>   |                     |               | <b>190,383</b> |           | <b>13,835,429</b> | <b>57,550</b> |                  |                        | <b>13,892,979</b>   |
| <b>18.00.00</b> |                 |       | <b>SCRAP VALUE</b>  |                     |               |                |           |                   |               |                  |                        |                     |
|                 | <b>18.10.00</b> |       | <b>MIXED STEEL</b>  |                     |               |                |           |                   |               |                  |                        |                     |
|                 |                 |       | MIXED STEEL, UNIT 1 CLEAN CONDENSATE TANK, 753,000 GALLONS  |                     | -77.00 TN     |                | 65.97 /MH | -                 | -             | -                | (22,099)               | (22,099)            |
|                 |                 |       | MIXED STEEL, UNIT 1 CONTAMINATED CONDENSATE TANK, 500,000 GALLONS   |                     | -50.00 TN     |                | 65.97 /MH | -                 | -             | -                | (14,350)               | (14,350)            |
|                 |                 |       | MIXED STEEL, UNIT 1 EQUALIZATION TANK, 220,600 GALLONS  |                     | -30.00 TN     |                | 65.97 /MH | -                 | -             | -                | (8,610)                | (8,610)             |
|                 |                 |       | MIXED STEEL, UNIT 1 POWER BLOCK, INCLUDING TURBINE BLDG, BOILER HOUSE PREHTR FAN ENCLOSURE & COAL BUNKERS |                     | -4,250.00 TN  |                | 65.97 /MH | -                 | -             | -                | (1,219,750)            | (1,219,750)         |
|                 |                 |       | MIXED STEEL, REBAR RECOVERED, TURBINE PEDESTAL FOUNDATION 140 LB/CY, UNIT 1                               |                     | -467.00 TN    |                | 65.97 /MH | -                 | -             | -                | (134,029)              | (134,029)           |
|                 |                 |       | MIXED STEEL, UNIT 1 COOLING TOWER REINFORCING RECOVERED   |                     | -440.00 TN    |                | 65.97 /MH | -                 | -             | -                | (126,280)              | (126,280)           |
|                 |                 |       | MIXED STEEL, ELEVATED FOUNDATION, UNIT 1 TURBINE AND BLR BLDGS, REINFORCING                               |                     | -110.00 TN    |                | 65.97 /MH | -                 | -             | -                | (31,570)               | (31,570)            |
|                 |                 |       | MIXED STEEL, MAIN BOILER AND APPURTENANCES, UNIT 1  |                     | -12,160.00 TN |                | 65.97 /MH | -                 | -             | -                | (3,489,920)            | (3,489,920)         |
|                 |                 |       | MIXED STEEL, FD & ID FANS, UNIT 1   |                     | -6,135.00 TN  |                | 65.97 /MH | -                 | -             | -                | (1,760,745)            | (1,760,745)         |
|                 |                 |       | MIXED STEEL, DUCTWORK W/BREECHINGS AND STEEL SUPPORTS, UNIT 1   |                     | -1,922.00 TN  |                | 65.97 /MH | -                 | -             | -                | (551,614)              | (551,614)           |
|                 |                 |       | MIXED STEEL, FEEDWATER DEARATING EQUIPMENT, UNIT 1  |                     | -215.00 TN    |                | 65.97 /MH | -                 | -             | -                | (61,705)               | (61,705)            |
|                 |                 |       | MIXED STEEL, WATER TREATMENT DEMINERALIZATION & CHEMICAL TREATMENT EQUIPMENT, UNIT 1                      |                     | -269.00 TN    |                | 65.97 /MH | -                 | -             | -                | (77,203)               | (77,203)            |
|                 |                 |       | MIXED STEEL, UNIT 1 CONDENSER   |                     | -792.00 TN    |                | 65.97 /MH | -                 | -             | -                | (227,304)              | (227,304)           |
|                 |                 |       | MIXED STEEL, MATERIAL HANDLING EQUIPMENT - UNIT 1 ASH HANDLING EQUIPMENT                                  |                     | -377.00 TN    |                | 65.97 /MH | -                 | -             | -                | (108,199)              | (108,199)           |
|                 |                 |       | MIXED STEEL, MATERIAL HANDLING EQUIPMENT - UNIT 1 FUEL EQUIPMENT, CONVEYORS INCL TRUSSES & BENTS          |                     | -1,432.00 TN  |                | 65.97 /MH | -                 | -             | -                | (410,984)              | (410,984)           |
|                 |                 |       | MIXED STEEL, TURBINE GENERATOR, UNIT 1  |                     | -2,045.00 TN  |                | 65.97 /MH | -                 | -             | -                | (586,915)              | (586,915)           |
|                 |                 |       | MIXED STEEL, CIRCULATING WATER EQUIPMENT, UNIT 1  |                     | -484.00 TN    |                | 65.97 /MH | -                 | -             | -                | (138,908)              | (138,908)           |
|                 |                 |       | MIXED STEEL, MECHANICAL EQUIPMENT - UNIT 1 MISC. POWER PLANT EQUIPMENT                                    |                     | -613.00 TN    |                | 65.97 /MH | -                 | -             | -                | (175,931)              | (175,931)           |
|                 |                 |       | MIXED STEEL, MECHANICAL EQUIPMENT - UNIT 1 DUST COLLECTORS  |                     | -269.00 TN    |                | 65.97 /MH | -                 | -             | -                | (77,203)               | (77,203)            |
|                 |                 |       | MIXED STEEL, PIPING - UNIT 1 BOILER PLANT AND TURBINE PIPING  |                     | -2,690.00 TN  |                | 65.97 /MH | -                 | -             | -                | (772,030)              | (772,030)           |
|                 |                 |       | MIXED STEEL, MECHANICAL EQUIPMENT - PRECIPITATORS UNIT 1  |                     | -1,000.00 TN  |                | 65.97 /MH | -                 | -             | -                | (287,000)              | (287,000)           |
|                 |                 |       | MIXED STEEL, GENERATOR BUS TRANSFORMERS UNIT 1 MAIN POWER TRANSFORMER                                     |                     | -180.50 TN    |                | 65.97 /MH | -                 | -             | -                | (51,804)               | (51,804)            |
|                 |                 |       | MIXED STEEL, STATION AUXILIARY TRANSFORMERS, UNIT 1 MAIN AUX TRANSFORMERS                                 |                     | -56.00 TN     |                | 65.97 /MH | -                 | -             | -                | (16,072)               | (16,072)            |
|                 |                 |       | MIXED STEEL, MECHANICAL EQUIPMENT - SCR UNIT 1  |                     | -664.00 TN    |                | 65.97 /MH | -                 | -             | -                | (190,568)              | (190,568)           |
|                 |                 |       | <b>MIXED STEEL</b>  |                     |               |                |           |                   |               |                  | <b>(10,540,793)</b>    | <b>(10,540,793)</b> |
|                 | <b>18.20.00</b> |       | <b>STAINLESS STEEL</b>  |                     |               |                |           |                   |               |                  |                        |                     |

| Area          | Group    | Phase    | Description  | Notes              | Quantity        | Man Hours      | Crew Rate | Labor Cost        | Material Cost | Subcontract Cost | Process Equipment Cost | Total Cost         |
|---------------|----------|----------|--|--------------------|-----------------|----------------|-----------|-------------------|---------------|------------------|------------------------|--------------------|
|               |          | 18.20.00 | <b>STAINLESS STEEL</b>   |                    |                 |                |           |                   |               |                  |                        |                    |
|               |          |          | STAINLESS STEEL, TANK, UNIT 1 ABSORBER REACTION TANK   |                    | -462.00 TN      |                | 65.97 /MH |                   |               | -                | (645,414)              | (645,414)          |
|               |          |          | <b>STAINLESS STEEL</b>   |                    |                 |                |           |                   |               |                  | (645,414)              | (645,414)          |
|               |          | 18.30.00 | <b>COPPER</b>  |                    |                 |                |           |                   |               |                  |                        |                    |
|               |          |          | COPPER, UNIT 1 CONDENSER CU / NI TUBES   |                    | -373.00 TN      |                | 65.97 /MH |                   |               | -                | (2,271,943)            | (2,271,943)        |
|               |          |          | COPPER, GENERATOR BUS TRANSFORMERS UNIT 1  |                    | -200.00 TN      |                | 65.97 /MH |                   |               | -                | (1,218,200)            | (1,218,200)        |
|               |          |          | MAIN POWER TRANSFORMER   |                    |                 |                |           |                   |               |                  |                        |                    |
|               |          |          | COPPER, STATION AUXILIARY TRANSFORMERS, UNIT 1   |                    | -53.00 TN       |                | 65.97 /MH |                   |               | -                | (322,823)              | (322,823)          |
|               |          |          | MAIN AUX TRANSFORMERS  |                    |                 |                |           |                   |               |                  |                        |                    |
|               |          |          | <b>COPPER</b>  |                    |                 |                |           |                   |               |                  | (3,812,966)            | (3,812,966)        |
|               |          |          | <b>SCRAP VALUE</b>   |                    |                 |                |           |                   |               |                  | (14,999,173)           | (14,999,173)       |
|               |          |          | <b>Unit 1</b>  |                    |                 | <b>190,383</b> |           | <b>13,835,429</b> | <b>57,550</b> |                  | <b>(14,999,173)</b>    | <b>(1,106,194)</b> |
| <b>Unit 2</b> |          |          |  |                    |                 |                |           |                   |               |                  |                        |                    |
|               | 10.00.00 |          | <b>WHOLE PLANT DEMOLITION</b>  |                    |                 |                |           |                   |               |                  |                        |                    |
|               |          | 10.22.00 | <b>CONCRETE</b>  |                    |                 |                |           |                   |               |                  |                        |                    |
|               |          |          | BUILDING PAD FOUNDATION 110 LB/CY, UNIT 2 COOLING TOWER BASIN  |                    | 8,840.00 CY     | 9,945          | 75.99 /MH | 755,721           |               | -                | -                      | 755,721            |
|               |          |          | ELEVATED FOUNDATION 110/CY, UNIT 2 COOLING TOWER SHELL   |                    | 9,200.00 CY     | 5,511          | 75.99 /MH | 418,766           |               | -                | -                      | 418,766            |
|               |          |          | ELEVATED FOUNDATION , UNIT 2 TURBINE AND BLR BLDGS   |                    | 2,000.00 CY     | 1,198          | 75.99 /MH | 91,036            |               | -                | -                      | 91,036             |
|               |          |          | TURBINE PEDESTAL FOUNDATION 140 LB/CY, UNIT 2  |                    | 7,778.00 CY     | 14,000         | 75.99 /MH | 1,063,890         |               | -                | -                      | 1,063,890          |
|               |          |          | <b>CONCRETE</b>  |                    |                 | <b>30,654</b>  |           | <b>2,329,413</b>  |               |                  |                        | <b>2,329,413</b>   |
|               |          | 10.23.00 | <b>STEEL</b>   |                    |                 |                |           |                   |               |                  |                        |                    |
|               |          |          | DUCTWORK W/BREECHINGS AND STEEL SUPPORTS, UNIT 2   |                    | 1,022.00 TN     | 2,731          | 65.97 /MH | 180,150           |               | -                | -                      | 180,150            |
|               |          |          | <b>STEEL</b>   |                    |                 | <b>2,731</b>   |           | <b>180,150</b>    |               |                  |                        | <b>180,150</b>     |
|               |          | 10.24.00 | <b>ARCHITECTURAL</b>   |                    |                 |                |           |                   |               |                  |                        |                    |
|               |          |          | BUILDING, UNIT 2 POWER BLOCK, INCLUDING TURBINE BLDG, BOILER HOUSE PREHTR FAN ENCLOSURE & COAL BUNKERS |                    | 8,500,000.00 CF | 85,000         | 75.09 /MH | 6,382,650         |               | -                | -                      | 6,382,650          |
|               |          |          | <b>ARCHITECTURAL</b>   |                    |                 | <b>85,000</b>  |           | <b>6,382,650</b>  |               |                  |                        | <b>6,382,650</b>   |
|               |          | 10.31.00 | <b>MECHANICAL EQUIPMENT</b>  |                    |                 |                |           |                   |               |                  |                        |                    |
|               |          |          | MAIN BOILER AND APPURTENANCES, UNIT 2  |                    | 12,160.00 TN    | 24,624         | 71.44 /MH | 1,759,139         |               | -                | -                      | 1,759,139          |
|               |          |          | FD & ID FANS, UNIT 2   |                    | 6,135.00 TN     | 12,423         | 71.44 /MH | 887,526           |               | -                | -                      | 887,526            |
|               |          |          | FEEDWATER DEARATING EQUIPMENT, UNIT 2  |                    | 215.00 TN       | 435            | 65.69 /MH | 28,600            |               | -                | -                      | 28,600             |
|               |          |          | TANK, UNIT 2 CLEAN CONDENSATE TANK, 753,000 GALLONS  | 60' DIA X 40' HIGH | 77.00 TN        | 206            | 65.69 /MH | 13,515            |               | -                | -                      | 13,515             |
|               |          |          | TANK, UNIT 2 CONTAMINATED CONDENSATE TANK, 500,000 GALLONS   | 50' DIA X 35' HIGH | 50.00 TN        | 134            | 65.69 /MH | 8,776             |               | -                | -                      | 8,776              |
|               |          |          | TANK, UNIT 2 EQUALIZATION TANK. 220,600 GALLONS  | 38' DIA X 30' HIGH | 30.00 TN        | 80             | 65.69 /MH | 5,266             |               | -                | -                      | 5,266              |
|               |          |          | TANK, UNIT 2 ABSORBER REACTION TANK  |                    | 462.00 TN       | 1,234          | 65.69 /MH | 81,092            |               | -                | -                      | 81,092             |
|               |          |          | WATER TREATMENT DEMINERALIZATION & CHEMICAL TREATMENT EQUIPMENT, UNIT 2                                |                    | 269.00 TN       | 545            | 65.69 /MH | 35,783            |               | -                | -                      | 35,783             |
|               |          |          | TURBINE GENERATOR, UNIT 2  |                    | 2,045.00 TN     | 4,141          | 65.69 /MH | 272,031           |               | -                | -                      | 272,031            |
|               |          |          | CONDENSER, UNIT 2  |                    | 1,165.00 TN     | 2,359          | 65.69 /MH | 154,971           |               | -                | -                      | 154,971            |
|               |          |          | CIRCULATING WATER EQUIPMENT, UNIT 2  |                    | 484.00 TN       | 980            | 65.69 /MH | 64,383            |               | -                | -                      | 64,383             |
|               |          |          | COOLING TOWER, UNIT 2 REMOVE FILL  |                    | 690,000.00 CF   | 4,140          | 65.69 /MH | 271,957           |               | -                | -                      | 271,957            |
|               |          |          | MECHANICAL EQUIPMENT - UNIT 2 MISC. POWER PLANT EQUIPMENT  |                    | 613.00 TN       | 1,241          | 65.69 /MH | 81,543            |               | -                | -                      | 81,543             |
|               |          |          | MECHANICAL EQUIPMENT - DEMOLISH UNIT 2 TURBINE ROOM OVERHEAD CRANE                                     |                    | 1.00 LS         | 315            | 65.69 /MH | 20,692            |               | -                | -                      | 20,692             |
|               |          |          | MECHANICAL EQUIPMENT - UNIT 2 DUST COLLECTORS  |                    | 269.00 TN       | 545            | 65.69 /MH | 35,783            |               | -                | -                      | 35,783             |
|               |          |          | MECHANICAL EQUIPMENT - PRECIPITATORS UNIT 2  |                    | 1,000.00 TN     | 2,025          | 65.69 /MH | 133,022           |               | -                | -                      | 133,022            |
|               |          |          | MECHANICAL EQUIPMENT - SCR UNIT 2  |                    | 664.00 TN       | 1,345          | 65.69 /MH | 88,327            |               | -                | -                      | 88,327             |
|               |          |          | <b>MECHANICAL EQUIPMENT</b>  |                    |                 | <b>56,772</b>  |           | <b>3,942,404</b>  |               |                  |                        | <b>3,942,404</b>   |

| Area     | Group    | Phase    | Description   | Notes               | Quantity      | Man Hours      | Crew Rate | Labor Cost        | Material Cost | Subcontract Cost | Process Equipment Cost | Total Cost        |
|----------|----------|----------|---|---------------------|---------------|----------------|-----------|-------------------|---------------|------------------|------------------------|-------------------|
|          |          | 10.33.00 | <b>MATERIAL HANDLING EQUIPMENT</b>  |                     |               |                |           |                   |               |                  |                        |                   |
|          |          |          | MATERIAL HANDLING EQUIPMENT - UNIT 2 ASH HANDLING EQUIPMENT   |                     | 377.00 TN     | 763            | 65.69 /MH | 50,149            |               | -                | -                      | 50,149            |
|          |          |          | MATERIAL HANDLING EQUIPMENT - UNIT 2 FUEL EQUIPMENT, CONVEYORS INCL TRUSSES & BENTS                       |                     | 1,432.00 TN   | 2,900          | 65.69 /MH | 190,488           |               | -                | -                      | 190,488           |
|          |          |          | <b>MATERIAL HANDLING EQUIPMENT</b>  |                     |               | <b>3,663</b>   |           | <b>240,637</b>    |               |                  |                        | <b>240,637</b>    |
|          |          | 10.34.00 | <b>HVAC</b>   |                     |               |                |           |                   |               |                  |                        |                   |
|          |          |          | HVAC - UNIT 2   |                     | 1.00 LS       | 1,695          | 65.69 /MH | 111,345           |               | -                | -                      | 111,345           |
|          |          |          | <b>HVAC</b>   |                     |               | <b>1,695</b>   |           | <b>111,345</b>    |               |                  |                        | <b>111,345</b>    |
|          |          | 10.35.00 | <b>PIPING</b>   |                     |               |                |           |                   |               |                  |                        |                   |
|          |          |          | PIPING - UNIT 2 BOILER PLANT AND TURBINE PIPING   |                     | 2,690.00 TN   | 5,719          | 65.69 /MH | 375,677           |               | -                | -                      | 375,677           |
|          |          |          | <b>PIPING</b>   |                     |               | <b>5,719</b>   |           | <b>375,677</b>    |               |                  |                        | <b>375,677</b>    |
|          |          | 10.41.00 | <b>ELECTRICAL EQUIPMENT</b>   |                     |               |                |           |                   |               |                  |                        |                   |
|          |          |          | GENERATOR BUS TRANSFORMERS UNIT 2 MAIN POWER TRANSFORMER  |                     | 328.00 TN     | 876            | 65.69 /MH | 57,572            |               | -                | -                      | 57,572            |
|          |          |          | STATION AUXILIARY TRANSFORMERS, UNIT 2 MAIN AUX TRANSFORMERS  |                     | 109.00 TN     | 291            | 65.69 /MH | 19,132            |               | -                | -                      | 19,132            |
|          |          |          | <b>ELECTRICAL EQUIPMENT</b>   |                     |               | <b>1,168</b>   |           | <b>76,704</b>     |               |                  |                        | <b>76,704</b>     |
|          |          | 10.86.00 | <b>WASTE</b>  |                     |               |                |           |                   |               |                  |                        |                   |
|          |          |          | WASTE - UNIT 2 COOLING TOWER FILL   | FIBERGLASS AND WOOD | 2,555.00 CY   | 256            | 65.69 /MH | 16,784            | 25,550        | -                | -                      | 42,334            |
|          |          |          | WASTE - USER DEFINED - UNIT 2 BLDG WASTE  |                     | 3,200.00 CY   | 320            | 65.69 /MH | 21,021            | 32,000        | -                | -                      | 53,021            |
|          |          |          | <b>WASTE</b>  |                     |               | <b>576</b>     |           | <b>37,805</b>     | <b>57,550</b> |                  |                        | <b>95,355</b>     |
|          |          |          | <b>WHOLE PLANT DEMOLITION</b>   |                     |               | <b>187,978</b> |           | <b>13,676,784</b> | <b>57,550</b> |                  |                        | <b>13,734,334</b> |
| 18.00.00 |          |          | <b>SCRAP VALUE</b>  |                     |               |                |           |                   |               |                  |                        |                   |
|          | 18.10.00 |          | <b>MIXED STEEL</b>  |                     |               |                |           |                   |               |                  |                        |                   |
|          |          |          | MIXED STEEL, UNIT 2 CLEAN CONDENSATE TANK, 753,000 GALLONS  |                     | -77.00 TN     |                | 65.97 /MH | -                 | -             | -                | (22,099)               | (22,099)          |
|          |          |          | MIXED STEEL, UNIT 2 CONTAMINATED CONDENSATE TANK, 500,000 GALLONS   |                     | -50.00 TN     |                | 65.97 /MH | -                 | -             | -                | (14,350)               | (14,350)          |
|          |          |          | MIXED STEEL, UNIT 2 EQUALIZATION TANK. 220,600 GALLONS  |                     | -30.00 TN     |                | 65.97 /MH | -                 | -             | -                | (8,610)                | (8,610)           |
|          |          |          | MIXED STEEL, UNIT 2 POWER BLOCK, INCLUDING TURBINE BLDG, BOILER HOUSE PREHTR FAN ENCLOSURE & COAL BUNKERS |                     | -4,250.00 TN  |                | 65.97 /MH | -                 | -             | -                | (1,219,750)            | (1,219,750)       |
|          |          |          | MIXED STEEL, REBAR RECOVERED, TURBINE PEDESTAL FOUNDATION 140 LB/CY, UNIT 2                               |                     | -467.00 TN    |                | 65.97 /MH | -                 | -             | -                | (134,029)              | (134,029)         |
|          |          |          | MIXED STEEL, UNIT 2 COOLING TOWER REINFORCING RECOVERED   |                     | -440.00 TN    |                | 65.97 /MH | -                 | -             | -                | (126,280)              | (126,280)         |
|          |          |          | MIXED STEEL, ELEVATED FOUNDATION, UNIT 2 TURBINE AND BLR BLDGS, REINFORCING                               |                     | -110.00 TN    |                | 65.97 /MH | -                 | -             | -                | (31,570)               | (31,570)          |
|          |          |          | MIXED STEEL, MAIN BOILER AND APPURTENANCES, UNIT 2  |                     | -12,160.00 TN |                | 65.97 /MH | -                 | -             | -                | (3,489,920)            | (3,489,920)       |
|          |          |          | MIXED STEEL, FD & ID FANS, UNIT 2   |                     | -6,135.00 TN  |                | 65.97 /MH | -                 | -             | -                | (1,760,745)            | (1,760,745)       |
|          |          |          | MIXED STEEL, DUCTWORK W/BREECHINGS AND STEEL SUPPORTS, UNIT 2   |                     | -1,022.00 TN  |                | 65.97 /MH | -                 | -             | -                | (293,314)              | (293,314)         |
|          |          |          | MIXED STEEL, FEEDWATER DEARATING EQUIPMENT, UNIT 2  |                     | -215.00 TN    |                | 65.97 /MH | -                 | -             | -                | (61,705)               | (61,705)          |
|          |          |          | MIXED STEEL, WATER TREATMENT DEMINERALIZATION & CHEMICAL TREATMENT EQUIPMENT, UNIT 2                      |                     | -269.00 TN    |                | 65.97 /MH | -                 | -             | -                | (77,203)               | (77,203)          |
|          |          |          | MIXED STEEL, UNIT 2 CONDENSER   |                     | -792.00 TN    |                | 65.97 /MH | -                 | -             | -                | (227,304)              | (227,304)         |
|          |          |          | MIXED STEEL, MATERIAL HANDLING EQUIPMENT - UNIT 2 ASH HANDLING EQUIPMENT                                  |                     | -377.00 TN    |                | 65.97 /MH | -                 | -             | -                | (108,199)              | (108,199)         |
|          |          |          | MIXED STEEL, MATERIAL HANDLING EQUIPMENT - UNIT 2 FUEL EQUIPMENT, CONVEYORS INCL TRUSSES & BENTS          |                     | -1,432.00 TN  |                | 65.97 /MH | -                 | -             | -                | (410,984)              | (410,984)         |
|          |          |          | MIXED STEEL, TURBINE GENERATOR, UNIT 2  |                     | -2,045.00 TN  |                | 65.97 /MH | -                 | -             | -                | (586,915)              | (586,915)         |
|          |          |          | MIXED STEEL, CIRCULATING WATER EQUIPMENT, UNIT 2  |                     | -484.00 TN    |                | 65.97 /MH | -                 | -             | -                | (138,908)              | (138,908)         |

| Area | Group | Phase           | Description   | Notes | Quantity     | Man Hours      | Crew Rate | Labor Cost        | Material Cost | Subcontract Cost | Process Equipment Cost | Total Cost          |
|------|-------|-----------------|---|-------|--------------|----------------|-----------|-------------------|---------------|------------------|------------------------|---------------------|
|      |       | <b>18.10.00</b> | <b>MIXED STEEL</b>  |       |              |                |           |                   |               |                  |                        |                     |
|      |       |                 | MIXED STEEL, MECHANICAL EQUIPMENT - UNIT 2 MISC. POWER PLANT EQUIPMENT    |       | -613.00 TN   |                | 65.97 /MH |                   | -             | -                | (175,931)              | (175,931)           |
|      |       |                 | MIXED STEEL, MECHANICAL EQUIPMENT - UNIT 2 DUST COLLECTORS                |       | -269.00 TN   |                | 65.97 /MH |                   | -             | -                | (77,203)               | (77,203)            |
|      |       |                 | MIXED STEEL, PIPING - UNIT 2 BOILER PLANT AND TURBINE PIPING              |       | -2,690.00 TN |                | 65.97 /MH |                   | -             | -                | (772,030)              | (772,030)           |
|      |       |                 | MIXED STEEL, MECHANICAL EQUIPMENT - PRECIPITATORS UNIT 2                  |       | -1,000.00 TN |                | 65.97 /MH |                   | -             | -                | (287,000)              | (287,000)           |
|      |       |                 | MIXED STEEL, GENERATOR BUS TRANSFORMERS UNIT 2 MAIN POWER TRANSFORMERS    |       | -180.50 TN   |                | 65.97 /MH |                   | -             | -                | (51,804)               | (51,804)            |
|      |       |                 | MIXED STEEL, STATION AUXILIARY TRANSFORMERS, UNIT 2 MAIN AUX TRANSFORMERS |       | -56.00 TN    |                | 65.97 /MH |                   | -             | -                | (16,072)               | (16,072)            |
|      |       |                 | MIXED STEEL, MECHANICAL EQUIPMENT - SCR UNIT 2                            |       | -664.00 TN   |                | 65.97 /MH |                   | -             | -                | (190,568)              | (190,568)           |
|      |       |                 | <b>MIXED STEEL</b>  |       |              |                |           |                   |               |                  | <b>(10,282,493)</b>    | <b>(10,282,493)</b> |
|      |       | <b>18.20.00</b> | <b>STAINLESS STEEL</b>  |       |              |                |           |                   |               |                  |                        |                     |
|      |       |                 | STAINLESS STEEL, TANK, UNIT 2 ABSORBER REACTION TANK                      |       | -462.00 TN   |                | 65.97 /MH |                   | -             | -                | (645,414)              | (645,414)           |
|      |       |                 | <b>STAINLESS STEEL</b>  |       |              |                |           |                   |               |                  | <b>(645,414)</b>       | <b>(645,414)</b>    |
|      |       | <b>18.30.00</b> | <b>COPPER</b>   |       |              |                |           |                   |               |                  |                        |                     |
|      |       |                 | COPPER, UNIT 2 CONDENSER CU / NI TUBES                                    |       | -373.00 TN   |                | 65.97 /MH |                   | -             | -                | (2,271,943)            | (2,271,943)         |
|      |       |                 | COPPER, GENERATOR BUS TRANSFORMERS UNIT 2 MAIN POWER TRANSFORMER          |       | -147.50 TN   |                | 65.97 /MH |                   | -             | -                | (898,423)              | (898,423)           |
|      |       |                 | COPPER, STATION AUXILIARY TRANSFORMERS, UNIT 2 MAIN AUX TRANSFORMERS      |       | -53.00 TN    |                | 65.97 /MH |                   | -             | -                | (322,823)              | (322,823)           |
|      |       |                 | <b>COPPER</b>   |       |              |                |           |                   |               |                  | <b>(3,493,189)</b>     | <b>(3,493,189)</b>  |
|      |       |                 | <b>SCRAP VALUE</b>  |       |              |                |           |                   |               |                  | <b>(14,421,095)</b>    | <b>(14,421,095)</b> |
|      |       |                 | <b>Unit 2</b>   |       |              | <b>187,978</b> |           | <b>13,676,784</b> | <b>57,550</b> |                  | <b>(14,421,095)</b>    | <b>(686,761)</b>    |

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For:            )**  
**(1) A General Adjustment Of Its Rates For Electric        )**  
**Service; (2) An Order Approving Its 2014                    )**  
**Environmental Compliance Plan; (3) An Order                )**  
**Approving Its Tariffs And Riders; And (4) An                )**  
**Order Granting All Other Required Approvals                )**  
**And Relief    )**

**Case No. 2014-00396**

**DIRECT TESTIMONY OF**  
**AMY J. ELLIOTT**  
**ON BEHALF OF KENTUCKY POWER COMPANY**



**DIRECT TESTIMONY OF  
AMY J. ELLIOTT, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
AMY J. ELLIOTT, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND TITLE.**

2 A. My name is Amy J. Elliott. I am a Regulatory Consultant for Kentucky Power Company  
3 (“Kentucky Power” or the “Company”) and my business address is 101 A Enterprise Drive,  
4 Frankfort, Kentucky 40601.

**II. BACKGROUND**

5 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**  
6 **BACKGROUND.**

7 A. In 2000, I received a Bachelor of Arts degree in Economics from Transylvania University in  
8 Lexington, Kentucky. I worked for the Tennessee Department of Commerce and Insurance as  
9 an Insurance Examiner from early 2002 through late 2005 before moving back to Kentucky  
10 and consulting with insurance companies in connection with field audits. I accepted my  
11 present position with Kentucky Power in 2008. In 2012, I received a Master of Business  
12 Administration degree from the University of Massachusetts at Amherst.

13 **Q. WHAT ARE YOUR PRINCIPAL AREAS OF RESPONSIBILITY WITH KPCO?**

14 A. In addition to general regulatory duties, I am responsible for compiling the monthly  
15 Environmental Surcharge and Fuel Adjustment Clause (“FAC”) reports.

16 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY REGULATORY**  
17 **COMMISSIONS?**



1 Yes, I testified before the Kentucky Public Service Commission in two six-month reviews of  
 2 the Company’s FAC, Case No. 2013-00261 and Case No. 2013-00444. I also submitted pre-  
 3 filed testimony in two six-month reviews of the Company’s Environmental Surcharge, Case  
 4 No. 2014-00052 and Case No. 2014-00322.

**III. PURPOSE OF YOUR TESTIMONY**

5 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**

6 **A.** The purpose of my testimony in this proceeding is to support the Company’s Application for  
 7 Approval of its Fourth Amended Environmental Compliance Plan (“2014 Plan” or “Plan”).  
 8 In particular, my testimony covers the following topics:

- 9 • Changes to the Company’s Environmental Compliance Plan included in the proposed  
 10 Fourth Amendment;
- 11 • The Calculation of the Company’s monthly environmental base requirement;
- 12 • Changes to the Company’s Tariff E.S.; and
- 13 • Recovery of costs associated with the Mitchell flue gas desulfurization (“FGD”)  
 14 system.

15 **Q. PLEASE IDENTIFY THE OTHER WITNESSES WHOSE TESTIMONY SUPPORTS**  
 16 **KENTUCKY POWER’S ENVIRONMENTAL COMPLIANCE PLAN.**

17 **A.**

| <u>Witness</u>                         | <u>Title</u>  | <u>Testimony Support</u>                   |
|--|---|--|
| William E. Avera<br>Adrien M. McKenzie | Financial Concepts and<br>Applications Consultants  | Cost of Equity                             |
| Jeffrey B. Bartsch                     | Director, Tax Accounting &<br>Regulatory Support    | Tax Consequences                           |
| David A. Davis                         | Manager, Property Accounting<br>Policy and Research | Depreciation Calculation                   |
| Jeffrey D. LaFleur                     | Vice President, Generating<br>Assets                | Project Descriptions and<br>Cost Estimates |
| John M. McManus                        | Vice President, Environmental<br>Services           | Environmental Laws and<br>Regulations      |

1 **Q. PLEASE LIST THE EXHIBITS TO YOUR TESTIMONY THAT YOU PREPARED:**

2 A. I prepared the following exhibits to my testimony:

- 3 • AJE-1 - 2014 Environmental Compliance Plan
- 4 • AJE-2 - Environmental Surcharge Tariff (Tariff E.S.) showing changes from the  
5 current tariff
- 6 • AJE-3 - Total Base Revenue Requirement Summary
- 7 • AJE-4 - Estimated Mitchell FGD annual revenue requirement
- 8 • AJE-5 - Mitchell Gross Revenue Conversion Factor

**IV. KENTUCKY POWER'S FOURTH AMENDED  
ENVIRONMENTAL COMPLIANCE PLAN**

9 **Q. PLEASE EXPLAIN WHY THE COMPANY IS UPDATING ITS ENVIRONMENTAL**  
10 **COMPLIANCE PLAN.**

11 A. The Company's current Environmental Compliance Plan is the 2007 Plan. The Company is  
12 proposing to update its current Environmental Compliance Plan with the 2014 Plan to reflect  
13 changes in the Company's environmental projects. The Company's environmental projects  
14 are those necessary to comply with the Federal Clean Air Act as amended and or other  
15 federal, state, or local environmental requirements which apply to coal combustion wastes  
16 ("Environmental Requirements"). The proposed 2014 Plan, attached as Exhibit AJE-1,  
17 reflects changes since the filing of the 2007 Plan in the Company's generation portfolio.

18 These changes include:

- 19 • The December 31, 2013 transfer to Kentucky Power of an undivided 50% interest in  
20 the Mitchell Plant, including environmental projects not included in the company's  
21 current Environmental Compliance Plan, located in Moundsville, West Virginia (the  
22 "Mitchell Transfer");
- 23 • The planned retirement of Big Sandy Unit 2 no later than June 1, 2015;

- 1 • The planned conversion of Big Sandy Unit 1 to natural gas by June 30, 2016;
- 2 • The January 1, 2014 termination of the AEP East-System Pool;
- 3 • The addition of environmental projects at the Mitchell and Rockport Plants; and
- 4 • Planned environmental projects at the Rockport Plant.

5 **Q. HAS THE COMPANY REVISED ITS ENVIRONMENTAL SURCHARGE TARIFF**  
6 **TO REFLECT THE CHANGES PROPOSED IN THIS PLAN?**

7 A. Yes. Please see Exhibit AJE-2. The changes to Tariff E.S. are described in more detail later  
8 in my testimony.

9 **Previously-Approved Projects Being Removed From 2014 Plan**

10 **Q. IS THE COMPANY PROPOSING TO REMOVE ANY PREVIOUSLY-APPROVED**  
11 **ENVIRONMENTAL PROJECTS IN ITS 2014 PLAN?**

12 A. Yes. The Company is proposing to remove the following categories of environmental  
13 projects from its Environmental Compliance Plan:

- 14 • Environmental Projects previously included as a result of Kentucky Power's  
15 participation in the AEP East-System Pool; and
- 16 • Environmental Projects at the Big Sandy Plant, with the exception of Big Sandy Title  
17 IV, CSAPR and NO<sub>x</sub> allowances.

18 **Q. WHY IS THE COMPANY REMOVING THE POOL-RELATED ENVIRONMENTAL**  
19 **PROJECTS?**

20 A. As mentioned above, the AEP East-System Pool terminated effective January 1, 2014. With  
21 the termination, Kentucky Power no longer incurs costs for pool-related environmental  
22 projects and likewise does not include pool-related environmental costs in its environmental  
23 surcharge filings.

1 **Q. WHY DID THE COMPANY REMOVE THE BIG SANDY PROJECTS FROM THE**  
2 **2014 PLAN?**

3 A. First, to comply with the requirements of the Mercury and Air Toxics Standards (“MATS”)  
4 Rule, Kentucky Power will retire Big Sandy Unit 2 no later than June 1, 2015. Second,  
5 Kentucky is proposing the Big Sandy 1 Operation Rider (“BS1OR”) which would serve to  
6 recover all of the operations and maintenance expenses for Big Sandy 1, including those  
7 costs which would otherwise be recoverable through the environmental surcharge. The  
8 BS1OR is described in more detail in the testimony of Company Witness Wohnhas. Because  
9 the Company is proposing to recover all of Big Sandy Unit 1 expenses through the BS1OR  
10 and because Big Sandy Unit 2 will retire, the Company is removing the Big Sandy  
11 Environmental projects from its Environmental Compliance Plan.

12 **Q. WHAT PREVIOUSLY APPROVED ENVIRONMENTAL PROJECTS WILL**  
13 **REMAIN IN THE COMPANY’S ENVIRONMENTAL PLAN AFTER THE POOL**  
14 **AND BIG SANDY RELATED PROJECTS ARE REMOVED?**

15 A. The 2014 Environmental Compliance Plan removes all but the following currently included  
16 environmental projects from Kentucky Power’s Environmental Compliance Plan:

- 17 • Mitchell Units 1 and 2 Water Injection, Low NO<sub>x</sub> Burners, Low NO<sub>x</sub> Burner  
18 Modification, SCR, FGD, Landfill, Coal Blending Facilities and SO<sub>3</sub> Mitigation;
- 19 • Mitchell Plant Common CEMS, Replace Burner Barrier Valves and Gypsum Material  
20 Handling Facilities;
- 21 • Continuous Emission Monitors (CEMS) - Rockport Plant;
- 22 • Rockport Units 1 and 2 Low NO<sub>x</sub> Burners, Over Fire Air, and Landfill;
- 23 • Title V Air Emission Fees at Mitchell and Rockport Plants;
- 24 • Costs associated with NO<sub>x</sub> Allowances; and

- Costs associated with SO<sub>2</sub> Allowances.

**Q. IF IT WERE NOT PROPOSING BOTH THE BSRR AND THE BS1OR, WOULD THE COMPANY BE PROPOSING TO REMOVE THE BIG SANDY ENVIRONMENTAL COMPLIANCE PROJECTS FROM ITS PLAN?**

A. No. The Company is proposing to recover the operational costs associated with the currently approved environmental projects at Big Sandy Unit 1 as part of the costs recovered through the BS1OR. The remaining environmental capital investment for environmental projects associated with Big Sandy Unit 1 will be included as part of those costs recovered through the BSRR. If the Company were not proposing these riders, the Big Sandy Unit 1 environmental projects would remain in the Company's Environmental Compliance Plan, and all costs associated with those projects would flow through the environmental surcharge.

**Q. WHY DID THE COMPANY KEEP THE BIG SANDY EMISSION ALLOWANCES IN THE 2014 PLAN?**

A. The Company retained the emissions allowances for Big Sandy in the proposed 2014 Plan for two reasons. First, the Company records allowances on a per-Company basis allowing it to utilize allowances at other Kentucky Power plants. Second, keeping the Big Sandy emission allowances in the Environmental Compliance Plan allows for any potential gains on those allowances to flow through the environmental surcharge to the customers.

**Mitchell Environmental Projects**

**Q. PLEASE LIST THE MITCHELL PLANT'S ENVIRONMENTAL PROJECTS THAT THE COMPANY PROPOSES TO ADD IN ITS 2014 COMPLIANCE PLAN.**

A. Kentucky Power proposes to add the following Mitchell Plant environmental projects through the 2014 Plan :

- 1 • Precipitator Modifications - Mitchell Plant Units 1 and 2;
- 2 • Bottom Ash and Fly Ash Handling - Mitchell Plant Units 1 and 2;
- 3 • Mercury Monitoring (MATS) - Mitchell Plant Units 1 and 2;
- 4 • Dry Fly Ash Handling Conversion - Mitchell Plant Units 1 and 2;
- 5 • Coal Combustion Waste Landfill - Mitchell Plant Units 1 and 2; and
- 6 • Electrostatic Precipitator Upgrade - Mitchell Plant Unit 2.

7 **Q. PLEASE LIST THE MITCHELL ENVIRONMENTAL PROJECTS INCLUDED IN**  
8 **THE 2014 PLAN WHICH ARE NOT CURRENTLY IN SERVICE.**

9 A. Two of the Mitchell environmental projects in the 2014 Plan are not fully in service. The  
10 next phase of the Coal Combustion Waste Landfill will not be in service until 2015.  
11 Similarly, the Electrostatic Precipitator Upgrade for Unit 2 will not be in service until 2015.

12 **Q. OF THE MITCHELL PLANT ENVIRONMENTAL PROJECTS, WHICH HAVE**  
13 **BEEN PLACED IN SERVICE SINCE THE DATE OF THE MITCHELL**  
14 **TRANSFER?**

15 A. Since the Mitchell Transfer occurred on December 31, 2013, the following environmental  
16 projects have been placed in service at the Mitchell Plant:

- 17 • Mercury Monitoring (MATS);
- 18 • Dry Fly Ash Handling Conversion; and
- 19 • The initial phase of the Coal Combustion Waste Landfill.

20 **Q. DID KENTUCKY POWER OBTAIN A CERTIFICATE OF PUBLIC**  
21 **CONVENIENCE AND NECESSITY (“CPCN”) PRIOR TO COMMENCING**  
22 **CONSTRUCTION FOR ANY OF THE MITCHELL ENVIRONMENTAL**  
23 **PROJECTS IN THE 2014 PLAN?**

1 A. No. The Company has not sought a CPCN for any of the Mitchell environmental projects  
2 included in the 2014 Plan. These projects were underway at the time of the Mitchell Transfer  
3 and were identified during Case No. 2012-00578 as environmental works in progress. The  
4 project costs were included in the economic modeling performed by the Company in support  
5 of Mitchell Transfer.

6 **Q. IS THE COMPANY PROPOSING TO INCLUDE CONSUMABLES FOR THE**  
7 **MITCHELL PLANT OTHER THAN THOSE WHICH HAVE PREVIOUSLY BEEN**  
8 **INCLUDED IN THE ENVIRONMENTAL SURCHARGE?**

9 A. Yes. The Company is proposing to recover the costs of all consumables used in the  
10 operation of the approved environmental projects including polymer and lime hydrate.  
11 Additionally, the Company is proposing to include costs associated with limestone, trona,  
12 and urea which have previously been included in the Company's share of the Mitchell  
13 environmental projects under the AEP East-System Pool.

14 **Rockport Environmental Projects**

15 **Q. IS KENTUCKY POWER REQUESTING APPROVAL TO INCLUDE**  
16 **ENVIRONMENTAL PROJECTS FOR FACILITIES OTHER THAN THE**  
17 **MITCHELL PLANT?**

18 A. Yes. Kentucky Power is seeking to include in the 2014 Plan in-service projects and near-  
19 term planned projects for the Rockport Power Plant located in Rockport, Indiana. Kentucky  
20 Power is a party to a FERC-approved unit power agreement ("UPA") with AEP Generating  
21 Company that expires in 2022. Under the UPA, Kentucky Power receives 30% of AEP  
22 Generating Company's 50% share of the generation output at these two generating units and  
23 is responsible for 30% of AEP Generating Company's costs.

1 **Q. PLEASE LIST THE ROCKPORT PLANT’S ENVIRONMENTAL PROJECTS THE**  
2 **COMPANY IS PROPOSING TO ADD IN THE 2014 COMPLIANCE PLAN.**

3 A. Kentucky Power proposes to add the following Mitchell Plant environmental projects  
4 through the 2014 Plan:

- 5 • Precipitator Modifications – Rockport Plant Units 1 & 2;
- 6 • Activated Carbon Injection (ACI) and Mercury Monitoring – Rockport Plant Units 1  
7 & 2;
- 8 • Dry Sorbent Injection – Rockport Plant Units 1 & 2; and
- 9 • Coal Combustion Waste Landfill Upgrade to Accept Type 1 Ash – Rockport Plant.

10 **Q. PLEASE LIST THE ROCKPORT PROJECTS INCLUDED IN THE PROPOSED**  
11 **2014 PLAN BUT ARE NOT YET IN SERVICE.**

12 A. Kentucky Power is including in the 2014 Plan the following Rockport environmental projects  
13 that are not yet in service:

- 14 • Dry Sorbent Injection (“DSI”) for Rockport Plant Units 1 and 2; and
- 15 • Portions of the coal combustion waste landfill upgrade are not yet complete.

16 **Q. OF THE PROJECTS WHICH ARE CURRENTLY IN SERVICE FOR ROCKPORT,**  
17 **WAS KENTUCKY POWER BEING BILLED FOR ITS SHARE OF THE COST**  
18 **DURING THE TEST YEAR?**

19 A. Yes. Kentucky Power was receiving its appropriate share of the costs through the Rockport  
20 Unit Power Bill.

21 **Q. IS THE COMPANY ALSO PROPOSING TO RECOVER, THROUGH THE**  
22 **ENVIRONMENTAL SURCHARGE, ITS SHARE OF CONSUMABLE EXPENSES**  
23 **FOR THE ROCKPORT PLANT?**



1 A. Yes. The Company is proposing to recover the costs of all consumables used in the  
2 operation of the approved environmental projects including the brominated activated carbon  
3 used by the ACI system and the sodium bicarbonate that will be used by the DSI system.

4 **Emission Allowances**

5 **Q. IS THE COMPANY PROPOSING TO ADD ANY NEW CATEGORIES OF**  
6 **EMISSION ALLOWANCES IN THE 2014 PLAN?**

7 A. Yes. The Company is adding “Costs Associated with the CSAPR Allowances” as an  
8 environmental project in the 2014 Plan.

9 **Q. HOW ARE THE EMISSION ALLOWANCES ACCOUNTED FOR BY KENTUCKY**  
10 **POWER?**

11 A. Emission allowances are accounted for differently for compliance and accounting purposes.  
12 For compliance purposes, allowances are held and the allowances are surrendered to match  
13 consumption. From an accounting perspective, emission allowances are kept on the  
14 company’s books at an average inventory cost of the allowances held. For instance, when  
15 Cross-State Air Pollution Rule (“CSAPR”) emission allowances are allocated by the EPA,  
16 they are done so at zero cost. As such, using these allowances for consumption would result  
17 in zero dollars in emission expense. However, if Kentucky Power purchases allowances to  
18 meet its emission obligation, then (subsequent to purchase) each allowance held will be  
19 valued at the average cost of all allowances held in inventory including those allocated and  
20 purchased.

21 **Q. DOES KENTUCKY POWER PLAN TO ACCOUNT FOR CSAPR ALLOWANCES**  
22 **DIFFERENTLY THAN THOSE ALLOWANCES ASSOCIATED WITH PRIOR**  
23 **ENVIRONMENTAL REGULATIONS?**

1 A. No. Kentucky Power has been accounting for, and recovering costs associated with, Title IV  
2 SO<sub>2</sub> allowances under the Clean Air Act as well as SO<sub>2</sub> and NO<sub>x</sub> allowances under the Clean  
3 Air Interstate Rule (“CAIR”) over the lives of those rules. In accordance with FERC  
4 Uniform System of Accounts CSAPR emission allowances will be held in different sub-  
5 accounts to differentiate between them from allowances created under other regulations , but  
6 the allowances themselves will be subject to the same accounting procedures regarding  
7 value, gains and losses, and surrender, as the allowances under the other regulations.  
8 Kentucky Power also is proposing to recover the CSAPR emission allowances costs in the  
9 same manner as other environmental regulations, which is through the Environmental  
10 Surcharge.

11 **Q. IS IT REASONABLE FOR KENTUCKY POWER TO RECOVER THESE**  
12 **PRUDENTLY INCURRED COSTS ASSOCIATED WITH CSAPR EMISSIONS**  
13 **ALLOWANCES?**

14 A. Yes. CSAPR is, in part, a replacement for CAIR, and Kentucky Power is proposing to  
15 recover the cost of emission allowances under CSAPR just as it has previously done under  
16 Title IV of the Clean Air Act and the CAIR. Other than the fact that the allowances were  
17 created under a different rulemaking, there is no difference in the rationale for recovery of  
18 the costs associated with emission allowances.

19 **Q. HOW WILL COSTS ASSOCIATED WITH CSAPR ALLOWANCES BE**  
20 **RECOVERED THROUGH THE ENVIRONMENTAL SURCHARGE?**

21 A. Expenses associated with the consumption of the CSAPR allowances will only be recovered  
22 through the environmental surcharge as the allowances are consumed. Otherwise, the  
23 Company would only earn a return on its inventory of CSAPR allowances.

1 **Q. DOES THE COMPANY CURRENTLY HAVE ANY CSAPR ALLOWANCES?**

2 A. With the reinstatement of CSAPR, US EPA has placed CSAPR allowances in the facility's  
3 allowance accounts. Those allowances are allocated at zero cost. In addition, the Company  
4 purchased 1,000 CSAPR SO2 allowances in 2011 for \$350 each.

5 **Q. IS THE COMPANY'S CURRENT INVENTORY OF CSAPR ALLOWANCES**  
6 **SUFFICIENT?**

7 A. The sufficiency of the Company's inventory of CSAPR allowances is unknown. If the  
8 generation output exceeds the current inventory, the Company will need to purchase  
9 additional allowances and those costs will flow through the environmental surcharge. There  
10 is also the possibility that the Company will have CSAPR allowances in excess of its  
11 requirement. If so, any gains on those allowances would also flow through the  
12 environmental surcharge.

**V. CALCULATION OF MONTHLY ENVIRONMENTAL**  
**BASE REVENUE REQUIREMENT**

13 **Q. PLEASE EXPLAIN HOW THE MONTHLY ENVIRONMENTAL BASE REVENUE**  
14 **REQUIREMENT WAS CALCULATED.**

15 A. The monthly environmental base revenue requirement was calculated in a step-wise fashion.  
16 First, test-year environmental costs were identified on a month-by-month basis. Second,  
17 because of the termination of the AEP East-System Pool, pool-related costs incurred by  
18 Kentucky Power were removed for those months where the pool still existed (October  
19 through December 2013).

20 Third, environmental project costs for Big Sandy Plant incurred during the test year  
21 were removed. As described above, Big Sandy environmental project costs were removed  
22 because the Company is retiring Big Sandy Unit 2 no later than May 31, 2015 and, during the

1 transition from coal to natural gas-firing, all Big Sandy Unit 1 costs, including the costs  
2 associated with the unit's environmental projects are proposed to be recovered via the Big  
3 Sandy 1 Operation Rider.

4 Fourth, Mitchell Plant test year environmental project costs, exclusive of the costs  
5 associated with the Mitchell FGD system, were added. The treatment of Mitchell FGD costs  
6 is discussed later in my testimony. Because the Mitchell Transfer did not occur until  
7 December 31, 2013, Mitchell environmental project costs for October through December  
8 2013 were not included in the test year data. Accordingly, the Company annualized the non-  
9 FGD environmental projects costs for the Mitchell plant.

10 Finally, the Company added additional Rockport test year expenses for operation and  
11 maintenance, depreciation, and return on rate base.

12 The derivation of the monthly environmental base revenue requirement can be found  
13 at Exhibit AJE-3.

14 **Q. WERE ALL OF THE COSTS FOR THE PROPOSED ENVIRONMENTAL**  
15 **PROJECTS INCLUDED IN THE BASE MONTHLY ENVIRONMENTAL COST**  
16 **CALCULATION?**

17 A. No. To properly identify the base level of environmental project costs, only the costs  
18 associated with projects which were in-service during the test year were included in the base  
19 level calculation. The current revenue requirement, as calculated in each month's  
20 environmental surcharge filing, will include the actual costs associated with in-service and  
21 approved environmental projects.

**Gross Revenue Conversion Factor**

1  
2 **Q. IS THE COMPANY PROPOSING ANY CHANGES TO ITS GROSS REVENUE**  
3 **CONVERSION FACTOR?**

4 A. Yes. As part of this case, the Company is proposing two changes to its method of calculating  
5 the gross revenue conversion factor (“GRCF”) used to calculate the rate base amount of  
6 environmental expenses. First, the Company is proposing to remove the Section 199  
7 manufacturing deduction. The rationale for removing the Section 199 deduction is described  
8 in the testimony of Company Witness Bartsch. Second, the Company is proposing to apply a  
9 gross-up factor to the short-term debt, long-term debt, and accounts receivable financing that  
10 incorporates the Public Service Commission Assessment fee of 0.1952% and the  
11 uncollectible expense amount of 0.30%.

12 **Q. WAS THE SECTION 199 DEDUCTION PREVIOUSLY APPLIED TO THE GROSS**  
13 **REVENUE CONVERSION FACTOR FOR ALL OF THE PROJECTS?**

14 A. No. In accordance with Commission Order Dated September 7, 2005, the Company has not  
15 included a Section 199 deduction in the GRCF used for calculating the environmental base  
16 for the Rockport Plant.

**VI. CHANGES TO THE ENVIRONMENTAL SURCHARGE**  
**TARIFF (TARIFF E.S.)**

17 **Q. ARE THERE ANY PROPOSED CHANGES TO TARIFF E.S.?**

18 A. Yes. The Company is proposing several changes to Tariff E.S. First, the Company is  
19 proposing to eliminate the Environmental Surcharge Factor that was authorized by the  
20 Commission in Case No. 2012-00578. Second, the Company is updating Tariff E.S. to  
21 reflect the new monthly base environmental costs as described above. Third, the Company is  
22 modifying the Tariff to reflect the Rate of Return proposed in this case. Fourth, the

1 Company is updating the revenue allocation and environmental surcharge factor calculations.  
2 Finally, the Company is updating the list of environmental projects to match those included  
3 in the 2014 Plan.

4 **Q. WHAT RATES OF RETURN ON EQUITY IS THE COMPANY PROPOSING FOR**  
5 **USE WITH THE ENVIRONMENTAL SURCHARGE?**

6 A. The Company is proposing a 10.62% return on equity for non-Rockport environmental  
7 projects. This rate of return is supported in the testimony of Company Witnesses Avera and  
8 McKenzie. The Company's return on equity for environmental projects at the Rockport  
9 Plant is 12.16% as established by the FERC-approved Rockport UPA.

10 **Q. PLEASE DESCRIBE THE CHANGE IN THE METHODOLOGY FOR**  
11 **ALLOCATING THE ENVIRONMENTAL REVENUE REQUIREMENT AMONG**  
12 **CUSTOMER CLASSES.**

13 A. The Company will continue its current allocation methodology for allocating the  
14 environmental revenue requirement between retail and full requirements customers.  
15 Pursuant to Paragraph 6 of the Stipulation and Settlement Agreement in Case No. 2012-  
16 00578 approved by the Commission's Order dated October 7, 2013 ("Stipulation and  
17 Settlement Agreement"), the Company will allocate the retail share of the environmental  
18 revenue requirement between residential and non-residential customers based on the  
19 respective share of total revenues. The Company will include the allocation in its monthly  
20 environmental surcharge filings.

21 **Q. HOW DID THE COMPANY MODIFY THE MONTHLY ENVIRONMENTAL**  
22 **SURCHARGE FACTOR FORMULA?**

1 A. In accordance with Paragraph 6 of the Stipulation and Settlement Agreement, Kentucky  
2 Power will continue to calculate the monthly environmental surcharge factor for residential  
3 customers as a function of total revenues. The Company will now calculate the monthly  
4 environmental surcharge factor for non-residential retail customers as a function of non-fuel  
5 revenues. It is this final calculation, which is specified in the Stipulation and Settlement  
6 Agreement, that is a change from the current methodology.

7 **Q. WILL THE PROPOSED CHANGES TO TARIFF E.S. REQUIRE ANY CHANGES**  
8 **TO THE MONTHLY ENVIRONMENTAL SURCHARGE FORMS?**

9 A. Yes. Although the monthly forms were revised in January 2014 to remove the schedules for  
10 pool-related environmental projects, the current schedules do not include the Mitchell  
11 environmental projects. Also, the current monthly forms do not provide for the change in the  
12 allocation methodology for non-residential retail customers described above.

**VII. RECOVERY OF COSTS ASSOCIATED WITH THE MITCHELL FGD**

13 **Q. WHY WERE THE MITCHELL FGD COSTS NOT INCLUDED IN THE BASE**  
14 **ENVIRONMENTAL COSTS?**

15 A. Paragraph 6 of the Stipulation and Settlement Agreement requires that all costs associated  
16 with the Mitchell FGD system be recovered through the environmental surcharge and  
17 excluded from base rates. This recovery mechanism is to remain in place at least until the  
18 Commission sets new base rates for a period commencing after June 30, 2020 that includes  
19 the Mitchell FGD costs.

20 **Q. DID YOU PREPARE ANY RATE CASE ADJUSTMENTS TO REMOVE**  
21 **KENTUCKY POWER'S SHARE OF THE COSTS ASSOCIATED WITH THE**  
22 **MITCHELL FGD FROM THE TEST YEAR DATA?**

1 A. Yes. Please refer to W35 and W53 within Section V, Exhibit 2. I prepared Adjustment W35  
2 to remove annualized costs associated with the Mitchell FGD operations and maintenance  
3 expenses. Because Paragraph 6 of the Stipulation and Settlement Agreement requires that  
4 the Company recover all costs associated with the Mitchell FGD via the environmental  
5 surcharge, the Mitchell FGD O&M adjustment also includes the costs associated with  
6 gypsum disposal, limestone, lime hydrate, and polymer in addition to the depreciation,  
7 maintenance, and property tax expenses. After applying the production demand allocation  
8 factor, the total adjustment amount is \$14,879,350.

9 Additionally, I prepared Adjustment W53 to remove the rate base amount of the  
10 Mitchell FGD. The rate base deduction was determined by removing the accumulated  
11 depreciation and accumulated deferred income tax amounts from the electric plant in service  
12 amount. The production demand allocation factor was then applied, resulting in a rate base  
13 deduction of \$223,164,406.

14 **Q. DID YOU CALCULATE THE ANNUAL REVENUE REQUIREMENT FOR COSTS**  
15 **ASSOCIATED WITH THE MITCHELL FGD THAT WILL BE RECOVERED**  
16 **THROUGH THE ENVIRONMENTAL SURCHARGE?**

17 A. Yes. I determined what the annual revenue requirement for the Mitchell FGD based on the  
18 period from July 2015 through June 2016.

19 **Q. WHY DID YOU CALCULATE THE ANNUAL REQUIREMENT BASED ON THE**  
20 **PERIOD FROM JULY 2015 THROUGH JUNE 2016?**

21 A. I utilized the July 2015 through June 2016 period because that is the first 12 month period  
22 following the anticipated date that the rates proposed in this case will go in to effect.



1 **Q. PLEASE DESCRIBE THE PROCESS YOU USED TO CALCULATE THE ANNUAL**  
2 **REVENUE REQUIREMENT TO RECOVER COSTS ASSOCIATED WITH THE**  
3 **MITCHELL FGD.**

4 A. The derivation of the annual revenue requirement for the Mitchell FGD of \$34,391,339 is  
5 shown on Exhibit AJE-4. As I did in developing the monthly environmental base revenue  
6 requirement, I calculated the revenue requirement for the Mitchell FGD in a step-wise  
7 fashion. The step-wise process I utilized produced monthly revenue requirements, which I  
8 subsequently summed for the annual period described above.

9 First, I determined the Mitchell FGD rate base by subtracting the monthly  
10 depreciation amount and the monthly accumulated deferred federal income tax (“ADFIT”)  
11 amount from Kentucky Power’s share of the original cost of the Mitchell FGD. Next, I  
12 calculated the monthly return on rate base utilizing the weighted average cost of capital  
13 (“WACC”) proposed in this case.

14 I then added the month return on rate base values to the monthly operation and  
15 maintenance (“O&M”) expenses associated with the Mitchell FGD. To determine the  
16 monthly Mitchell O&M expenses, I utilized the annualized test year operation and  
17 maintenance expenses associated with the Mitchell FGD. The addition of the monthly return  
18 on rate base requirement with the monthly O&M expenses produces a total monthly revenue  
19 requirement for the costs associated with the Mitchell FGD. I next applied the estimated  
20 retail allocation factor to determine the monthly retail revenue requirement for the Mitchell  
21 FGD.

22 My final step was to sum the monthly revenue requirements for the annual period  
23 from July 2015 through June 2016

1 **Q. WHAT DEPRECIATION RATE WAS USED TO CALCULATE THE**  
2 **DEPRECIATION EXPENSE FOR THE MITCHELL FGD?**

3 A. As is reflected in the exhibits of Company Witness Davis, the Company is proposing a  
4 3.13% depreciation rate for projects within account 312 – Boiler Plant Equipment. This is  
5 the depreciation rate utilized in developing the depreciation expense for the Mitchell FGD.

6 **Q. WHAT COST OF EQUITY RATE DID THE COMPANY USE TO CALCULATE**  
7 **THE REVENUE REQUIREMENT FOR THE MITCHELL FGD?**

8 A. The WACC, as calculated on Exhibit AJE-5 and utilized to calculate the required monthly  
9 return on rate base for the Mitchell FGD, included the 10.62% rate of return on equity  
10 proposed by the Company in this case. The basis for using a 10.62% rate of return is  
11 included in the testimony of Company Witnesses Avera and McKenzie.

**V. CONCLUSION**

12 **Q. IS IT FAIR, JUST, AND REASONABLE TO RECOVER, THROUGH EITHER THE**  
13 **ENVIRONMENTAL SURCHARGE OR BASE RATES THE ENVIRONMENTAL**  
14 **COSTS ASSOCIATED WITH THE 2014 ENVIRONMENTAL COMPLIANCE**  
15 **PLAN?**

16 A. Yes.

17 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

18 A. Yes.

| <b>Kentucky Power Company's Previously Approved Environmental Compliance Projects</b> |                                   |   |   |                        |
|---|-----------------------------------|---|---|------------------------|
| <b>Project</b>  | <b>Plant</b>                      | <b>Pollutant</b>  | <b>Description</b>  | <b>In-Service Year</b> |
| 1   | Mitchell                          | NO <sub>x</sub> , SO <sub>2</sub> , and SO <sub>3</sub>     | Mitchell Units 1 and 2 Water Injection, Low NO <sub>x</sub> Burners, Low NO <sub>x</sub> Burner Modification, SCR, FGD, Landfill, Coal Blending Facilities and SO <sub>3</sub> Mitigation | 1993-1994-2002-2007    |
| 2   | Mitchell                          | SO <sub>2</sub> , NO <sub>x</sub> , and Gypsum              | Mitchell Plant Common CEMS, Replace Burner Barrier Valves and Gypsum Material Handling Facilities   | 1993-2004-2007         |
| 3   | Rockport                          | SO <sub>2</sub> / NO <sub>x</sub>                           | Continuous Emission Monitors (CEMS) - Rockport Plant  | 1994                   |
| 4   | Rockport                          | NO <sub>x</sub> , Fly Ash, and Bottom Ash                   | Rockport Units 1 and 2 Low NOX Burners, Over Fire Air, and Landfill   | 2003-2008              |
| 5   | Mitchell and Rockport             | SO <sub>2</sub> /NO <sub>x</sub> /Particulates/VOC and etc. | Title V Air Emission Fees at Mitchell and Rockport Plants   | Annual                 |
| 6   | Big Sandy, Mitchell, and Rockport | NO <sub>x</sub>   | Costs Associated with Nox Allowances  | As-Needed              |
| 7   | Big Sandy, Mitchell, and Rockport | SO <sub>2</sub>   | Costs Associated with SO <sub>2</sub> Allowances  | As-Needed              |

| <b>Kentucky Power Company's Proposed Environmental Compliance Projects</b> |                                   |  |  |                        |
|--|-----------------------------------|--|--|------------------------|
| <b>Project</b>   | <b>Plant</b>                      | <b>Pollutant</b>                             | <b>Description</b>   | <b>In-Service Year</b> |
| 8  | Big Sandy, Mitchell, and Rockport | SO <sub>2</sub> / NO <sub>x</sub>            | Costs associated with the CSAPR Allowances   | As-Needed              |
| 9  | Mitchell                          | Particulates                                 | Precipitator Modifications - Mitchell Plant Units 1 and 2                            | 2007-2013              |
| 10   | Mitchell                          | Particulates                                 | Bottom Ash and Fly Ash Handling - Mitchell Plant Units 1 and 2                       | 2008 & 2010            |
| 11   | Mitchell                          | Mercury                                      | Mercury Monitoring (MATS) - Mitchell Plant Units 1 and 2                             | 2014                   |
| 12   | Mitchell                          | Selenium                                     | Dry Fly Ash Handling Conversion - Mitchell Plant Units 1 and 2                       | 2014                   |
| 13   | Mitchell                          | Fly Ash, Bottom Ash, Gypsum, and WWTP Solids | Coal Combustion Waste Landfill - Mitchell Plant Units 1 and 2                        | 2014 & 2015            |
| 14   | Mitchell                          | Particulates                                 | Electrostatic Precipitator Upgrade - Mitchell Plant Unit 2                           | 2015                   |
| 15   | Rockport                          | Particulates                                 | Precipitator Modifications - Rockport Plant Units 1 & 2                              | 2004-2009              |
| 16   | Rockport                          | Mercury                                      | Activated Carbon Injection (ACI) and Mercury Monitoring - Rockport Plant Units 1 & 2 | 2009-2010              |
| 17   | Rockport                          | HAPS   | Dry Sorbent Injection - Rockport Plant Units 1 and 2                                 | 2015                   |
| 18   | Rockport                          | Fly Ash and Bottom Ash                       | Coal Combustion Waste Landfill Upgrade To Accept Type 1 Ash -- Rockport Plant        | 2013 & 2015            |

**TARIFF E.S.**  
**(Environmental Surcharge)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D. 2, S.G.S., Experimental S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., Q.P., C.L.P.-T.O.D., I.G.S., C.S.-I.R.P., M.W., O.L., and S.L.

**RATE.**

In accordance with the Stipulation and Settlement Agreement approved by the Commission by its Order dated October 7, 2013 in Case No. 2012-00578, the Monthly Environmental Surcharge Factor will be fixed and maintained at 0.00% until new base rates are first established by Commission after the effective date of this tariff without regard to the calculation of the Monthly Environmental Surcharge Factor under paragraphs 1 through 4 below. Also, t

The environmental surcharge shall provide for monthly adjustments based on a percent of revenues, equal to the difference between the environmental compliance costs in the base period as provided in Paragraph 3 2 below and in the current period as provided in Paragraph 3 below.

The retail share of the revenue requirement will then be allocated between residential and non-residential retail customers based upon their respective total revenues during the previous calendar year. The Environmental Surcharge will be implemented as a percentage of total revenues for the residential class and as a percentage of non-fuel revenues for all other customers. when new base rates are established.

1. The environmental surcharge shall provide for monthly adjustments based on a percent of revenues, equal to the difference between the environmental compliance costs in the base period as provided in Paragraph 3 below and in the current period according to the following formula:

$$\text{Monthly Environmental Surcharge Factor} = \frac{\text{Net KY Retail E(m)}}{\text{KY Retail R(m)}}$$

Where:

$$\text{Net KY Retail E(m)} = \text{Monthly E(m) allocated to Kentucky Retail Customers, net of Over/ (Under) Recovery Adjustment; Allocation based on Percentage of Kentucky Retail Revenues to Total Company Revenues in the Expense Month.}$$

(For purposes of this formula, Total Company Revenues do not include Non-Physical Revenues.)

$$\text{KY Retail R(m)} = \text{Kentucky Retail Revenues for the Expense Month.}$$

1. 2. Monthly Environmental Surcharge Gross Revenue Requirement, E(m)

Where: E(m) = CRR - BRR  
 CRR = Current Period Revenue Requirement for the Expense Month.  
 BRR = Base Period Revenue Requirement.

(Continued on Sheet 29-2)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 2, 2015

ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

TARIFF E.S. (Cont'd)  
(Environmental Surcharge)

RATE (Cont'd)

2.3. Base Period Revenue Requirement, BRR

BRR = The Following Monthly Amounts:

| <u>Billing Month</u> | <u>Base Net<br/>Environmental Costs</u> |                      |
|----------------------|---|----------------------|
| JANUARY              | \$ 3,991,163                            | \$ 2,750,919         |
| FEBRUARY             | 3,590,810                               | 2,738,884            |
| MARCH                | 3,651,374                               | 2,851,531            |
| APRIL                | 3,647,040                               | 2,909,965            |
| MAY                  | 3,922,590                               | 2,897,250            |
| JUNE                 | 3,627,274                               | 2,835,973            |
| JULY                 | 3,805,325                               | 3,567,407            |
| AUGUST               | 4,088,830                               | 3,319,549            |
| SEPTEMBER            | 3,740,010                               | 3,378,515            |
| OCTOBER              | 3,260,302                               | 3,097,929            |
| NOVEMBER             | 2,786,040                               | 2,994,579            |
| DECEMBER             | 4,074,321                               | 2,996,160            |
|                      | <u>\$ 44,185,079</u>                    | <u>\$ 36,338,660</u> |

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In accordance with the Stipulation and Settlement Agreement approved by the Commission by its Order dated October 7, 2013 in Case No. 2012-00578, the Mitchell FGD and all related associated costs are not included in base rates or the Base Revenue Requirement but will be included in the Current Period Revenue Requirement. The Mitchell FGD will be excluded from Base Rates at least until June 30, 2020.

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3.4. Current Period Revenue Requirement, CRR

$$CRR = [((RB_{KP(c)}) (ROR_{KP(c)}) / 12) + OE_{KP(c)} + (((RB_{IM(c)}) (ROR_{IM(c)}) / 12) + OE_{IM(c)}) (.15) - AS]$$

Where:

- RB<sub>KP(C)</sub> = Environmental Compliance Rate Base for Big Sandy. Mitchell.
- ROR<sub>KP(C)</sub> = Annual Rate of Return on Big Sandy Mitchell Rate Base;  
Annual Rate divided by 12 to restate to a Monthly Rate of Return.

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(Cont'd on Sheet 29-3)

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF E.S. (Cont'd)**  
**(Environmental Surcharge)**

**RATE (Cont'd)**

|                      |   |  |             |
|----------------------|---|--|-------------|
| OE <sub>KP(C)</sub>  | = | Monthly Pollution Control Operating Expenses for <del>Big Sandy</del> <i>Mitchell</i> .  | T           |
| RB <sub>IM(C)</sub>  | = | Environmental Compliance Rate Base for Rockport.   |             |
| ROR <sub>IM(C)</sub> | = | Annual Rate of Return on Rockport Rate Base;<br>Annual Rate divided by 12 to restate to a Monthly Rate of Return.  |             |
| OE <sub>IM(C)</sub>  | = | Monthly Pollution Control Operating Expenses for Rockport.   |             |
| AS                   | = | Net proceeds from the sale of <i>Title IV and CSAPR</i> SO <sub>2</sub> emission allowances, ERCs, and NO <sub>x</sub> emission allowances, reflected in the month of receipt. <del>The SO<sub>2</sub> allowance sales can be from either EPA Auctions or the AEP Interim Allowance Agreement Allocations.</del> | T<br>T<br>T |

"KP(C)" identifies components from the ~~Big Sandy Mitchell~~ Units – Current Period, and "IM(C)" identifies components from the Indiana Michigan Power Company's Rockport Units – Current Period.

The Rate Base for both Kentucky Power and Rockport should reflect the current costs associated with the 1997 Plan, ~~and the 2003 Plan, the 2005 Plan, the 2007 Plan and the 2014 Plan.~~ The Rate Base for Kentucky Power should also include a cash working capital allowance based on the 1/8 formula approach, due to the inclusion of Kentucky Power's accounts receivable financing in the capital structure and weighted average cost of capital. The Operating Expenses for both Kentucky Power and Rockport should reflect the current operating expenses associated with the 1997 Plan, the 2003 Plan, the 2005 Plan, ~~and the 2007 Plan, and the 2014 Plan.~~

The Rate of Return for Kentucky Power is ~~10.50%~~ *10.62%* rate of return on equity as authorized by the Commission in its ~~June 29, 2010 Order Dated XXXXXXXXX~~ in Case No. ~~2014-00396~~ *2009-00459* ~~at page 6.~~

The Rate of Return for Rockport should reflect the requirements of the Rockport Unit Power Agreement.

Net Proceeds from the sale of emission allowances and ERCs that reflect net gains will be a reduction to the Current Period Revenue Requirement, while net losses will be an increase.

The Current Period Revenue Requirement will reflect the balances and expenses as of the Expense Month of the filing.

(Cont'd on Sheet No. 29-4)

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**TARIFF E.S. (Cont'd)**  
**(Environmental Surcharge)**

**RATE (Cont'd)**

**4. Revenue Allocation**

$$\text{Residential Allocation } RA(m) = \frac{\text{KY Residential Retail Revenue } RR(b)}{\text{KY Retail Revenue } R(b)}$$

$$\text{All Other Allocation } OA(m) = \frac{\text{KY All Other Classes Retail Revenue } OR(b)}{\text{KY Retail Revenue } R(b)}$$

Where:

(m) = the expense month

(b) = most recent calendar year revenues

**5. Environmental Surcharge Factor**

$$\text{Residential Monthly Environmental Surcharge Factor} = \frac{\text{Net KY Retail } E(m) * RA(m)}{\text{KY } RR(m)}$$

$$\text{All Other Monthly Environmental Surcharge Factor} = \frac{\text{Net KY Retail } E(m) * AO(m)}{\text{KY } OR(m) - \text{KY } OF(m)}$$

Where:

Net KY Retail E(m) = Monthly E(m) allocated to Kentucky Retail Customers, net of Over/ (Under) Recovery Adjustment; Allocation based on Percentage of Kentucky Retail Revenues to Total Company Revenues in the Expense Month.

(For purposes of this formula, Total Company Revenues do not include Non-Physical Revenues.)

RR(m) = Kentucky Residential Retail Revenues for the Expense Month.

OR(m) = Kentucky All Other Classes Retail Revenues for the Expense Month

OF(m) = Kentucky All Other Classes Fuel Revenues for the Expense Month

(Cont'd on Sheet No. 29-5)

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**TARIFF E.S. (Cont'd)**  
**(Environmental Surcharge)**

**RATE (Cont'd)**

6.5. Environmental costs "E" shall be the Company's costs of compliance with the Clean Air Act and those environmental requirements that apply to coal combustion wastes and by-products, as follows:

*Total Company:*

- (a) ~~costs associated with Continuous Emission Monitors (CEMS)~~ D
- (b) ~~costs associated with the terms of the Rockport Unit Power Agreement~~ D
- (c) ~~the Company's share of the pool capacity costs associated with Gavin scrubber(s)~~ D
  - return on *Title IV and CASPR* SO<sub>2</sub> allowance inventory T
- (d) ~~costs associated with air emission fees at Rockport and Mitchell~~ D
  - (b) over/under recovery balances between the actual costs incurred less the amount collected through the environmental surcharge T
  - (e) costs associated with any Commission's consultant approved by the Commission T
- (h) ~~cost associated with Low Nitrogen Oxide (NOx) burners at the Big Sandy Generating Plant~~ D
  - (d) costs associated with the consumption *Title IV and CSAPR* of SO<sub>2</sub> allowances T
  - ~~costs associated with the Selective Catalytic Reduction (SCR) at the Big Sandy Generating Plant~~ D
- (i) ~~costs associated with the upgrade of the precipitator at the Big Sandy Generating Plant~~ D
- (j) ~~costs associated with the over fire air with water injection at the Big Sandy Generating Plant~~ D
  - (e) costs associated with the consumption of NO<sub>x</sub> allowances T
  - (f) return on NO<sub>x</sub> allowance inventory T
- (k) ~~25% of the costs associated with the Reverse Osmosis Water System (the amount is subject to adjustment at subsequent 6 month surcharge reviews based on the documented utilization of the RO Water System by the SCR)~~ D
  - (g) costs associated with maintaining approved pollution control equipment including material and contract labor (excluding plant labor) T
  - Costs associated with consumables used in conjunction with approved environmental projects. T

(Cont'd on Sheet No. 29-6)

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In Case No. 2014-00396 DATED XXXXXXXX



**TARIFF E.S. (Cont'd)**  
**(Environmental Surcharge)**

**RATE (Cont'd)**

*The Company's share of costs associated with the following environmental equipment at the Rockport Plant:*

- Continuous Emissions Monitors
- Air Emission Fees
- Costs Associated with the Rockport Unit Power Agreement
- Activated Carbon Injection
- Mercury Monitoring
- Precipitator Modifications
- Dry Sorbent Injection
- Coal Combustion Waste Landfill
- Low NOx burners, over-fire air, Landfill

*The Company's share of costs associated with the following environmental equipment at the Mitchell Plant:*

*(f) — the Company's share of the pool capacity costs associated with the following:*

- Amos Unit No. 3 CEMS, Low NO<sub>x</sub> Burners, SCR, FGD, Landfill, Coal Blending Facilities and SO<sub>2</sub> Mitigation
- Cardinal Unit No. 1 CEMS, Low NO<sub>x</sub> Burners, SCR, Catalyst Replacement, FGD, Landfill and SO<sub>2</sub> Mitigation
- Gavin Plant SCR and SCR Catalyst Replacement
- Gavin Unit No. 1 and 2 Low NO<sub>x</sub> Burners and SO<sub>2</sub> Mitigation
- Kammer Unit Nos 1, 2 and 3 CEMS, Over Fire Air and Duct Modification
- Mitchell Unit Nos 1 and 2 Water Injection, Low NO<sub>x</sub> burners, Low NO<sub>x</sub> burner Modification, SCR, FGD, Landfill, Coal Blending Facilities and SO<sub>2</sub> Mitigation
- Mitchell Plant Common CEMS, Replace Burner Barrier Valves and Gypsum Material Handling Facilities
- Air Emission Fees
- Precipitator Modifications and Upgrades
- Coal Combustion Waste Landfill
- Bottom Ash and Fly Ash Handling
- Mercury Monitoring (MATS)
- Dry Fly Ash Handling Conversion

(Cont'd on Sheet No. 29-7)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF E.S. (Cont'd)**  
**(Environmental Surcharge)**

**RATE (Cont'd)**

- ~~Muskingum River Unit No 1 Low NO<sub>x</sub> Ductwork, Over Fire Air, Over Fire Air Modification, Water Injection and Water Injection Modification~~
- ~~Muskingum River Unit No 2 Low NO<sub>x</sub> Ductwork, Over Fire Air, Over Fire Air Modification and Water Injection~~
- ~~Muskingum River Unit No 3 Over Fire Air, Over Fire Air Modification with NO<sub>x</sub> Instrumentation~~
- ~~Muskingum River Unit No 4 Over Fire Air with Modification~~
- ~~Muskingum River Unit No 5 Low NO<sub>x</sub> Burner with Modification and Weld Overlay, an SCR and SO<sub>3</sub> Mitigation~~
- ~~Muskingum River Common CEMS~~
- ~~Phillip Sporn Unit No 2 Low NO<sub>x</sub> Burners with Modifications~~
- ~~Phillip Sporn Unit No 4 and 5 Low NO<sub>x</sub> Burners and Modulating Injection Air system with Modifications~~
- ~~Phillip Sporn Common CEMS, SO<sub>2</sub> Injection System and Landfill~~
- ~~Rockport Unit No 1 and 2 Low NO<sub>x</sub> Burners and Landfill~~
- ~~Tanners Creek Unit No 1 Low NO<sub>x</sub> Burners, with Modifications and Low NO<sub>x</sub> Burners Leg Replacement~~
- ~~Tanners Creek Unit No 2 and 3 Low NO<sub>x</sub> Burners with Modifications~~
- ~~Tanners Creek Unit No 4 Over Fire Air, Low NO<sub>x</sub> Burners and ESP Controls Upgrade~~
- ~~Tanners Creek Common CEMS and Coal Blending Facilities~~
- ~~Title V Air Emission Fees at Amos, Cardinal, Gavin, Kammer, Mitchell, Muskingum River, Philip Sporn, Rockport and Tanners Creek plants.~~

7-6. The monthly environmental surcharge shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all necessary supporting data to justify the amount of the adjustments which shall include data and information as may be required by the Commission.

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**Kentucky Power Company**  
**Calculation of Monthly Base Amount of Environmental Costs**  
**October 1, 2013 to September 30, 2014**

| Ln  | No             | Month/Year   | Monthly Environmental Costs | Adjustment for Pool Termination | Adjustment to Remove Big Sandy | Leaves only Test Year Rockport Expenses and Gains on Allowances | Include Mitchell Non-EGD | Rockport Additional Test Year Expenses for O & M, Depreciation, and Return | Adjusted Environmental Base |
|-----|----------------|--------------|-----------------------------|---------------------------------|--------------------------------|---|--------------------------|--|-----------------------------|
| (1) | (2)            | (3)          | (4)                         | (5)                             | (6)                            | (7)   | (8)                      | (9)  |                             |
| 1   | October 2013   | \$2,588,033  | -\$884,674                  | -\$1,672,931                    | \$30,428                       | \$2,899,309   | \$137,763                | \$3,097,929  |                             |
| 2   | November 2013  | \$2,574,766  | -\$873,779                  | -\$1,686,320                    | \$14,667                       | \$2,899,309   | \$65,935                 | \$2,994,579  |                             |
| 3   | December 2013  | \$3,956,730  | -\$921,717                  | -\$3,000,383                    | \$34,630                       | \$2,899,309   | \$27,591                 | \$2,996,160  |                             |
| 4   | January 2014   | \$2,819,234  | \$0                         | -\$2,789,805                    | \$29,429                       | \$2,662,142   | \$29,919                 | \$2,750,919  |                             |
| 5   | February 2014  | \$2,727,758  | \$0                         | -\$2,688,504                    | \$39,254                       | \$2,628,599   | \$31,777                 | \$2,738,884  |                             |
| 6   | March 2014     | \$2,361,529  | \$0                         | -\$2,321,728                    | \$39,801                       | \$2,699,971   | \$71,957                 | \$2,851,531  |                             |
| 7   | April 2014     | \$2,844,327  | \$0                         | -\$2,804,712                    | \$39,615                       | \$2,746,874   | \$83,860                 | \$2,909,965  |                             |
| 8   | May 2014       | \$2,450,433  | \$0                         | -\$2,409,658                    | \$40,775                       | \$2,729,467   | \$86,233                 | \$2,897,250  |                             |
| 9   | June 2014      | \$2,788,301  | \$0                         | -\$2,749,455                    | \$38,846                       | \$2,693,526   | \$64,756                 | \$2,835,973  |                             |
| 10  | July 2014      | \$2,675,318  | \$0                         | -\$2,638,192                    | \$37,126                       | \$3,456,665   | \$36,490                 | \$3,567,407  |                             |
| 11  | August 2014    | \$2,796,292  | \$0                         | -\$2,758,034                    | \$38,258                       | \$3,209,974   | \$33,058                 | \$3,319,549  |                             |
| 12  | September 2014 | \$2,146,708  | \$0                         | -\$2,108,067                    | \$38,641                       | \$3,266,568   | \$34,665                 | \$3,378,515  |                             |
|     | Total          | \$32,729,430 | -\$2,680,170                | -\$29,627,789                   | \$421,471                      | \$34,791,713  | \$704,005                | \$36,338,660   |                             |

\* Per Monthly ES Form 1.00, Line 1

Kentucky Power Company  
Mitchell FGD Revenue Requirement

| Month (1)                        | Year (2) | Environmental Utility Plant at Original Cost (3) | Accumulated Depreciation (4) | Monthly Depreciation (5) | ADFIT (6)    | Monthly ADFIT (7) | Rate Base (8) | WACC (9) | Monthly Return on Rate Base (10) | Monthly O & M (11) | Total FGD Monthly Environmental Revenue Requirement (12) | Retail Allocation (13) | Proposed Revenue Increase (14) |
|----------------------------------|----------|--|------------------------------|--------------------------|--------------|-------------------|---------------|----------|----------------------------------|--------------------|--|------------------------|--------------------------------|
| Balance as of September 30, 2014 |          |  |                              |                          |              |                   |               |          |                                  |                    |  |                        |                                |
| October                          | 2014     | \$327,193,412                                    | \$76,112,982                 | \$853,429,48             | \$24,747,361 | \$119,915         | \$226,333,069 | 10.79%   | \$2,026,360                      | \$1,257,552        | \$3,283,911  | 0.9076                 | \$2,980,478                    |
| November                         | 2014     | \$327,193,412                                    | \$76,966,411                 | \$853,429,48             | \$24,867,276 | \$119,915         | \$225,359,724 | 10.79%   | \$2,017,608                      | \$1,257,552        | \$3,275,159  | 0.9076                 | \$2,972,534                    |
| December                         | 2014     | \$327,193,412                                    | \$77,819,841                 | \$853,429,48             | \$24,987,191 | \$119,915         | \$224,386,380 | 10.79%   | \$2,008,556                      | \$1,257,552        | \$3,266,407  | 0.9076                 | \$2,964,591                    |
| January                          | 2015     | \$327,193,412                                    | \$78,673,270                 | \$853,429,48             | \$25,107,106 | \$113,713         | \$223,413,035 | 10.79%   | \$2,000,159                      | \$1,278,321        | \$3,278,480  | 0.9076                 | \$2,975,549                    |
| February                         | 2015     | \$327,193,412                                    | \$79,526,700                 | \$853,429,48             | \$25,220,819 | \$113,713         | \$222,445,693 | 10.79%   | \$1,991,463                      | \$1,186,493        | \$3,177,956  | 0.9076                 | \$2,884,313                    |
| March                            | 2015     | \$327,193,412                                    | \$80,380,129                 | \$853,429,48             | \$25,334,532 | \$113,713         | \$221,478,750 | 10.79%   | \$1,982,767                      | \$1,310,939        | \$3,293,706  | 0.9076                 | \$2,989,367                    |
| April                            | 2015     | \$327,193,412                                    | \$81,233,559                 | \$853,429,48             | \$25,448,245 | \$113,713         | \$220,511,608 | 10.79%   | \$1,974,071                      | \$1,373,764        | \$3,347,834  | 0.9076                 | \$3,038,495                    |
| May                              | 2015     | \$327,193,412                                    | \$82,086,988                 | \$853,429,48             | \$25,561,958 | \$113,713         | \$219,544,466 | 10.79%   | \$1,965,374                      | \$1,307,932        | \$3,273,307  | 0.9076                 | \$2,970,853                    |
| June                             | 2015     | \$327,193,412                                    | \$82,940,418                 | \$853,429,48             | \$25,675,671 | \$113,713         | \$218,577,323 | 10.79%   | \$1,956,678                      | \$1,178,850        | \$3,135,528  | 0.9076                 | \$2,845,805                    |
| July                             | 2015     | \$327,193,412                                    | \$83,793,847                 | \$853,429,48             | \$25,789,384 | \$113,713         | \$217,610,181 | 10.79%   | \$1,947,982                      | \$1,367,810        | \$3,315,792  | 0.9076                 | \$3,009,413                    |
| August                           | 2015     | \$327,193,412                                    | \$84,647,277                 | \$853,429,48             | \$25,903,097 | \$113,713         | \$216,643,038 | 10.79%   | \$1,939,286                      | \$1,081,502        | \$3,020,788  | 0.9076                 | \$2,741,667                    |
| September                        | 2015     | \$327,193,412                                    | \$85,500,706                 | \$853,429,48             | \$26,016,810 | \$113,713         | \$215,675,896 | 10.79%   | \$1,930,590                      | \$1,232,354        | \$3,162,943  | 0.9076                 | \$2,870,687                    |
| October                          | 2015     | \$327,193,412                                    | \$86,354,136                 | \$853,429,48             | \$26,130,523 | \$113,713         | \$214,708,753 | 10.79%   | \$1,921,893                      | \$1,257,552        | \$3,179,445  | 0.9076                 | \$2,885,664                    |
| November                         | 2015     | \$327,193,412                                    | \$87,207,565                 | \$853,429,48             | \$26,244,236 | \$113,713         | \$213,741,611 | 10.79%   | \$1,913,197                      | \$1,257,552        | \$3,170,749  | 0.9076                 | \$2,877,771                    |
| December                         | 2015     | \$327,193,412                                    | \$88,060,995                 | \$853,429,48             | \$26,357,949 | \$113,713         | \$212,774,468 | 10.79%   | \$1,904,501                      | \$1,257,552        | \$3,162,052  | 0.9076                 | \$2,869,879                    |
| January                          | 2016     | \$327,193,412                                    | \$88,914,424                 | \$853,429,48             | \$26,471,662 | \$113,713         | \$211,807,326 | 10.79%   | \$1,895,812                      | \$1,278,321        | \$3,174,133  | 0.9076                 | \$2,880,843                    |
| February                         | 2016     | \$327,193,412                                    | \$89,767,854                 | \$853,429,48             | \$26,584,504 | \$112,842         | \$210,841,054 | 10.79%   | \$1,887,124                      | \$1,186,493        | \$3,073,617  | 0.9076                 | \$2,789,615                    |
| March                            | 2016     | \$327,193,412                                    | \$90,621,283                 | \$853,429,48             | \$26,697,346 | \$112,842         | \$209,874,783 | 10.79%   | \$1,878,436                      | \$1,310,939        | \$3,189,375  | 0.9076                 | \$2,894,677                    |
| April                            | 2016     | \$327,193,412                                    | \$91,474,713                 | \$853,429,48             | \$26,810,188 | \$112,842         | \$208,908,511 | 10.79%   | \$1,869,747                      | \$1,373,764        | \$3,243,511  | 0.9076                 | \$2,943,811                    |
| May                              | 2016     | \$327,193,412                                    | \$92,328,142                 | \$853,429,48             | \$26,923,030 | \$112,842         | \$207,942,240 | 10.79%   | \$1,861,059                      | \$1,307,932        | \$3,168,991  | 0.9076                 | \$2,876,176                    |
| June                             | 2016     | \$327,193,412                                    | \$93,181,572                 | \$853,429,48             | \$27,035,872 | \$112,842         | \$206,975,968 | 10.79%   | \$1,852,371                      | \$1,178,850        | \$3,031,220  | 0.9076                 | \$2,751,136                    |

Total Revenue Requirement for July  
2015 through June 2016

\$34,391,339

ES FORM 3.15

KENTUCKY POWER COMPANY - ENVIRONMENTAL SURCHARGE REPORT  
CURRENT PERIOD REVENUE REQUIREMENT  
MITCHELL PLANT COST OF CAPITAL

| LINE NO. | Component | Balances                   | Cap. Structure  | Cost Rates    |   | WACC (Net of Tax) | GRCF          |     | WACC (PRE-TAX) |
|----------|-----------|----------------------------|-----------------|---------------|---|-------------------|---------------|-----|----------------|
|          |           | <b>As of<br/>9/30/2014</b> |                 |               |   |                   |               |     |                |
| 1        | L/T DEBT  | \$607,976,387              | 52.984%         | 5.41%         |   | 2.87%             | 1.0050        | *** | 2.88%          |
| 2        | S/T DEBT  | (\$30,904,414)             | -2.693%         | 0.38%         |   | -0.01%            | 1.0050        |     | -0.01%         |
| 3        | ACCTS REC |                            |                 |               |   |                   |               |     |                |
| 3        | FINANCING | \$51,835,783               | 4.517%          | 1.07%         |   | 0.05%             | 1.0050        |     | 0.05%          |
| 4        | C EQUITY  | \$518,572,572              | 45.192%         | <b>10.62%</b> | * | 4.80%             | <b>1.6402</b> | **  | 7.87%          |
| 5        | TOTAL     | <b>\$1,147,480,328</b>     | <b>100.000%</b> |               |   |                   |               |     | <b>10.79%</b>  |

|    |                                     |         |
|----|-------------------------------------|---------|
| 6  | Operating Revenues                  | 100.00  |
| 7  | Less Uncollectible Accounts Expense | 0.3000  |
| 8  | KPSC Maintenance Assessment Fee     | 0.1952  |
| 9  | Income Before Income Taxes          | 99.5048 |
| 10 | Gross Up Factor (100.00/Ln 9)       | 1.0050  |

\* WACC = Weighted Average Cost of Capital  
Rate of Return on Common Equity proposed in Case No. 2014-00396

\*\* Gross Revenue Conversion Factor (GRCF) Calculation as reflected in Section V, Schedule 2, Workpaper S-2, Page 2 of 3.

\*\*\* Gross Up for PSC Maintenance Assessment Fee & Uncollectible Expense

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For:            )**  
**(1) A General Adjustment Of Its Rates For Electric    )**  
**Service; (2) An Order Approving Its 2014            )**  
**Environmental Compliance Plan; (3) An Order        )** **Case No. 2014-00396**  
**Approving Its Tariffs And Riders; And (4) An        )**  
**Order Granting All Other Required Approvals        )**  
**And Relief    )**

**DIRECT TESTIMONY OF**  
**JEFFERY D. LAFLEUR**  
**ON BEHALF OF KENTUCKY POWER COMPANY**



**DIRECT TESTIMONY OF  
JEFFERY D. LAFLEUR, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
JEFFERY D. LAFLEUR, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

2 A. My name is Jeffery D. LaFleur. My title is Vice President – Generating Assets  
3 for Kentucky Power Company (“Kentucky Power” or “Company”) and  
4 Appalachian Power Company (“APCo”). Both Kentucky Power and APCo are  
5 wholly owned subsidiaries of American Electric Power (“AEP”). My business  
6 address is 707 Virginia Street, East, Suite 1000, Charleston, West Virginia 25301.

**II. BACKGROUND**

7 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND.**

8 A. I earned a Bachelor of Science degree in Mechanical Engineering from the  
9 Louisiana Tech University and have completed an executive management  
10 program at Louisiana State University.

11 **Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.**

12 A. I joined Southwestern Electric Power Company (another subsidiary of AEP) in  
13 1982 as a staff engineer, progressing to various positions including maintenance  
14 supervisor, maintenance superintendent, and plant manager. I became manager of  
15 operations over all SWEPCO power plants in 1993. From 1993 through May  
16 2008 I held several positions with Central and Southwest Corporation and other  
17 companies within the American Electric Power system, and was responsible for

1 the ongoing operation of generating assets including coal-fired plants, wind  
2 generating facilities, and gas-fired combined cycle and peaking units.  
3 Specifically, from 2003 to 2008 I served as Vice President of Region 2 generation  
4 assets, which included Kentucky Power's Mitchell Plant. I assumed my current  
5 position in January 2013.

6 **Q. WHAT ARE YOUR PRINCIPAL AREAS OF RESPONSIBILITY AS VICE**  
7 **PRESIDENT – GENERATING ASSETS FOR KENTUCKY POWER AND**  
8 **APCO?**

9 A. I am responsible for the safe, reliable and economic operation of Kentucky Power  
10 and APCo's fossil-fueled and hydro-powered electric generating facilities.

11 **Q. HAVE YOU TESTIFIED BEFORE ANY REGULATORY**  
12 **COMMISSIONS?**

13 A. Yes. I have testified on behalf of Kentucky Power before the Kentucky Public  
14 Service Commission ("Commission") in Case No. 2012-00578, and I have also  
15 testified on behalf of APCo before regulatory commissions in Virginia and West  
16 Virginia.

### **III. PURPOSE OF DIRECT TESTIMONY**

17 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS**  
18 **PROCEEDING?**

19 A. The purpose of my testimony is to:

- 20
- Describe the Company's Generation Assets.

- 1           • Describe and support the reasonableness of the Generation non-fuel  
2           Operations and Maintenance (O&M) expenses for Kentucky Power’s 50%  
3           undivided share of the Mitchell generating station.
- 4           • Describe and support the reasonableness of the Generation non-fuel O&M  
5           expenses for Kentucky Power’s Big Sandy Plant Unit 1.
- 6           • Support the identification and reasonableness of the Big Sandy Unit 1 and  
7           other Big Sandy plant coal-related assets to be retired as part of its conversion  
8           to a gas-fired unit.
- 9           • Support the reasonableness of the Decommissioning O&M expenses for  
10          Kentucky Power’s Big Sandy Plant Unit 2 after it is retired from service in  
11          June 2015.
- 12          • Support the reasonableness and cost-effectiveness of the capital projects and  
13          non-fuel O&M to be included in the 2014 Environmental Compliance Plan.

#### **IV. KENTUCKY POWER’S GENERATING ASSETS**

14   **Q.   PLEASE BRIEFLY DESCRIBE KENTUCKY POWER’S GENERATING**  
15   **ASSETS.**

16   A.   Kentucky Power owns and operates the coal-fired Big Sandy Plant located in  
17   Louisa, Kentucky. The plant, with a total generating capacity of 1,078 net  
18   megawatts (MW), comprises two coal-fired generating units. Unit 1 is a 278 MW  
19   sub-critical generating unit in service since 1963 and Unit 2 is a 800 MW super-  
20   critical generating unit in service since 1969. Both units are equipped with  
21   Electrostatic Precipitators (ESPs) for particulate control and low nitrogen oxide

1 (NO<sub>x</sub>), burners (LNBS). Unit 2 is also equipped with a Selective Catalytic  
2 Reduction (SCR) system for additional (up to 90%) NO<sub>x</sub> reduction. As is  
3 discussed further in my testimony, due to the forthcoming compliance deadline  
4 with EPA's Mercury and Air Toxics (MATS) Rule Big Sandy Unit 2 will be  
5 retired as of June 1, 2015 and Big Sandy Unit 1 will be converted to run on  
6 natural gas by approximately June 2016.

7 In addition to the Big Sandy Plant, Kentucky Power also owns an  
8 undivided 50% interest in the Mitchell Plant, located approximately 12 miles  
9 south of Moundsville, West Virginia on the Ohio River. The Mitchell Plant  
10 comprises two super-critical pulverized coal-fired base load generating units.  
11 Unit 1 has a capacity of 770 MW and Unit 2 has a capacity of 790 MW for a total  
12 capacity of 1,560 MW. Both units were placed in service in 1971. These units  
13 are of the same series and vintage as Big Sandy Unit 2; however, the Mitchell  
14 units are considered fully controlled as they are equipped with Flue Gas  
15 Desulfurization (FGD) systems for sulfur dioxide (SO<sub>2</sub>) and SCR technology for  
16 NO<sub>x</sub> control. Both units at the Mitchell Plant are also equipped with ESPs, low-  
17 NO<sub>x</sub> burners, and SCRs, similar to Big Sandy Unit 2.

18 Lastly, Kentucky Power has a unit power agreement for 15% of the  
19 generation from the Rockport Plant. The Rockport Plant is also located along the  
20 Ohio River in southern Indiana, and consists of two super-critical pulverized coal-  
21 fired base load units. Unit 1 has a capacity of 1,320 MW and Unit 2 has a  
22 capacity of 1,300 MW for a total capacity of 2,620 MW. Both of the Rockport  
23 Units are equipped with ESPs, low-NO<sub>x</sub> burners, and Activated Carbon Injection  
24 (ACI) systems for mercury reduction.

1 **Q. WHAT EFFECT WILL THE MATS RULE HAVE ON THE BIG SANDY**  
2 **PLANT?**

3 A. Due to MATS, and as discussed by Company Witness McManus, Kentucky  
4 Power will be retiring Big Sandy Unit 2 by June 1, 2015. In accordance with the  
5 Commission's October 7, 2013 Order in Case No. 2012-00578, Kentucky Power  
6 acquired a 50% undivided interest in the Mitchell generating station to replace  
7 Big Sandy Unit 2. In addition to the retirement of Big Sandy Unit 2, Kentucky  
8 Power is in the process of converting Big Sandy Unit 1 to consume natural gas  
9 rather than coal, pursuant to the Commission's Order in Case No. 2013-00430.  
10 This fuel conversion will allow Big Sandy Unit 1 to continue to operate in  
11 compliance with the stringent air emission requirements of MATS. Big Sandy  
12 Unit 1's conversion to natural gas should be complete by June of 2016.

**V. KENTUCKY POWER MITCHELL PLANT NON-FUEL O&M**  
**PRODUCTION COSTS TO BE INCLUDED IN BASE RATES**

13 **Q. WHAT WAS KENTUCKY POWER'S ANNUALIZED TEST YEAR**  
14 **LEVEL OF GENERATION NON-FUEL O&M EXPENSES**  
15 **(GENERATION O&M) FOR ITS 50% UNDIVIDED SHARE OF**  
16 **MITCHELL PLANT?**

17 A. Kentucky Power's annualized test year level of total non-fuel O&M expense for  
18 its undivided 50% interest in Mitchell Plant is \$43.42 million, as calculated by  
19 Company Witness Yoder. Of the \$43.42 million annualized test year level, the  
20 costs directly associated with the operation of Mitchell Plant during the  
21 annualized test year are \$31.13 million (direct generation non-fuel O&M

1 expense). The remaining \$12.29 million includes items such as taxes, employee  
 2 benefits, and other expenses allocated to Mitchell Plant. All these costs, including  
 3 the allocated expenses, were reasonable, necessary and prudently incurred to  
 4 support Mitchell Plant operations.

5 **Q. PLEASE PROVIDE FURTHER DETAIL CONCERNING KENTUCKY**  
 6 **POWER'S 50% SHARE OF THE MITCHELL PLANT'S ANNUALIZED**  
 7 **TEST-YEAR DIRECT GENERATION NON-FUEL O&M AMOUNTS BY**  
 8 **MAJOR CATEGORY?**

9 A. The following Table 1 provides by major category the annualized test-year direct  
 10 generation non-fuel O&M expenses for the Mitchell Plant:

| Category              | Mitchell Plant      |
|-----------------------|---------------------|
| Allowance Consumption | \$446,540           |
| Ash Sales             | (\$14,423)          |
| Consumables           | \$6,485,140         |
| Fuel Handling         | \$5,468,696         |
| Gypsum Operations     | (\$132,464)         |
| Steam Maintenance     | \$12,474,790        |
| Steam Operations      | \$6,404,376         |
| <b>Total</b>          | <b>\$31,132,656</b> |

**Table 1: Kentucky Power Annualized Test-Year Generation Non-Fuel O&M for 50% ML**

11 **Q. IS IT NECESSARY TO NORMALIZE ANY PART OF THE \$31.1**  
 12 **MILLION IN ANNUALIZED DIRECT NON-FUEL O&M TEST YEAR**  
 13 **EXPENSES?**

14 A. Yes. Steam Maintenance work and expenses can vary materially from year to  
 15 year. The cyclical nature of maintenance expenditures is primarily driven by unit  
 16 outages and periodic planned repairs and replacements of unit components.

1 **Q. HOW DID KENTUCKY POWER NORMALIZE THE STEAM**  
2 **MAINTENANCE EXPENSES TO REFLECT THE CYCLICAL NATURE**  
3 **OF MAJOR OUTAGE WORK?**

4 A. As described by Company Witness Wohnhas, Kentucky Power is proposing to  
5 normalize the annualized Mitchell Steam Maintenance expense using the average  
6 for a three year period as adjusted for inflation. This normalization results in a  
7 positive adjustment of \$3.27 million to the test year level steam maintenance  
8 expense of \$12,474,790 to produce a normalized and annualized test-year  
9 Mitchell Steam Maintenance expense of \$15.74 million for Kentucky Power's  
10 50% share of the Mitchell Plant.

11 **Q. DOES THE NORMALIZED AND ANNUALIZED TEST-YEAR**  
12 **MITCHELL STEAM MAINTENANCE EXPENSE OF \$15.74 MILLION**  
13 **REPRESENT AN APPROPRIATE AND REASONABLE LEVEL?**

A. Yes. This level is reasonable, and fairly reflects an appropriate normalized level  
of Steam Maintenance expense for Kentucky Power's 50% share of the Mitchell  
Plant.

## **VI. KENTUCKY POWER BIG SANDY UNIT 1 GENERATION NON-FUEL**

### **O&M EXPENSES TO BE INCLUDED IN THE BS1OR**

14 **Q. WHAT IS KENTUCKY POWER'S TEST YEAR LEVEL OF TOTAL**  
15 **NON-FUEL O&M EXPENSE FOR BIG SANDY UNIT 1?**

16 A. Kentucky Power's test year level of total non-fuel O&M expense for Big Sandy  
17 Unit 1 is \$12.5 million, as calculated by Company Witness Vaughan. Of this  
18 \$12.5 million, the generation non-fuel O&M expense for Big Sandy Unit 1 during

1 the test year totaled \$9.9 million. The remaining \$2.6 million of non-fuel O&M  
 2 expense includes taxes, employee benefits, and other expenses allocated to Big  
 3 Sandy Unit 1. As with the similar expenses incurred for Mitchell, all of these  
 4 costs, including the allocated expenses, were reasonable, necessary and prudently  
 5 incurred to support Big Sandy Unit 1 operations.

6 **Q. PLEASE PROVIDE FURTHER DETAIL CONCERNING BIG SANDY**  
 7 **UNIT 1'S TEST-YEAR GENERATION NON-FUEL O&M EXPENSES?**

8 A. The following Table 2 provides the test-year generation non-fuel O&M expenses,  
 9 incurred by Kentucky Power during the test year, distributed by major category,  
 10 for Big Sandy Unit 1:

| Category              | Big Sandy Unit 1   |
|-----------------------|--------------------|
| Allowance Consumption | \$1,605,774        |
| Fuel Handling         | \$1,581,916        |
| Steam Maintenance     | \$4,616,733        |
| Steam Operations      | \$2,133,730        |
| <b>Total</b>          | <b>\$9,938,153</b> |

**Table 2: Kentucky Power Test-Year Generation Non-Fuel O&M BSU1**

11 **Q. DOES THE TEST YEAR LEVEL OF GENERATION NON-FUEL O&M**  
 12 **EXPENSE REPRESENT A REASONABLE ANNUAL EXPENSE LEVEL**  
 13 **TO OPERATE BIG SANDY UNIT 1 BEGINNING ON JULY 1, 2015**  
 14 **THROUGH ITS USEFUL LIFE AS A COAL-FIRED UNIT?**

15 A. Yes. The test year Big Sandy Unit 1 generation non-fuel O&M expenses of \$9.94  
 16 million are a reasonable annual level of the expenses required for Big Sandy Unit  
 17 1's continued operation as a coal-fired unit prior to its conversion to natural gas.  
 18 Specifically, this level of generation non-fuel O&M expense is necessary to  
 19 operate the unit in a safe and reliable manner while providing cost-effective  
 20 power for Kentucky Power's customers.



**VII. RETIREMENT OF BIG SANDY UNIT 1 COAL-RELATED ASSETS**

1 **Q. WHEN WILL KENTUCKY POWER COMPLETE THE CONVERSION**  
2 **OF BIG SANDY UNIT 1?**

3 A. Kentucky Power plans to complete the conversion of Big Sandy Unit 1 to run on  
4 natural gas by June 30, 2016.

5 **Q. AFTER THE CONVERSION TO NATURAL GAS WILL BIG SANDY**  
6 **UNIT 1 HAVE COAL-RELATED EQUIPMENT THAT IS NO LONGER**  
7 **USEFUL?**

8 A. Yes. While there will be a significant amount of equipment that will still be  
9 necessary to operate Big Sandy Unit 1 as a natural gas-fired facility, some  
10 equipment is solely-related to its operation as a coal-fired facility. Examples of  
11 Big Sandy Unit 1's coal-related assets include the coal yard and its associated  
12 equipment, the conveyors and silos which transfer coal from the coal yard to the  
13 plant, the coal pulverizers, the ESPs, and the fly ash and bottom ash handling  
14 systems. This equipment will no longer be necessary when the unit is fired by  
15 natural-gas, and will be retired once the unit no longer operates as a coal-fired  
16 facility.

17 **Q. HOW WERE THE BIG SANDY ORIGINAL PLANT COSTS**  
18 **ALLOCATED BETWEEN UNIT 1 AND UNIT 2?**

19 A. Company Witness Yoder describes the allocation of the total Big Sandy original  
20 plant costs between Unit 1 and Unit 2. I performed a review of the projects  
21 Company Witness Yoder used in the allocation process, and confirmed that the

1 reviewed projects were properly identified and assigned correctly between Unit 1  
2 and Unit 2.

3 **Q. DID YOU PROVIDE ANY OTHER INPUT INTO THE PROCESS TO**  
4 **IDENTIFY THE AMOUNT OF BIG SANDY ORIGINAL PLANT COSTS**  
5 **RELATED SOLELY TO COAL OPERATIONS?**

6 A. Yes. I reviewed the percentages applied to each property account for Big Sandy  
7 Unit 1 to determine the amount of coal-related costs to retire and concluded they  
8 were reasonable. These percentages were the result of an analysis performed by  
9 the Engineering Services Organization within AEPSC, and are reasonable based  
10 on my best professional judgment. While the conversion of Big Sandy Unit 1 to  
11 natural gas will eliminate the need for certain equipment associated exclusively  
12 with coal-fired operations, the vast majority of the equipment at Big Sandy Unit 1  
13 will continue to be needed when Unit 1 is converted to natural gas.

#### **VIII. BIG SANDY UNIT 2 RETIREMENT COSTS**

14 **Q. WHEN WILL KENTUCKY POWER RETIRE BIG SANDY UNIT 2?**

15 A. Kentucky Power will retire Big Sandy Unit 2 by June 1, 2015 to comply with the  
16 MATS rule.

17 **Q. WILL KENTUCKY POWER DEMOLISH BIG SANDY UNIT 2 UPON ITS**  
18 **RETIREMENT?**

19 A. No. Big Sandy Unit 1 will still be operational when Big Sandy Unit 2 is retired.  
20 It is neither economical nor practical to demolish Big Sandy Unit 2 while Big  
21 Sandy Unit 1 is still operating. At the time that Big Sandy Unit 2 is retired Big  
22 Sandy Unit 1 will still be operating as a coal-fired unit and will continue to

1 operate as a gas-fired unit after its conversion until its estimated 2031 retirement  
 2 date. This retirement date for Big Sandy Unit 1 is an estimate and could be  
 3 extended depending on future conditions and developments. After Big Sandy  
 4 Unit 1 has been retired, both units will be demolished.

5 **Q. UPON THE RETIREMENT OF BIG SANDY UNIT 2 IN 2015 WILL**  
 6 **THERE BE ANY DECOMMISSIONING-RELATED O&M NECESSARY**  
 7 **TO MAINTAIN THE UNIT?**

8 A. Yes, after Big Sandy Unit 2 is retired from service there will still be activities  
 9 necessary to maintain the safety, security, and environmental compliance of the  
 10 Unit. The total decommissioning-related O&M for Big Sandy Unit 2 is expected  
 11 to be \$6.06 million. The following Table 3 identifies the decommissioning-  
 12 related O&M, by year, associated with Big Sandy Unit 2 following its retirement.

| <b>Period</b>            | <b>Decommissioning O&amp;M Expense</b> |
|--------------------------|--|
| July 2015 – June 2016    | \$1,198,780                            |
| July 2016 – June 2017    | \$880,002                              |
| July 2017 – June 2018    | \$730,000                              |
| July – June, 2018 - 2031 | \$250,000 annually                     |
|                          |  |
| <b>Total</b>             | <b>\$6,058,782</b>                     |

**Table 3: Big Sandy Unit 2 Decommissioning O&M Post-Retirement**

13 **Q. WHAT TYPES OF ACTIVITIES ARE REQUIRED TO MAINTAIN BIG**  
 14 **SANDY UNIT 2 AFTER ITS RETIREMENT?**

15 A. Even after Big Sandy Unit 2 is retired, the Company will be required to maintain  
 16 the unit in a safe and secure condition and in compliance with any environmental  
 17 permits. This will include ensuring fencing, access roads, telecommunication  
 18 systems, fire water sources, hazardous gas detection systems, emergency lighting,  
 19 and fire alarm systems are operational. Inspections will need to continue to be

1 performed on structural components such as the cooling tower and plant building  
2 to maintain safety. Lastly, environmental requirements such as pond inspections,  
3 groundwater and surface water monitoring, and the associated report submittals  
4 which accompany these activities must be performed as dictated by the applicable  
5 environmental permits.

6 **Q. WHY ARE THE INITIAL DECOMMISSIONING-RELATED O&M**  
7 **COSTS FOLLOWING BIG SANDY UNIT 2'S RETIREMENT HIGHER**  
8 **THAN THOSE IN LATER YEARS?**

9 A. While the activities described previously represent what will be required on an  
10 annual basis to maintain safety and environmental compliance at Big Sandy Unit  
11 2, there will be initial one-time activities necessary upon the unit's retirement.  
12 Examples of some of these activities include isolating and sealing the river water  
13 intake, decommissioning sump pumps, relocating electrical loads, pumping the  
14 cooling system empty, draining all tanks and disposing of their contents, and  
15 disconnecting all piping above and below ground. After these initial  
16 decommissioning-related O&M activities are complete, the year to year activities  
17 necessary to maintain safety and environmental compliance, as described above,  
18 will levelize on an annual basis at level lower than during the first year of  
19 retirement of the Unit.

20 **Q. DO THE DECOMMISSIONING O&M EXPENSES FOR BIG SANDY**  
21 **UNIT 2 REPRESENT AN APPROPRIATE AND REASONABLE LEVEL?**

A. Yes. Based upon my professional judgment and experience, this level is  
reasonable, and fairly reflects those activities necessary to maintain the safety,  
security, and environmental compliance of the Unit.

**IX. GENERATION-RELATED CAPITAL PROJECTS CONTAINED WITHIN**  
**THE 2014 ENVIRONMENTAL COMPLIANCE PLAN**

1 Q. ARE THERE ANY SIGNIFICANT CAPITAL PROJECTS FOR  
2 MITCHELL AND ROCKPORT PLANTS WHICH ARE BEING  
3 PROPOSED FOR INCLUSION IN THE 2014 ENVIRONMENTAL  
4 COMPLIANCE PLAN?

5 A. Yes. Company Witness McManus describes the environmental regulations that  
6 necessitate these projects, the costs of which are reflected in data provided by  
7 Company Witness Elliott. Here I will provide a general description of these  
8 projects and how they affect Kentucky Power's generating assets.

9 **Mitchell Plant** (each of these projects was undertaken prior to the transfer of a  
10 50% undivided interest in the Mitchell Plant to Kentucky Power):

- 11 • Periodic modifications have been made to the ESPs for Units 1 and 2 to  
12 reduce the likelihood that the Units' generation could be curtailed due to  
13 opacity limitations. These modifications went into service between 2007  
14 and 2013. Additional upgrades are planned for the Unit 2 ESPs in 2015.  
15 The ESPs remove fly ash from the flue gas so that the unit is capable of  
16 meeting its opacity and mass emissions limits.
- 17 • Periodic modifications and replacement work has been performed on the  
18 bottom ash and fly ash handling systems to ensure they are capable of  
19 transporting ash for its final disposal. Over time the abrasive nature of the  
20 ash degrades the piping and pumps used for its transport which requires

1 periodic replacement of equipment. These modifications went into service  
2 in 2008 and 2010.

- 3 • Mercury monitoring equipment has been installed for compliance with the  
4 MATS rule. To ensure that the mercury emission limit in the MATS rule  
5 is being met, additional monitoring equipment was installed. This  
6 equipment was placed in service in 2014.
- 7 • The existing wet fly ash handling system was upgraded to a dry handling  
8 system. This work required the installation of additional equipment to  
9 move the fly ash from the precipitators using air instead of water to  
10 mobilize the ash. Additionally, ash silos were installed to store the dry fly  
11 ash, and an unloading station was constructed to transport the fly ash for  
12 disposal. This dry fly ash handling system was placed in service in 2014.
- 13 • A landfill was constructed for the disposal of coal combustion waste. This  
14 project was undertaken in conjunction with the dry fly ash conversion  
15 project, and the landfill will be used to store the dry ash and replace the  
16 existing ash pond. This landfill is located on plant property and required a  
17 haul road to be constructed so that the dry fly ash could be trucked from  
18 the plant to the landfill. While the landfill and haul road were placed in  
19 service in 2014, additional capacity will be added and placed in service in  
20 2015.

21 **Rockport Plant:**

- 22 • Periodic modifications have been made to the ESPs for units 1 and 2 to  
23 reduce the likelihood that the unit's generation could be curtailed due to

1 opacity limitations. These modifications went into service between 2004  
2 and 2009.

3 • An ACI system has been installed and upgraded to meet the plant's  
4 mercury emission limit. The ACI system consists of equipment required  
5 to inject powdered activated carbon into the flue gas upstream of the ESPs  
6 and capture mercury on the porous surface of the activated carbon. The  
7 activated carbon is then removed along with the fly ash in the existing  
8 ESPs. Along with the ACI system, a mercury monitor was installed to  
9 ensure that the plant's mercury emission limit is met. The ACI system and  
10 the mercury monitor were placed in service in 2009 and 2010.

11 • A dry sorbent injection (DSI) system is currently being installed to remove  
12 acid gases from the flue gas stream. The DSI system will inject sodium  
13 bicarbonate into the flue gas stream, upstream of the ESPs, which will  
14 then react with acid gases. The reacted sodium bicarbonate will then be  
15 removed along with the fly ash and activated carbon from the flue gas in  
16 the ESPs. The DSI systems on both Rockport units will be in service in  
17 the first half of 2015. In conjunction with the DSI project, upgrades will  
18 also be made to the ACI system to meet more stringent mercury limits  
19 under the MATS Rule.

20 • Additions to and an upgrade of the coal combustion waste landfill to  
21 dispose of the fly ash waste stream being removed by the ESPs. Rockport  
22 Plant operates a dry fly ash handling system which produces a waste  
23 stream that is disposed of in the plant's on-site landfill. As part of normal  
24 ongoing plant operations, additional landfill capacity is constructed to

1 ensure this waste can be properly disposed. Additionally, with the  
 2 installation of the DSI system and the injection of sodium bicarbonate into  
 3 the flue gas, the nature of this waste stream will change and modifications  
 4 to the existing landfill are necessary. A normal landfill expansion project  
 5 was placed in service in 2013 while final upgrades will be completed in  
 6 2015 to allow for the landfill to store byproducts associated with operation  
 7 of the DSI system.

8 **Q. WHAT ARE THE CAPITAL COSTS ASSOCIATED WITH THESE**  
 9 **PROJECTS YOU DESCRIBE ABOVE?**

10 A. The following Table 4 identifies the capital costs for the projects to be included in  
 11 Kentucky Power's 2014 Environmental Compliance Plan:

| Project | Plant    | Description  | In-Service Year | Project Cost                  |
|---------|----------|--|-----------------|-------------------------------|
|         |          |  |                 | (Kentucky Power Share)        |
| 9       | Mitchell | Precipitator Modifications - Mitchell Plant Units 1 and 2                            | 2007-2013       | \$28,065,512                  |
| 10      | Mitchell | Bottom Ash and Fly Ash Handling - Mitchell Plant Units 1 and 2                       | 2008 & 2010     | \$25,273,426                  |
| 11      | Mitchell | Mercury Monitoring (MATS) - Mitchell Plant Units 1 and 2                             | 2014            | \$1,991,740                   |
| 12      | Mitchell | Dry Fly Ash Handling Conversion - Mitchell Plant Units 1 and 2                       | 2014            | \$60,114,772                  |
| 13      | Mitchell | Coal Combustion Waste Landfill - Mitchell Plant Units 1 and 2                        | 2014 & 2015     | \$38,319,088                  |
| 14      | Mitchell | Electrostatic Precipitator Upgrade - Mitchell Plant Unit 2                           | 2015            | \$1,574,056                   |
|         |          |  |                 | <b>(Total Rockport Plant)</b> |
| 15      | Rockport | Precipitator Modifications - Rockport Plant Units 1 & 2                              | 2004-2009       | \$2,363,930                   |
| 16      | Rockport | Activated Carbon Injection (ACI) and Mercury Monitoring - Rockport Plant Units 1 & 2 | 2009-2010       | \$28,806,455                  |
| 17      | Rockport | Dry Sorbent Injection - Rockport Plant Units 1 and 2                                 | 2015            | \$141,568,091                 |
| 18      | Rockport | Coal Combustion Waste Landfill Upgrade To Accept Type 1 Ash                          | 2013 & 2015     | \$22,057,551                  |

**Table 4: Capital Costs for Proposed 2014 Environmental Compliance Plan Projects**

12 **Q. ARE THE COSTS IDENTIFIED ABOVE ASSOCIATED WITH THESE**  
 13 **PROJECTS REASONABLE?**

14 A. Yes. It is my opinion that these projects are reasonable and cost effective means  
 15 for Kentucky Power to comply with its environmental obligations.



1 **Q. ARE THERE CONSUMABLES ASSOCIATED WITH THE PROJECTS**  
2 **IDENTIFIED FOR INCLUSION IN THE 2014 ENVIRONMENTAL**  
3 **COMPLIANCE PLAN?**

4 A. Yes. As part of the ACI and DSI systems at Rockport Plant, brominated activated  
5 carbon and sodium bicarbonate, respectively, will be injected into the flue gas  
6 stream. The consumption of these variables is dependent upon the Plant's  
7 generating load.

8 **Q. WHAT OTHER CONSUMABLES ARE ASSOCIATED WITH THOSE**  
9 **PROJECTS IDENTIFIED IN THE 2014 ENVIRONMENTAL**  
10 **COMPLIANCE PLAN?**

11 A. In addition to the brominated activated carbon and sodium bicarbonate, those  
12 projects identified in the 2014 Environmental Compliance Plan require  
13 consumables such as urea, trona, limestone, polymer, and lime hydrate.

14 Solid urea is received on-site and is converted to ammonia before it is  
15 injected into the flue gas prior to passing through the SCR system at Mitchell  
16 Plant. The ammonia is necessary for the SCR technology to effectively reduce  
17 NO<sub>x</sub>. This is the same manner in which urea has been used for years to operate  
18 the SCR at Big Sandy Unit 2.

19 Also at Mitchell Plant, limestone is crushed, mixed with water and made  
20 into a slurry that is used in the FGD system. The limestone used in the FGD  
21 system reacts with SO<sub>2</sub>, removing it from the flue gas. Polymer and lime hydrate  
22 are used in treating the wastewater produced from the FGD system.

23 At the Mitchell Plant trona is also injected into the flue gas prior to the  
24 ESP to mitigate emissions of SO<sub>3</sub>.

1                    These consumables are necessary to operate the Mitchell Plant while also  
2                    meeting the applicable environmental requirements.

3    **Q.    DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

4    **A.    Yes.**

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For     )**  
**A General Adjustment Of Its Rates For Electric    )**  
**Service; (2) An Order Approving Its 2014         )**  
**Environmental Compliance Plan; (3) An Order     ) Case No. 2014-00396**  
**Approving Its Tariffs And Riders; And (4) An     )**  
**Order Granting All Other Required Approvals    )**  
**And Relief   )**

**DIRECT TESTIMONY OF**  
**SHANNON R. LISTEBARGER**  
**ON BEHALF OF KENTUCKY POWER COMPANY**



**DIRECT TESTIMONY OF  
SHANNON R. LISTEBARGER, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
SHANNON R. LISTEBARGER, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

2 A. My name is Shannon R. Listebarger. I am employed by American Electric Power  
3 Service Corporation (AEPSC) as a Regulatory Analyst in the Regulated Pricing and  
4 Analysis Department. AEPSC is a wholly-owned subsidiary of American Electric  
5 Power Company, Inc. (AEP), the parent company of Kentucky Power Company. I  
6 will refer to Kentucky Power Company as KPCo and as “the Company”. My  
7 business address is 1 Riverside Plaza, Columbus, Ohio 43215.

**II. BACKGROUND**

8 **Q. WHAT ARE YOUR PRINCIPAL AREAS OF RESPONSIBILITY AS A**  
9 **REGULATORY ANALYST IN THE REGULATORY PRICING AND**  
10 **ANALYSIS DEPARTMENT?**

11 A. My responsibilities include preparing cost of service studies for regulatory filings  
12 and providing regulatory support and analysis for pricing matters associated with  
13 KPCo, and other AEP electric utility operating companies.

14 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND**  
15 **AND RELEVANT BUSINESS EXPERIENCE.**

16 A. I received a Bachelor of Business Administration degree with a major in accounting  
17 from DeVry University in 2005, and a Master of Business Administration from  
18 Keller Graduate School of Management in 2007.

1           In 2001 I joined AEPSC as an Administrative Associate, a role I held for  
2 several years in various departments including Project Controls, Environmental  
3 Services and Corporate Development. From 2005 until 2010, I was an Accountant  
4 in the Corporate Accounting Department. In 2010 I transferred to Kentucky Power  
5 Company as a Regulatory Consultant working in the Regulatory Services  
6 Department. In 2013 I transferred to AEPSC to my current position of Regulatory  
7 Analyst in the Regulatory Pricing and Analysis Department.

### **III. PURPOSE OF DIRECT TESTIMONY**

8 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS**  
9 **PROCEEDING?**

10 A. The purpose of my testimony is to sponsor Exhibit 1, the Kentucky Jurisdictional  
11 Cost of Service, which develops the Base rate revenue requirement that the  
12 Company is requesting in this filing.

### **IV. COST OF SERVICE STUDY OVERVIEW**

13 **Q. WHAT IS THE SOURCE OF THE DATA USED IN THE COMPANY'S**  
14 **JURISDICTIONAL COST OF SERVICE STUDY?**

15 A. The Company follows the Uniform System of Accounts (USOA) as prescribed by  
16 FERC and adopted by this Commission. The USOA sets the guidelines for  
17 recording assets, liabilities, income and expenses into various accounts. The costs  
18 recorded in each FERC account are examined to verify compliance with these  
19 guidelines and may be adjusted in the Company's jurisdictional cost of service study  
20 to reflect the Commission's policies and known and measurable changes to the test  
21 year level of expenditures.

1 **Q. HOW IS THE INFORMATION USED TO DETERMINE THE COST**  
2 **ALLOCATION TO KENTUCKY RETAIL CUSTOMERS?**

3 A. The costs recorded by FERC account are per book amounts pertaining to electric  
4 utility operations of the Company for service supplied to all customers, both  
5 wholesale and retail. KPCO's retail revenue is approximately 99% of its total  
6 revenue; and its wholesale revenue, which includes sales to the cities of Olive Hill  
7 and Vanceburg, is approximately 1% of its total revenue. It is therefore, necessary  
8 to identify and segregate costs related to only Kentucky jurisdictional retail service.

9 **Q. EXPLAIN HOW THE REVENUE REQUIREMENT IS DETERMINED FOR**  
10 **THE KENTUCKY RETAIL CUSTOMERS.**

11 A. A three-step process is followed to assign and allocate costs to determine the total  
12 revenue requirement for the Companies retail customers. These steps include the  
13 functionalization of costs, the classification of costs and the allocation of costs.

14 **Q. PLEASE DESCRIBE THE FUNCTIONALIZATION PROCESS.**

15 A. Once the data is gathered, the costs are then separated by function. Typically,  
16 functions of an electric utility are:

- 17 1) Production and Purchased Power costs
- 18 2) Transmission costs
- 19 3) Distribution costs
- 20 4) Customer Service costs
- 21 5) Administrative and General (A&G) costs

22 **Q. PLEASE DESCRIBE EACH OF THESE FUNCTIONS.**

23 A. The production and purchased power function includes the costs associated with  
24 power generation and power purchases and their delivery to the bulk transmission



1 system. The transmission function consists of the costs associated with the high  
 2 voltage system utilized for the bulk transmission of power from generation sources  
 3 to the load centers, and to and from interconnected utilities. The distribution  
 4 function includes the radial distribution system that connects the transmission  
 5 system and the ultimate retail customer. The customer service function  
 6 encompasses the costs associated with providing meter reading, billing and  
 7 collection, and customer information and services. The A&G function comprises of  
 8 costs not directly assignable to other cost functions.

9 **Q. PLEASE DESCRIBE THE CLASSIFICATION PROCESS.**

10 A. The second step is to separate functionalized costs into classifications. Those  
 11 classifications include 1) demand costs (costs associated with the kW demand  
 12 imposed by the customer), 2) energy costs (costs that vary with the number of  
 13 kilowatt hours used by the customer), 3) customer costs (costs that are directly  
 14 related to the number of customers served) and 4) labor costs (costs that are directly  
 15 related to payroll expenses associated with serving customers). The cost  
 16 classifications used for the functions are as follows:

| 17 <u>Function</u>                      | <u>Classification</u> |
|---|-----------------------|
| 18 Production and Purchased Power costs | Demand, Energy        |
| 19 Transmission costs                   | Demand                |
| 20 Distribution costs                   | Demand, Customer      |
| 21 Customer Service costs               | Customer              |
| 22 A&G costs                            | Labor                 |

23 Production plant costs, such as depreciation and return on investment, are  
 24 considered to be demand-related costs. Most fuel and production operation and

1 maintenance (O&M) expenses are energy-related because they vary with the  
2 quantity of energy produced. Transmission costs are demand-related because they  
3 are fixed and do not vary with energy usage. Generally, the distribution system  
4 costs are affected by either demand or by the number of customers served.  
5 Demand-related distribution costs will usually vary with the size of the load served,  
6 while customer-related distribution costs vary with the number of customers  
7 receiving the service. The classification process provides a basis on which to  
8 allocate different categories of costs (demand, energy or customer) to the utility's  
9 jurisdictions.

10 **Q. PLEASE DESCRIBE THE ALLOCATION PROCESS.**

11 A. The third and final step is to allocate functionalized and classified costs among the  
12 jurisdictions based on how the costs are incurred for each jurisdiction. The  
13 objective in this process is to determine a reasonable, appropriate and  
14 understandable method to assign costs. Some costs are directly assignable to a  
15 jurisdiction. Cost related to regulatory deferrals may be associated with a specific  
16 jurisdiction and may therefore be directly assigned to that jurisdiction. Most costs,  
17 however, are attributable to all of a utility's jurisdictions. These are joint costs and  
18 must be allocated to the jurisdictions by an allocation methodology that is based on  
19 the classification described above for that cost.

20 **Q. ARE THE ALLOCATION METHODS EMPLOYED BY THE COMPANY**  
21 **CONSISTENT WITH THE PREVIOUSLY DISCUSSED COST OF SERVICE**  
22 **PRINCIPLES?**

23 A. Yes. The allocation methodologies utilized in the Company's cost of service study  
24 were chosen after giving consideration to each of the principles discussed

1 previously. The results of the cost of service study can be relied upon to determine  
2 the appropriate revenue requirement for the Company's Kentucky retail jurisdiction.

3 **Q. ARE YOU RESPONSIBLE FOR THE KENTUCKY JURISDICTIONAL**  
4 **METHODOLOGY USED IN THE PREPARATION OF THIS CASE?**

5 A. Yes. The allocation methodology and the allocation factors used to calculate the  
6 Kentucky retail jurisdictional amounts were developed by me. The methodology  
7 used in this case is the same methodology used in the Company's last several rate  
8 cases.

#### V. ALLOCATIONS

9 **Q. PLEASE DESCRIBE HOW THE ENERGY ALLOCATION FACTOR (EAF)**  
10 **WAS DETERMINED.**

11 A. The retail customers test year sales of energy were accumulated and adjusted to the  
12 generation level by applying the appropriate transmission and distribution loss  
13 factors to obtain KWH of test period sales of energy to retail customers. The result  
14 was then divided by the net total Company energy requirements at the generation  
15 level to obtain the retail energy allocation factor.

16 **Q. PLEASE DESCRIBE HOW THE DEMAND ALLOCATION FACTOR**  
17 **(PDAF) WAS DETERMINED.**

18 A. The Company serves retail customers under the jurisdiction of the Kentucky Public  
19 Service Commission and two wholesale customers that are regulated by FERC  
20 jurisdiction. One basis for allocating the elements of the cost of property between  
21 retail and wholesale customers is the respective contribution by each of the two  
22 classes to the Company's peak demand. The PDAF reflects the coincident demand  
23 of the Company's retail customers at the time of Kentucky Power's monthly peak

1 demand; in other words, it represents the kilowatt contribution of those customers to  
2 the Company's monthly peak demand. The production demand allocation factor  
3 was calculated by dividing the average of the twelve monthly retail class coincident  
4 demands, adjusted for losses to the generation levels, by the average of the twelve  
5 monthly total Company internal peak demands. The transmission and sub-  
6 transmission demand allocation factors are the same as the production demand  
7 allocation factor.

8 **Q. PLEASE DESCRIBE THE ALLOCATION OF KPCO'S ELECTRIC PLANT**  
9 **IN SERVICE.**

10 A. Electric Plant in Service was separated into different plant categories by function  
11 and then allocated accordingly. KPCo's Production plant was allocated to the two  
12 jurisdictions using the production demand allocation factor (PDAF). Transmission  
13 plant was allocated using the transmission demand allocation factor (TDAF).  
14 Distribution plant was allocated using the gross plant distribution factor (GP-DIST).  
15 General and Intangible plant were allocated using gross plant production,  
16 transmission and distribution factor (GP-PTD).

17 **Q. PLEASE DESCRIBE THE ALLOCATION OF KPCO'S ACCUMULATED**  
18 **PROVISION FOR DEPRECIATION AND AMORTIZATION.**

19 A. KPCo's Accumulated Provision for Depreciation and Amortization were  
20 functionalized and classified in a fashion similar to KPCo's Electric Plant in  
21 Service. Production, transmission and distribution accumulated depreciation was  
22 allocated consistent with the allocation of the associated plant. General and  
23 Intangible plant accumulated depreciation was allocated by GP-PTD factor.

1 **Q. PLEASE DESCRIBE THE ALLOCATION OF KPCO'S OTHER RATE**  
2 **BASE COMPONENTS.**

3 A. Electric Plant held for Future Use, Construction Work in Progress and Allowance  
4 for Funds Used during Construction were booked by functional group and then  
5 allocated using the associated plant factors. The Carrs Site, which represents the  
6 majority of the production-related Plant Held for Future Use, is a ratemaking  
7 elimination and is removed from Plant Held for Future Use prior to the allocation  
8 process.

9 Fuel and Allowance Inventory were allocated using the energy allocation  
10 factor (EAF). Materials and Supplies were separated into functional groups and  
11 allocated by associated plant factors accordingly. Materials and Supplies other  
12 components, such as Lime, Limestone, Urea and Urea In-Transit are allocated using  
13 the EAF. Prepayments were allocated using the gross plant total allocation factor  
14 (GP-TOT).

15 The Cash Working Capital component is calculated by using the standard  
16 formula of one-eighth of Total Company O&M expenses. This equals one and one  
17 half months of the Company's O&M expenses.

18 Accumulated Deferred Investment Tax Credit amounts were provided by  
19 Company Witness Bartsch. Customer Advances and Customer Deposits are a result  
20 of the Kentucky jurisdiction retail operations and therefore 100% of these amounts  
21 are allocated to the Kentucky retail jurisdiction.

22 **Q. PLEASE DESCRIBE THE ALLOCATION OF KPCO'S OPERATING**  
23 **REVENUES.**

1 A. Sales revenue was directly assigned to each jurisdiction where possible. Demand-  
2 related system sales revenue was allocated based on the PDAF. Energy-related  
3 system sales revenue was allocated on the EAF.

4 Forfeited Discounts and miscellaneous service revenues were a result of the  
5 Kentucky jurisdiction retail operations and therefore directly assigned 100% to  
6 Kentucky retail jurisdiction.

7 Rent from electric property and other electric revenue were allocated to  
8 jurisdictions based on the corresponding functional allocator. DSM revenues and  
9 various transmission agreement revenues were removed to derive the total electric  
10 utility other operating revenues.

11 **Q. PLEASE DESCRIBE THE ALLOCATION OF KPCO'S OPERATING AND**  
12 **MAINTENANCE EXPENSES.**

13 A. Production-related Operation and Maintenance (O&M) expenses were classified as  
14 either demand or energy-related. The demand component was allocated using the  
15 PDAF and the energy component was allocated using the EAF.

16 Transmission-related O&M was allocated based on the gross plant  
17 transmission (GP-TRANS) allocation factor or directly assigned as applicable.

18 Distribution-related O&M was allocated based on the gross plant  
19 distribution (GP-DIST) allocation factor or directly assigned as applicable.

20 Customer Accounts, Customer Information and Customer Service expense  
21 were classified as customer-related and allocated on the total number of customers.

22 Administrative and General (A&G) Regulatory and Sales O&M expense  
23 was specifically assigned to retail. Non-regulatory Administrative and General

1 (A&G) expenses have been distributed to the other functions in proportion to related  
2 payroll expenses and then allocated to the Kentucky retail jurisdiction.

3 **Q. PLEASE DESCRIBE THE ALLOCATION OF KPCO'S DEPRECIATION**  
4 **AND AMORTIZATION EXPENSE.**

5 A. Depreciation and Amortization were booked by functional group then allocated  
6 using the associated plant factors.

7 **Q. PLEASE EXPLAIN HOW KPCO'S TAXES OTHER THAN FEDERAL AND**  
8 **STATE INCOME TAXES WERE ALLOCATED.**

9 A. Taxes Other than Income Taxes were classified as relating to payroll, property,  
10 revenue, demand or energy and allocated accordingly or directly assigned. Payroll  
11 taxes are related to labor and allocated on the payroll allocation factor (OML).  
12 Property taxes were allocated using the GP-TOT allocation factor.

13 **Q. PLEASE EXPLAIN HOW KPCO'S FEDERAL AND STATE INCOME**  
14 **TAXES WERE ALLOCATED.**

15 A. For details on Federal and State Income Taxes, please see Company witness Bartsch  
16 testimony and supporting tax schedules.

17 **Q. PLEASE EXPLAIN HOW ADJUSTMENTS FOR KPCO WERE**  
18 **INCORPORATED INTO SECTION V.**

19 A. Kentucky retail adjustments were provided to me by way of individual worksheets,  
20 which were compiled and prepared by various Company witnesses based on their  
21 expertise. I added the Kentucky retail adjustments to the Kentucky retail per books  
22 cost of service amounts to arrive at the going-level Kentucky jurisdictional cost of  
23 service.

1 **Q. PLEASE EXPLAIN THE DIFFERENCES IN PRESENTATION, FROM**  
2 **PAST FILINGS, IN THE FORMAT OF THE COMPANY'S**  
3 **JURISDICTIONAL COST OF SERVICE STUDY.**

4 A. The differences in presentation in the Company's jurisdictional cost of service study  
5 pertain mainly to departures from the Company's previous filing format of Section  
6 V, Schedule 5 through Schedule 17.

7 **Q. PLEASE EXPLAIN THE REASON FOR THE DEPARTURE FROM THE**  
8 **FORMAT USED IN PAST JURISDICTIONAL COST OF SERVICE**  
9 **STUDIES OF THE COMPANY.**

10 A. The new format provides greater detail by FERC account, which should facilitate  
11 the review of the Company's Cost of Service.

12 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

13 A. Yes.



**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

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Approving Its Tariffs And Riders; And (4) An )  
Order Granting All Other Required Approvals )  
And Relief )**

**DIRECT TESTIMONY OF**  
**MCCOY, MCMANUS, PHILLIPS, REITTER**  
**ON BEHALF OF KENTUCKY POWER COMPANY**

**SECTION III**

**VOLUME 2 OF 4**

**December 23, 2014**

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For )  
A General Adjustment Of Its Rates For Electric )  
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Order Granting All Other Required Approvals )  
And Relief )**

**DIRECT TESTIMONY OF**

**HUGH E. MCCOY**

**ON BEHALF OF KENTUCKY POWER COMPANY**



**DIRECT TESTIMONY OF  
HUGH E. MCCOY, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
HUGH E. MCCOY, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

2 A. My name is Hugh E. McCoy. My position is Director of Accounting Policy and  
3 Research for the American Electric Power Service Corporation (AEPSC), a wholly  
4 owned subsidiary of American Electric Power Company, Inc. (AEP). AEP is the  
5 parent company of Kentucky Power Company (Kentucky Power or the Company).  
6 AEPSC supplies engineering, financing, accounting and similar planning and  
7 advisory services to AEP's ten electric operating companies, including Kentucky  
8 Power. My business address is 1 Riverside Plaza, Columbus, Ohio 43215.

**II. BACKGROUND**

9 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**  
10 **BUSINESS EXPERIENCE.**

11 A. I graduated magna cum laude from West Virginia University in 1977, with a  
12 Bachelor of Science in Business Administration degree in Accounting.

13 From 1977 to 1981, I was employed by Peat, Marwick, Mitchell and Co.,  
14 where I was promoted to Audit Supervising Senior. I have been a Certified Public  
15 Accountant since 1979 and a member of the American Institute of Certified Public  
16 Accountants since 1980.

17 Since 1981, I have been employed by AEPSC. I served from 1981 to early  
18 1998 in Accounting Policy and Research, initially as a Treasury Staff Accountant

1 and beginning in 1989 as a Senior Treasury Staff Accountant. In 1998, I was  
2 promoted to Manager of Utility Ledgers for AEP's operating companies in Ohio.  
3 In 2000, I was promoted to Assistant Controller of Non-Regulated Accounting.  
4 Following two years in that position and a one-year rotational assignment to  
5 Corporate Finance, I returned to Accounting Policy and Research in my current  
6 position in 2003 and assumed plant accounting policy responsibilities in 2010.

7 **Q. WHAT ARE YOUR RESPONSIBILITIES AS DIRECTOR OF**  
8 **ACCOUNTING POLICY AND RESEARCH?**

9 A. I am responsible for performing accounting research, recommending accounting  
10 policy and procedures, reporting on the financial effects of potential transactions,  
11 and developing accounting instructions for certain non-routine transactions and new  
12 accounting rules. I serve as AEP's primary internal advisor with regard to issues  
13 surrounding the accounting for employee benefits, including pensions and  
14 postretirement benefits. I also have supervisory responsibility for plant accounting  
15 policy matters.

16 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS OR OTHER**  
17 **UTILITY REGULATORY COMMISSIONS?**

18 A. Yes, I have previously testified on retiree benefits accounting before this  
19 Commission, the state utility regulatory commissions of Indiana, Louisiana,  
20 Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia, and West Virginia, and the  
21 Federal Energy Regulatory Commission.

### **III. PURPOSE OF TESTIMONY**

1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**  
2 **PROCEEDING?**

3 A. The purpose of my direct testimony is to address for the Company the amount of  
4 pension cost and postretirement benefit cost that the Company has included for  
5 ratemaking purposes. In addition, I will support the inclusion in rate base of the  
6 additional cash investment in the pension trust fund recorded as a prepaid pension  
7 asset in accordance with generally accepted accounting principles. This additional  
8 pension funding benefits customers through substantially reduced pension cost.

9 **Q. ARE YOU SPONSORING ANY EXHIBITS IN THIS PROCEEDING?**

10 A. Yes, I am sponsoring Exhibits HEM-1 through HEM-3. Exhibit HEM-1 is my  
11 schedule that compiles pension and postretirement benefit costs from the 2013 and  
12 2014 actuarial reports and computes pension and postretirement benefit costs for the  
13 twelve months ended September 30, 2014. Exhibit HEM-2 consists of the 2014  
14 pension and postretirement benefit actuarial reports prepared by the Company's  
15 independent actuary, Towers Watson. Exhibit HEM-3 is my schedule of the effect  
16 of additional pension contributions recorded as a prepaid pension asset in reducing  
17 pension cost.

### **IV. PENSION COST**

18 **Q. PLEASE DESCRIBE THE COMPANY'S PENSION PLANS.**

19 A. The employees of the Company participate in the AEP defined benefit pension plan  
20 ("AEP Plan"). This plan is subject to the Employee Retirement Income Security  
21 Act of 1974 (ERISA) and various regulations under the Internal Revenue Code

1 (IRC). The AEP Plan provides benefits based on either a cash balance design or,  
2 for employees who were plan participants on December 31, 2000, under a  
3 grandfathered design. The cash balance design provides participants with a  
4 notional account that provides annual credits based on compensation, age, and years  
5 of service, plus annual interest on the account balance. The grandfathered design  
6 provides a final average pay benefit that continued to grow for a ten-year transition  
7 period ending December 31, 2010. At retirement, grandfathered participants may  
8 choose either the grandfathered benefit or the cash balance benefit.

9 **Q. HOW IS PENSION COST DETERMINED?**

10 A. The Company's pension cost is computed as part of an annual actuarial valuation  
11 performed by Towers Watson, the Company's independent actuary, in accordance  
12 with generally accepted accounting principles under Financial Accounting  
13 Standards Board (FASB) Statement of Financial Accounting Standards No. (FAS)  
14 87, *Employers' Accounting for Pensions* (also known as FASB ASC 715-30).

15 As required by FAS 87, ERISA, and actuary professional standards, Towers  
16 Watson performs the valuation using reasonable actuarial methods and  
17 assumptions, which are disclosed in Appendix A - Statement of Actuarial  
18 Assumptions and Methods – to the actuarial reports included in Exhibit HEM-2.  
19 These actuarial assumptions, which are consistent with the requirements of FAS 87,  
20 are discussed in more detail later in this testimony. All of the underlying actual  
21 economic and demographic data included in the April 2014 actuarial reports was  
22 complete, known and measurable as of December 31, 2013.



1           Although Kentucky Power participates along with other affiliates in the AEP  
2 Plan, the Company's pension benefit cost is computed directly based on the specific  
3 demographics of the Company's actual employees and retirees and based on the  
4 Company's actual trust fund contributions and benefit payments. Accordingly, an  
5 assignment of a portion of total cost of the AEP Plan to the Company is not necessary.  
6 This long-standing method of determining the Company's pension cost is  
7 reasonable, fair, and equitable and results in no cross-subsidization of cost between  
8 the Company and its affiliates.

9 **Q. WHAT ARE THE COMPONENTS OF PENSION COST UNDER FAS 87?**

10 A. FAS 87 pension cost includes the following components:

- 11       • Service cost, or the present value of benefits earned by employees for the  
12       current year.
- 13       • Interest cost on the projected benefit obligation (PBO). Interest accrues each  
14       year because the PBO is computed on a discounted, or present value, basis.
- 15       • Investment return expected on trust fund assets.
- 16       • Amortization of deferred costs, including:
  - 17           ○ Actuarial gains and losses, or differences between actual and projected  
18           economic and demographic experience.
  - 19           ○ Prior service cost, or fluctuations in the PBO caused by retroactive plan  
20           design changes.
  - 21           ○ Transition asset or obligation, or the catch-up adjustment upon initial  
22           application of FAS 87.

1 **Q. PLEASE DESCRIBE THE ASSUMPTIONS USED IN THE COMPANY'S**  
2 **FAS 87 ACTUARIAL REPORT.**

3 A. FAS 87 actuarial assumptions fall into two categories: demographic assumptions  
4 and economic assumptions. These assumptions are annually reviewed with the  
5 independent actuary and adjusted as appropriate to ensure that they are reasonable,  
6 both individually and in aggregate, and that they accurately reflect expected future  
7 experience of the plan. These assumptions also apply to postretirement benefit cost  
8 under FASB FAS 106, *Employers' Accounting for Postretirement Benefits Other*  
9 *Than Pensions* (also known as FASB ASC 715-60).

10 **Q. PLEASE DESCRIBE THE DEMOGRAPHIC ASSUMPTIONS USED IN**  
11 **THE ACTUARIAL STUDIES AND HOW THEY WERE DEVELOPED.**

12 A. The demographic assumptions used to develop pension and postretirement benefit  
13 liabilities include mortality rates, employee withdrawal rates, expected retirement  
14 age, and assumptions regarding marital status and spouse's age. The assumptions  
15 regarding expected mortality and marital status are considered standard and are  
16 used by the majority of large companies for their FAS 87 and FAS 106 actuarial  
17 valuations. The employee turnover and retirement assumptions are based on studies  
18 of prior AEP demographic experience.

19 **Q. PLEASE DESCRIBE THE ECONOMIC ASSUMPTIONS AND HOW THEY**  
20 **WERE DEVELOPED.**

21 A. The economic assumptions used to develop pension and postretirement benefit  
22 liabilities include discount rate selection, an assumption regarding the expected  
23 long-term rate of return on plan assets, and estimates of expected future growth of

1 employee salaries. The discount rate is used to adjust for the time value of money,  
2 as most of each plan's expected benefit payments will not be paid for many years.  
3 In accordance with FAS 87 and FAS 106, the discount rate is chosen as of the  
4 Company's December 31 annual measurement date to be in line with high-quality  
5 corporate bond yields. The rate chosen is based on the matching of high quality  
6 corporate bond spot rates to the annual projected benefit payments expected for the  
7 plans.

8 The long-term rate of return on assets is chosen based on a study of the mix of  
9 the assets funding the plan and the expected rate of return on each asset category.  
10 Lastly, the salary growth rate takes into account expected changes in compensation  
11 levels, including cost-of-living adjustments, merit increases, and promotions. This  
12 assumption also is based on prior AEP experience. All three of these economic  
13 assumptions are the same or similar for the FAS 87 valuation and the FAS 106  
14 valuation, except that the FAS 106 expected return on assets assumption takes into  
15 account the different effect of income taxes on postretirement benefit trust funds.

16 **Q. DO THE ACTUARIAL ASSUMPTIONS AND METHODS DISCUSSED**  
17 **ABOVE PROVIDE A REASONABLE BASIS FOR DETERMINING THE**  
18 **LEVEL OF PENSION COST TO BE INCLUDED IN COST OF SERVICE?**

19 A. Yes. The demographic and economic actuarial assumptions, as well as the methods  
20 used for the pension valuation, are reasonable both individually and in the  
21 aggregate. They are consistent with the requirements of generally accepted  
22 accounting principles as set forth in FAS 87 and actuarial industry standards and  
23 they have been consistently applied from year to year.

1 **Q. WHAT AMOUNT OF PENSION COST IS REFLECTED IN THE**  
2 **COMPANY'S FILING?**

3 A. Exhibit HEM-1 shows the amount of the Company's actual FAS 87 pension cost for  
4 the 2013 and 2014 calendar years from each year's actuarial report. Exhibit HEM-1  
5 also computes the Company's total pension cost of \$4,249,110 for the twelve  
6 months ended September 2014 test year. However, consistent with prior filings, the  
7 Company's filing includes the calendar year 2014 total pension cost of \$4,311,543  
8 since this updated amount is more representative of the cost to be incurred during  
9 the period that rates resulting from this proceeding will be in effect. The  
10 Transmission and Distribution pension cost as shown on Exhibit HEM-1 is  
11 \$2,637,992 for the twelve months ended September 30, 2014 and \$2,567,458 for the  
12 calendar year 2014. The Generation portion of pension cost is included in  
13 adjustments related to recovery of Big Sandy Plant and Mitchell Plant costs  
14 supported by Company Witness Yoder.

15 **Q. WHY IS TRANSMISSION AND DISTRIBUTION PENSION COST LOWER**  
16 **FOR THE CALENDAR YEAR 2014 THAN FOR THE TWELVE MONTHS**  
17 **ENDED SEPTEMBER 2014 TEST YEAR?**

18 A. Transmission and Distribution pension cost for the Company decreased in calendar  
19 year 2014 mainly because of favorable changes in both investment return and interest  
20 rates.

21 **Q. PLEASE EXPLAIN THE BASIS FOR THE BREAKOUT ON EXHIBIT**  
22 **HEM-1 OF QUALIFIED AND NON-QUALIFIED COSTS.**

1 A. The schedule on Exhibit HEM-1 accumulates separate columns for the amount of  
2 qualified cost and for the amount of non-qualified cost (also know as excess,  
3 supplemental, or SERP (Supplemental Employee Retirement Plan) cost), since a  
4 separate actuarial report is prepared for each. Actuarial reports typically are  
5 prepared separately for the amount of pension benefits that may be included in a  
6 qualified pension trust fund under ERISA versus the excess or supplemental amount  
7 related to benefits beyond the statutory qualified plan limits on benefits and pay.  
8 This helps to avoid confusion about funding of qualified plans and provides the  
9 segregated information required by accounting and reporting rules. The distinction  
10 between qualified and non-qualified amounts has no bearing on the amount of costs  
11 that are reasonable and necessary to meet the Company's requirements to provide  
12 reasonable and adequate pensions for its employees. The qualified amount is  
13 simply the portion that is subject to ERISA requirements, protections and income  
14 tax incentives. The supplemental amount is the portion of an employee's pension  
15 benefit that exceeds the qualified plan limits on benefits and pay.

16 **Q. DOES THE SERP PROVIDE SEPARATE AND ADDITIONAL BENEFITS**  
17 **TO THE COMPANY'S EXECUTIVES?**

18 A. No. The same pension benefit formula applies to all employees regardless of pay  
19 level. The supplemental plan simply replaces the portion of pension benefits that  
20 otherwise would be lost under the qualified plan limits. It is reasonable and  
21 necessary to provide the supplemental pension plan to replace the portion of pension  
22 benefits that otherwise would be lost so that the Company can attract, retain, and  
23 motivate competent and qualified leaders.

**V. POSTRETIREMENT BENEFIT COST**

1 **Q. PLEASE DESCRIBE THE COMPANY'S POSTRETIREMENT BENEFIT**  
2 **PLAN.**

3 A. The employees of the Company also participate in AEP's Non-UMWA  
4 Postretirement Benefit Plan, which provides medical and life insurance benefits to  
5 AEP employees who are not members of the United Mine Workers of America.  
6 AEP provides postretirement benefits, including subsidized medical and dental  
7 coverage, prescription drug coverage, and life insurance benefits, to employees who  
8 retire directly from an AEP System company after attaining at least age 55 with at  
9 least ten years of service.

10 **Q. HOW IS POSTRETIREMENT BENEFIT COST DETERMINED?**

11 A. The Company's postretirement benefit cost is computed as part of an annual  
12 actuarial valuation performed by Towers Watson, the Company's independent  
13 actuary, in accordance with generally accepted accounting principles under the  
14 requirements of FAS 106. As required by FAS 106 and actuary industry standards,  
15 Towers Watson performs the valuation using reasonable actuarial methods and  
16 assumptions, which are disclosed under Appendix A – Statement of Actuarial  
17 Assumptions and Methods in the actuarial report included in Exhibit HEM-2. These  
18 actuarial assumptions, which are consistent with the requirements of FAS 106, are  
19 discussed in more detail later in this testimony.

20 As is the case with the calculation of pension cost that I discussed above, the  
21 Company's postretirement benefit cost is computed directly based on the specific

1 demographics of the Company's actual employees and retirees and based on the  
2 Company's actual trust fund contributions and benefit payments. This method of  
3 determining the Company's postretirement benefit cost is reasonable, fair and  
4 equitable and results in no cross-subsidization of cost between the Company and its  
5 affiliates.

6 The 2014 actuarial report was completed in April 2014. All of the underlying  
7 actual economic and demographic data included in the 2014 actuarial report was  
8 complete, known and measurable as of December 31, 2013.

9 **Q. WHAT ARE THE COMPONENTS OF POSTRETIREMENT BENEFIT**  
10 **COST?**

11 A. FAS 106 postretirement benefit cost includes the same components as FAS 87  
12 pension cost already discussed above, those being service cost, interest cost,  
13 investment return, and amortizations. Except for minor differences necessitated by  
14 the slightly different nature of pension benefits and postretirement benefits, the  
15 requirements of FAS 106 are very similar to those of FAS 87.

16 FAS 106 requires that employers such as the Company record the cost of  
17 postretirement benefits on an accrual basis during the working lives of employees.  
18 Under FAS 106, employers are required to accrue during employees' years of  
19 service a liability for the present value of their future benefits, so that an employer  
20 will have accrued the present value of the entire benefit cost by the employee's  
21 retirement date. The FASB based the rule on its decision that postretirement  
22 benefits are a form of deferred compensation that should be recorded on an accrual  
23 basis as the benefits are earned, much like pensions.

1 **Q. PLEASE DESCRIBE THE ASSUMPTIONS USED IN THE FAS 106**  
2 **ACTUARIAL REPORT.**

3 A. FAS 106 actuarial assumptions fall into three categories: demographic assumptions,  
4 economic assumptions, and health care cost assumptions. These assumptions are  
5 reviewed with the independent actuary and adjusted annually to ensure that they are  
6 reasonable, both individually and in aggregate, and that they accurately reflect  
7 expected future experience of the plan. Demographic assumptions and economic  
8 assumptions also apply to pension cost under FAS 87.

9 **Q. WHAT DEMOGRAPHIC AND ECONOMIC ASSUMPTIONS WERE USED**  
10 **IN THE POSTRETIREMENT BENEFIT ACTUARIAL STUDY AND HOW**  
11 **WERE THEY DEVELOPED?**

12 A. The demographic and economic assumptions used to develop pension liabilities  
13 also apply to the assumptions used to develop postretirement benefit liabilities.

14 **Q. PLEASE DESCRIBE HOW THE HEALTH CARE COST ASSUMPTIONS**  
15 **USED IN THE FAS 106 STUDY WERE DEVELOPED.**

16 A. The health care cost trend rate for each future year is the expected annual rate of  
17 increase in the per capita health care charges submitted for reimbursement under the  
18 plan, before the effect of deductibles and co-payments. These rates are developed  
19 based on an analysis of the plan's design and experience, as well as medical cost  
20 trend rate information available from the insurance industry and published surveys.  
21 These data take into account all appropriate components of medical inflation that  
22 might affect retiree medical costs, including pure costs of services, utilization, cost  
23 shifting, technological advances, growth, and increase in malpractice insurance



1 costs. The rates that are developed are then compared to the rates being used by  
2 other large organizations to make sure they are in line with assumptions being used  
3 for plans with similar benefits.

4 **Q. DO THE ACTUARIAL ASSUMPTIONS AND METHODS DISCUSSED**  
5 **ABOVE PROVIDE A REASONABLE BASIS FOR DETERMINING THE**  
6 **LEVEL OF POSTRETIREMENT BENEFIT COST TO BE INCLUDED IN**  
7 **COST OF SERVICE?**

8 A. Yes. The actuarial assumptions and methods used for the postretirement benefits  
9 valuation are reasonable both individually and in the aggregate. They are consistent  
10 with the requirements of generally accepted accounting principles as set forth in  
11 FAS 106 and actuarial industry standards.

12 **Q. WHAT AMOUNT OF POSTRETIREMENT BENEFIT COST IS THE**  
13 **COMPANY REQUESTING?**

14 A. Exhibit HEM-1 shows the amount of the Company's actual FAS 106 postretirement  
15 benefit cost for the 2013 and 2014 calendar years from each year's actuarial report.  
16 Exhibit HEM-1 also computes the Company's postretirement benefit cost of  
17 \$(2,346,792) for the twelve months ended September 2014 test year. However, the  
18 Company's filing includes the calendar year 2014 postretirement benefit cost of  
19 \$(2,793,315) since this updated amount is more representative of the cost to be  
20 incurred during the period that rates resulting from this proceeding will be in effect.  
21 The Transmission and Distribution postretirement benefit cost as shown on Exhibit  
22 HEM-1 is \$(1,462,835) for the twelve months ended September 30, 2014 and  
23 \$(1,714,439) for the calendar year 2014. The Generation portion of postretirement

1 benefit cost is included in adjustments related to recovery of Big Sandy Plant and  
2 Mitchell Plant costs supported by Company Witness Yoder.

3 **Q. WHY IS POSTRETIREMENT BENEFIT COST A NEGATIVE AMOUNT?**

4 A. Postretirement benefit cost for the Company turned negative (a credit to expense) in  
5 2013 mainly because of a plan amendment effective for retirements after 2012 that  
6 caps the Company's contribution to retiree medical coverage, thereby reducing the  
7 Company's exposure to future medical cost inflation. The resulting decline in the  
8 plan benefit obligation creates an actuarial gain that under FAS 106 is amortized to  
9 postretirement benefit cost over about 12 years beginning in 2013.

10 **Q. WHY IS THE TRANSMISSION AND DISTRIBUTION**  
11 **POSTRETIREMENT BENEFIT CREDIT OR NEGATIVE COST HIGHER**  
12 **FOR THE CALENDAR YEAR 2014 THAN FOR THE TWELVE MONTHS**  
13 **ENDED SEPTEMBER 2014 TEST YEAR?**

14 A. The amount of Transmission and Distribution postretirement benefit credit or  
15 negative cost for the Company increased in 2014 mainly because of favorable  
16 investment return and refined actuarial assumptions.

#### **VI. RATE BASE TREATMENT OF THE PREPAID PENSION ASSET**

17 **Q. PLEASE EXPLAIN THE AMOUNT OF ADDITIONAL PENSION**  
18 **FUNDING THAT SHOULD BE INCLUDED IN RATE BASE.**

19 A. In accordance with the provisions of generally accepted accounting principles under  
20 FAS 87, the Company has recorded as a prepaid pension asset additional cash  
21 pension contributions in excess of FAS 87 pension cost in the amount of  
22 \$53,709,968 as of September 30, 2014. This total prepaid pension asset balance is

1 separate from the related accumulated deferred federal income taxes that serve to  
2 reduce the combined rate base effect. As shown on EXHIBIT HEM-3, this prepaid  
3 pension asset includes substantial contributions totaling approximately \$75 million  
4 from 2005 through 2014.

5 **Q. HAS THE COMPANY BROUGHT THE ADDITIONAL PENSION**  
6 **CONTRIBUTIONS BEFORE THE COMISSION IN PRIOR CASES?**

7 A. Yes, in Case No. 2005-00341, Case No. 2009-00459, and Case No. 2013-00197.

8 **Q. WHY DID THE COMPANY MAKE THESE ADDITIONAL PENSION**  
9 **CONTRIBUTIONS?**

10 A. The 2005 additional cash contributions eliminated the funding shortfall that had  
11 developed between pension plan assets and the FAS 87 benefit obligation. As a  
12 result of these additional contributions, the Company's qualified pension benefit  
13 obligation was fully funded at the end of 2005 and through 2007. Following the  
14 market downturn in 2008, additional pension contributions were required in 2010,  
15 2011, 2012, and 2014.

16 **Q. IS THIS PREPAID PENSION BALANCE THAT THE COMPANY**  
17 **PROPOSES TO INCLUDE IN RATE BASE ENTIRELY SUPPORTED BY**  
18 **CASH CONTRIBUTIONS?**

19 A. Yes, the prepaid pension amount to be included in rate base is entirely supported by  
20 actual cash contributions in excess of pension cost. Including this amount in rate  
21 base will allow ratemaking recognition of the Company's cost of funds on the  
22 additional cash contributions. Not included in the Company's request are non-cash  
23 accrual adjustments made under FAS 158, *Employers' Accounting for Defined*

1 *Benefit Pension and Other Postretirement Plans* (also known as FASB ASC 715-  
2 20), since such adjustments have no effect on the amount of the Company's cash  
3 pension investment or its FAS 87 pension cost.

4 **Q. DOES ANY PORTION OF THE PREPAID PENSION ASSET SERVE TO**  
5 **PRE-FUND THE COMPANY'S PENSION OBLIGATIONS IN ADVANCE?**

6 A. No. These additional contributions were made to address substantial underfunding  
7 that would have continued to exist if the contributions had not been made. They do  
8 not relate to anticipating or pre-funding future obligations but rather were made to  
9 help catch-up funding to the current accumulated benefit obligation. With these  
10 additional contributions, the Company's qualified pension plan was about 100 percent  
11 funded in terms of the FAS 87 benefit obligation at December 31, 2013. Without the  
12 additional pension contributions that are recorded as a prepaid pension asset, the  
13 qualified pension would be only about 69 percent funded, a dangerously low level.  
14 The additional pension contributions have been prudently incurred by the Company  
15 to provide service to its customers, are necessary for the provision of service, and  
16 constitute property that is used and useful in providing public service.

17 **Q. PLEASE EXPLAIN WHY THE ADDITIONAL PENSION**  
18 **CONTRIBUTIONS WERE NECESSARY.**

19 A. As explained above, pension cost included in cost of service for ratemaking  
20 purposes is based on generally accepted accounting principles as set forth in FAS 87.  
21 However, pension contributions are based on separate ERISA requirements, so the  
22 amount of pension cost and the amount of pension cash contribution can often vary.  
23 FAS 87 requires that this difference be recorded on the balance sheet as a

1       prepayment if contributions exceed cost or as a liability if cost exceeds  
2       contributions.

3             The Company's pension funding shortfall under FAS 87 grew substantially  
4       over the period 2000 through 2003 because of a combination of factors that  
5       increased significantly the difference between the accumulated pension benefit  
6       obligation and the pension fund assets. The decline in value of the pension fund  
7       assets and the increase in pension obligations caused the Company's previously  
8       well-funded pension plan to become significantly underfunded, as was the case for  
9       other pension plans in the industry.

10            By 2005, the amount of underfunding had reached the point that it was neither  
11       prudent nor reasonable for the Company to rely on the shortfall reversing over time  
12       through normal market activity and ERISA-required cash contributions. Moreover,  
13       allowing the disparity between pension assets and the accumulated pension  
14       obligation to remain at the then current level, or risking possible further growth in  
15       the disparity, would have entailed making substantially increased required pension  
16       funding contributions in future years, since the additional investment income that  
17       results from contributing earlier rather than later reduces the total amount that needs  
18       to be contributed over time. Accordingly, the Company needed to take action by  
19       making additional contributions to bring the pension fund assets and the  
20       accumulated benefit obligation into alignment. Under these circumstances, the  
21       making of the additional contributions was clearly prudent and necessary.

22            The market decline of 2008 and the decline in interest rates in 2009 through  
23       2012 again caused the difference between the benefit obligation and the pension

1 fund assets to grow. As a result, the Company made substantial additional  
2 contributions in 2010, 2011 and 2012. These contributions were prudently made to  
3 reduce the funding shortfall and to bring the pension assets closer into alignment  
4 with the benefit obligation.

5 **Q. DO CUSTOMERS OF THE COMPANY BENEFIT FROM THE**  
6 **ADDITIONAL FUNDING OF THE PENSION PLAN?**

7 A. Yes, customers benefit from the investment earnings on the additional fund assets.  
8 This has the effect of reducing future pension cost under generally accepted  
9 accounting principles in an amount that grows over time through compounding. As  
10 computed on Exhibit HEM-3, the additional pension contributions recorded as a  
11 prepaid pension asset reduced by approximately \$4.2 million the 2014 pension cost  
12 that the Company would have had to recover from customers. In other words, had  
13 the Company not made the additional pension contributions, the Company's total  
14 amount of 2014 pension cost would have been nearly \$8.5 million instead of  
15 approximately \$4.3 million.

16 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

17 A. Yes, it does.

Pension and Postretirement Benefit (OPEB) Cost in Account 926  
Kentucky Power Company

|   | FAS 87 Cost      |              |                  | FAS 106<br>OPEB Cost |
|---|------------------|--------------|------------------|----------------------|
|   | Qualified        | SERP         | Total Pension    |                      |
| <b>Calendar Year 2013 Actual per Actuarial Report</b>               |                  |              |                  |                      |
| Distribution  | 2,532,324        | 3,895        | 2,536,219        | (600,974)            |
| Transmission  | 313,374          | 0            | 313,374          | (107,047)            |
| <b>Total Wires</b>  | <b>2,845,698</b> | <b>3,895</b> | <b>2,849,593</b> | <b>(708,021)</b>     |
| Generation (Big Sandy)  | 1,212,219        | 0            | 1,212,219        | (299,204)            |
| 50% of Mitchell   | 0                | 0            | 0                | 0                    |
| Total Generation  | 1,212,219        | 0            | 1,212,219        | (299,204)            |
| Total Company   | 4,057,917        | 3,895        | 4,061,812        | (1,007,225)          |
| <b>Calendar Year 2014 Actual per Actuarial Report</b>               |                  |              |                  |                      |
| Distribution  | 2,293,613        | 239          | 2,293,852        | (1,495,454)          |
| Transmission  | 273,606          | 0            | 273,606          | (218,985)            |
| <b>Total Wires</b>  | <b>2,567,219</b> | <b>239</b>   | <b>2,567,458</b> | <b>(1,714,439)</b>   |
| Generation (Big Sandy)  | 1,111,950        | 0            | 1,111,950        | (856,233)            |
| 50% of Mitchell   | 632,135          | 0            | 632,135          | (222,643)            |
| Total Generation  | 1,744,085        | 0            | 1,744,085        | (1,078,876)          |
| Total Company   | 4,311,304        | 239          | 4,311,543        | (2,793,315)          |
| <b>12 Months Ended September 2014<br/>Computed from Above</b>       |                  |              |                  |                      |
| Distribution  | 2,353,291        | 1,153        | 2,354,444        | (1,271,834)          |
| Transmission  | 283,548          | 0            | 283,548          | (191,001)            |
| <b>Total Wires</b>  | <b>2,636,839</b> | <b>1,153</b> | <b>2,637,992</b> | <b>(1,462,835)</b>   |
| Generation (Big Sandy)  | 1,137,017        | 0            | 1,137,017        | (716,976)            |
| 50% of Mitchell   | 474,101          | 0            | 474,101          | (166,982)            |
| Total Generation  | 1,611,118        | 0            | 1,611,118        | (883,958)            |
| Total Company   | 4,247,957        | 1,153        | 4,249,110        | (2,346,792)          |
| <b>Calendar Year 2014 Versus 12<br/>Months Ended September 2014</b> |                  |              |                  |                      |
| Distribution  | (59,678)         | (914)        | (60,592)         | (223,620)            |
| Transmission  | (9,942)          | 0            | (9,942)          | (27,985)             |
| <b>Total Wires</b>  | <b>(69,620)</b>  | <b>(914)</b> | <b>(70,534)</b>  | <b>(251,605)</b>     |
| Generation (Big Sandy)  | (25,067)         | 0            | (25,067)         | (139,257)            |
| 50% of Mitchell   | 158,034          | 0            | 158,034          | (55,661)             |
| Total Generation  | 132,966          | 0            | 132,966          | (194,918)            |
| Total Company   | 63,347           | (914)        | 62,433           | (446,522)            |

Pension and Postretirement Benefit (OPEB) Cost in Account 926  
 Kentucky Power Company

|   | FAS 87 Cost |       |               | FAS 106<br>OPEB Cost |
|---|-------------|-------|---------------|----------------------|
|   | Qualified   | SERP  | Total Pension |                      |
| Calendar Year 2013 Actual per<br>Actuarial Report           | 4,057,917   | 3,895 | 4,061,812     | (1,007,225)          |
| Calendar Year 2014 Actual per<br>Actuarial Report           | 5,190,316   | 239   | 5,190,555     | (3,040,335)          |
| 12 Months Ended September 2014<br>Computed from Above       | 4,907,216   | 1,153 | 4,908,369     | (2,532,058)          |
| Calendar Year 2014 Versus<br>12 Months Ended September 2014 | 283,100     | (914) | 282,186       | (508,278)            |



## **Exhibit HEM-2**

### 2014 Actuarial Reports

Exhibit HEM-2 includes the following 2014 AEP Actuarial Reports:

- Exhibit HEM-2A                      Qualified Pension
- Exhibit HEM-2B                      Supplemental Pension
- Exhibit HEM-2C                      Non-UMWA Postretirement

**American Electric Power**

**American Electric Power System Retirement Plan**

Actuarial Valuation Report

Pension Cost for Fiscal Year Beginning  
January 1, 2014 under US GAAP

Employer Contributions for Plan Year  
Beginning January 1, 2014

April 2014



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# Purposes of valuation

American Electric Power Co. (the Company) retained Towers Watson Delaware Inc. (“Towers Watson”), to perform an actuarial valuation of the American Electric Power System Retirement Plan for the purpose of determining the following:

1. The minimum required contribution in accordance with ERISA and the Internal Revenue Code (IRC) for the plan year beginning January 1, 2014.
2. The estimated maximum tax-deductible contribution for the tax year in which the 2014 plan year ends in accordance with ERISA as allowed by the IRC. The maximum tax-deductible contribution should be finalized in consultation with the Company’s tax advisor.
3. Plan accounting information in accordance with FASB Accounting Standards Codification Topic 960 (ASC 960).
4. Determination of the Funding Target Attainment Percentage (FTAP) under IRC §430(d)(2), as reported in the Annual Funding Notice required under ERISA 101(f).
5. The value of benefit obligations as of January 1, 2014 and American Electric Power Co.’s pension cost for fiscal year ending December 31, 2014 in accordance with FASB Accounting Standards Codification Topic 715 (ASC 715-30).
6. As requested by American Electric Power Co., a “specific certification” of the Adjusted Funding Target Attainment Percentage (AFTAP) for the American Electric Power System Retirement Plan under IRC §436 for the plan year beginning January 1, 2014. Please see Appendix C for additional information. Note that the AFTAP certification included herein may be superseded by a subsequent AFTAP certification for the American Electric Power System Retirement Plan for the plan year beginning January 1, 2014.

## Limitations

This valuation has been conducted for the purposes described above and may not be suitable for any other purpose. In particular, please note the following:

1. This report does not determine the plan’s liquidity shortfall requirements (if any) under IRC §430(j)(4). If applicable, we will determine such requirements separately as requested by the Company.
2. This report does not determine liabilities on a plan termination basis, for which a separate extensive analysis would be required.
3. The cost method for the minimum required contribution is established under IRC §430 and may not in all circumstances produce adequate assets to pay benefits under all optional forms of payment available under the plan when benefit payments are due.
4. This valuation reflects our understanding of the relevant provisions of the Pension Protection Act of 2006 (PPA); the Worker, Retiree and Employer Recovery Act of 2008 (WRERA); the Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010 (PRA), and the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21). The IRS has yet to issue

final guidance with respect to certain aspects of these laws. It is possible that future guidance may conflict with our understanding of these laws based on currently available guidance and could therefore affect results shown in this report.

# Section 1: Summary of results

## Summary of valuation results

All monetary amounts shown in US Dollars

| Plan Year Beginning  | January 1, 2014 | January 1, 2013 |
|--|-----------------|-----------------|
| <b>Funding</b>   |                 |                 |
| Market value of assets with discounted receivable contributions  | 4,726,059,114   | 4,704,119,951   |
| Actuarial value of assets  | 4,653,384,245   | 4,699,409,537   |
| Funding balances   | 660,963,451     | 668,470,627     |
| Funding target   | 4,221,975,836   | 4,024,284,946   |
| Target normal cost   | 67,364,098      | 61,416,651      |
| Funding shortfall (surplus)  | 229,555,042     | (6,653,964)     |
| Funding target attainment percentage (FTAP)  | 94.56%          | 100.16%         |
| Minimum required contribution  |                 |                 |
| Prior to application of funding balances   | 67,364,098      | 54,762,687      |
| Net of available funding balances  | 0               | 0               |
| Effective interest rate  | 5.66%           | 6.24%           |
| <b>U.S. GAAP Accounting (ASC 715) as of Measurement Date</b>   |                 |                 |
| Projected benefit obligation (PBO)   | 4,741,966,540   | 5,158,918,282   |
| Fair value of assets (without receivable contributions)  | 4,726,059,114   | 4,704,119,951   |
| Funded status  | (15,907,426)    | (454,798,331)   |
| Pension cost (excluding effects of settlements, curtailments and termination benefits) for fiscal year | 151,433,757     | 172,774,575     |
| Discount rate  | 4.70%           | 3.95%           |
| <b>Participants as of Census Date</b>  |                 |                 |
| Active employees   | 17,684          | 17,631          |
| Participants with deferred benefits  | 3,642           | 2,479           |
| Participants receiving benefits  | 16,041          | 16,292          |
| Total  | 37,367          | 38,141          |
| <b>Plan Accounting (ASC 960)</b>   |                 |                 |
| Present value of accumulated benefits  | 4,105,351,485   | 3,935,881,858   |
| Market value of assets with receivable contributions   | 4,726,059,114   | 4,704,119,951   |
| Plan accounting discount rate  | 6.00%           | 6.50%           |

## Minimum required contribution and funding policy

All monetary amounts shown in US Dollars

| Plan Year Beginning                          | January 1, 2014 | January 1, 2013 |
|--|-----------------|-----------------|
| <b>Minimum Required Contribution [MRC]</b>   |                 |                 |
| Prior to application of funding balances     | 67,364,098      | 54,762,687      |
| Net of available funding balances            | 0               | 0               |
| <b>Sponsor's Funding Policy Contribution</b> | 71,463,632      | 0               |

Our understanding of the current sponsor's funding policy is to contribute the greater of the FAS service cost and the minimum required contribution, utilizing credit balances as available. We understand the sponsor may deviate from this policy based on cash, tax or other considerations.

The minimum required contribution for the 2014 plan year must be partially satisfied in quarterly installments during the plan year, with a final payment due by September 15, 2015. These requirements may be satisfied through contributions and/or an election to apply the available funding balances. The minimum required contribution is determined assuming it is paid as of the valuation date for the plan year. Contributions made on a date other than the valuation date must be adjusted for interest at the plan's effective interest rate. The minimum funding schedule, before reflecting any funding balance elections or amounts already contributed for the 2014 plan year prior to the issuance of this report, is shown below:

All monetary amounts shown in US Dollars

| Due Date           | Amount     |
|--------------------|------------|
| April 15, 2014     | 0          |
| July 15, 2014      | 0          |
| October 15, 2014   | 0          |
| January 15, 2015   | 0          |
| September 15, 2015 | 73,996,191 |



If a plan has a funding shortfall for the current plan year, quarterly contributions will be required for the following plan year.

Because the plan has a funding shortfall, quarterly contributions for the 2015 plan year will be required. Quarterly contributions for the 2015 plan year will not exceed \$16,841,025 per payment, based on this year’s valuation results.

The preliminary<sup>1</sup> minimum funding schedule for the 2015 plan year, before reflecting any funding balance elections, is shown below:

All monetary amounts shown in US Dollars

| Plan Year   | 2015                                  |
|---|---------------------------------------|
| <b>Preliminary Schedule of Minimum Funding Requirements</b> |                                       |
| April 15, 2015  | 16,841,025                            |
| July 15, 2015   | 16,841,025                            |
| October 15, 2015  | 16,841,025                            |
| January 15, 2016  | 16,841,025                            |
| September 15, 2016  | To be determined by<br>2015 valuation |

<sup>1</sup> The final schedule is to be determined by the 2015 valuation.

## Change in minimum funding requirement and funding shortfall (funding surplus)

The minimum funding requirement increased from \$54,762,687 for the 2013 plan year to \$67,364,098 for the 2014 plan year, and the funding shortfall (surplus) increased from \$(6,653,964) on January 1, 2013 to \$229,555,042 on January 1, 2014, as set forth below:

All monetary amounts shown in US Dollars

|   | Minimum Funding Requirement | Funding Shortfall (Surplus) |
|---|-----------------------------|-----------------------------|
| Prior year  | 54,762,687                  | (6,653,964)                 |
| Change due to:  |                             |                             |
| Expected based on prior valuation, contributions, and use of/creation of funding balances | 7,664,167                   | 3,831,768                   |
| Sponsor election to reduce funding balances   | 0                           | 0                           |
| Unexpected noninvestment experience   | 3,203,628                   | (19,920,048)                |
| Unexpected investment experience  | 0                           | (5,588,942)                 |
| Assumption changes  | 1,733,616                   | 257,886,228                 |
| Method changes  | 0                           | 0                           |
| Unpredictable contingent events   | 0                           | 0                           |
| Becoming at-risk  | 0                           | 0                           |
| Plan amendments   | 0                           | 0                           |
| Current year  | 67,364,098                  | 229,555,042                 |

Significant reasons for these changes include the following:

- The plan's effective interest rate decreased 52 basis points compared to the prior year, which increased the minimum funding requirement and the funding shortfall.
- Investment experience was more favorable than expected which decreased the the funding shortfall.
- Demographic experience was more favorable than expected which decreased the the funding shortfall. There was an increase in minimum funding requirements due to a higher target normal cost relating to expected future benefit accruals.

## Funding ratios

The Pension Protection Act of 2006 (PPA) defines several Funding Ratios. All of these ratios are based on a ratio of plan assets to plan liabilities, but the assets and liabilities are defined differently for different purposes. Depending on the purpose, the assets may be market value or, if different, a smoothed actuarial value of assets, and may be reduced by the prefunding balance or all funding balances. The liabilities may be based on the funding target, funding target disregarding at-risk assumptions, or the funding target calculated using at-risk assumptions (see the At-Risk status section below for a discussion of at-risk assumptions), and may or may not reflect the interest rate corridors of MAP-21.

Following are the key funding ratios and their implications for the 2014 or 2015 plan years.

| Purpose of Ratio  | Percent | Threshold | Implications  |
|---|---------|-----------|---|
| <b>January 1, 2013 Funding Ratios</b>   |         |           |   |
| Use of the funding balances to satisfy the 2014 Minimum Required Contribution (MRC) | 104.88% | 80%       | Because the percent is greater than or equal to the threshold, the funding balances can be used to satisfy 2014 MRC |
| Quarterly contribution exemption test for 2014                                      | 100.16% | 100%      | Because the percent is greater than or equal to the threshold, quarterly contributions are not required for 2014    |
| At-risk Prong 1 Test for 2014   | 100.16% | 80%       | Because at least one of the percents is greater than or equal to the thresholds, the plan is not at risk in 2014    |
| At-risk Prong 2 Test for 2014   | N/A     | 70%       |   |
| <b>January 1, 2014 Funding Ratios</b>   |         |           |   |
| Use of the funding balances to satisfy the 2015 MRC                                 | 98.00%  | 80%       | Because the percent is greater than or equal to the threshold, the funding balances can be used to satisfy 2015 MRC |
| Quarterly contribution exemption test for 2015                                      | 94.56%  | 100%      | Because the percent is greater than or equal to the threshold, quarterly contributions are not required for 2015    |
| At-risk Prong 1 Test for 2015   | 94.56%  | 80%       | Because at least one of the percents is greater than or equal to the thresholds, the plan is not at risk in 2015    |
| At-risk Prong 2 Test for 2015   | N/A     | 70%       |   |
| PBGC 4010 filing in 2015  | 81.47%  | 80%       | Because the percent is greater than or equal to the threshold, this plan does not trigger a 4010 filing in 2015     |
| PBGC variable premium for 2014  | 97.64%  | 100%      | Because the percent is less than the threshold, PBGC variable premiums are required in 2014                         |

**January 1, 2014 Funding Ratios (continued)**

|   |         |      |   |
|---|---------|------|---|
| Exempt from establishing SAB – prefunding balance applied to the 2014 MRC     | 110.21% | 100% | Because the percent is greater than or equal to the threshold, if prefunding balance is applied to the 2014 MRC, a new Shortfall Amortization Base (SAB) is not created     |
| Exempt from establishing SAB – prefunding balance not applied to the 2014 MRC | 110.21% | 100% | Because the percent is greater than or equal to the threshold, if prefunding balance is not applied to the 2014 MRC, a new Shortfall Amortization Base (SAB) is not created |
| Eliminate SABs  | 94.56%  | 100% | Because the percent is less than the threshold, the Shortfall Amortization Bases are not eliminated   |

**Benefit limitations**

The Adjusted Funding Target Attainment Percentage (AFTAP) for the plan year beginning January 1, 2014 is 110.21%. This AFTAP may be changed by subsequent events.

As requested by American Electric Power Co. in your letter dated April 30, 2014, this report is intended to constitute a “specific certification” of the AFTAP, effective as of April 30, 2014 for the plan year beginning January 1, 2014 for the purpose of determining benefit restrictions under IRC §436 for the American Electric Power System Retirement Plan. This AFTAP certification is based on the data, methods, assumptions, plan provisions, annuity purchase information, and other information provided in this report. Please see the Appendices for additional information. Note that the AFTAP certification provided herein may be superseded by a subsequent AFTAP certification for the plan year beginning January 1, 2014. Please see Appendix C for a discussion of the implications of this certified AFTAP.

Under the PPA, a plan may become subject to various benefit limitations if its AFTAP falls below certain thresholds.

If the AFTAP is below 60%, plans are prohibited from paying lump sums or other accelerated forms of distribution. If the AFTAP is at least 60% but less than 80%, the amounts that can be paid are limited. In addition, lump sums to the 25 highest paid employees may be restricted if a plan’s AFTAP is below 110%. These limitations do not apply to mandatory lump sum cash-outs of \$5,000 or less. In addition, plans that were completely frozen before September 2005 are exempt from the restrictions on lump sums and other accelerated forms of distribution.

If the AFTAP is below 60%, benefit accruals must cease, amendments to improve benefits cannot take effect, and plant shutdown benefits and other Unpredictable Contingent Event Benefits (UCEBs) cannot be paid without being fully paid for. In addition, if the AFTAP would be below 80% reflecting a proposed amendment, the plan amendment cannot take effect unless actions are taken to increase plan assets.

To avoid these benefit limitations, a plan sponsor may take a variety of steps, including reducing the funding balances, contributing additional amounts to the plan for the prior plan year, contributing special “designated IRC §436 contributions” for the current plan year, or providing security outside the

plan. Not all of these approaches are available for all of the restrictions discussed above. For example, restrictions on accelerated distributions cannot be avoided by making designated IRC §436 contributions.

### **PBGC reporting requirements**

Certain financial and actuarial information (i.e., a “4010 filing”) must be provided to the PBGC if the Funding Target Attainment Percentage (FTAP) is less than 80% for any plan in the contributing sponsor’s controlled group. However, this reporting requirement may be waived for controlled groups with no more than \$15 million in aggregate funding shortfall. Note that the segment interest rate corridors of MAP-21 do not apply for purposes of determining the FTAP for PBGC 4010 reporting purposes, but they do apply (assuming segment rates are used for funding purposes) for the purpose of determining whether there is \$15 million in aggregate funding shortfall in the controlled group.

The 2014 FTAP is 81.47%. In addition, we understand that American Electric Power System Retirement Plan is the only pension plan within American Electric Power’s controlled group. As a result, no 4010 filing is expected to be required for 2014 as a result of the plans’ funded status. However, a filing may also be required if there are outstanding funding waivers or missed contributions within the controlled group.

### **At-Risk status for determining minimum required contributions**

As defined in the PPA, the plan is not in at-risk status for the 2014 plan year, because the plan’s FTAP for the 2013 plan year was at least 80%, and/or the plan’s FTAP measured using “at-risk assumptions” was at least 70%.

As defined in the PPA, the plan will not be in at-risk status for the 2015 plan year, because the plan’s FTAP for the 2014 plan year is at least 80%, and/or the plan’s FTAP measured using “at-risk assumptions” is at least 70%.

### **Pension cost and funded position**

The cost of the pension plan is determined in accordance with ASC 715. The Fiscal 2014 pension cost for the plan is \$151,433,757.

Under ASC 715, the funded position (fair value of plan assets less the projected benefit obligation, or “PBO”) of each pension plan at the plan sponsor’s fiscal year-end (measurement date) is required to be reported as an asset (for overfunded plans) or a liability (for underfunded plans). The PBO is the actuarial present value of benefits attributed to service rendered prior to the measurement date, taking into consideration expected future pay increases for pay-related plans. The plan’s overfunded/(underfunded) PBO as of January 1, 2014 was \$(15,907,426), based on the fair value of plan assets of \$4,726,059,114 and the PBO of \$4,741,966,540.

Fiscal year-end financial reporting information and disclosures are prepared before detailed participant data and full valuation results are available. Therefore, the funded position at December 31, 2013 was derived from a roll forward of the January 1, 2013 valuation results, adjusted for the year-end discount rate, changes in other key assumptions and asset values, as well as significant changes in plan provisions and participant population. The fiscal year-end December 31, 2014 financial reporting

information will be developed based on the results of the January 1, 2014 valuation, projected to the end of 2014 and similarly adjusted for the year-end discount rate and asset values, as well as significant changes in plan provisions and participant population.

### Change in pension cost and funded position

The pension cost decreased from \$172,774,577 in fiscal 2013 to \$151,433,757 in fiscal 2014 and the funded position improved from \$(454,798,331) to \$(15,907,426), as set forth below:

|   | Pension Cost | Funded Position |
|---|--------------|-----------------|
| Prior year  | 172,774,577  | (454,798,331)   |
| Change due to:  |              |                 |
| ▶ Expected based on prior valuation and contributions during prior year | (25,013,429) | (13,990,110)    |
| ▶ Unexpected noninvestment experience                                   | (2,942,248)  | 21,683,562      |
| ▶ Unexpected investment experience                                      | (1,100,902)  | 33,989,549      |
| ▶ Assumption changes  | 7,715,520    | 397,207,904     |
| ▶ Plan amendments   | 0            | 0               |
| ▶ Method change   | 0            | 0               |
| ▶ Interim events  | 0            | 0               |
| Current year  | 151,433,518  | (15,907,426)    |

Significant reasons for these changes include the following:

- The return on the fair value of plan assets since the prior measurement date was greater than expected, which decreased the pension cost and improved the funded position.
- The return on the market-related value of plan assets, which reflects gradual recognition of asset gains and losses over the past five years, was greater than expected, which decreased the pension cost.
- The discount rate increased 73 basis points compared to the prior year, which decreased the pension cost and caused the funded position to improve.
- The interest rate used to convert forms of payment was increased, which increased the pension cost and caused the funded status to decrease.
- The expected return on assets decreased 50 basis points which increased the pension cost.
- Demographic experience was more favorable than expected which decreased the pension cost and improved the funded position.

## **Basis for valuation**

Appendix A summarizes the assumptions and methods used in the valuation. Appendix B summarizes the principal provisions of the plan being valued.

### **Changes in Assumptions**

The discount rate decreased from 3.95% to 4.70%.

The mortality table used to value the benefit obligations was updated from the RP2000 with projections to 2020 for annuitants and to 2028 for nonannuitants to RP2000 with projections to 2021 for annuitants and to 2029 for nonannuitants.

The mortality used to convert to 417(e) based forms of payment was updated for an additional year of mortality improvements.

The lump sum conversion rate was changed from 5.10% to 5.90%.

The expected return on assets was decreased from 6.50% to 6.00%.

### **Changes in Methods**

None.

### **Changes in Benefits Valued**

Pay credits for participants on long-term disability were eliminated.

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# Actuarial certification

This valuation has been conducted in accordance with generally accepted actuarial principles and practices. However please note the information discussed below regarding this valuation.

## Reliances

In preparing the results presented in this report, we have relied upon information regarding plan provisions, participants, assets and sponsor elections provided by American Electric Power Co. and other persons or organizations designated by American Electric Power Co.. We have reviewed this information for overall reasonableness and consistency, but have neither audited nor independently verified this information. Based on discussions with and concurrence by the plan sponsor, assumptions or estimates may have been made if data were not available. We are not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations. In addition, the results in this report are dependent on contributions reported for the prior plan year and maintenance of funding balance elections after the valuation date. We have relied on all the information provided as complete and accurate. The results presented in this report are directly dependent upon the accuracy and completeness of the underlying data and information. Any material inaccuracy in the data, assets, plan provisions or information regarding contributions or funding balance elections provided to us may have produced results that are not suitable for the purposes of this report and such inaccuracies, as corrected by American Electric Power Co., may produce materially different results that could require that a revised report be issued.

## Assumptions and methods under ERISA and the Internal Revenue Code for funding purposes

The plan sponsor selected, as prescribed by regulation, key assumptions and funding methods (including asset valuation method and choice among prescribed interest rates) employed in the development of the contribution amounts and communicated them to us in the letter dated April 30, 2014. To the extent not prescribed by ERISA, the Internal Revenue Code and regulatory guidance from the Treasury and the IRS, or selected by the sponsor, the actuarial assumptions and methods employed in the development of the contribution amounts have been selected by Towers Watson, with the concurrence of the plan sponsor. It is beyond the scope of this actuarial valuation to analyze the reasonableness and appropriateness of prescribed methods and assumptions, or to analyze other sponsor elections from among the alternatives available for prescribed methods and assumptions.

Other than prescribed assumptions, ERISA and the Internal Revenue Code require the use of assumptions each of which is "reasonable (taking into account the experience of the plan and reasonable expectations), and which, in combination, offer the actuary's best estimate of anticipated experience under the plan." The results shown in this report have been developed based on actuarial assumptions that, to the extent evaluated or selected by Towers Watson, we consider to be reasonable. Other actuarial assumptions could also be considered to be reasonable. Thus, reasonable results differing from those presented in this report could have been developed by selecting different reasonable assumptions.

A summary of the assumptions and methods used is provided in Appendix A. Note that any subsequent changes in methods or assumptions for the 2014 plan year will change the results shown in this report and could result in plan qualification issues under IRC §436 if the application of benefit

restrictions is affected by the change.

### **Assumptions and methods under ASC 715-30-35**

As required by U.S. GAAP, the actuarial assumptions and methods employed in the development of the pension cost have been selected by the plan sponsor. Towers Watson has concurred with these assumptions and methods, except for the expected rate of return on plan assets selected as of January 1, 2014. Evaluation of the expected return assumption was outside the scope of Towers Watson's assignment and would have required substantial additional work that we were not engaged to perform. ASC 715-30-35 requires that each significant assumption "individually represent the best estimate of a particular future event."

Accumulated other comprehensive (income)/loss amounts shown in the report are shown prior to adjustment for deferred taxes. Any deferred tax effects in AOCI should be determined in consultation with AEP's tax advisors and auditors.

### **Nature of actuarial calculations**

The results shown in this report are estimates based on data that may be imperfect and on assumptions about future events that cannot be predicted with any certainty. The effects of certain plan provisions may be approximated, or determined to be insignificant and therefore not valued. Reasonable efforts were made in preparing this valuation to confirm that items that are significant in the context of the actuarial liabilities or costs are treated appropriately, and are not excluded or included inappropriately. The numbers shown in this report are not rounded, but this is for convenience only and should not imply precision, which is not a characteristic of actuarial calculations.

If overall future plan experience produces higher benefit payments or lower investment returns than assumed, the relative level of plan costs or contribution requirements reported in this valuation will likely increase in future valuations (and vice versa). Future actuarial measurements may differ significantly from the current measurements presented in this report due to many factors, including: plan experience differing from that anticipated by the economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for the measurements (such as the end of an amortization period); and changes in plan provisions or applicable law. It is beyond the scope of this valuation to analyze the potential range of future pension contributions, but we can do so upon request.

See Basis for Valuation in Section 1 above for a discussion of any material events that have occurred after the valuation date that are not reflected in this valuation.

### **Limitations on use**

This report is provided subject to the terms set out herein and in our Master Consulting Services agreement dated July 29, 2004 and any accompanying or referenced terms and conditions.

The information contained in this report was prepared for the internal use of American Electric Power Co. and its auditors, and any organization that provides benefit administration services for the plan, in connection with our actuarial valuation of the pension plan as described in Purposes of Valuation above. It is not intended for and may not be used for other purposes, and we accept no responsibility or liability in this regard. American Electric Power Co. may distribute this actuarial valuation report to

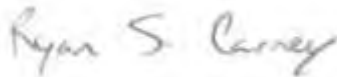
the appropriate authorities who have the legal right to require American Electric Power Co. to provide them this report, in which case American Electric Power Co. will use best efforts to notify Towers Watson in advance of this distribution. Further distribution to, or use by, other parties of all or part of this report is expressly prohibited without Towers Watson's prior written consent. Towers Watson accepts no responsibility for any consequences arising from any other party relying on this report or any advice relating to its contents.

### Professional qualifications

The undersigned consulting actuaries are members of the Society of Actuaries and meet the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" relating to pension plans. Our objectivity is not impaired by any relationship between American Electric Power Co. and our employer, Towers Watson Delaware Inc.



Joseph A. Perko, FSA, EA, MAAA  
Senior Consultant  
EA#: 14-06491



Ryan S. Carney, FSA, EA, MAAA  
Senior Consultant  
EA#: 14-06630

Towers Watson Delaware Inc.

April 2014

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## Section 2: Actuarial exhibits

### 2.1 Summary of liabilities for minimum funding purposes

All monetary amounts shown in US Dollars

| Plan Year Beginning  | January 1, 2014 | January 1, 2013 |
|--|-----------------|-----------------|
| <b>A Funding Target (Disregarding At-risk Assumptions)</b> |                 |                 |
| 1 Funding target   | 4,221,975,836   | 4,024,284,946   |
| 2 Target normal cost                                       | 67,364,098      | 61,416,651      |
| <b>B Funding Target (At-risk Assumptions)</b>              |                 |                 |
| 1 Funding target   | N/A             | N/A             |
| 2 Target normal cost                                       | N/A             | N/A             |
| <b>C Funding Target</b>                                    |                 |                 |
| 1 Number of consecutive years at-risk                      | 0               | 0               |
| 2 Funding target   |                 |                 |
| a Active employees – non-vested benefits                   | 39,046,313      | 46,678,501      |
| b Active employees – vested benefits                       | 1,666,969,675   | 1,477,502,076   |
| c Participants with deferred benefits                      | 200,237,513     | 223,969,681     |
| d Participants receiving benefits                          | 2,315,722,335   | 2,276,134,688   |
| e Total funding target                                     | 4,221,975,836   | 4,024,284,946   |
| 3 Target normal cost                                       | 67,364,098      | 61,416,651      |

## 2.2 Change in plan assets during plan year

All monetary amounts shown in US Dollars

| Plan Year Beginning  | January 1, 2013 |
|--|-----------------|
| <b>A Reconciliation of Market Value of Assets</b>  |                 |
| 1 Market value of assets at January 1, 2013 (including discounted contributions receivable)  | 4,704,119,951   |
| 2 Discounted contributions receivable at January 1, 2013                                     | 0               |
| 3 Market value of assets at January 1, 2013 (excluding contributions receivable)             | 4,704,119,951   |
| 4 Employer contributions   |                 |
| a For prior plan year  | 0               |
| b For current plan year  | 0               |
| c IRC §436 contributions for current plan year   | 0               |
| d Total  | 0               |
| 5 Employee contributions   | 0               |
| 6 Benefit payments   | (324,352,206)   |
| 7 Administrative expenses paid by plan   | (3,461,590)     |
| 8 Transfers from/(to) other plans  | 0               |
| 9 Investment return  | 349,752,959     |
| 10 Market value of assets at January 1, 2014 (excluding contributions receivable)            | 4,726,059,114   |
| 11 Discounted contributions receivable at January 1, 2014                                    | 0               |
| 12 Market value of assets at January 1, 2014 (including discounted contributions receivable) | 4,726,059,114   |
| <b>B Rate of Return on Invested Assets<br/>(i.e., for crediting unused funding balances)</b> |                 |
| 1 Rate of return   | 7.70%           |

## 2.3 Development of actuarial value of assets

AEP elected a smoothing method that uses seven monthly data points to calculate the AVA.

All monetary amounts shown in US Dollars

| Plan Year Beginning         |   |                         |                      | January 1, 2014                         |
|-----------------------------|---|-------------------------|----------------------|---|
| <b>Development of AVA</b>   |   |                         |                      |   |
| <u>Month</u>                | <u>Expenses</u>   | <u>Benefit Payments</u> | <u>Contributions</u> | <u>Fair Value at Beginning of Month</u> |
| July 2013                   | 136,103   | 24,606,132              | 0                    | 4,591,389,538                           |
| August 2013                 | 89,278  | 24,772,844              | 0                    | 4,656,756,136                           |
| September 2013              | 430,032   | 29,206,058              | 0                    | 4,577,382,615                           |
| October 2013                | 28,600  | 25,031,111              | 0                    | 4,632,464,881                           |
| November 2013               | 54,390  | 24,063,803              | 0                    | 4,714,705,399                           |
| December 2013               | 197,042   | 26,391,884              | 0                    | 4,706,008,841                           |
| <b>AVA with receivables</b> |   |                         |                      |   |
| <b>A</b>                    | <b>Preliminary Actuarial Value of Assets before Corridor as of January 1, 2014</b>                  |                         |                      |   |
|                             | 1 Monthly asset values adjusted for expenses and benefit payments rolled forward to January 1, 2014 |                         |                      |   |
|                             | <u>Month</u>  |                         |                      | <u>Asset value</u>                      |
|                             | a July 2013   |                         |                      | 4,582,255,884                           |
|                             | b August 2013   |                         |                      | 4,648,336,417                           |
|                             | c September 2013  |                         |                      | 4,569,453,408                           |
|                             | d October 2013  |                         |                      | 4,630,242,915                           |
|                             | e November 2013   |                         |                      | 4,713,300,389                           |
|                             | f December 2013   |                         |                      | 4,704,041,590                           |
|                             | g January 2013  |                         |                      | 4,726,059,114                           |
|                             | h Average of monthly asset values   |                         |                      | 4,653,384,245                           |
|                             | 2 Preliminary Actuarial Value of Assets and before application of corridor                          |                         |                      | 4,653,384,245                           |
| <b>B</b>                    | Lower Bound of Corridor (90% of A12 from prior page)  |                         |                      | 4,253,453,203                           |
| <b>C</b>                    | Upper Bound of Corridor (110% of A12 from prior page)   |                         |                      | 5,198,665,025                           |
|                             | <b>Actuarial Value of Assets as of January 1, 2014</b>  |                         |                      |   |
| <b>D</b>                    | <b>(A2 but not smaller than B nor larger than C)</b>  |                         |                      | 4,653,384,245                           |

## 2.4 Calculation of minimum required contribution

All monetary amounts shown in US Dollars

| Reconciliation of Funding Balances as of January 1, 2014                              |                                    |                    |             |
|---|------------------------------------|--------------------|-------------|
|   | Funding Standard Carryover Balance | Prefunding Balance | Total       |
| <b>A Determination of Funding Balances</b>  |                                    |                    |             |
| 1 Funding balance as of January 1, 2013   | 189,814,041                        | 478,656,586        | 668,470,627 |
| 2 Amount used to offset prior year minimum required contribution <sup>1</sup>         | 54,762,687                         | 0                  | 54,762,687  |
| 3 Adjustment for investment experience  | 10,398,954                         | 36,856,557         | 47,255,511  |
| 4 Amount of additional prefunding balance created by election                         | N/A                                | 0                  | 0           |
| 5 Amount of funding balance reduction for current year by election or deemed election | 0                                  | 0                  | 0           |
| 6 Funding balance as of January 1, 2014   | 145,450,308                        | 515,513,143        | 660,963,451 |

| Plan Year Beginning   | January 1, 2014 |
|---|-----------------|
| <b>B Calculation of Minimum Required Contribution</b>   |                 |
| 1 Target normal cost  | 67,364,098      |
| 2 Funding surplus   | 0               |
| 3 Net shortfall amortization installment  | 0               |
| 4 Waiver amortization installment   | 0               |
| 5 Minimum required contribution   | 67,364,098      |
| 6 Funding balance available   | 660,963,451     |
| 7 Remaining cash requirement (assuming sponsor elects full use of the available funding balances) | 0               |

The minimum required contribution is determined as of the plan's valuation date. Any payment made on a date other than the valuation date must be adjusted for interest using the plan's effective interest rate of 5.66%.

Additional details regarding the calculation of the minimum required contribution may be obtained from the Form 5500 Schedule SB forms and attachments.

<sup>1</sup> Net of revoked excess application of funding balance, if any.



## 2.5 Calculation of estimated maximum deductible contribution

All monetary amounts shown in US Dollars

| Based on Plan Year   | 2014          |
|--|---------------|
| <b>A Basic Maximum</b>   |               |
| 1 Funding target   | 4,221,975,836 |
| 2 Target normal cost   | 67,364,098    |
| 3 Actuarial value of assets  | 4,653,384,245 |
| 4 50% of funding target  | 2,110,987,918 |
| 5 Additional funding target for future compensation or benefit increases | 94,122,747    |
| 6 Basic maximum deductible contribution                                  | 1,841,066,354 |
| <b>B At-risk Maximum<sup>1</sup></b>                                     |               |
| 1 Funding target (at-risk assumptions)                                   | N/A           |
| 2 Target normal cost (at-risk assumptions)                               | N/A           |
| 3 Actuarial value of assets  | N/A           |
| 4 At-risk maximum deductible contribution                                | N/A           |
| <b>C Minimum Required Contribution</b>                                   | 67,364,098    |
| <b>D Estimated Maximum Deductible Contribution</b>                       | 1,841,066,354 |

The estimated maximum deductible contribution applies to the tax year in which the plan year ends, and is based on our understanding of IRC §404(a)(1). Regulatory guidance from the IRS/Treasury is pending. Allocations of costs to inventory have not been considered, and amounts deductible under state law may differ. Deductibility can be influenced by timing of contributions, differences between fiscal year and plan year, and differences (if any) between the years to which prior contributions were assigned for minimum funding purposes and the years in which they were deducted. Our results have not been adjusted for non-deducted contributions included in the valuation assets. We recommend the plan sponsor review with tax counsel the tax-deductibility of all contributions as Towers Watson does not provide legal or tax advice.

The calculation above reflects the interest rate corridors of MAP-21 (including their effect on at-risk status), which is not required in determining the maximum deductible contribution. Not reflecting such corridors would likely result in a higher maximum deductible amount, but would require substantial additional work that may not be of value to the Company. We can discuss not reflecting the corridors if the Company wishes to consider contributions in excess of the estimated maximum amount above.

<sup>1</sup> At-risk maximum applies only for plans not in at-risk status for purposes of determining maximum deductible contributions for the plan year.

**2.6 ASC 960 (plan accounting) information**

All monetary amounts shown in US Dollars

| Plan Year Beginning  | January 1, 2014 |
|--|-----------------|
| <b>A Present Value of Accumulated Benefits</b>                   |                 |
| 1 Vested accumulated benefits                                    |                 |
| a Active employees   | 1,621,820,351   |
| b Participants with deferred benefits                            | 195,202,736     |
| c Participants receiving benefits                                | 2,246,889,732   |
| d Total vested accumulated benefits                              | 4,063,912,819   |
| 2 Non-vested accumulated benefits                                | 41,438,666      |
| 3 Total accumulated benefits                                     | 4,105,351,485   |
| 4 Market value of assets <sup>1</sup>                            | 4,726,059,114   |
| <b>B Reconciliation of Present Value of Accumulated Benefits</b> |                 |
| 1 Present value of accumulated benefits as of December 31, 2012  | 3,935,640,036   |
| 2 Changes during the year due to:                                |                 |
| a Benefits accumulated   | 49,053,407      |
| b Actuarial (gains)/losses                                       | 16,024,740      |
| c Decrease in the discount period                                | 246,611,103     |
| d Actual benefits paid   | (324,352,206)   |
| e Assumption changes   | 164,374,405     |
| f Plan amendments  | 0               |
| g Net increase/(decrease)  | 151,711,449     |
| 3 Present value of accumulated benefits as of December 31, 2013  | 4,105,351,485   |

**Actuarial Assumptions and Methods**

The same actuarial assumptions shown in Appendix A were used to determine the present value of accumulated benefits, except a discount rate of 6.00% was used. For the prior valuation, a discount rate of 6.50% was used. The same plan provisions shown in Appendix B were used to determine the present value of accumulated benefits.

<sup>1</sup> Assets include accrued contributions for the 2013 plan year of \$ 0 not yet deposited at January 1, 2014.

**2.7 Pension obligations and funded position under U.S. GAAP (ASC 715)**

All monetary amounts shown in US Dollars

| Measurement Date  | January 1, 2014                         | January 1, 2013                         |
|---|---|---|
| <b>A Obligations</b>  |   |   |
| 1 Accumulated Benefit Obligation (ABO)                      | 4,623,245,673                           | 5,029,758,827                           |
| 2 Future salary increases                                   | 118,720,867                             | 129,159,455                             |
| 3 Projected benefit obligation (PBO)                        | 4,741,966,540                           | 5,158,918,282                           |
| <b>B Assets</b>   |   |   |
| 1 Fair value [FV]   | 4,726,059,114                           | 4,696,196,951                           |
| 2 Investment losses/(gains) not yet in market-related value | (218,503,581)                           | (306,922,548)                           |
| 3 Market-related value                                      | 4,507,555,533                           | 4,397,197,403                           |
| <b>C Funded Position</b>                                    |   |   |
| 1 Overfunded/(underfunded) PBO                              | (15,907,426)                            | (454,798,331)                           |
| 2 PBO funded percentage                                     | 99.7%                                   | 91.2%                                   |
| <b>D Amounts in Accumulated Other Comprehensive Income</b>  |   |   |
| 1 Prior service cost/(credit)                               | 7,900,618                               | 10,408,177                              |
| 2 Net actuarial loss/(gain)                                 | 1,489,707,968                           | 2,098,866,513                           |
| 3 Total   | 1,497,608,586                           | 2,109,274,690                           |
| <b>E Key Assumptions</b>                                    |   |   |
| 1 Discount rate   | 4.70%                                   | 3.95%                                   |
| 2 Rate of compensation increase                             | Rates vary by age<br>from 3.5% to 11.5% | Rates vary by age<br>from 3.5% to 11.5% |
| <b>F Census Date</b>  |   |   |
|   | January 1, 2014                         | January 1, 2013                         |

The results above may differ from the amounts reported in American Electric Power Co.'s December 31, 2013 financial statements because year-end financial reporting is prepared before the corresponding valuation results are available.

**2.8 Pension cost under U.S. GAAP (ASC 715)**

All monetary amounts shown in US Dollars

| Fiscal Year Ending                             | December 31, 2014                       | December 31, 2013                       |
|--|---|---|
| <b>A Pension Cost</b>                          |   |   |
| 1 Service cost                                 | 71,463,632                              | 68,688,725                              |
| 2 Interest cost                                | 217,701,098                             | 199,615,109                             |
| 3 Expected return on assets                    | (261,710,475)                           | (277,771,978)                           |
| 4 Net prior service cost/(credit) amortization | 2,505,561                               | 2,507,559                               |
| 5 Net loss/(gain) amortization                 | 121,473,941                             | 179,735,160                             |
| 6 Net periodic pension cost/(income)           | 151,433,757                             | 172,774,575                             |
| 7 Curtailments                                 | 0                                       | 0                                       |
| 8 Settlements                                  | 0                                       | 0                                       |
| 9 Special/contractual termination benefits     | 0                                       | 0                                       |
| 10 Total pension cost                          | 151,433,757                             | 172,774,577                             |
| <b>B Key Assumptions<sup>1</sup></b>           |   |   |
| 1 Discount rate                                | 4.70%                                   | 3.95%                                   |
| 2 Rate of return on assets                     | 6.00%                                   | 6.50%                                   |
| 3 Cash balance crediting rate                  | 4.00%                                   | 4.00%                                   |
| 4 Rate of compensation increase                | Rates vary by age<br>from 3.5% to 11.5% | Rates vary by age<br>from 3.5% to 11.5% |
| <b>C Census Date</b>                           |   |   |
|  | January 1, 2014                         | January 1, 2013                         |

<sup>1</sup> These assumptions were used to calculate Net Periodic Pension Cost/(Income) as of the beginning of the year. For other assumptions used, as well as assumptions used for interim remeasurements, if any, refer to Appendix A.

## 2.9 Development of market-related value of assets under U.S. GAAP (ASC 715)

All monetary amounts shown in US Dollars

| Fiscal Year Ending  |  | December 31, 2014  |                         |                        |
|---|--|--------------------|-------------------------|------------------------|
| <b>Market-Related Value of Assets as of January 1, 2014</b> |  |                    |                         |                        |
| 1   | Fair value of assets as of January 1, 2014           |                    |                         | 4,726,059,114          |
| 2   | Deferred investment (gains)/losses for prior periods |                    |                         |                        |
|   | <b>Fiscal Year</b>                                   | <b>(Gain)/Loss</b> | <b>Percent Deferred</b> | <b>Deferred Amount</b> |
|   | a 2014   | (50,899,071)       | 80%                     | (40,719,257)           |
|   | b 2013   | (249,128,700)      | 60%                     | (149,477,220)          |
|   | c 2012   | 10,601,513         | 40%                     | 4,240,605              |
|   | d 2011   | (162,738,544)      | 20%                     | (32,547,709)           |
|   | e Total  |                    |                         | 0                      |
| 3   | Market-Related Value of Assets                       |                    |                         | 4,507,555,533          |

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# Section 3: Participant data

## 3.1 Summary of plan participants

All monetary amounts shown in US Dollars

| Census Date  | January 1, 2014 | January 1, 2013 |                              |
|--|-----------------|-----------------|------------------------------|
| <b>A Active Employees</b>  |                 |                 |                              |
| 1 Number   | 17,684          | 17,631          |                              |
| 2 Expected plan compensation for year beginning on the valuation date (limited by IRC §401(a)(17)) | 1,556,194,791   | 1,573,666,355   |                              |
| 3 Average plan compensation  | 88,000          | 89,256          |                              |
| 4 Average age  | 47.5            | 46.8            |                              |
| 5 Average credited service   | 18.0            | 17.3            |                              |
| 6 Average future working life (years)  | 10.159          | 10.515          |                              |
| <b>B Participants with Deferred Benefits</b>   |                 |                 |                              |
| 1 Number (non-cash balance)  | 1,864           | 2,479           |                              |
| 2 Total annual pension (non-cash balance)  | 10,334,827      | 21,017,548      |                              |
| 3 Average annual pension (non-cash balance)  | 5,544           | 8,478           |                              |
| 4 Number of cash balance   | 1,778           | 1,739           |                              |
| 5 Total cash balance   | 136,112,085     | 137,581,778     |                              |
| 6 Average cash balance   | 76,553          | 79,115          |                              |
| 7 Average age  | 53.5            | 53.5            |                              |
| 8 Distribution at January 1, 2014  |                 |                 |                              |
| <b>NON-CASH BALANCE</b>  | <b>Age</b>      | <b>Number</b>   | <b>Annual annual pension</b> |
|  | Under 40        | 1               | 9,303                        |
|  | 40-44           | 15              | 3,546                        |
|  | 45-49           | 175             | 4,246                        |
|  | 50-54           | 520             | 5,388                        |
|  | 55-59           | 657             | 5,695                        |
|  | 60-64           | 440             | 6,060                        |
|  | 65 and over     | 56              | 5,708                        |
|  | Total           | 1,864           | 5,544                        |
| <b>CASH BALANCE</b>  | <b>Age</b>      | <b>Number</b>   | <b>Annual annual pension</b> |
|  | Under 40        | 343             | 13,388                       |
|  | 40-44           | 166             | 28,828                       |
|  | 45-49           | 237             | 43,981                       |
|  | 50-54           | 347             | 65,692                       |
|  | 55-59           | 374             | 109,946                      |
|  | 60-64           | 238             | 164,772                      |
|  | 65 and over     | 73              | 180,553                      |
|  | Total           | 1,778           | 76,553                       |

**C Participants Receiving Benefits**

|                                   |             |             |
|-----------------------------------|-------------|-------------|
| 1 Number                          | 16,041      | 16,292      |
| 2 Total annual pension            | 238,294,213 | 240,299,847 |
| 3 Average annual pension          | 14,855      | 14,750      |
| 4 Average age                     | 74.1        | 73.7        |
| 5 Distribution at January 1, 2014 |             |             |

| Age         | Number | Annual Pension |
|-------------|--------|----------------|
| Under 55    | 89     | 4,201          |
| 55-59       | 621    | 16,034         |
| 60-64       | 1,979  | 20,716         |
| 65-69       | 3,289  | 16,238         |
| 70-74       | 2,639  | 12,257         |
| 75-79       | 2,468  | 14,197         |
| 80-84       | 2,297  | 14,543         |
| 85 and over | 2,659  | 12,324         |
| Total       | 16,041 | 14,855         |



**3.2 Participant reconciliation**

|   | Active | Deferred Inactive | Currently Receiving Benefits | Total  |
|---|--------|-------------------|------------------------------|--------|
| 1 Included in January 1, 2013 valuation | 18,137 | 3,712             | 16,292                       | 38,141 |
| 2 Change due to:                        |        |                   |                              |        |
| a New hire and rehire                   | 665    | (28)              | (2)                          | 635    |
| b Non-vested termination                | (106)  | 0                 | 0                            | (106)  |
| c Vested termination                    | (304)  | 304               | 0                            | 0      |
| d Retirement                            | (201)  | (132)             | 333                          | 0      |
| e Disability                            | 0      | 0                 | 0                            | 0      |
| f Death without beneficiary             | (6)    | (13)              | (557)                        | (576)  |
| g Death with beneficiary                | (2)    | 0                 | (266)                        | (268)  |
| h New beneficiary                       | 0      | 0                 | 268                          | 268    |
| i Cashout                               | (499)  | (238)             | 0                            | (737)  |
| j Miscellaneous                         | 0      | 37                | (27)                         | 10     |
| k Net change                            | (453)  | (70)              | (251)                        | (774)  |
| 3 Included in January 1, 2014 valuation | 17,684 | 3,642             | 16,041                       | 37,367 |

- \* 506 participants who were on disability were included in the deferred population at January 1, 2013. Subsequent to the plan change that eliminated pension accruals while on disability, the method to value disabled participants was changed such that such participants are now included in the active population.

### 3.3 Age and service distribution of participating employees

#### Number distributed by attained age and attained years of credited service

Schedule SB, line 26 - Schedule of Active Participant Data

| Attained Age | Years Of Credited Service |         |           |        |         |           |        |         |           |          |         |           |          |         |           |
|--------------|---------------------------|---------|-----------|--------|---------|-----------|--------|---------|-----------|----------|---------|-----------|----------|---------|-----------|
|              | Under 1                   |         |           | 1 to 4 |         |           | 5 to 9 |         |           | 10 to 14 |         |           | 15 to 19 |         |           |
|              | No.                       | Average |           | No.    | Average |           | No.    | Average |           | No.      | Average |           | No.      | Average |           |
|              |                           | Comp.   | Cash Bal. |        | Comp.   | Cash Bal. |        | Comp.   | Cash Bal. |          | Comp.   | Cash Bal. |          | Comp.   | Cash Bal. |
| <25          | 4                         |         |           | 223    | 60,221  | 3,600     | 25     | 63,621  | 8,828     |          |         |           |          |         |           |
| 25 to 29     | 20                        | 52,103  | 1,363     | 449    | 65,985  | 5,129     | 589    | 75,436  | 13,508    | 10       |         |           |          |         |           |
| 30 to 34     | 21                        | 51,755  | 1,530     | 341    | 68,474  | 6,620     | 1,052  | 80,597  | 18,022    | 215      | 84,082  | 30,650    | 7        |         |           |
| 35 to 39     | 17                        |         |           | 258    | 70,186  | 7,805     | 888    | 81,804  | 21,833    | 402      | 91,730  | 41,374    | 143      | 87,564  | 49,981    |
| 40 to 44     | 17                        |         |           | 200    | 73,759  | 9,880     | 736    | 82,654  | 25,537    | 437      | 97,064  | 50,986    | 314      | 92,321  | 65,373    |
| 45 to 49     | 8                         |         |           | 155    | 78,501  | 11,695    | 517    | 83,058  | 29,435    | 348      | 95,806  | 60,308    | 308      | 93,582  | 79,218    |
| 50 to 54     | 13                        |         |           | 110    | 76,300  | 13,812    | 416    | 84,317  | 33,815    | 300      | 93,605  | 69,122    | 278      | 88,124  | 86,015    |
| 55 to 59     | 16                        |         |           | 82     | 72,774  | 14,976    | 277    | 86,674  | 40,048    | 219      | 95,537  | 81,574    | 170      | 86,821  | 98,828    |
| 60 to 64     | 7                         |         |           | 41     | 71,026  | 17,856    | 131    | 85,554  | 42,264    | 115      | 92,026  | 86,597    | 70       | 80,598  | 105,925   |
| 65 to 69     | 2                         |         |           | 6      |         |           | 32     | 90,884  | 52,011    | 25       | 93,230  | 91,898    | 15       |         |           |
| >70          | 1                         |         |           |        |         |           | 2      |         |           | 10       |         |           | 3        |         |           |

Schedule SB, line 26 - Schedule of Active Participant Data

| Attained Age | Years Of Credited Service |         |           |          |         |           |          |         |           |          |         |           |         |         |           |
|--------------|---------------------------|---------|-----------|----------|---------|-----------|----------|---------|-----------|----------|---------|-----------|---------|---------|-----------|
|              | 20 to 24                  |         |           | 25 to 29 |         |           | 30 to 34 |         |           | 35 to 39 |         |           | 40 & up |         |           |
|              | No.                       | Average |           | No.      | Average |           | No.      | Average |           | No.      | Average |           | No.     | Average |           |
|              |                           | Comp.   | Cash Bal. |          | Comp.   | Cash Bal. |          | Comp.   | Cash Bal. |          | Comp.   | Cash Bal. |         | Comp.   | Cash Bal. |
| <25          |                           |         |           |          |         |           |          |         |           |          |         |           |         |         |           |
| 25 to 29     |                           |         |           |          |         |           |          |         |           |          |         |           |         |         |           |
| 30 to 34     |                           |         |           |          |         |           |          |         |           |          |         |           |         |         |           |
| 35 to 39     | 4                         |         |           |          |         |           |          |         |           |          |         |           |         |         |           |
| 40 to 44     | 162                       | 105,228 | 94,022    | 7        |         |           |          |         |           |          |         |           |         |         |           |
| 45 to 49     | 538                       | 101,291 | 110,050   | 413      | 98,912  | 131,667   | 30       | 84,667  | 143,371   |          |         |           |         |         |           |
| 50 to 54     | 437                       | 93,130  | 125,326   | 955      | 100,613 | 159,409   | 1,013    | 96,453  | 184,888   | 88       | 87,713  | 195,855   |         |         |           |
| 55 to 59     | 320                       | 92,545  | 144,503   | 598      | 93,180  | 175,854   | 1,073    | 102,411 | 227,243   | 800      | 96,370  | 240,867   | 42      | 88,542  | 252,537   |
| 60 to 64     | 109                       | 82,896  | 156,010   | 214      | 93,095  | 201,545   | 299      | 95,984  | 246,487   | 267      | 98,540  | 290,900   | 162     | 94,961  | 314,398   |
| 65 to 69     | 16                        |         |           | 21       | 90,477  | 199,788   | 26       | 113,862 | 311,202   | 10       |         |           | 27      | 109,348 | 420,615   |
| >70          | 3                         |         |           | 2        |         |           | 2        |         |           |          |         |           | 1       |         |           |

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# Appendix A – Statement of actuarial assumptions and methods

## Actuarial Assumptions and Methods — Contributions

### Economic Assumptions

Interest rate basis:

- Applicable month (published) October 2013
- Yield curve basis Segment rates
- MAP-21 applied for funding Yes
- MAP-21 applied for benefit restrictions Yes

Funding interest rates:

|                           | Reflecting<br>Corridors | Not Reflecting<br>Corridors |
|---------------------------|-------------------------|-----------------------------|
| ● First segment rate      | 4.43%                   | 1.37%                       |
| ● Second segment rate     | 5.62%                   | 4.05%                       |
| ● Third segment rate      | 6.22%                   | 5.06%                       |
| ● Effective interest rate | 5.66%                   | 4.15%                       |

Annual rates of increase

- Compensation:
 

|                        | <i>Age</i> | <i>Rate</i> |
|------------------------|------------|-------------|
| – Representative rates | < 26       | 11.50%      |
|                        | 26 – 30    | 9.50%       |
|                        | 31 – 35    | 7.50%       |
|                        | 36 – 40    | 6.50%       |
|                        | 41 – 45    | 5.00%       |
|                        | 46 – 50    | 4.00%       |
|                        | > 50       | 3.50%       |
| – Weighted average     |            | 4.95%       |
- Cash balance crediting rate 4.00%
- Lump sum/annuity conversion rate October 2013 segment rates
- Future Social Security wage bases 4.00%
- Statutory limits on compensation N/A
- Expected rate of return on assets for prior year 6.50% but not greater than the third segment rate

## Demographic Assumptions

**Inclusion Date** The valuation date coincident with or next following the date on which the employee becomes a participant.

**New or rehired employees** It was assumed there will be no new or rehired employees.

### Mortality

- **Healthy** Separate rates for non-annuitants (based on RP-2000 "Employees" table without collar or amount adjustments, projected to 2029 using Scale AA and annuitants (based on RP-2000 "Healthy Annuitants" table without collar or amount adjustments, projected to 2021 using Scale AA.
- **Disabled** Post-1994 current liability disabled
- **Lump sum/annuity conversion** Applicable 417(e) IRS Mortality Table

**Termination** Rates varying by age and service:

| Attained Age | Percentage leaving during the year |                               |
|--------------|------------------------------------|-------------------------------|
|              | Less than five years of service    | Five or more years of service |
| < 25         | 8.00%                              | 8.00%                         |
| 25 – 29      | 8.00%                              | 6.00%                         |
| 30 – 34      | 8.00%                              | 5.00%                         |
| 35 – 39      | 8.00%                              | 3.00%                         |
| 40 – 49      | 8.00%                              | 2.50%                         |
| > 49         | 8.00%                              | 4.00%                         |

**Disability** Rates apply to employees not eligible to retire and vary by age and sex as indicated by the following sample values:

| Age | Percentage becoming disabled during the year |        |
|-----|--|--------|
|     | Male   | Female |
| 20  | 0.060%                                       | 0.090% |
| 30  | 0.060%                                       | 0.090% |
| 40  | 0.074%                                       | 0.110% |
| 50  | 0.178%                                       | 0.267% |
| 60  | 0.690%                                       | 1.035% |

**Retirement** Rates varying by age; average retirement age 61:

| Percentage retiring during the year |         |
|-------------------------------------|---------|
| Age                                 | Rate    |
| 55-57                               | 7.00%   |
| 58-60                               | 10.00%  |
| 61-63                               | 25.00%  |
| 64-65                               | 50.00%  |
| 66-69                               | 25.00%  |
| 70+                                 | 100.00% |

## Benefit commencement date:

- Preretirement death benefit      The later of the death of the active participant or the date the participant would have attained age 55.
- Deferred vested benefit      The later of age 55 or termination of employment.
- Disability benefit      Upon disablement.
- Retirement benefit      Upon termination of employment.

## Form of payment

40% lump sum; 60% annuity for retirement eligible East grandfathered participants and 75% lump sum; 25% annuity for all other participants. Married participants are assumed to elect the 50% joint and survivor annuity and unmarried participants are assumed to elect the single life annuity. No other optional form of payment election is assumed.

## Percent married

80% of male participants; 70% of female participants.

## Spouse ages

Wives are assumed to be three years younger than husbands.

## Valuation pay

2014 base salary pay (Grandfathered) – not estimated due to freeze of final average pay accruals at December 31, 2010.

2014 expanded pay (Cash Balance) – sum of the following updated one year according to the salary increase assumption:

- (i) 2013 base salary
- (ii) a 15% increase for overtime eligible employees and a target bonus percent increase for incentive-eligible employees

## At-risk assumptions

If at-risk calculations are required, all participants eligible to elect benefits during the current and subsequent ten plan years are assumed to commence benefits at the earliest possible date under the plan, but not before the end of the current plan year, except in accordance with the regular valuation assumptions. In addition, all participants (not just those eligible to begin benefits within the next 11 years) are assumed to elect the most valuable form of benefit under the plan, which is usually a joint and survivor form of payment.

## Timing of benefit payments

Annuity payments are payable monthly at the beginning of the month and lump sum payments are payable on date of decrement.

## Methods

## Valuation date

First day of plan year.

## Funding target

Present value of accrued benefits.

## Target normal cost

Present value of benefits expected to accrue during plan year plus plan-related expenses expected to be paid from the trust (based on actual trust expenses paid in previous year, adjusted by the difference between the prior and expected current year PBGC premiums).

## Actuarial value of assets

Average of the fair market value of assets on the valuation date and the six immediately preceding months, adjusted for contributions, benefit/expense payments and expected investment returns. The average asset value must be within 10% of fair value, including contributing receivable. The method of computing the actuarial value of assets complies with rules governing the calculation of such values under PPA.

These rules produce smoothed values that reflect the underlying market value of plan assets but fluctuate less than the market value. As a result, the actuarial value of assets will be lower than the market value in some years and greater in other years. However, over the long term under PPA's smoothing rules, the method has a bias to produce an actuarial value of assets that is below the market value of assets.

## Benefits Not Valued

All benefits were valued except:

- Any liabilities that may be reinstated in the event of reemployment
- The alternate benefit formula for members who did not elect to withdraw their employee contributions
- Any liabilities relating to members' unwithdrawn employee contributions
- Liabilities related to special benefits as a result of termination due to downsizing and restructuring

## Change in Assumptions and Methods Since Prior Valuation

The interest rates used to calculate the funding target, target normal cost and to convert 417(e) based forms of payments were updated from the segment rates as of October 2012 to the segment rates as of October 2013.

The required mortality table used to value the funding target and target normal cost was updated to include one additional year of projected mortality improvements.

Assumed plan-related expenses of \$3,461,590 were added to the target normal cost.

## Data Sources

Towers Watson used participant and asset data as of January 1, 2014, supplied by ACS, the third party database for the AEP pension data with the exception of certain elements taken from the dbConnect pension calculator database. Data were reviewed for reasonableness and consistency, but no audit was performed. Assumptions or estimates were made or by Towers Watson actuaries when data were not available. We are not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations.



**Actuarial Assumptions and Methods — Pension Cost**

**Economic Assumptions**

|                                     |            |             |
|-------------------------------------|------------|-------------|
| Discount rate                       |            | 4.70%       |
| Return on assets*                   |            | 6.00%       |
| Annual rates of increase            |            |             |
| ● Compensation:                     |            |             |
| — Representative rates              | <i>Age</i> | <i>Rate</i> |
|                                     | < 26       | 11.50%      |
|                                     | 26 – 30    | 9.50%       |
|                                     | 31 – 35    | 7.50%       |
|                                     | 36 – 40    | 6.50%       |
|                                     | 41 – 45    | 5.00%       |
|                                     | 46 – 50    | 4.00%       |
|                                     | > 50       | 3.50%       |
| — Weighted average                  |            | 4.95%       |
| ● Cash balance crediting rate       |            | 4.00%       |
| ● Lump sum/annuity conversion rate  |            | 5.90%       |
| ● Future Social Security wage bases |            | 4.00%       |
| ● Statutory limits on compensation  |            | 3.00%       |

The return on assets shown above is net of investment expenses and administrative expenses assumed to be paid from the trust.

\* Also used as discount rate for plan accounting (ASC 960) purposes.

## Demographic Assumptions

|                             |  |
|-----------------------------|--|
| Inclusion Date              | The valuation date coincident with or next following the date on which the employee becomes a participant.   |
| New or rehired employees    | It was assumed there will be no new or rehired employees.  |
| Mortality                   |  |
| Healthy                     | Separate rates for (1) non-annuitants (based on RP-2000 "Employees" table without collar or amount adjustments, projected to 2029 using Scale AA and (2) annuitants (based on RP-2000 "Healthy Annuitants" table without collar or amount adjustments, projected to 2021 using Scale AA. |
| Disabled                    | RP2000 disabled retiree, no projection.  |
| Lump sum/annuity conversion | Applicable 417(e) IRS Mortality Table  |
| Termination                 | Rates varying by age and service   |

### Percentage leaving during the year

| Attained Age | Less than five years of service | Five or more years of service |
|--------------|---------------------------------|-------------------------------|
| < 25         | 8.00%                           | 8.00%                         |
| 25 – 29      | 8.00%                           | 6.00%                         |
| 30 – 34      | 8.00%                           | 5.00%                         |
| 35 – 39      | 8.00%                           | 3.00%                         |
| 40 – 49      | 8.00%                           | 2.50%                         |
| > 49         | 8.00%                           | 4.00%                         |

|            |  |
|------------|--|
| Disability | Rates apply to employees not eligible to retire and vary by age and sex as indicated by the following sample values: |
|------------|--|

### Percentage becoming disabled during the year

| Age | Male   | Female |
|-----|--------|--------|
| 20  | 0.060% | 0.090% |
| 30  | 0.060% | 0.090% |
| 40  | 0.074% | 0.110% |
| 50  | 0.178% | 0.267% |
| 60  | 0.690% | 1.035% |

Retirement Rates varying by age; average retirement age 61:

| Percentage retiring during the year |         |
|-------------------------------------|---------|
| Age                                 | Rate    |
| 55-57                               | 7.00%   |
| 58-60                               | 10.00%  |
| 61-63                               | 25.00%  |
| 64-65                               | 50.00%  |
| 66-69                               | 25.00%  |
| 70+                                 | 100.00% |

Benefit commencement date:

- Preretirement death benefit The later of the death of the active participant or the date the participant would have attained age 55.
- Deferred vested benefit The later of age 55 or termination of employment.
- Disability benefit Upon disablement.
- Retirement benefit Upon termination of employment.

Form of payment 40% lump sum; 60% annuity for retirement eligible East grandfathered participants and 75% lump sum; 25% annuity for all other participants. Married participants are assumed to elect the 50% joint and survivor annuity and unmarried participants are assumed to elect the single life annuity. No other optional form of payment election is assumed.

Percent married 80% of male participants; 70% of female participants.

Spouse ages Wives are assumed to be three years younger than husbands.

Valuation pay 2014 base salary pay (Grandfathered) – not estimated due to freeze of final average pay accruals at December 31, 2010.

2014 expanded pay (Cash Balance) – sum of the following updated one year according to the salary increase assumption:

- (i) 2013 base salary
- (ii) a 15% increase for overtime eligible employees and a target bonus percent increase for incentive-eligible employees

Administrative expenses Discount rate is net of expenses paid by the trust.

Timing of benefit payments Annuity payments are payable monthly at the beginning of the month and lump sum payments are payable on date of decrement.

## Methods

|   |  |
|---|--|
| Service cost and projected benefit obligation           | Projected unit credit  |
| Market-related value of assets                          | <p>The market value on the valuation date less the following percentages of prior years' investment gains and losses:</p> <ul style="list-style-type: none"> <li>– 80% of the prior year</li> <li>– 60% of the second prior year</li> <li>– 40% of the third prior year</li> <li>– 20% of the fourth prior year</li> </ul> <p>The investment gain or loss is calculated each year by:</p> <ul style="list-style-type: none"> <li>– Rolling forward the prior year's fair value of assets with actual contributions, benefit payments and expected return on investments using the long-term yield assumption</li> <li>– Comparing the actual fair value of assets to the expected value calculated above.</li> </ul> |
| Benefits not valued                                     | <p>All benefits were valued except:</p> <ul style="list-style-type: none"> <li>– Any liabilities that may be reinstated in the event of reemployment</li> <li>– The alternate benefit formula for members who did not elect to withdraw their employee contributions</li> <li>– Any liabilities relating to members' unwithdrawn employee contributions</li> <li>– Liabilities related to special benefits as a result of termination due to restructuring or downsizing</li> </ul>  |
| Change in assumptions and methods since prior valuation | <p>The discount rate was decreased from 3.95% to 4.70%.</p> <p>The mortality table used to value the benefit obligations was updated from the RP2000 with projections to 2020 for annuitants and to 2028 for nonannuitants to RP2000 with projections to 2021 and 2029, respectively.</p> <p>The mortality table used for lump sum/annuity conversions was updated for an additional year of mortality improvements.</p> <p>Accruals for participants in LTD status were frozen.</p> <p>The lump sum conversion rate increased from 5.10% to 5.90%.</p> <p>The expected return on assets was changed from 6.50% to 6.00%.</p>  |
| Data Sources  | <p>Towers Watson used participant and asset data as of January 1, 2014, supplied by ACS, the third party database for the AEP pension data with the exception of certain elements taken from the dbConnect pension calculator database. Data were reviewed for reasonableness and consistency, but no audit was performed. Assumptions or estimates were made or by Towers Watson actuaries when data were not available. We are not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations.</p>   |

## Appendix B1 : Summary of plan provisions covered by the former East Retirement Plan

### Plan Provisions

|                    |   |
|--------------------|---|
| Effective Date     | May 1, 1955. Restated effective January 1, 2012.  |
| Recent Amendments  | Executed as of April 3, 2012.   |
| Covered Employees  | Employees become Members of the Plan on the first day of the month following completion of one year of service. |
| Participation Date | Date of becoming a covered employee.  |

### Definitions

|                              |  |
|------------------------------|--|
| Grandfathered employee       | If, on December 31, 2000, either: <ul style="list-style-type: none"> <li>– Participating in AEP System Retirement Plan, or</li> <li>– In one-year waiting period for AEP System Retirement Plan participation.</li> </ul>  |
| Vesting service              | A period of time from employment date to termination date and, in general, includes periods of severance that are not in the excess of 12 months.  |
| Accredited service           | Elapsed time from date of hire (from benefit service start date).  |
| Cash balance pay             | Pay received during the year, including base pay, overtime, shift differential/Sunday premium pay and incentive pay, subject to IRS limits.  |
| Covered compensation amount  | The average of the Social Security taxable wage based during the 35-year period including the year in which the participant retires, dies, becomes disabled or otherwise terminates employment. This monthly average is calculated to the next lower or equal whole dollar amount and is then rounded to nearest \$50. |
| Final average pay            | Average of the highest 36-consecutive months of base pay out of the last 120 months of employment, subject to IRS limits.  |
| Normal retirement date (NRD) | The first day of the calendar month whose first day is nearest the later of the member's 65 <sup>th</sup> birthday or the completion of five years of Vesting Service.   |

Cash balance account                      Recordkeeping account to which annual Interest Credits and annual Company Credits are credited. The cash balance account is updated at the end of each plan year and is equal to:

$$\begin{aligned}
 &\text{Cash Balance Account as of the} \\
 &\quad \text{end of the prior plan year} \\
 &\quad + \\
 &\quad \text{Interest Credits} \\
 &\quad + \\
 &\quad \text{Company Credits}
 \end{aligned}$$

Cash balance benefit                      Cash Balance Account converted to a monthly annuity

Opening balance                              For those participating in or eligible for the AEP System Retirement Plan on December 31, 2000, opening balance is calculated as follows:

- Present value of monthly normal retirement benefit determined as of December 31, 2000, and payable at age 65 (or current age if older)

- Present value determined based on 5.78% interest and IRS regulated mortality (GAM83 Unisex) data for lump sums (postretirement only)

Plus

- Credit for early retirement subsidy for monthly payments beginning at age 62 (or current age if older)

Plus

- Transition credit based on age, service and pay received in 2000 (see "Company Credits" for credit percentages)

- Age and service based on completed whole years as of December 31, 2000.

For employees hired on or after January 1, 2001, opening balance is \$0.

Interest credits                                Interest credits are applied to beginning of year account balance on December 31 each year.

Based on the average 30-year Treasury Bond rate for November of the previous year.

Minimum of 4%.

Company credits                                Applied to account balance on December 31 or termination date if earlier.

Amount is a percentage of eligible pay received during the year, based on age plus years of Vesting Service (age and service in completed whole years as of December 31).

| <i>Age Plus<br/>Years of Service</i> | <i>Annual<br/>Company Credit</i> |
|--------------------------------------|----------------------------------|
| Less than 30                         | 3.0%                             |
| 30 – 39                              | 3.5%                             |
| 40 – 49                              | 4.5%                             |
| 50 – 59                              | 5.5%                             |
| 60 – 69                              | 7.0%                             |
| 70+                                  | 8.5%                             |

|                                      |  |
|--------------------------------------|--|
| Monthly Grandfathered Benefit        | <p>Sum of (1), (2) and (3):</p> <ul style="list-style-type: none"> <li>(1) 1.10% of Final Average Pay x Accredited Service up to 35 years</li> <li>(2) 0.50% of Final Average Pay Less Covered Compensation x Accredited Service up to 35 years</li> <li>(3) 1.33% of Final Average Pay x Accredited Service between 35 and 45 years</li> </ul> <p>Accruals for the grandfathered benefit ceased on December 31, 2010.</p> |
| Long-term disability and paid leaves | Participants do not receive company credits while on long-term disability. Vesting service continues.  |
| Unpaid leave                         | No compensation for annual Company Credit. Vesting service continues.  |

**Eligibility for Benefits**

|                      |   |
|----------------------|---|
| Normal retirement    | All members at or after their Normal Retirement Date.   |
| Early retirement     | Any time after attainment of age 55 and completion of five years of vesting. Applicable only to grandfathered benefits.   |
| Postponed retirement | Retirement after Normal Retirement Date.  |
| Vested termination   | All members who terminate employment after completion of three years of Vesting Service, or upon death.   |
| Disability           | All members who are unable to work at own occupation solely because of sickness or injury for the first 24 months of disability. After 24 months of disability, the participant is eligible if unable to work at any gainful occupation for which the participant may be able, or may reasonably become qualified by education, training or experience, to perform. |
| Surviving spouse     | The surviving spouse of a Grandfathered Member who retired or is eligible to retire on Normal or Early Retirement and who was married to that spouse for the year preceding commencement and whose grandfathered benefit exceeds his or her Cash Balance Benefit.   |
| Preretirement death  | Beneficiary of deceased member.   |

**Benefits Paid Upon the Following Events**

|                   |   |
|-------------------|---|
| Normal retirement | For Grandfathered Employees, the better of the monthly grandfathered benefit or the Cash Balance Benefit determined as of Normal Retirement Date. For all other employees, the Cash Balance Benefit determined as of Normal Retirement Date.  |
| Early retirement  | <p>For Grandfathered Employees, the better of:</p> <ul style="list-style-type: none"> <li>(1) The monthly grandfathered retirement benefit reduced by 3% per year for each year commencement precedes age 62, and</li> <li>(2) The Cash Balance Benefit determined as of the Early Retirement Date.</li> </ul> <p>For all other employees, the Cash Balance Benefit determined as of the Early Retirement Date.</p> |

|                            |   |
|----------------------------|---|
| Deferred vested retirement | The accrued Normal Retirement Benefit (better of Cash Balance and Grandfathered Benefits, if eligible), payable at Normal Retirement Date or actuarially reduced and payable at any age.  |
| Disability                 | <p>The greater of (1) or (2):</p> <ol style="list-style-type: none"> <li>(1) Accrued Grandfathered Retirement Benefit reduced as in the Early Retirement Benefit. If retirement occurs prior to age 55, the benefit is further reduced actuarially from age 55. The Disability Retirement Benefit will reflect Accredited Service that accrued (at most recent rate of base earnings) to a member while receiving benefits under the Company's LTD plan.</li> <li>(2) The Cash Balance Benefit with continued Company Credits while disabled.</li> </ol> <p>Benefit (1) applies for Grandfathered Employees only.</p> |
| Preretirement death        | <p>Better of (1) or (2):</p> <ol style="list-style-type: none"> <li>(1) The grandfathered monthly benefit as if the employee commenced a 60% qualified joint and survivor benefit at his earliest retirement date</li> <li>(2) Annuity equivalent of Cash Balance account or the cash balance account.</li> </ol> <p>Benefit (1) applies for a Grandfathered Employee whose beneficiary is his or her spouse.</p>   |
| Surviving spouse benefits  | A benefit payable for life equal to 30% of the single life annuity payable to the grandfathered member. The spouse's benefit is actuarially reduced for each year by which the spouse is more than ten years younger than the member. Payable to Grandfathered Employees only.  |

### Other Plan Provisions

#### Forms of payment

- Grandfathered employees
  - The following are available for Grandfathered Employees for both the Grandfathered Benefit and the Cash Balance Benefit:
    - Full lump sum payment.
    - Combination of partial lump sum (25%, 50% or 75% of full lump sum) with remainder paid as a monthly benefit (see below).
    - Monthly payment:
      - Single life annuity.
      - Optional joint annuities (spouse or other beneficiary).
        - Available in 40%, 50%, 60%, 75%, 100%.
        - Can elect pop-up and/or level income options.
      - Automatic company-paid 30% surviving spouse annuity included in Grandfathered Benefit annuity if terminate on or after age 55 and married at least one year. Cash Balance Benefit is actuarially reduced for this feature.



A one-time option to elect a lump sum of the accrued benefit for terminated vested participants whose benefit was determined in no way by reference to either the AEP or CSW cash balance formulas was offered during the period from May 1, 2012 through June 30, 2012. Participants eligible for the window were also permitted to elect any of the other optional forms of payment generally applicable to such a participant under the normal terms of the plan document. Any participant who elected to commence benefits under this window, regardless of lump sum or annuity election, had a benefit commencement date of August 1, 2012.

- Employees hired on or after January 1, 2001

The following are available for those hired on or after January 1, 2001:

  - Full lump sum payment.
  - Combination of partial lump sum (25%, 50% or 75% of full lump sum) with remainder paid as a monthly benefit (see below).
  - Monthly payment:
    - Single life annuity.
    - Joint annuities (spouse or other beneficiary).
      - Available in 50%, 75%, 100%.

Form of payment conversion for non-417(e) covered conversions

- Cash balance 7.50% interest and the applicable 417(e) Mortality Table.
  - Grandfathered benefit 7.50% interest and the 1974 George B. Buck Mortality Table.
- Pension Increases None.

Plan Participants' Contributions

Prior to January 1, 1978, employee contributions were required as a condition of Membership. In May and June of 1981, Members were permitted an election to withdraw those contributions. Those who did not elect to withdraw have retirement benefits based on a formula that differs from the formulas previously described in this section. However, the number of nonelecting Members is so small that special plan provisions for that group have not been included in this summary.

Maximum on benefits and pay

All benefits and pay for any calendar year may not exceed the maximum limitations for that year as defined in the Internal Revenue Code. The plan provides for increasing the dollar limits automatically as such changes become effective. Increases in the dollar limits are assumed for determining pension cost but not for determining contributions.

Benefits not valued

A small portion of the population made employee contributions to the plan. Because the amount of these contributions is not material to the plan, they are not part of the valuation.

Participants who were employees of Columbus Southern Power (CSP) at the time AEP acquired that company have a frozen benefit under the CSP benefit formula at December 31, 1986. Benefits for these participants are the greater of an all-service AEP benefit and a two-part benefit consisting of the frozen CSP benefit plus an AEP benefit accrued from January 1, 1987. Because this applies to a small portion of the population and the CSP frozen benefit is not often the greater benefit for these participants, this benefit is not valued.

Plan status

Ongoing.

### Future Plan Changes

Towers Watson is not aware of any future plan changes that are required to be reflected.

### Changes in Benefits Valued Since Prior Year

None.

## Appendix B2 : Summary of plan provisions covered by the former West Retirement Plan

### Plan Provisions

|                    |   |
|--------------------|---|
| Effective Date     | January 1940. Restated effective January 1, 1997.   |
| Recent Amendments  | Executed as of April 3, 2012.   |
| Covered Employees  | All full-time employees of a Participating Company employed by CSW before January 1, 2001, and not covered by a union (that has not bargained for coverage) or another pension plan provided by AEP. Part-time employees of the Company had to work more than 1,000 hours in the first anniversary year or subsequent calendar years. |
| Participation Date | Date of becoming a covered employee   |

### Definitions

|                              |   |
|------------------------------|---|
| Grandfathered employee       | Employees who were at least age 50 with ten years of vesting service of July 1, 1997.   |
| Vesting service              | All service from date of hire in completed years.   |
| Credited service             | The aggregate of:<br><br>For the period prior to January 1, 1976:<br><ol style="list-style-type: none"> <li>(1) The number of full years in the last continuous period that employee was a participant after June 30, 1970, plus</li> <li>(2) Credited service under any prior plan if service extended to July 1, 1970.</li> </ol><br>For the period beginning on or after January 1, 1976, the number of full years of service. |
| Cash balance pay             | Pay received during the year, including base pay, overtime, shift differential/Sunday premium pay and incentive pay, subject to IRS limits  |
| Final average pay            | Highest average annual earnings (base pay only) during any 36 consecutive months in the 120 months before retirement. Any changes in earnings within the last three months before retirement will not be taken into account.  |
| Normal retirement date (NRD) | The first day of the calendar month on or following the member's 65 <sup>th</sup> birthday.   |

Cash balance account                      Recordkeeping account to which annual interest credits and annual company credits are credited. The cash balance account is updated at the end of each plan year and is equal to:

$$\begin{aligned}
 &\text{Cash Balance Account as of the} \\
 &\text{end of the prior plan year} \\
 &\quad + \\
 &\quad \text{Interest Credits} \\
 &\quad + \\
 &\quad \text{Company Credits}
 \end{aligned}$$

Cash balance benefit                      Cash Balance Account converted to a monthly annuity

Interest credits                              Interest credits are applied to beginning of year account balance on December 31 each year.

Based on the average 30-year Treasury Bond rate for November of the previous year.

Minimum of 4%.

Company credits                              Applied to account balance on December 31 or termination date if earlier.

Amount is a percentage of eligible pay received during the year, based on age plus years of Vesting Service (age and service in completed whole years as of December 31).

| <i>Age Plus<br/>Years of Service</i> | <i>Annual<br/>Company Credit</i> |
|--------------------------------------|----------------------------------|
| Less than 30                         | 3.0%                             |
| 30 – 39                              | 3.5%                             |
| 40 – 49                              | 4.5%                             |
| 50 – 59                              | 5.5%                             |
| 60 – 69                              | 7.0%                             |
| 70+                                  | 8.5%                             |

Monthly Grandfathered Benefit                      Greater of (1) or (2) below with automatic cost of living adjustments upon retirement:

(1) Basic benefit — An annual amount equal to:

The aggregate of a participant’s (a) earned benefit (if any) under any prior plan or acquired Company pension plan under which no election was made to receive a paid-up annuity; and (b) participant contributions without interest for the period commencing on or after July 1, 1970. For the period after September 1, 1980, participants will be deemed to have made contributions at the rate of 2% annually of the participant’s annual rate of earnings as of January 1.

(2) Minimum benefit:

1-2/3% of final average annual earnings less 50% of participant’s annual primary Social Security benefit times years of credited service up to 30 years.

|                                      |  |
|--------------------------------------|--|
| Minimum benefits                     | The benefit payable will never be less than the frozen accrued benefit as of July 1, 1997, under the prior plan.   |
| Primary Social Security benefit      | <p>The annual amount payable under the Social Security Act as amended in effect at the employee's date of retirement. The date as of which the amount is to be determined is:</p> <ol style="list-style-type: none"> <li>(1) In the case of an employee (including deferred vested employees) retiring on or after normal retirement date, normal retirement date.</li> <li>(2) In the case of an employee retiring prior to normal retirement date, the later of employee's 62<sup>nd</sup> birthday or actual retirement date.</li> </ol> <p>Early retirees and deferred vested employees are assumed to have no earnings after termination in determining the amount of this benefit.</p> |
| Long-term disability and paid leaves | Participants do not receive company credits while on long-term disability. For the grandfathered formula, the final average pay will be determined as of the date on which the participant became disabled. Vesting service continues.   |
| Unpaid leave                         | No compensation for annual compensation credit. Vesting service continues.   |

### Eligibility for Benefits

|                      |  |
|----------------------|--|
| Normal retirement    | All members at or after their Normal Retirement Date   |
| Early retirement     | Any time after attainment of age 55 and completion of five years of vesting  |
| Postponed retirement | Retirement after NRD.  |
| Vested               | <p>The participant's cash balance account is 100% vested when any one of the following applies:</p> <ol style="list-style-type: none"> <li>(1) Three years of vesting service</li> <li>(2) Attainment of age 55 while an employee</li> <li>(3) Death prior to termination</li> <li>(4) Upon disability.</li> </ol> |
| Disability           | All participants who become permanently and totally disabled. Permanent and total disability is determined by reference to the LTD plan covering that participant.   |
| Surviving spouse     | The surviving spouse of a participant who retired or is eligible to retire on normal or early retirement.  |
| Preretirement death  | Beneficiary of participant who dies after becoming vested.   |

## Benefits Paid Upon the Following Events

**Normal retirement** Grandfathered employees must elect either the cash balance or the grandfathered formula. For purposes of this valuation, the employee is assumed to elect the formula with the higher present value. Employees with a prior plan frozen benefit get the better of the cash balance benefit and the prior plan frozen benefit. For all other employees, the Cash Balance Benefit is determined as of Normal Retirement Date.

**Early retirement** Greater of (1) if applicable or (2):

(1) The grandfathered accrued benefit and the prior plan frozen are payable subject to reduction according to the following schedule if payments commence prior to the normal retirement date.

| <i>Age at<br/>Retirement</i> | <i>Percent of<br/>Benefit Payable</i> |
|------------------------------|---------------------------------------|
| 64                           | 100%                                  |
| 63                           | 100%                                  |
| 62                           | 100%                                  |
| 61                           | 95%                                   |
| 60                           | 90%                                   |
| 59                           | 84%                                   |
| 58                           | 78%                                   |
| 57                           | 72%                                   |
| 56                           | 66%                                   |
| 55                           | 60%                                   |

(2) The Cash Balance Benefit determined as of the Early Retirement Date.

**Deferred vested retirement** Greater of (1) if applicable or (2):

(1) Grandfathered accrued benefit payable at age 65, or if earlier reduced 5% per year from age 65, 6% per year from age 60 and 7.5% per year compounded from age 55.

(2) Vested cash balance account.

**Disability retirement** The greatest of grandfathered accrued benefit, if eligible, based on projected service and frozen pay deferred to age 65, prior plan frozen benefit if eligible and cash balance account with continued pay credits.

**Preretirement death** If the beneficiary is the spouse and the participant is a grandfathered/protected plan participant, then:

(1) For an active participant who dies on or after 55<sup>th</sup> birthday but before retirement, a monthly benefit equal to 50% of the benefit accrued to the date of death without reduction for early retirement is payable immediately as a life annuity to a qualifying spouse.

(2) For an active participant who dies after completing five or more years of vesting service but before age 55, a deferred monthly benefit equal to 50% of the benefit accrued to the date of death reduced as for early retirement is payable as a life annuity to a

qualifying spouse. Benefit commencement is deferred to when the deceased participant would have attained age 55.

- (3) For a deferred vested participant who dies before benefits commence, a monthly benefit equal to 50% of the deferred vested benefit reduced for early commencement (as for deferred vested) is payable as a life annuity to a qualifying spouse. If death occurs before age 55, the benefit to the spouse is deferred to when the deceased participant would have attained age 55.

The spouse's benefit is actuarially reduced for each year by which the spouse is more than five years younger than the participant.

For all employees, the minimum benefit is the cash balance account immediate annuity, which is also payable if the beneficiary is not the participant's spouse.

### Other Plan Provisions

#### Form of payment

The following are available for those participants who did not work an hour of service on or after January 1, 2003:

- Full lump sum payment.
- Monthly payment:
  - Single life annuity.
  - 50% joint annuity (spouse or other beneficiary).

A one-time option to elect a lump sum of the accrued benefit for terminated vested participants whose benefit was determined in no way by reference to either the AEP or CSW cash balance formulas was offered during the period from May 1, 2012 through June 30, 2012. Participants eligible for the window were also permitted to elect any of the other optional forms of payment generally applicable to such a participant under the normal terms of the plan document. Any participant who elected to commence benefits under this window, regardless of lump sum or annuity election, had a benefit commencement date of August 1, 2012.

The following are available for those participants who work an hour of service on or after January 1, 2003:

- Full lump sum payment.
- Combination of partial lump sum (25%, 50% or 75% of full lump sum) with remainder paid as a monthly benefit (see below).
- Monthly payment:
  - Single life annuity.
  - Joint annuities (spouse or other beneficiary).
    - Available in 50%, 75%, 100%.

## Form of payment conversion for non-417(e) covered conversions

|                             |  |
|-----------------------------|--|
| ■ Cash balance              | 7.50% interest and the applicable 417(e) Mortality Table   |
| ■ Grandfathered benefit     | Factors as specified in Tables I, II, III and IV of Exhibit A to the American Electric Power System Retirement Plan document. 7.50% interest and the 1951 Group Annuity male mortality table to the extent not covered by Tables I, II, III and IV.  |
| Pension Increases           | None.  |
| Member Contributions        | None.  |
| Maximum on benefits and pay | All benefits and pay for any calendar year may not exceed the maximum limitations for that year as defined in the Internal Revenue Code. The plan provides for increasing the dollar limits automatically as such changes become effective. Increases in the dollar limits are assumed for determining pension cost but not for determining contributions. |
| Plan status                 | Continuing accruals. All new entrants to plan are covered under former East plan provision.  |

### Future Plan Changes

Towers Watson is not aware of any future plan changes that are required to be reflected.

### Changes in Benefits Valued Since Prior Year

None.



## Appendix C : Adjusted Funding Target Attainment Percentage (AFTAP)

American Electric Power Co. retained Towers Watson Delaware Inc. ("Towers Watson") to perform a valuation of its pension plan for the purpose of measuring the plan's AFTAP for the plan year beginning January 1, 2014 in accordance with ERISA and the Internal Revenue Code. This valuation has been conducted in accordance with generally accepted actuarial principles and practices.

The enrolled actuary making this certification is a member of the Society of Actuaries and other professional actuarial organizations and meets their "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States."

We hereby certify that the plan's AFTAP for the plan year beginning January 1, 2014 is 110.21%. This percentage is based on the assumptions, participant data, and plan provisions we relied upon to prepare these results shown in this report, reflects the valuation limitations discussed in this report and is also based on the following additional information:

### Annuity Purchases

American Electric Power Co.'s representation that there were no annuity purchases made on behalf of non-highly compensated employees by the plan in the plan years beginning in 2012 and 2013.

### Funding Balances

Our understanding is that American Electric Power Co. has not elected to reduce the plan's funding balance as of the first day of the 2014 plan year.

Our understanding is that American Electric Power Co. has elected to apply the plan's funding balances as of the first day of the 2013 and 2014 plan year to the 2013 and 2014 minimum required contribution (MRC), respectively, as follows:

| Date                      | Amount       |
|---------------------------|--------------|
| April 18, 2014 (2013 MRC) | \$54,762,687 |
| April 18, 2014 (2014 MRC) | \$67,364,098 |

Our understanding is that American Electric Power Co. has not elected to increase the prefunding balance as of the first day of the 2014 plan year.

### Contributions

Our understanding is that American Electric Power Co. has not made any employer contributions after December 31, 2013 and before April 30, 2014 for the 2013 plan year.

## Events

There were no plan amendments that took effect in the current plan year that were taken into account for the current plan year's AFTAP certification.

There were no UCEBs that took effect in the current plan year that were taken into account for the current plan year's AFTAP certification.

There were no previously suspended accruals restored during the current plan year that were taken into account for the current plan year's AFTAP certification.

## Elections

Our understanding of sponsor elections required under the Pension Protection Act of 2006 (PPA) , with respect to interest rates, Actuarial Value of Assets and other methods and/or assumptions, as confirmed in the Sponsor's letter dated April 30, 2014.

In making this certification, we relied on asset, contribution, funding balance election, and annuity purchase information provided by the Company, including dates and amounts of contributions made to the plan through the date of this certification, dates and amounts of funding balance elections by the Company through the date of this certification, and amounts of annuity purchases in the past two years, as shown above. We have reviewed this information for overall reasonableness and consistency but, consistent with the scope of our engagement, have neither audited nor independently verified this information. We do not certify to the accuracy or completeness of asset, contribution, funding balance election and annuity purchase information, and this certification relies on and is contingent on the accuracy and completeness of this information.

The development of the AFTAP is shown below:

All monetary amounts shown in US Dollars

| Plan Year Beginning  | January 1, 2014 |
|--|-----------------|
| Actuarial value of assets as of January 1, 2014 <sup>1</sup>   | 4,653,384,245   |
| Funding standard carryover balance at January 1, 2014 <sup>2</sup>   | 145,450,308     |
| Prefunding balance at January 1, 2014 <sup>2</sup>   | 515,513,143     |
| Funding target (disregarding at-risk assumptions)  | 4,221,975,836   |
| AVA/funding target (disregarding at-risk assumptions)  | 110.21%         |
| Assets for AFTAP calculation <sup>3</sup>  | 4,653,384,245   |
| Annuity purchases for NHCEs during 2012 and 2013   | 0               |
| <b>Reflection of Post-Valuation Date Events not Previously Reflected</b>   |                 |
| Increase in funding target (disregarding at-risk assumptions) for 2014 amendments/UCEBs/restored accruals <sup>4</sup> | 0               |
| IRC §436 contributions made to enable plan amendments/UCEBs/restored accruals to take effect <sup>5</sup>              | 0               |
| Adjusted funding target, disregarding at-risk assumptions, (includes NHCE annuity purchases and amendments)            | 0               |
| Adjusted assets (includes NHCE annuity purchases and IRC §436 contributions)   | 0               |
| <b>Specific AFTAP</b>  |                 |
| <b>Adjusted Funding Target Attainment Percentage (AFTAP)</b>   | <b>110.21%</b>  |

<sup>1</sup> Reflects discounted contributions made for the 2013 plan year only if paid on or before the certification date. Includes security posted by the beginning of the plan year in the form of a bond or cash held in escrow.

<sup>2</sup> Reflects elections made to-date (other than elections to apply the funding balances to 2014 MRC).

<sup>3</sup> AVA if AVA/Funding Target (disregarding at-risk assumptions)  $\geq$  100%; otherwise (AVA-funding balances).

<sup>4</sup> If amendments/UCEBs/restored accruals (i) went into effect before this specific certification, (ii) were not reflected in the funding valuation and (iii) require AFTAP recertification, or if AFTAP recertification is not required but the plan sponsor decides to reflect the amendment/UCEBs/restored accruals in the specific AFTAP certification.

<sup>5</sup> Discounted to January 1, 2014 using the 2014 plan year effective interest rate.

## Immediate Implications of AFTAP Certification

We believe that the certified AFTAP of 110.21% for the 2014 plan year has the following implications for benefit limitations described in IRC §436. American Electric Power Co. should review these conclusions with ERISA counsel:

- Benefit accruals called for under the plan without regard to IRC §436 must continue.
- Accelerated distributions called for under the plan without regard to IRC §436 must continue in full.
- Amendments that increase benefits must be evaluated at the time they would take effect to determine if they are permissible.
- Plant shutdown and other unpredictable UCEBs must be evaluated at the time they would take effect to determine if they are permissible.

## Implications of 2014 AFTAP for Presumptions in Next Plan Year

Because the AFTAP for the 2014 plan year is at least 90%, the presumed AFTAP for 2015 will remain equal to the 2014 certified AFTAP, and changes in benefit restrictions will not occur, before the 2015 AFTAP is certified, provided that the 2015 AFTAP is certified before the first day of the tenth month of the plan year.

Note, however, that adoption of plan amendments and/or payment of UCEBs may change this result.

# Appendix D : Results by business unit

Unless otherwise indicated, the data, assumptions, methods, data and plan provisions upon which the figures in this Appendix D rely are consistent with those indicated throughout the rest of the report.

Summary of key assumptions for Appendix D of 2014 AEP Retirement Plan valuation report:

|                             | 2014   | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  | 2021  | 2022  | 2023  |
|-----------------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Discount Rate               | 4.70%  | 5.30% | 5.50% | 5.60% | 5.70% | 5.80% | 5.80% | 5.80% | 5.80% | 5.80% |
| PPA effective interest rate | 5.66%  | 5.16% | 5.30% | 5.40% | 5.50% | 5.60% | 5.60% | 5.60% | 5.60% | 5.60% |
| Expected return on assets   | 6.00%  | 6.00% | 6.00% | 6.00% | 6.00% | 6.00% | 6.00% | 6.00% | 6.00% | 6.00% |
| Cash balance crediting rate | 4.00%  | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% |
| Lump sum conversion rate    | 5.90%  | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% |
| Expected mortality          | IRS-prescribed mortality table for minimum funding purposes, with adoption of RP-2014 and projection scale MP-2014 at year end 2015. |       |       |       |       |       |       |       |       |       |
| Valuation and data          | January 1, 2014  |       |       |       |       |       |       |       |       |       |

AMERICAN ELECTRIC POWER  
QUALIFIED RETIREMENT PLAN  
SUMMARY OF PLAN PARTICIPANTS FOR THE 2014 VALUATION

| Location  | Vested Actives | Non-Vested Actives | Total Actives | Retirees Receiving Benefits | Beneficiaries | Deferred Vesteds | Total Inactives | Total Participants |
|---|----------------|--------------------|---------------|-----------------------------|---------------|------------------|-----------------|--------------------|
| 140 Appalachian Power Co - Distribution                   | 1,023          | 0                  | 1,023         | 1,118                       | 405           | 184              | 1,707           | 2,730              |
| 215 Appalachian Power Co - Generation                     | 924            | 0                  | 924           | 766                         | 231           | 76               | 1,073           | 1,997              |
| 150 Appalachian Power Co - Transmission                   | 62             | 0                  | 62            | 115                         | 18            | 16               | 149             | 211                |
| <b>Appalachian Power Co. - FERC</b>                       | <b>2,009</b>   | <b>0</b>           | <b>2,009</b>  | <b>1,999</b>                | <b>654</b>    | <b>276</b>       | <b>2,929</b>    | <b>4,938</b>       |
| 225 Cedar Coal Co   | 0              | 0                  | 0             | 91                          | 34            | 17               | 142             | 142                |
| <b>Appalachian Power Co. - SEC</b>                        | <b>2,009</b>   | <b>0</b>           | <b>2,009</b>  | <b>2,090</b>                | <b>688</b>    | <b>293</b>       | <b>3,071</b>    | <b>5,080</b>       |
| 211 AEP Texas Central Company - Distribution              | 874            | 0                  | 874           | 878                         | 251           | 305              | 1,434           | 2,308              |
| 147 AEP Texas Central Company - Generation                | 0              | 0                  | 0             | 6                           | 48            | 24               | 78              | 78                 |
| 169 AEP Texas Central Company - Transmission              | 102            | 0                  | 102           | 68                          | 32            | 35               | 135             | 237                |
| <b>AEP Texas Central Co.</b>                              | <b>976</b>     | <b>0</b>           | <b>976</b>    | <b>952</b>                  | <b>331</b>    | <b>364</b>       | <b>1,647</b>    | <b>2,623</b>       |
| 170 Indiana Michigan Power Co - Distribution              | 574            | 0                  | 574           | 642                         | 264           | 98               | 1,004           | 1,578              |
| 132 Indiana Michigan Power Co - Generation                | 382            | 0                  | 382           | 281                         | 89            | 88               | 458             | 840                |
| 190 Indiana Michigan Power Co - Nuclear                   | 1,124          | 0                  | 1,124         | 361                         | 61            | 281              | 703             | 1,827              |
| 120 Indiana Michigan Power Co - Transmission              | 123            | 0                  | 123           | 103                         | 16            | 10               | 129             | 252                |
| 280 Ind Mich River Transp Lakin                           | 324            | 0                  | 324           | 102                         | 41            | 40               | 183             | 507                |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>2,527</b>   | <b>0</b>           | <b>2,527</b>  | <b>1,489</b>                | <b>471</b>    | <b>517</b>       | <b>2,477</b>    | <b>5,004</b>       |
| 202 Price River Coal                                      | 0              | 0                  | 0             | 0                           | 0             | 0                | 0               | 0                  |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>2,527</b>   | <b>0</b>           | <b>2,527</b>  | <b>1,489</b>                | <b>471</b>    | <b>517</b>       | <b>2,477</b>    | <b>5,004</b>       |
| 110 Kentucky Power Co - Distribution                      | 252            | 0                  | 252           | 186                         | 70            | 34               | 290             | 542                |
| 117 Kentucky Power Co - Generation                        | 94             | 0                  | 94            | 97                          | 24            | 12               | 133             | 227                |
| 180 Kentucky Power Co - Transmission                      | 29             | 0                  | 29            | 11                          | 0             | 3                | 14              | 43                 |
| 600 Kentucky Power Co. - Kammer Actives                   | 43             | 0                  | 43            | 0                           | 0             | 0                | 0               | 43                 |
| 701 Kentucky Power Co. - Mitchell Actives                 | 244            | 0                  | 244           | 0                           | 0             | 0                | 0               | 244                |
| 702 Kentucky Power Co. - Mitchell Inactives               | 0              | 0                  | 0             | 97                          | 12            | 4                | 113             | 113                |
| <b>Kentucky Power Co.</b>                                 | <b>662</b>     | <b>0</b>           | <b>662</b>    | <b>391</b>                  | <b>106</b>    | <b>53</b>        | <b>550</b>      | <b>1,212</b>       |
| 250 Ohio Power Co - Distribution                          | 1,468          | 0                  | 1,468         | 1,687                       | 519           | 228              | 2,434           | 3,902              |
| 160 Ohio Power Co - Transmission                          | 13             | 0                  | 13            | 197                         | 67            | 20               | 284             | 297                |
| <b>Ohio Power Co</b>                                      | <b>1,481</b>   | <b>0</b>           | <b>1,481</b>  | <b>1,884</b>                | <b>586</b>    | <b>248</b>       | <b>2,718</b>    | <b>4,199</b>       |
| 167 Public Service Co of Oklahoma - Distribution          | 660            | 0                  | 660           | 435                         | 191           | 137              | 763             | 1,423              |
| 198 Public Service Co of Oklahoma - Generation            | 364            | 0                  | 364           | 168                         | 70            | 57               | 295             | 659                |
| 114 Public Service Co of Oklahoma - Transmission          | 81             | 0                  | 81            | 50                          | 16            | 14               | 80              | 161                |
| <b>Public Service Co. of Oklahoma</b>                     | <b>1,105</b>   | <b>0</b>           | <b>1,105</b>  | <b>653</b>                  | <b>277</b>    | <b>208</b>       | <b>1,138</b>    | <b>2,243</b>       |
| 159 Southwestern Electric Power Co - Distribution         | 521            | 0                  | 521           | 177                         | 95            | 54               | 326             | 847                |
| 168 Southwestern Electric Power Co - Generation           | 588            | 0                  | 588           | 182                         | 86            | 39               | 307             | 895                |
| 161 Southwestern Electric Power Co - Texas - Distribution | 239            | 0                  | 239           | 95                          | 39            | 36               | 170             | 409                |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0              | 0                  | 0             | 0                           | 3             | 0                | 3               | 3                  |
| 194 Southwestern Electric Power Co - Transmission         | 74             | 0                  | 74            | 34                          | 10            | 14               | 58              | 132                |
| <b>Southwestern Electric Power Co.</b>                    | <b>1,422</b>   | <b>0</b>           | <b>1,422</b>  | <b>488</b>                  | <b>233</b>    | <b>143</b>       | <b>864</b>      | <b>2,286</b>       |
| 119 AEP Texas North Company - Distribution                | 252            | 0                  | 252           | 165                         | 83            | 81               | 329             | 581                |
| 166 AEP Texas North Company - Generation                  | 0              | 0                  | 0             | 101                         | 49            | 32               | 182             | 182                |
| 192 AEP Texas North Company - Transmission                | 48             | 0                  | 48            | 23                          | 11            | 3                | 37              | 85                 |
| <b>AEP Texas North Co.</b>                                | <b>300</b>     | <b>0</b>           | <b>300</b>    | <b>289</b>                  | <b>143</b>    | <b>116</b>       | <b>548</b>      | <b>848</b>         |
| 230 Kingsport Power Co - Distribution                     | 50             | 0                  | 50            | 45                          | 16            | 5                | 66              | 116                |
| 260 Kingsport Power Co - Transmission                     | 6              | 0                  | 6             | 8                           | 1             | 1                | 10              | 16                 |
| <b>Kingsport Power Co.</b>                                | <b>56</b>      | <b>0</b>           | <b>56</b>     | <b>53</b>                   | <b>17</b>     | <b>6</b>         | <b>76</b>       | <b>132</b>         |
| 210 Wheeling Power Co - Distribution                      | 48             | 0                  | 48            | 54                          | 31            | 3                | 88              | 136                |
| 200 Wheeling Power Co - Transmission                      | 0              | 0                  | 0             | 3                           | 8             | 0                | 11              | 11                 |
| <b>Wheeling Power Co.</b>                                 | <b>48</b>      | <b>0</b>           | <b>48</b>     | <b>57</b>                   | <b>39</b>     | <b>3</b>         | <b>99</b>       | <b>147</b>         |
| 103 American Electric Power Service Corporation           | 5,019          | 0                  | 5,019         | 2,428                       | 477           | 1,275            | 4,180           | 9,199              |
| <b>American Electric Power Service Corp</b>               | <b>5,019</b>   | <b>0</b>           | <b>5,019</b>  | <b>2,428</b>                | <b>477</b>    | <b>1,275</b>     | <b>4,180</b>    | <b>9,199</b>       |
| 143 AEP Pro Serv, Inc.                                    | 0              | 0                  | 0             | 1                           | 0             | 2                | 3               | 3                  |
| 171 CSW Energy, Inc.                                      | 87             | 0                  | 87            | 3                           | 1             | 23               | 27              | 114                |
| 293 Elmwood   | 82             | 0                  | 82            | 5                           | 0             | 17               | 22              | 104                |
| 292 AEP River Operations LLC                              | 936            | 0                  | 936           | 8                           | 0             | 107              | 115             | 1,051              |
| 189 Central Coal Company                                  | 0              | 0                  | 0             | 0                           | 0             | 0                | 0               | 0                  |
| <b>Miscellaneous</b>                                      | <b>1,105</b>   | <b>0</b>           | <b>1,105</b>  | <b>17</b>                   | <b>1</b>      | <b>149</b>       | <b>167</b>      | <b>1,272</b>       |
| 270 Cook Coal Terminal                                    | 15             | 0                  | 15            | 13                          | 3             | 3                | 19              | 34                 |
| <b>AEP Generating Company</b>                             | <b>15</b>      | <b>0</b>           | <b>15</b>     | <b>13</b>                   | <b>3</b>      | <b>3</b>         | <b>19</b>       | <b>34</b>          |
| 104 Cardinal Operating Company                            | 305            | 0                  | 305           | 187                         | 53            | 14               | 254             | 559                |
| 181 Ohio Power Co - Generation                            | 654            | 0                  | 654           | 1,224                       | 389           | 248              | 1,861           | 2,515              |
| <b>AEP Generation Resources - FERC</b>                    | <b>959</b>     | <b>0</b>           | <b>959</b>    | <b>1,411</b>                | <b>442</b>    | <b>262</b>       | <b>2,115</b>    | <b>3,074</b>       |
| 290 Conesville Coal Preparation Company                   | 0              | 0                  | 0             | 11                          | 1             | 2                | 14              | 14                 |
| <b>AEP Generation Resources - SEC</b>                     | <b>959</b>     | <b>0</b>           | <b>959</b>    | <b>1,422</b>                | <b>443</b>    | <b>264</b>       | <b>2,129</b>    | <b>3,088</b>       |
| <b>Total</b>  | <b>17,684</b>  | <b>0</b>           | <b>17,684</b> | <b>12,226</b>               | <b>3,815</b>  | <b>3,642</b>     | <b>19,683</b>   | <b>37,367</b>      |

**AMERICAN ELECTRIC POWER - QUALIFIED RETIREMENT PLAN  
FUNDED STATUS OF PRESENT VALUE OF ACCUMULATED PLAN BENEFITS (ASC 960) AS OF JANUARY 1, 2014**

| Location   | Present Value of Vested Benefits | Present Value of Non-Vested Benefits | Present Value of Accumulated Plan Benefits | Market Value of Assets | Percent Funded |
|--|----------------------------------|--------------------------------------|--|------------------------|----------------|
| 140 Appalachian Power Co - Distribution                  | \$284,431,277                    | \$3,309,856                          | \$287,741,133                              | \$311,905,817          | 108.4%         |
| 215 Appalachian Power Co - Generation                    | 239,157,340                      | 2,319,770                            | 241,477,110                                | 264,763,253            | 109.6%         |
| 150 Appalachian Power Co - Transmission                  | 33,733,806                       | 81,977                               | 33,815,783                                 | 31,400,384             | 92.9%          |
| <b>Appalachian Power Co. - FERC</b>                      | <b>\$557,322,423</b>             | <b>\$5,711,603</b>                   | <b>\$563,034,026</b>                       | <b>\$608,069,454</b>   | <b>108.0%</b>  |
| 225 Cedar Coal Co  | 3,129,088                        | 0                                    | 3,129,088                                  | 4,585,983              | 146.6%         |
| <b>Appalachian Power Co. - SEC</b>                       | <b>\$560,451,511</b>             | <b>\$5,711,603</b>                   | <b>\$566,163,114</b>                       | <b>\$612,655,437</b>   | <b>108.2%</b>  |
| 211 AEP Texas Central Company - Distribution             | \$243,044,304                    | \$783,238                            | \$243,827,542                              | \$274,418,722          | 112.5%         |
| 147 AEP Texas Central Company - Generation               | 6,726,255                        | 0                                    | 6,726,255                                  | 14,533,651             | 216.1%         |
| 169 AEP Texas Central Company - Transmission             | 23,400,366                       | 94,474                               | 23,494,840                                 | 26,420,727             | 112.5%         |
| <b>AEP Texas Central Co.</b>                             | <b>\$273,170,925</b>             | <b>\$877,712</b>                     | <b>\$274,048,637</b>                       | <b>\$315,373,100</b>   | <b>115.1%</b>  |
| 170 Indiana Michigan Power Co - Distribution             | \$144,632,728                    | \$1,265,419                          | \$145,898,147                              | \$162,166,819          | 111.2%         |
| 132 Indiana Michigan Power Co - Generation               | 96,522,292                       | 1,275,027                            | 97,797,319                                 | 106,393,117            | 108.8%         |
| 190 Indiana Michigan Power Co - Nuclear                  | 181,069,134                      | 2,513,970                            | 183,583,104                                | 220,471,645            | 120.1%         |
| 120 Indiana Michigan Power Co - Transmission             | 32,553,990                       | 312,533                              | 32,866,523                                 | 33,774,470             | 102.8%         |
| 280 Ind Mich River Transp Lakin                          | 27,696,276                       | 513,462                              | 28,209,738                                 | 36,874,139             | 130.7%         |
| <b>Indiana Michigan Power Co. - FERC</b>                 | <b>\$482,474,420</b>             | <b>\$5,880,411</b>                   | <b>\$488,354,831</b>                       | <b>\$559,680,190</b>   | <b>114.6%</b>  |
| 202 Price River Coal                                     | 0                                | 0                                    | 0  | 0                      | 0.0%           |
| <b>Indiana Michigan Power Co. - SEC</b>                  | <b>\$482,474,420</b>             | <b>\$5,880,411</b>                   | <b>\$488,354,831</b>                       | <b>\$559,680,190</b>   | <b>114.6%</b>  |
| 110 Kentucky Power Co - Distribution                     | \$63,095,058                     | \$672,919                            | \$63,767,977                               | \$68,385,212           | 107.2%         |
| 117 Kentucky Power Co - Generation                       | 30,644,824                       | 345,124                              | 30,989,948                                 | 31,474,046             | 101.6%         |
| 180 Kentucky Power Co - Transmission                     | 5,831,552                        | 19,562                               | 5,851,114                                  | 6,182,096              | 105.7%         |
| 600 Kentucky Power Co. - Kammer Actives                  | 4,441,812                        | 59,701                               | 4,501,513                                  | 5,425,733              | 120.5%         |
| 701 Kentucky Power Co. - Mitchell Actives                | 23,833,188                       | 814,006                              | 24,647,194                                 | 35,513,146             | 144.1%         |
| 702 Kentucky Power Co. - Mitchell Inactives              | 21,230,696                       | 0                                    | 21,230,696                                 | 27,697,105             | 130.5%         |
| <b>Kentucky Power Co.</b>                                | <b>\$149,077,130</b>             | <b>\$1,911,312</b>                   | <b>\$150,988,442</b>                       | <b>\$174,677,338</b>   | <b>115.7%</b>  |
| 250 Ohio Power Co - Distribution                         | \$377,684,134                    | \$2,932,541                          | \$380,616,675                              | \$433,703,784          | 113.9%         |
| 160 Ohio Power Co - Transmission                         | 43,625,541                       | 18,513                               | 43,644,054                                 | 43,515,760             | 99.7%          |
| <b>Ohio Power Co</b>                                     | <b>\$421,309,675</b>             | <b>\$2,951,054</b>                   | <b>\$424,260,729</b>                       | <b>\$477,219,544</b>   | <b>112.5%</b>  |
| 167 Public Service Co of Oklahoma - Distribution         | \$139,111,847                    | \$538,001                            | \$139,649,848                              | \$160,382,988          | 114.8%         |
| 198 Public Service Co of Oklahoma - Generation           | 69,324,437                       | 390,464                              | 69,714,901                                 | 83,303,607             | 119.5%         |
| 114 Public Service Co of Oklahoma - Transmission         | 16,534,123                       | 73,483                               | 16,607,606                                 | 20,043,420             | 120.7%         |
| <b>Public Service Co. of Oklahoma</b>                    | <b>\$224,970,407</b>             | <b>\$1,001,948</b>                   | <b>\$225,972,355</b>                       | <b>\$263,730,015</b>   | <b>116.7%</b>  |
| 159 Southwestern Electric Power Co - Distribution        | \$82,724,696                     | \$438,557                            | \$83,163,253                               | \$101,766,058          | 122.4%         |
| 168 Southwestern Electric Power Co - Generation          | 92,456,597                       | 983,278                              | 93,439,875                                 | 109,720,641            | 117.4%         |
| 161 Southwestern Electric Power Co - Texas - Distributic | 45,335,956                       | 205,887                              | 45,541,843                                 | 50,874,622             | 111.7%         |
| 111 Southwestern Electric Power Co - Texas - Transmis:   | 140,266                          | 0                                    | 140,266                                    | 77,692                 | 55.4%          |
| 194 Southwestern Electric Power Co - Transmission        | 12,755,048                       | 75,148                               | 12,830,196                                 | 16,157,232             | 125.9%         |
| <b>Southwestern Electric Power Co.</b>                   | <b>\$233,412,563</b>             | <b>\$1,702,870</b>                   | <b>\$235,115,433</b>                       | <b>\$278,596,245</b>   | <b>118.5%</b>  |
| 119 AEP Texas North Company - Distribution               | \$59,688,266                     | \$248,405                            | \$59,936,671                               | \$67,393,547           | 112.4%         |
| 166 AEP Texas North Company - Generation                 | 19,264,845                       | 0                                    | 19,264,845                                 | 24,712,557             | 128.3%         |
| 192 AEP Texas North Company - Transmission               | 8,068,451                        | 49,742                               | 8,118,193                                  | 9,827,102              | 121.1%         |
| <b>AEP Texas North Co.</b>                               | <b>\$87,021,562</b>              | <b>\$298,147</b>                     | <b>\$87,319,709</b>                        | <b>\$101,933,206</b>   | <b>116.7%</b>  |
| 230 Kingsport Power Co - Distribution                    | \$11,801,061                     | \$57,448                             | \$11,858,509                               | \$12,882,303           | 108.6%         |
| 260 Kingsport Power Co - Transmission                    | 2,428,498                        | 21,666                               | 2,450,164                                  | 2,251,944              | 91.9%          |
| <b>Kingsport Power Co.</b>                               | <b>\$14,229,559</b>              | <b>\$79,114</b>                      | <b>\$14,308,673</b>                        | <b>\$15,134,247</b>    | <b>105.8%</b>  |
| 210 Wheeling Power Co - Distribution                     | \$13,853,409                     | \$25,922                             | \$13,879,331                               | \$15,565,330           | 112.1%         |
| 200 Wheeling Power Co - Transmission                     | 655,442                          | 0                                    | 655,442                                    | 887,084                | 135.3%         |
| <b>Wheeling Power Co.</b>                                | <b>\$14,508,851</b>              | <b>\$25,922</b>                      | <b>\$14,534,773</b>                        | <b>\$16,452,414</b>    | <b>113.2%</b>  |
| 103 American Electric Power Service Corporation          | \$1,227,718,652                  | \$17,288,576                         | \$1,245,007,228                            | \$1,387,290,786        | 111.4%         |
| <b>American Electric Power Service Corp</b>              | <b>\$1,227,718,652</b>           | <b>\$17,288,576</b>                  | <b>\$1,245,007,228</b>                     | <b>\$1,387,290,786</b> | <b>111.4%</b>  |
| 143 AEP Pro Serv, Inc.                                   | \$934,735                        | \$0                                  | \$934,735                                  | \$1,014,265            | 108.5%         |
| 171 CSW Energy, Inc.                                     | 7,332,576                        | 348,203                              | 7,680,779                                  | 9,701,893              | 126.3%         |
| 293 Elmwood  | 2,408,829                        | 62,493                               | 2,471,322                                  | 5,068,769              | 205.1%         |
| 292 AEP River Operations LLC                             | 24,806,529                       | 718,391                              | 25,524,920                                 | 48,044,913             | 188.2%         |
| 189 Central Coal Company                                 | 0                                | 0                                    | 0  | 0                      | 0.0%           |
| <b>Miscellaneous</b>                                     | <b>\$35,482,669</b>              | <b>\$1,129,087</b>                   | <b>\$36,611,756</b>                        | <b>\$63,829,840</b>    | <b>174.3%</b>  |
| 270 Cook Coal Terminal                                   | \$3,154,805                      | \$39,803                             | \$3,194,608                                | \$3,974,249            | 124.4%         |
| <b>AEP Generating Company</b>                            | <b>\$3,154,805</b>               | <b>\$39,803</b>                      | <b>\$3,194,608</b>                         | <b>\$3,974,249</b>     | <b>124.4%</b>  |
| 104 Cardinal Operating Company                           | \$67,405,829                     | \$796,536                            | \$68,202,365                               | \$87,358,287           | 128.1%         |
| 181 Ohio Power Co - Generation                           | 266,588,806                      | 1,744,571                            | 268,333,377                                | 363,841,775            | 135.6%         |
| <b>AEP Generation Resources - FERC</b>                   | <b>\$333,994,635</b>             | <b>\$2,541,107</b>                   | <b>\$336,535,742</b>                       | <b>\$451,200,062</b>   | <b>134.1%</b>  |
| 290 Conesville Coal Preparation Company                  | 2,935,455                        | 0                                    | 2,935,455                                  | 4,312,441              | 146.9%         |
| <b>AEP Generation Resources - SEC</b>                    | <b>\$336,930,090</b>             | <b>\$2,541,107</b>                   | <b>\$339,471,197</b>                       | <b>\$455,512,503</b>   | <b>134.2%</b>  |
| <b>Total</b>   | <b>\$4,063,912,819</b>           | <b>\$41,438,666</b>                  | <b>\$4,105,351,485</b>                     | <b>\$4,726,059,114</b> | <b>115.1%</b>  |

## SUMMARY OF ASC 715-30 VALUATION RESULTS AS OF JANUARY 1, 2014

| Location  | Valuation Earnings   | Market-Related Value of Assets | Fair Value of Assets   | Accumulated Benefit Obligation | Projected Benefit Obligation | January 1, 2014 Pre-Tax AOCI |
|---|----------------------|--------------------------------|------------------------|--------------------------------|------------------------------|------------------------------|
| 140 Appalachian Power Co - Distribution                   | \$84,512,632         | \$297,485,232                  | \$311,905,817          | \$324,582,269                  | \$328,405,056                | \$118,322,027                |
| 215 Appalachian Power Co - Generation                     | 77,844,052           | 252,522,247                    | 264,763,253            | 272,926,813                    | 276,974,512                  | 82,779,783                   |
| 150 Appalachian Power Co - Transmission                   | 4,800,964            | 29,948,625                     | 31,400,384             | 38,077,411                     | 38,259,468                   | 16,257,932                   |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$167,157,648</b> | <b>\$579,956,104</b>           | <b>\$608,069,454</b>   | <b>\$635,586,493</b>           | <b>\$643,639,036</b>         | <b>\$217,359,742</b>         |
| 225 Cedar Coal Co   | 0                    | 4,373,955                      | 4,585,983              | 3,459,518                      | 3,459,518                    | 2,595,629                    |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$167,157,648</b> | <b>\$584,330,059</b>           | <b>\$612,655,437</b>   | <b>\$639,046,011</b>           | <b>\$647,098,554</b>         | <b>\$219,955,371</b>         |
| 211 AEP Texas Central Company - Distribution              | \$70,653,200         | \$261,731,307                  | \$274,418,722          | \$271,270,951                  | \$279,000,916                | \$131,503,530                |
| 147 AEP Texas Central Company - Generation                | 0                    | 13,861,705                     | 14,533,651             | 7,311,167                      | 7,311,167                    | (7,222,484)                  |
| 169 AEP Texas Central Company - Transmission              | 8,786,245            | 25,199,197                     | 26,420,727             | 26,139,434                     | 27,069,199                   | 16,499,353                   |
| <b>AEP Texas Central Co.</b>                              | <b>\$ 79,439,445</b> | <b>\$ 300,792,209</b>          | <b>\$ 315,373,100</b>  | <b>\$ 304,721,552</b>          | <b>\$ 313,381,282</b>        | <b>\$ 140,780,399</b>        |
| 170 Indiana Michigan Power Co - Distribution              | \$47,036,673         | \$154,669,233                  | \$162,166,819          | \$164,062,313                  | \$167,203,867                | \$56,282,754                 |
| 132 Indiana Michigan Power Co - Generation                | 33,662,402           | 101,474,161                    | 106,393,117            | 111,027,706                    | 112,032,380                  | 28,967,084                   |
| 190 Indiana Michigan Power Co - Nuclear                   | 111,226,470          | 210,278,407                    | 220,471,645            | 210,602,928                    | 217,368,696                  | 30,355,681                   |
| 120 Indiana Michigan Power Co - Transmission              | 10,512,000           | 32,212,949                     | 33,774,470             | 37,154,418                     | 37,856,413                   | 12,171,034                   |
| 280 Ind Mich River Transp Lakin                           | 21,755,217           | 35,169,308                     | 36,874,139             | 32,204,002                     | 34,240,192                   | 4,104,557                    |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$224,192,762</b> | <b>\$533,804,058</b>           | <b>\$559,680,190</b>   | <b>\$555,051,367</b>           | <b>\$568,701,548</b>         | <b>\$131,881,110</b>         |
| 202 Price River Coal                                      | 0                    | 0                              | 0                      | 0                              | 0                            | 389,835                      |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$224,192,762</b> | <b>\$533,804,058</b>           | <b>\$559,680,190</b>   | <b>\$555,051,367</b>           | <b>\$568,701,548</b>         | <b>\$132,270,945</b>         |
| 110 Kentucky Power Co - Distribution                      | \$20,689,821         | \$65,223,505                   | \$68,385,212           | \$72,297,234                   | \$73,061,972                 | \$20,093,799                 |
| 117 Kentucky Power Co - Generation                        | 7,869,114            | 30,018,882                     | 31,474,046             | 35,232,456                     | 35,440,721                   | 10,746,494                   |
| 180 Kentucky Power Co - Transmission                      | 2,373,202            | 5,896,275                      | 6,182,096              | 6,727,364                      | 6,840,091                    | 1,725,755                    |
| 600 Kentucky Power Co. - Kammer Actives                   | 3,372,332            | 5,174,881                      | 5,425,733              | 5,204,952                      | 5,291,035                    | 3,473,585                    |
| 701 Kentucky Power Co. - Mitchell Actives                 | 21,105,325           | 33,871,239                     | 35,513,146             | 28,796,052                     | 29,968,723                   | 9,817,201                    |
| 702 Kentucky Power Co. - Mitchell Inactives               | \$0                  | \$26,416,563                   | \$27,697,105           | \$23,740,957                   | \$23,740,957                 | \$9,489,032                  |
| <b>Kentucky Power Co.</b>                                 | <b>\$55,409,794</b>  | <b>\$166,601,345</b>           | <b>\$174,677,338</b>   | <b>\$171,999,015</b>           | <b>\$174,343,499</b>         | <b>\$55,345,866</b>          |
| 250 Ohio Power Co - Distribution                          | \$116,244,877        | \$413,652,018                  | \$433,703,784          | \$427,181,120                  | \$436,333,873                | \$182,275,697                |
| 160 Ohio Power Co - Transmission                          | 879,542              | 41,503,861                     | 43,515,760             | 48,389,591                     | 48,419,864                   | 31,483,029                   |
| <b>Ohio Power Co</b>                                      | <b>\$117,124,419</b> | <b>\$455,155,879</b>           | <b>\$477,219,544</b>   | <b>\$475,570,711</b>           | <b>\$484,753,737</b>         | <b>\$213,758,726</b>         |
| 167 Public Service Co of Oklahoma - Distribution          | \$53,646,651         | \$152,967,876                  | \$160,382,988          | \$154,990,426                  | \$160,988,434                | \$65,152,593                 |
| 198 Public Service Co of Oklahoma - Generation            | 32,076,137           | 79,452,166                     | 83,303,607             | 77,163,690                     | 80,229,161                   | 24,692,416                   |
| 114 Public Service Co of Oklahoma - Transmission          | 7,029,125            | 19,116,736                     | 20,043,420             | 18,455,843                     | 19,218,275                   | 6,548,628                    |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$92,751,913</b>  | <b>\$251,536,778</b>           | <b>\$263,730,015</b>   | <b>\$250,609,959</b>           | <b>\$260,435,870</b>         | <b>\$96,393,637</b>          |
| 159 Southwestern Electric Power Co - Distribution         | \$42,472,372         | \$97,061,029                   | \$101,766,058          | \$92,358,579                   | \$97,690,360                 | \$38,583,037                 |
| 168 Southwestern Electric Power Co - Generation           | 50,660,835           | 104,647,841                    | 109,720,641            | 103,629,992                    | 107,814,840                  | 33,690,674                   |
| 161 Southwestern Electric Power Co - Texas - Distribution | 19,088,423           | 48,522,496                     | 50,874,622             | 50,510,093                     | 52,454,149                   | 22,178,342                   |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0                    | 74,100                         | 77,692                 | 149,162                        | 149,162                      | 923,789                      |
| 194 Southwestern Electric Power Co - Transmission         | 6,469,427            | 15,410,222                     | 16,157,232             | 14,309,451                     | 14,988,719                   | 4,842,254                    |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$118,691,057</b> | <b>\$265,715,688</b>           | <b>\$278,596,245</b>   | <b>\$260,957,277</b>           | <b>\$273,097,230</b>         | <b>\$100,218,096</b>         |
| 119 AEP Texas North Company - Distribution                | \$20,645,160         | \$64,277,688                   | \$67,393,547           | \$66,160,245                   | \$68,052,511                 | \$30,710,316                 |
| 166 AEP Texas North Company - Generation                  | 0                    | 23,570,002                     | 24,712,557             | 21,294,691                     | 21,294,691                   | 16,645,985                   |
| 192 AEP Texas North Company - Transmission                | 4,117,298            | 9,372,758                      | 9,827,102              | 8,994,306                      | 9,466,250                    | 3,885,839                    |
| <b>AEP Texas North Co.</b>                                | <b>\$24,762,458</b>  | <b>\$97,220,448</b>            | <b>\$101,933,206</b>   | <b>\$96,449,242</b>            | <b>\$98,813,452</b>          | <b>\$51,242,140</b>          |
| 230 Kingsport Power Co - Distribution                     | \$3,953,378          | \$12,286,705                   | \$12,882,303           | \$13,425,702                   | \$13,640,456                 | \$5,099,242                  |
| 260 Kingsport Power Co - Transmission                     | 444,453              | 2,147,828                      | 2,251,944              | 2,741,050                      | 2,774,811                    | 1,388,742                    |
| <b>Kingsport Power Co.</b>                                | <b>\$4,397,831</b>   | <b>\$14,434,533</b>            | <b>\$15,134,247</b>    | <b>\$16,166,752</b>            | <b>\$16,415,267</b>          | <b>\$6,487,984</b>           |
| 210 Wheeling Power Co - Distribution                      | \$3,674,311          | \$14,845,686                   | \$15,565,330           | \$15,588,079                   | \$15,762,329                 | \$6,868,291                  |
| 200 Wheeling Power Co - Transmission                      | 0                    | 846,071                        | 887,084                | 702,255                        | 702,255                      | 665,333                      |
| <b>Wheeling Power Co.</b>                                 | <b>\$3,674,311</b>   | <b>\$15,691,757</b>            | <b>\$16,452,414</b>    | <b>\$16,290,334</b>            | <b>\$16,464,584</b>          | <b>\$7,533,624</b>           |
| 103 American Electric Power Service Corporation           | \$499,855,502        | \$1,323,151,091                | \$1,387,290,786        | \$1,408,611,387                | \$1,448,053,663              | \$367,388,910                |
| <b>American Electric Power Service Corp</b>               | <b>\$499,855,502</b> | <b>\$1,323,151,091</b>         | <b>\$1,387,290,786</b> | <b>\$1,408,611,387</b>         | <b>\$1,448,053,663</b>       | <b>\$367,388,910</b>         |
| 143 AEP Pro Serv, Inc.                                    | \$0                  | \$967,372                      | \$1,014,265            | \$1,077,850                    | \$1,077,850                  | \$14,188                     |
| 171 CSW Energy, Inc.                                      | 10,958,535           | 9,253,338                      | 9,701,893              | 9,195,908                      | 10,587,705                   | 4,118,275                    |
| 293 Elmwood   | 4,209,151            | 4,834,420                      | 5,068,769              | 2,794,783                      | 3,047,933                    | (2,044,996)                  |
| 292 AEP River Operations LLC                              | 71,039,647           | 45,823,615                     | 48,044,913             | 29,276,534                     | 35,725,072                   | (12,315,862)                 |
| 189 Central Coal Company                                  | 0                    | 0                              | 0                      | 0                              | 0                            | 3,400,814                    |
| <b>Miscellaneous</b>                                      | <b>\$86,207,333</b>  | <b>\$60,878,745</b>            | <b>\$63,829,840</b>    | <b>\$42,345,075</b>            | <b>\$50,438,560</b>          | <b>(\$6,827,581)</b>         |
| 270 Cook Coal Terminal                                    | \$1,443,667          | \$3,790,505                    | \$3,974,249            | \$3,628,628                    | \$3,754,790                  | \$523,916                    |
| <b>AEP Generating Company</b>                             | <b>\$1,443,667</b>   | <b>\$3,790,505</b>             | <b>\$3,974,249</b>     | <b>\$3,628,628</b>             | <b>\$3,754,790</b>           | <b>\$523,916</b>             |
| 104 Cardinal Operating Company                            | \$25,622,840         | \$83,319,383                   | \$87,358,287           | \$77,169,947                   | \$78,530,195                 | (\$8,828,092)                |
| 181 Ohio Power Co - Generation                            | 55,463,811           | 347,019,994                    | 363,841,775            | 301,340,675                    | 304,396,568                  | 120,905,766                  |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$81,086,651</b>  | <b>\$430,339,377</b>           | <b>\$451,200,062</b>   | <b>\$378,510,622</b>           | <b>\$382,926,763</b>         | <b>\$112,077,674</b>         |
| 290 Conesville Coal Preparation Company                   | 0                    | 4,113,061                      | 4,312,441              | 3,287,741                      | 3,287,741                    | 458,879                      |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$81,086,651</b>  | <b>\$434,452,438</b>           | <b>\$455,512,503</b>   | <b>\$381,798,363</b>           | <b>\$386,214,504</b>         | <b>\$112,536,553</b>         |
| <b>Total</b>  | <b>1,556,194,791</b> | <b>4,507,555,533</b>           | <b>4,726,059,114</b>   | <b>4,623,245,673</b>           | <b>4,741,966,540</b>         | <b>1,497,608,586</b>         |



American Electric Power System Retirement Plan

| Location  | ASC 715-30           | Estimated Net Periodic Pension Cost |                      |                      |                     |                     |                     |                     |                     |                     |                     |
|---|----------------------|-------------------------------------|----------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|   | Cost<br>2014         | 2015                                | 2016                 | 2017                 | 2018                | 2019                | 2020                | 2021                | 2022                | 2023                | 2024                |
| 140 Appalachian Power Co - Distribution                   | \$9,732,911          | \$6,902,782                         | \$8,242,226          | \$6,874,665          | \$6,060,349         | \$5,653,520         | \$5,657,586         | \$5,617,293         | \$5,666,947         | \$5,671,600         | \$5,744,247         |
| 215 Appalachian Power Co - Generation                     | 8,547,560            | 6,128,680                           | 7,202,249            | 6,140,297            | 5,447,493           | 4,996,295           | 4,947,058           | 4,862,384           | 4,840,079           | 4,794,710           | 4,755,009           |
| 150 Appalachian Power Co - Transmission                   | 1,198,260            | 874,717                             | 815,486              | 568,164              | 464,033             | 395,486             | 417,338             | 396,380             | 416,942             | 395,519             | 401,831             |
| <b>Appalachian Power Co. - FERC</b>                       | <b>19,478,731</b>    | <b>13,906,179</b>                   | <b>16,259,961</b>    | <b>13,583,126</b>    | <b>11,971,875</b>   | <b>11,045,301</b>   | <b>11,021,982</b>   | <b>10,876,057</b>   | <b>10,923,968</b>   | <b>10,861,829</b>   | <b>10,901,087</b>   |
| 225 Cedar Coal Co   | (9,812)              | (41,632)                            | (30,571)             | (48,336)             | (58,460)            | (66,614)            | (69,361)            | (71,897)            | (74,794)            | (77,751)            | (80,707)            |
| <b>Appalachian Power Co. - SEC</b>                        | <b>19,468,919</b>    | <b>13,864,547</b>                   | <b>16,229,390</b>    | <b>13,534,790</b>    | <b>11,913,415</b>   | <b>10,978,687</b>   | <b>10,952,621</b>   | <b>10,804,160</b>   | <b>10,849,174</b>   | <b>10,784,078</b>   | <b>10,820,380</b>   |
| 211 AEP Texas Central Company - Distribution              | 8,985,957            | 6,588,713                           | 7,852,194            | 6,819,786            | 6,341,074           | 6,058,144           | 6,147,746           | 6,185,493           | 6,303,213           | 6,375,528           | 6,466,186           |
| 147 AEP Texas Central Company - Generation                | (284,812)            | (387,659)                           | (412,038)            | (471,009)            | (465,740)           | (477,195)           | (512,836)           | (525,749)           | (527,135)           | (559,628)           | (610,760)           |
| 169 AEP Texas Central Company - Transmission              | 1,001,137            | 776,147                             | 898,878              | 807,147              | 776,153             | 737,127             | 739,925             | 732,026             | 726,608             | 716,831             | 710,434             |
| <b>AEP Texas Central Co.</b>                              | <b>9,702,282</b>     | <b>6,977,201</b>                    | <b>8,339,034</b>     | <b>7,155,924</b>     | <b>6,651,487</b>    | <b>6,318,076</b>    | <b>6,374,835</b>    | <b>6,391,770</b>    | <b>6,502,686</b>    | <b>6,532,731</b>    | <b>6,565,860</b>    |
| 170 Indiana Michigan Power Co - Distribution              | 4,974,314            | 3,562,537                           | 4,276,094            | 3,696,591            | 3,284,975           | 3,127,633           | 3,122,966           | 3,088,690           | 3,079,757           | 3,036,173           | 3,044,997           |
| 132 Indiana Michigan Power Co - Generation                | 3,625,910            | 2,607,900                           | 3,000,620            | 2,559,323            | 2,261,124           | 2,054,017           | 2,053,385           | 2,014,008           | 2,006,216           | 1,990,229           | 2,000,609           |
| 190 Indiana Michigan Power Co - Nuclear                   | 8,908,147            | 6,843,421                           | 7,439,981            | 6,503,191            | 5,752,554           | 5,080,480           | 4,761,301           | 4,387,825           | 4,065,597           | 3,760,570           | 3,489,582           |
| 120 Indiana Michigan Power Co - Transmission              | 1,273,251            | 939,702                             | 1,046,991            | 830,440              | 732,341             | 674,045             | 668,475             | 658,240             | 653,726             | 648,836             | 653,535             |
| 280 Ind Mich River Transp Lakin                           | 1,304,020            | 1,000,344                           | 1,095,163            | 950,626              | 814,197             | 709,039             | 655,203             | 609,098             | 550,401             | 484,766             | 408,990             |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>20,085,642</b>    | <b>14,953,904</b>                   | <b>16,858,849</b>    | <b>14,540,171</b>    | <b>12,845,191</b>   | <b>11,645,214</b>   | <b>11,261,330</b>   | <b>10,757,861</b>   | <b>10,355,697</b>   | <b>9,920,574</b>    | <b>9,597,713</b>    |
| 202 Price River Coal                                      | 32                   | 5                                   | 0                    | 0                    | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>20,085,674</b>    | <b>14,953,909</b>                   | <b>16,858,849</b>    | <b>14,540,171</b>    | <b>12,845,191</b>   | <b>11,645,214</b>   | <b>11,261,330</b>   | <b>10,757,861</b>   | <b>10,355,697</b>   | <b>9,920,574</b>    | <b>9,597,713</b>    |
| 110 Kentucky Power Co - Distribution                      | 3,837,613            | 1,649,850                           | 1,935,938            | 1,601,868            | 1,398,174           | 1,288,089           | 1,281,527           | 1,266,352           | 1,275,934           | 1,275,256           | 1,285,823           |
| 117 Kentucky Power Co - Generation                        | 1,211,950            | 794,465                             | 878,006              | 663,296              | 566,985             | 508,725             | 505,747             | 495,520             | 508,118             | 515,278             | 526,135             |
| 180 Kentucky Power Co - Transmission                      | 2,733,606            | 207,768                             | 226,520              | 192,880              | 169,612             | 154,746             | 149,121             | 140,734             | 134,291             | 126,590             | 119,877             |
| 600 Kentucky Power Co. - Kammer Actives                   | 246,878              | 190,259                             | 201,630              | 177,061              | 153,582             | 137,818             | 132,655             | 124,360             | 118,519             | 114,054             | 110,714             |
| 701 Kentucky Power Co. - Mitchell Actives                 | 1,114,089            | 760,035                             | 786,098              | 610,418              | 437,977             | 321,058             | 245,788             | 144,693             | 68,062              | (11,971)            | (97,635)            |
| 702 Kentucky Power Co. - Mitchell Inactives               | 150,180              | (58,802)                            | 26,571               | (83,915)             | (149,486)           | (198,188)           | (210,689)           | (222,788)           | (237,504)           | (251,956)           | (265,152)           |
| <b>Kentucky Power Co.</b>                                 | <b>5,190,316</b>     | <b>3,543,575</b>                    | <b>4,054,763</b>     | <b>3,161,608</b>     | <b>2,576,844</b>    | <b>2,212,248</b>    | <b>2,104,149</b>    | <b>1,948,871</b>    | <b>1,867,420</b>    | <b>1,767,251</b>    | <b>1,679,762</b>    |
| 250 Ohio Power Co - Distribution                          | 12,321,597           | 8,536,020                           | 10,365,822           | 8,886,270            | 7,880,705           | 7,246,783           | 7,221,949           | 7,174,123           | 7,099,439           | 7,077,865           | 7,026,486           |
| 160 Ohio Power Co - Transmission                          | 1,052,586            | 721,546                             | 811,380              | 474,844              | 349,121             | 260,190             | 275,276             | 232,388             | 199,978             | 169,023             | 155,045             |
| <b>Ohio Power Co.</b>                                     | <b>13,374,183</b>    | <b>9,257,566</b>                    | <b>11,177,202</b>    | <b>9,361,114</b>     | <b>8,229,826</b>    | <b>7,506,973</b>    | <b>7,497,225</b>    | <b>7,406,511</b>    | <b>7,299,417</b>    | <b>7,246,888</b>    | <b>7,181,531</b>    |
| 167 Public Service Co of Oklahoma - Distribution          | 5,809,449            | 4,384,514                           | 5,114,363            | 4,576,078            | 4,310,017           | 4,180,799           | 4,248,957           | 4,174,802           | 4,234,739           | 4,180,641           | 4,122,981           |
| 198 Public Service Co of Oklahoma - Generation            | 3,036,576            | 2,442,716                           | 2,815,613            | 2,538,388            | 2,384,778           | 2,305,913           | 2,330,825           | 2,356,850           | 2,359,397           | 2,368,245           | 2,347,802           |
| 114 Public Service Co of Oklahoma - Transmission          | 667,937              | 517,554                             | 601,585              | 532,257              | 493,399             | 457,999             | 480,806             | 474,310             | 473,982             | 463,515             | 449,839             |
| <b>Public Service Co. of Oklahoma</b>                     | <b>9,513,962</b>     | <b>7,344,784</b>                    | <b>8,531,561</b>     | <b>7,646,723</b>     | <b>7,188,194</b>    | <b>6,944,711</b>    | <b>7,060,588</b>    | <b>7,005,962</b>    | <b>7,068,118</b>    | <b>7,012,401</b>    | <b>6,920,622</b>    |
| 159 Southwestern Electric Power Co - Distribution         | 3,837,615            | 3,048,767                           | 3,490,051            | 3,130,308            | 2,898,868           | 2,827,165           | 2,823,935           | 2,776,924           | 2,776,332           | 2,756,174           | 2,703,853           |
| 168 Southwestern Electric Power Co - Generation           | 4,625,799            | 3,766,384                           | 4,253,297            | 3,888,267            | 3,718,093           | 3,590,861           | 3,618,172           | 3,565,987           | 3,576,012           | 3,539,325           | 3,500,153           |
| 161 Southwestern Electric Power Co - Texas - Distribution | 2,078,358            | 1,653,515                           | 1,923,082            | 1,681,416            | 1,622,639           | 1,566,608           | 1,569,226           | 1,567,223           | 1,551,685           | 1,546,493           | 1,529,490           |
| 111 Southwestern Electric Power Co - Texas - Transmission | 6,099                | 5,823                               | 2,675                | 1,587                | 1,204               | 864                 | 837                 | 677                 | 547                 | 407                 | 329                 |
| 194 Southwestern Electric Power Co - Transmission         | 537,230              | 420,737                             | 491,826              | 436,448              | 395,805             | 370,754             | 360,706             | 337,688             | 319,015             | 293,905             | 267,917             |
| <b>Southwestern Electric Power Co.</b>                    | <b>11,085,101</b>    | <b>8,895,226</b>                    | <b>10,160,931</b>    | <b>9,138,026</b>     | <b>8,636,609</b>    | <b>8,356,252</b>    | <b>8,372,876</b>    | <b>8,248,499</b>    | <b>8,223,591</b>    | <b>8,136,304</b>    | <b>8,001,742</b>    |
| 119 AEP Texas North Company - Distribution                | 2,397,004            | 1,930,717                           | 2,258,848            | 1,973,479            | 1,865,566           | 1,799,561           | 1,876,924           | 1,879,102           | 1,893,896           | 1,901,005           | 1,905,655           |
| 166 AEP Texas North Company - Generation                  | 141,758              | (46,286)                            | 31,724               | (44,520)             | (88,340)            | (120,491)           | (119,676)           | (116,836)           | (118,665)           | (110,854)           | (117,694)           |
| 192 AEP Texas North Company - Transmission                | 379,445              | 293,290                             | 328,644              | 284,144              | 282,575             | 272,020             | 275,565             | 273,250             | 272,454             | 263,805             | 278,831             |
| <b>AEP Texas North Co.</b>                                | <b>2,918,207</b>     | <b>2,177,721</b>                    | <b>2,619,216</b>     | <b>2,213,103</b>     | <b>2,059,801</b>    | <b>1,951,090</b>    | <b>2,032,813</b>    | <b>2,035,516</b>    | <b>2,047,685</b>    | <b>2,053,956</b>    | <b>2,066,792</b>    |
| 230 Kingsport Power Co - Distribution                     | 444,947              | 322,943                             | 375,928              | 317,611              | 282,969             | 260,262             | 256,611             | 248,626             | 245,098             | 238,339             | 241,219             |
| 260 Kingsport Power Co - Transmission                     | 91,691               | 70,561                              | 64,661               | 47,681               | 40,603              | 35,345              | 35,036              | 34,447              | 34,183              | 34,368              | 33,460              |
| <b>Kingsport Power Co.</b>                                | <b>536,638</b>       | <b>393,504</b>                      | <b>440,589</b>       | <b>365,292</b>       | <b>323,572</b>      | <b>295,607</b>      | <b>291,647</b>      | <b>283,073</b>      | <b>279,281</b>      | <b>272,707</b>      | <b>274,679</b>      |
| 210 Wheeling Power Co - Distribution                      | 458,837              | 323,390                             | 387,538              | 333,094              | 293,084             | 271,278             | 276,546             | 273,492             | 272,930             | 276,820             | 276,424             |
| 200 Wheeling Power Co - Transmission                      | (226)                | (4,772)                             | (534)                | (2,094)              | (2,282)             | (2,233)             | (1,283)             | (471)               | 88                  | 439                 | 598                 |
| <b>Wheeling Power Co.</b>                                 | <b>458,611</b>       | <b>318,618</b>                      | <b>387,004</b>       | <b>331,000</b>       | <b>290,802</b>      | <b>269,045</b>      | <b>275,263</b>      | <b>273,021</b>      | <b>273,018</b>      | <b>277,259</b>      | <b>277,022</b>      |
| 103 American Electric Power Service Corporation           | 48,004,650           | 34,995,903                          | 40,429,476           | 34,921,358           | 31,145,924          | 28,752,143          | 28,246,902          | 27,559,850          | 27,121,096          | 26,646,509          | 26,276,483          |
| <b>American Electric Power Service Corp</b>               | <b>48,004,650</b>    | <b>34,995,903</b>                   | <b>40,429,476</b>    | <b>34,921,358</b>    | <b>31,145,924</b>   | <b>28,752,143</b>   | <b>28,246,902</b>   | <b>27,559,850</b>   | <b>27,121,096</b>   | <b>26,646,509</b>   | <b>26,276,483</b>   |
| 143 AEP Pro Serv, Inc.                                    | 20,377               | 11,260                              | 15,416               | 9,332                | 6,327               | 2,798               | 868                 | (961)               | (3,114)             | (4,626)             | (5,146)             |
| 171 CSW Energy, Inc.                                      | 757,079              | 623,762                             | 641,909              | 584,162              | 555,037             | 500,698             | 452,893             | 398,312             | 348,625             | 287,819             | 228,180             |
| 293 Elmwood   | 195,640              | 172,795                             | 159,746              | 159,746              | 140,253             | 120,781             | 107,087             | 87,722              | 66,323              | 40,373              | 16,840              |
| 189 Central Coal Company                                  | 0                    | 0                                   | 0                    | 0                    | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   |
| 292 AEP River Operations LLC                              | 3,943,710            | 3,629,440                           | 3,733,732            | 3,668,794            | 3,471,180           | 3,278,906           | 3,077,404           | 2,764,756           | 2,529,562           | 2,208,383           | 1,859,844           |
| <b>Miscellaneous</b>                                      | <b>4,916,806</b>     | <b>4,432,257</b>                    | <b>4,564,037</b>     | <b>4,422,034</b>     | <b>4,172,797</b>    | <b>3,903,183</b>    | <b>3,638,252</b>    | <b>3,249,829</b>    | <b>2,941,396</b>    | <b>2,531,949</b>    | <b>2,099,718</b>    |
| 270 Cook Coal Terminal                                    | 96,142               | 107,360                             | 93,812               | 83,322               | 74,790              | 74,790              | 74,178              | 71,843              | 68,546              | 65,230              | 60,141              |
| <b>AEP Generating Company</b>                             | <b>130,718</b>       | <b>96,142</b>                       | <b>107,360</b>       | <b>93,812</b>        | <b>83,322</b>       | <b>74,790</b>       | <b>74,178</b>       | <b>71,843</b>       | <b>68,546</b>       | <b>65,230</b>       | <b>60,141</b>       |
| 104 Cardinal Operating Company                            | 1,905,828            | 1,183,831                           | 1,428,711            | 1,078,315            | 836,220             | 651,978             | 569,583             | 474,082             | 399,804             | 320,214             | 231,042             |
| 181 Ohio Power Co - Generation                            | 4,148,137            | 1,362,526                           | 2,247,275            | 832,259              | (80,751)            | (786,077)           | (1,035,932)         | (1,382,426)         | (1,655,354)         | (2,026,341)         | (2,355,393)         |
| <b>AEP Generation Resources - FERC</b>                    | <b>6,053,965</b>     | <b>2,546,357</b>                    | <b>3,675,986</b>     | <b>1,910,574</b>     | <b>755,469</b>      | <b>(134,099)</b>    | <b>(466,349)</b>    | <b>(908,344)</b>    | <b>(1,255,550)</b>  | <b>(1,706,127)</b>  | <b>(2,124,351)</b>  |
| 290 Conesville Coal Preparation Company                   | (6,515)              | (36,136)                            | (23,905)             | (39,913)             | (51,272)            | (60,292)            | (63,930)            | (67,139)            | (72,654)            | (80,201)            | (87,744)            |
| <b>AEP Generation Resources - SEC</b>                     | <b>6,047,450</b>     | <b>2,510,221</b>                    | <b>3,652,081</b>     | <b>1,870,661</b>     | <b>704,197</b>      | <b>(194,391)</b>    | <b>(530,279)</b>    | <b>(975,483)</b>    | <b>(1,328,204)</b>  | <b>(1,786,328)</b>  | <b>(2,212,095)</b>  |
| <b>Total</b>  | <b>\$151,433,517</b> | <b>\$109,761,174</b>                | <b>\$127,551,493</b> | <b>\$108,755,616</b> | <b>\$96,821,981</b> | <b>\$89,013,628</b> | <b>\$87,652,400</b> | <b>\$85,061,283</b> | <b>\$83,568,921</b> | <b>\$81,461,509</b> | <b>\$79,610,350</b> |

AMERICAN ELECTRIC POWER  
QUALIFIED RETIREMENT PLAN  
2014 NET PERIODIC PENSION COST

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost        | Interest Cost        | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|---------------------|----------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$328,405,056                | \$297,485,232                  | \$3,484,074         | \$15,012,514         | (\$17,272,111)            | \$95,769                           | \$8,412,665               | \$9,732,911               |
| 215 Appalachian Power Co - Generation                     | 276,974,512                  | 252,522,247                    | 3,337,610           | 12,687,762           | (14,661,543)              | 88,548                             | 7,095,183                 | 8,547,560                 |
| 150 Appalachian Power Co - Transmission                   | 38,259,468                   | 29,948,625                     | 197,061             | 1,746,686            | (1,738,829)               | 13,259                             | 980,083                   | 1,198,260                 |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$643,639,036</b>         | <b>\$579,956,104</b>           | <b>\$7,018,745</b>  | <b>\$29,446,962</b>  | <b>(\$3,672,483)</b>      | <b>\$197,576</b>                   | <b>\$16,487,931</b>       | <b>\$19,478,731</b>       |
| 225 Cedar Coal Co   | 3,459,518                    | 4,373,955                      | 0                   | 155,264              | (253,954)                 | 256                                | 88,622                    | (9,812)                   |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$647,098,554</b>         | <b>\$584,330,059</b>           | <b>\$7,018,745</b>  | <b>\$29,602,226</b>  | <b>(\$3,926,437)</b>      | <b>\$197,832</b>                   | <b>\$16,576,553</b>       | <b>\$19,468,919</b>       |
| 211 AEP Texas Central Company - Distribution              | \$279,000,916                | \$261,731,307                  | \$4,001,121         | \$12,743,770         | (\$15,196,224)            | \$290,197                          | \$7,147,093               | \$8,985,957               |
| 147 AEP Texas Central Company - Generation                | 7,311,167                    | 13,861,705                     | 0                   | 332,716              | (804,816)                 | 0                                  | 187,288                   | (284,812)                 |
| 169 AEP Texas Central Company - Transmission              | 27,069,199                   | 25,199,197                     | 500,409             | 1,238,193            | (1,463,075)               | 32,185                             | 693,425                   | 1,001,137                 |
| <b>AEP Texas Central Co.</b>                              | <b>\$313,381,282</b>         | <b>\$300,792,209</b>           | <b>\$4,501,530</b>  | <b>\$14,314,679</b>  | <b>(\$17,464,115)</b>     | <b>\$322,382</b>                   | <b>\$8,027,806</b>        | <b>\$9,702,282</b>        |
| 170 Indiana Michigan Power Co - Distribution              | \$167,203,867                | \$154,669,233                  | \$1,987,533         | \$7,633,937          | (\$8,980,157)             | \$49,784                           | \$4,283,217               | \$4,974,314               |
| 132 Indiana Michigan Power Co - Generation                | 112,032,380                  | 101,474,161                    | 1,463,138           | 5,152,341            | (5,891,630)               | 32,157                             | 2,869,904                 | 3,625,910                 |
| 190 Indiana Michigan Power Co - Nuclear                   | 217,368,696                  | 210,278,407                    | 5,311,540           | 10,151,275           | (12,208,848)              | 85,904                             | 5,568,276                 | 8,908,147                 |
| 120 Indiana Michigan Power Co - Transmission              | 37,856,413                   | 32,212,949                     | 425,845             | 1,737,237            | (1,870,297)               | 10,708                             | 969,758                   | 1,273,251                 |
| 280 Ind Mich River Transp Lakin                           | 34,240,192                   | 35,169,308                     | 856,192             | 1,595,825            | (2,041,944)               | 16,825                             | 877,122                   | 1,304,020                 |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$568,701,548</b>         | <b>\$533,804,058</b>           | <b>\$10,044,248</b> | <b>\$26,270,615</b>  | <b>(\$30,992,876)</b>     | <b>\$195,378</b>                   | <b>\$14,568,277</b>       | <b>\$20,085,642</b>       |
| 202 Price River Coal                                      | 0                            | 0                              | 0                   | 0                    | 0                         | 32                                 | 0                         | 32                        |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$568,701,548</b>         | <b>\$533,804,058</b>           | <b>\$10,044,248</b> | <b>\$26,270,615</b>  | <b>(\$30,992,876)</b>     | <b>\$195,410</b>                   | <b>\$14,568,277</b>       | <b>\$20,085,674</b>       |
| 110 Kentucky Power Co - Distribution                      | \$73,061,972                 | \$65,223,505                   | \$835,000           | \$3,349,713          | (\$3,786,903)             | \$24,194                           | \$1,871,609               | \$2,293,613               |
| 117 Kentucky Power Co - Generation                        | 35,440,721                   | 30,018,882                     | 307,728             | 1,626,354            | (1,742,908)               | 12,900                             | 907,876                   | 1,111,950                 |
| 180 Kentucky Power Co - Transmission                      | 6,840,091                    | 5,896,275                      | 119,495             | 317,369              | (342,340)                 | 3,861                              | 175,221                   | 273,606                   |
| 600 Kentucky Power Co. - Kammer Actives                   | 5,291,035                    | 5,174,881                      | 158,964             | 251,077              | (300,456)                 | 1,754                              | 135,539                   | 246,878                   |
| 701 Kentucky Power Co. - Mitchell Actives                 | 29,968,723                   | 33,871,239                     | 877,776             | 1,427,475            | (1,966,578)               | 7,715                              | 767,701                   | 1,114,089                 |
| 702 Kentucky Power Co. - Mitchell Inactives               | 23,740,957                   | 26,416,563                     | 0                   | 1,069,343            | (1,533,756)               | 6,427                              | 608,166                   | 150,180                   |
| <b>Kentucky Power Co.</b>                                 | <b>\$174,343,499</b>         | <b>\$166,601,345</b>           | <b>\$2,298,963</b>  | <b>\$8,041,331</b>   | <b>(\$9,672,941)</b>      | <b>\$56,851</b>                    | <b>\$4,466,112</b>        | <b>\$5,190,316</b>        |
| 250 Ohio Power Co - Distribution                          | \$436,333,873                | \$413,652,018                  | \$5,102,236         | \$19,927,019         | (\$24,016,801)            | \$131,694                          | \$11,177,449              | \$12,321,597              |
| 160 Ohio Power Co - Transmission                          | 48,419,864                   | 41,503,861                     | 24,782              | 2,171,890            | (2,409,731)               | 25,286                             | 1,240,359                 | 1,052,586                 |
| <b>Ohio Power Co.</b>                                     | <b>\$484,753,737</b>         | <b>\$455,155,879</b>           | <b>\$5,127,018</b>  | <b>\$22,098,909</b>  | <b>(\$26,426,532)</b>     | <b>\$156,980</b>                   | <b>\$12,417,808</b>       | <b>\$13,374,183</b>       |
| 167 Public Service Co of Oklahoma - Distribution          | \$160,988,434                | \$152,967,876                  | \$3,000,746         | \$7,383,422          | (\$8,881,376)             | \$182,659                          | \$4,123,998               | \$5,809,449               |
| 198 Public Service Co of Oklahoma - Generation            | 80,229,161                   | 79,452,166                     | 1,817,328           | 3,684,008            | (4,613,024)               | 93,055                             | 2,055,209                 | 3,036,576                 |
| 114 Public Service Co of Oklahoma - Transmission          | 19,218,275                   | 19,116,736                     | 380,791             | 882,109              | (1,109,925)               | 22,653                             | 492,309                   | 667,937                   |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$260,435,870</b>         | <b>\$251,536,778</b>           | <b>\$5,198,865</b>  | <b>\$11,949,539</b>  | <b>(\$14,604,325)</b>     | <b>\$298,367</b>                   | <b>\$6,671,516</b>        | <b>\$9,513,962</b>        |
| 159 Southwestern Electric Power Co - Distribution         | \$97,690,360                 | \$97,061,029                   | \$2,331,507         | \$4,510,429          | (\$5,635,402)             | \$128,573                          | \$2,502,508               | \$3,837,615               |
| 168 Southwestern Electric Power Co - Generation           | 107,814,840                  | 104,647,841                    | 2,829,007           | 4,977,118            | (6,075,895)               | 133,705                            | 2,761,864                 | 4,625,799                 |
| 161 Southwestern Electric Power Co - Texas - Distribution | 52,454,149                   | 48,522,496                     | 1,086,188           | 2,399,321            | (2,817,236)               | 66,381                             | 1,343,704                 | 2,078,358                 |
| 111 Southwestern Electric Power Co - Texas - Transmission | 149,162                      | 74,100                         | 6,477               | 6,477                | (4,302)                   | 103                                | 3,821                     | 6,099                     |
| 194 Southwestern Electric Power Co - Transmission         | 14,988,719                   | 15,410,222                     | 337,799             | 688,507              | (894,724)                 | 21,686                             | 383,962                   | 537,230                   |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$273,097,230</b>         | <b>\$265,715,688</b>           | <b>\$6,584,501</b>  | <b>\$12,581,852</b>  | <b>(\$15,427,559)</b>     | <b>\$350,448</b>                   | <b>\$6,995,859</b>        | <b>\$11,085,101</b>       |
| 119 AEP Texas North Company - Distribution                | 68,052,511                   | 64,277,688                     | 1,214,724           | 3,081,845            | (3,731,988)               | 89,140                             | 1,743,283                 | 2,397,004                 |
| 166 AEP Texas North Company - Generation                  | 21,294,691                   | 23,570,002                     | 957,267             | 512,634              | (1,368,484)               | 7,475                              | 545,500                   | 141,758                   |
| 192 AEP Texas North Company - Transmission                | 9,466,250                    | 9,372,758                      | 228,142             | 440,542              | (544,186)                 | 12,453                             | 242,494                   | 379,445                   |
| <b>AEP Texas North Co.</b>                                | <b>\$98,813,452</b>          | <b>\$97,220,448</b>            | <b>\$1,442,866</b>  | <b>\$4,479,654</b>   | <b>(\$5,644,658)</b>      | <b>\$109,068</b>                   | <b>\$2,531,277</b>        | <b>\$2,918,207</b>        |
| 230 Kingsport Power Co - Distribution                     | \$13,640,456                 | \$12,286,705                   | \$178,862           | \$626,422            | (\$713,371)               | \$3,610                            | \$349,424                 | \$444,947                 |
| 260 Kingsport Power Co - Transmission                     | 2,774,811                    | 2,147,828                      | 18,754              | 125,997              | (124,704)                 | 562                                | 71,082                    | 91,691                    |
| <b>Kingsport Power Co.</b>                                | <b>\$16,415,267</b>          | <b>\$14,434,533</b>            | <b>\$197,616</b>    | <b>\$752,419</b>     | <b>(\$838,075)</b>        | <b>\$4,172</b>                     | <b>\$420,506</b>          | <b>\$536,638</b>          |
| 210 Wheeling Power Co - Distribution                      | \$15,762,329                 | \$14,845,686                   | \$190,484           | \$720,107            | (\$861,946)               | \$6,413                            | \$403,779                 | \$458,837                 |
| 200 Wheeling Power Co - Transmission                      | 702,255                      | 846,071                        | 0                   | 30,855               | (49,123)                  | 53                                 | 17,989                    | (226)                     |
| <b>Wheeling Power Co.</b>                                 | <b>\$16,464,584</b>          | <b>\$15,691,757</b>            | <b>\$190,484</b>    | <b>\$750,962</b>     | <b>(\$911,069)</b>        | <b>\$6,466</b>                     | <b>\$421,768</b>          | <b>\$458,611</b>          |
| 103 American Electric Power Service Corporation           | \$1,448,053,663              | \$1,323,151,091                | \$20,540,697        | \$66,541,695         | (\$76,822,680)            | \$650,533                          | \$37,094,405              | \$48,004,650              |
| <b>American Electric Power Service Corp</b>               | <b>\$1,448,053,663</b>       | <b>\$1,323,151,091</b>         | <b>\$20,540,697</b> | <b>\$66,541,695</b>  | <b>(\$76,822,680)</b>     | <b>\$650,533</b>                   | <b>\$37,094,405</b>       | <b>\$48,004,650</b>       |
| 143 AEP Pro Serv, Inc.                                    | \$1,077,850                  | \$967,372                      | \$0                 | \$48,890             | (\$56,166)                | \$42                               | \$27,611                  | \$20,377                  |
| 171 CSW Energy, Inc.                                      | 10,587,705                   | 9,253,338                      | 506,837             | 512,634              | (537,253)                 | 3,639                              | 271,222                   | 757,079                   |
| 293 Elmwood   | 3,047,933                    | 4,834,420                      | 243,647             | 147,881              | (280,688)                 | 6,722                              | 78,078                    | 195,640                   |
| 292 AEP River Operations LLC                              | 35,725,072                   | 45,823,615                     | 3,852,656           | 1,798,832            | (2,660,537)               | 37,599                             | 915,160                   | 3,943,710                 |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$50,438,560</b>          | <b>\$60,878,745</b>            | <b>\$4,603,140</b>  | <b>\$2,508,237</b>   | <b>(\$3,534,644)</b>      | <b>\$48,002</b>                    | <b>\$1,292,071</b>        | <b>\$4,916,806</b>        |
| 270 Cook Coal Terminal                                    | \$3,754,790                  | \$3,790,505                    | \$79,089            | \$174,559            | (\$220,078)               | \$963                              | \$96,185                  | \$130,718                 |
| <b>AEP Generating Company</b>                             | <b>\$3,754,790</b>           | <b>\$3,790,505</b>             | <b>\$79,089</b>     | <b>\$174,559</b>     | <b>(\$220,078)</b>        | <b>\$963</b>                       | <b>\$96,185</b>           | <b>\$130,718</b>          |
| 104 Cardinal Operating Company                            | \$78,530,195                 | \$83,319,383                   | \$1,098,547         | \$3,614,275          | (\$4,837,557)             | \$18,876                           | \$2,011,687               | \$1,905,828               |
| 181 Ohio Power Co - Generation                            | 304,396,568                  | 347,019,994                    | 2,537,323           | 13,872,781           | (20,148,119)              | 88,506                             | 7,797,646                 | 4,148,137                 |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$382,926,763</b>         | <b>\$430,339,377</b>           | <b>\$3,635,870</b>  | <b>\$17,487,056</b>  | <b>(\$24,985,676)</b>     | <b>\$107,382</b>                   | <b>\$9,809,333</b>        | <b>\$6,053,965</b>        |
| 290 Conesville Coal Preparation Company                   | 3,287,741                    | 4,113,061                      | 0                   | 147,365              | (238,806)                 | 705                                | 84,221                    | (6,515)                   |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$386,214,504</b>         | <b>\$434,452,438</b>           | <b>\$3,635,870</b>  | <b>\$17,634,421</b>  | <b>(\$25,224,482)</b>     | <b>\$108,087</b>                   | <b>\$9,893,554</b>        | <b>\$6,047,450</b>        |
| <b>Total</b>  | <b>\$4,741,966,540</b>       | <b>\$4,507,555,533</b>         | <b>\$71,463,632</b> | <b>\$217,701,098</b> | <b>(\$261,710,471)</b>    | <b>\$2,505,561</b>                 | <b>\$121,473,697</b>      | <b>\$151,433,517</b>      |

**AMERICAN ELECTRIC POWER  
QUALIFIED RETIREMENT PLAN  
ESTIMATED 2015 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost        | Interest Cost        | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|---------------------|----------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$305,096,427                | \$302,549,254                  | \$3,568,911         | \$15,714,899         | (\$17,592,600)            | \$86,250                           | \$5,125,322               | \$6,902,782               |
| 215 Appalachian Power Co - Generation                     | 257,316,178                  | 257,806,555                    | 3,418,881           | 13,296,178           | (14,990,906)              | 81,866                             | 4,322,661                 | 6,128,680                 |
| 150 Appalachian Power Co - Transmission                   | 35,543,993                   | 30,176,594                     | 201,859             | 1,818,327            | (1,754,705)               | 12,132                             | 597,104                   | 874,717                   |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$597,956,598</b>         | <b>\$590,532,403</b>           | <b>\$7,189,651</b>  | <b>\$30,829,404</b>  | <b>(\$34,338,211)</b>     | <b>\$180,248</b>                   | <b>\$10,045,087</b>       | <b>\$13,906,179</b>       |
| 225 Cedar Coal Co   | 3,213,978                    | 4,437,999                      | 0                   | 162,393              | (258,060)                 | 43                                 | 53,992                    | (41,632)                  |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$601,170,576</b>         | <b>\$594,970,402</b>           | <b>\$7,189,651</b>  | <b>\$30,991,797</b>  | <b>(\$34,596,271)</b>     | <b>\$180,291</b>                   | <b>\$10,099,079</b>       | <b>\$13,864,547</b>       |
| 211 AEP Texas Central Company - Distribution              | \$259,198,758                | \$265,571,093                  | \$4,098,548         | \$13,340,700         | (\$15,442,398)            | \$237,577                          | \$4,354,286               | \$6,588,713               |
| 147 AEP Texas Central Company - Generation                | 6,792,255                    | 14,616,330                     | 0                   | 348,147              | (849,909)                 | 0                                  | 114,103                   | (387,659)                 |
| 169 AEP Texas Central Company - Transmission              | 25,147,956                   | 25,546,430                     | 512,594             | 1,299,612            | (1,485,471)               | 26,951                             | 422,461                   | 776,147                   |
| <b>AEP Texas Central Co.</b>                              | <b>\$291,138,969</b>         | <b>\$305,733,853</b>           | <b>\$4,611,142</b>  | <b>\$14,988,459</b>  | <b>(\$17,777,778)</b>     | <b>\$264,528</b>                   | <b>\$4,890,850</b>        | <b>\$6,977,201</b>        |
| 170 Indiana Michigan Power Co - Distribution              | \$155,336,532                | \$156,943,446                  | \$2,035,929         | \$7,998,196          | (\$9,125,930)             | \$44,840                           | \$2,609,502               | \$3,562,537               |
| 132 Indiana Michigan Power Co - Generation                | 104,080,854                  | 104,372,506                    | 1,498,765           | 5,400,168            | (6,069,041)               | 29,551                             | 1,748,457                 | 2,607,900                 |
| 190 Indiana Michigan Power Co - Nuclear                   | 201,940,900                  | 218,874,152                    | 5,440,876           | 10,655,338           | (12,727,069)              | 81,866                             | 3,392,410                 | 6,843,421                 |
| 120 Indiana Michigan Power Co - Transmission              | 35,169,545                   | 32,891,089                     | 436,214             | 1,815,459            | (1,912,547)               | 9,762                              | 590,814                   | 939,702                   |
| 280 Ind Mich River Transp Lakin                           | 31,809,986                   | 36,165,821                     | 877,040             | 1,675,892            | (2,102,966)               | 16,001                             | 534,377                   | 1,000,344                 |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$528,337,817</b>         | <b>\$549,247,014</b>           | <b>\$10,288,824</b> | <b>\$27,545,053</b>  | <b>(\$31,937,553)</b>     | <b>\$182,020</b>                   | <b>\$8,875,560</b>        | <b>\$14,953,904</b>       |
| 202 Price River Coal                                      | 0                            | 0                              | 0                   | 0                    | 0                         | 5                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$528,337,817</b>         | <b>\$549,247,014</b>           | <b>\$10,288,824</b> | <b>\$27,545,053</b>  | <b>(\$31,937,553)</b>     | <b>\$182,025</b>                   | <b>\$8,875,560</b>        | <b>\$14,953,909</b>       |
| 110 Kentucky Power Co - Distribution                      | \$67,876,381                 | \$66,655,876                   | \$855,332           | \$3,507,623          | (\$3,875,898)             | \$22,536                           | \$1,140,257               | \$1,649,850               |
| 117 Kentucky Power Co - Generation                        | 32,925,307                   | 30,710,518                     | 315,221             | 1,699,800            | (1,785,752)               | 12,083                             | 553,113                   | 794,465                   |
| 180 Kentucky Power Co - Transmission                      | 6,354,614                    | 6,148,520                      | 122,405             | 332,434              | (357,523)                 | 3,701                              | 106,751                   | 207,768                   |
| 600 Kentucky Power Co. - Kammer Actives                   | 4,915,502                    | 5,482,518                      | 162,835             | 262,064              | (318,797)                 | 1,581                              | 82,576                    | 190,259                   |
| 701 Kentucky Power Co. - Mitchell Actives                 | 27,841,686                   | 36,162,172                     | 899,150             | 1,488,975            | (2,102,754)               | 6,951                              | 467,713                   | 760,035                   |
| 702 Kentucky Power Co. - Mitchell Inactives               | 22,055,937                   | 26,705,264                     | 0                   | 1,117,744            | (1,552,855)               | 5,791                              | 370,518                   | (58,802)                  |
| <b>Kentucky Power Co.</b>                                 | <b>\$161,969,427</b>         | <b>\$171,864,868</b>           | <b>\$2,354,943</b>  | <b>\$8,408,640</b>   | <b>(\$9,993,579)</b>      | <b>\$52,643</b>                    | <b>\$2,720,928</b>        | <b>\$3,543,575</b>        |
| 250 Ohio Power Co - Distribution                          | \$405,364,969                | \$420,799,602                  | \$5,226,476         | \$20,851,271         | (\$24,468,608)            | \$117,145                          | \$6,809,736               | \$8,536,020               |
| 160 Ohio Power Co - Transmission                          | 44,983,252                   | 40,559,995                     | 25,385              | 2,275,919            | (2,358,478)               | 23,045                             | 755,675                   | 721,546                   |
| <b>Ohio Power Co.</b>                                     | <b>\$450,348,221</b>         | <b>\$461,359,597</b>           | <b>\$5,251,861</b>  | <b>\$23,127,190</b>  | <b>(\$26,827,086)</b>     | <b>\$140,190</b>                   | <b>\$7,565,411</b>        | <b>\$9,257,566</b>        |
| 167 Public Service Co of Oklahoma - Distribution          | \$149,562,240                | \$156,164,417                  | \$3,073,814         | \$7,726,161          | (\$9,080,631)             | \$152,670                          | \$2,512,500               | \$4,384,514               |
| 198 Public Service Co of Oklahoma - Generation            | 74,534,877                   | 79,394,834                     | 1,861,580           | 3,864,925            | (4,616,642)               | 80,740                             | 1,252,113                 | 2,442,716                 |
| 114 Public Service Co of Oklahoma - Transmission          | 17,854,253                   | 19,192,769                     | 390,063             | 924,173              | (1,116,019)               | 19,403                             | 299,934                   | 517,554                   |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$241,951,370</b>         | <b>\$254,752,020</b>           | <b>\$5,325,457</b>  | <b>\$12,515,259</b>  | <b>(\$14,813,292)</b>     | <b>\$252,813</b>                   | <b>\$4,064,547</b>        | <b>\$7,344,784</b>        |
| 159 Southwestern Electric Power Co - Distribution         | \$90,756,763                 | \$97,905,731                   | \$2,388,279         | \$4,716,405          | (\$5,693,011)             | \$112,469                          | \$1,524,625               | \$3,048,767               |
| 168 Southwestern Electric Power Co - Generation           | 100,162,655                  | 105,819,396                    | 2,897,893           | 5,220,527            | (6,153,174)               | 118,503                            | 1,682,635                 | 3,766,384                 |
| 161 Southwestern Electric Power Co - Texas - Distribution | 48,731,203                   | 49,076,220                     | 1,112,637           | 2,517,608            | (2,853,678)               | 58,311                             | 818,637                   | 1,653,515                 |
| 111 Southwestern Electric Power Co - Texas - Transmission | 138,575                      | 56,867                         | 0                   | 6,791                | (3,307)                   | 11                                 | 2,328                     | 5,823                     |
| 194 Southwestern Electric Power Co - Transmission         | 13,924,891                   | 15,464,993                     | 346,024             | 720,725              | (899,257)                 | 19,320                             | 233,925                   | 420,737                   |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$253,714,087</b>         | <b>\$268,323,207</b>           | <b>\$6,744,833</b>  | <b>\$13,182,056</b>  | <b>(\$15,602,427)</b>     | <b>\$308,614</b>                   | <b>\$4,262,150</b>        | <b>\$8,895,226</b>        |
| 119 AEP Texas North Company - Distribution                | 63,222,467                   | 63,880,354                     | 1,244,303           | 3,261,209            | (3,714,508)               | 77,637                             | 1,062,076                 | 1,930,717                 |
| 166 AEP Texas North Company - Generation                  | 19,783,295                   | 23,733,160                     | 0                   | 999,942              | (1,380,033)               | 1,465                              | 332,340                   | (46,286)                  |
| 192 AEP Texas North Company - Transmission                | 8,794,381                    | 9,603,174                      | 233,697             | 459,447              | (558,404)                 | 10,813                             | 147,737                   | 293,290                   |
| <b>AEP Texas North Co.</b>                                | <b>\$91,800,143</b>          | <b>\$97,216,688</b>            | <b>\$1,478,000</b>  | <b>\$4,720,598</b>   | <b>(\$5,652,945)</b>      | <b>\$89,915</b>                    | <b>\$1,542,153</b>        | <b>\$2,177,721</b>        |
| 230 Kingsport Power Co - Distribution                     | \$12,672,321                 | \$12,592,337                   | \$183,217           | \$655,824            | (\$732,218)               | \$3,237                            | \$212,883                 | \$322,943                 |
| 260 Kingsport Power Co - Transmission                     | 2,577,868                    | 2,128,172                      | 19,211              | 131,302              | (123,749)                 | 491                                | 43,306                    | 70,561                    |
| <b>Kingsport Power Co.</b>                                | <b>\$15,250,189</b>          | <b>\$14,720,509</b>            | <b>\$202,428</b>    | <b>\$787,126</b>     | <b>(\$855,967)</b>        | <b>\$3,728</b>                     | <b>\$256,189</b>          | <b>\$393,504</b>          |
| 210 Wheeling Power Co - Distribution                      | \$14,643,594                 | \$15,101,507                   | \$195,122           | \$754,491            | (\$878,121)               | \$5,900                            | \$245,998                 | \$323,390                 |
| 200 Wheeling Power Co - Transmission                      | 652,412                      | 825,711                        | 0                   | 32,272               | (48,013)                  | 9                                  | 10,960                    | (4,772)                   |
| <b>Wheeling Power Co.</b>                                 | <b>\$15,296,006</b>          | <b>\$15,927,218</b>            | <b>\$195,122</b>    | <b>\$786,763</b>     | <b>(\$926,134)</b>        | <b>\$5,909</b>                     | <b>\$256,958</b>          | <b>\$318,618</b>          |
| 103 American Electric Power Service Corporation           | \$1,345,277,699              | \$1,357,978,133                | \$21,040,864        | \$69,726,723         | (\$78,963,559)            | \$592,526                          | \$22,599,349              | \$34,995,903              |
| <b>American Electric Power Service Corp</b>               | <b>\$1,345,277,699</b>       | <b>\$1,357,978,133</b>         | <b>\$21,040,864</b> | <b>\$69,726,723</b>  | <b>(\$78,963,559)</b>     | <b>\$592,526</b>                   | <b>\$22,599,349</b>       | <b>\$34,995,903</b>       |
| 143 AEP Pro Serv, Inc.                                    | \$1,001,349                  | \$974,948                      | \$0                 | \$51,089             | (\$56,691)                | \$40                               | \$16,822                  | \$11,260                  |
| 171 CSW Energy, Inc.                                      | 9,836,240                    | 10,361,187                     | 519,178             | 538,764              | (602,481)                 | 3,062                              | 165,239                   | 623,762                   |
| 293 Elmwood   | 2,831,605                    | 5,032,185                      | 249,580             | 156,557              | (292,611)                 | 6,701                              | 47,568                    | 167,795                   |
| 292 AEP River Operations LLC                              | 33,189,476                   | 48,297,149                     | 3,946,468           | 1,896,267            | (2,808,377)               | 37,531                             | 557,551                   | 3,629,440                 |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$46,858,670</b>          | <b>\$64,665,469</b>            | <b>\$4,715,226</b>  | <b>\$2,642,677</b>   | <b>(\$3,760,160)</b>      | <b>\$47,334</b>                    | <b>\$787,180</b>          | <b>\$4,432,257</b>        |
| 270 Cook Coal Terminal                                    | \$3,488,293                  | \$3,901,148                    | \$81,015            | \$182,484            | (\$226,844)               | \$887                              | \$58,600                  | \$96,142                  |
| <b>AEP Generating Company</b>                             | <b>\$3,488,293</b>           | <b>\$3,901,148</b>             | <b>\$81,015</b>     | <b>\$182,484</b>     | <b>(\$226,844)</b>        | <b>\$887</b>                       | <b>\$58,600</b>           | <b>\$96,142</b>           |
| 104 Cardinal Operating Company                            | \$72,956,495                 | \$85,365,972                   | \$1,125,297         | \$3,779,645          | (\$4,963,851)             | \$17,142                           | \$1,225,598               | \$1,183,831               |
| 181 Ohio Power Co - Generation                            | 282,791,947                  | 354,114,255                    | 2,599,107           | 14,524,044           | (20,590,996)              | 79,742                             | 4,750,629                 | 1,362,526                 |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$355,748,442</b>         | <b>\$439,480,227</b>           | <b>\$3,724,404</b>  | <b>\$18,303,689</b>  | <b>(\$25,554,847)</b>     | <b>\$96,884</b>                    | <b>\$5,976,227</b>        | <b>\$2,546,357</b>        |
| 290 Conesville Coal Preparation Company                   | 3,054,393                    | 4,161,525                      | 0                   | 153,908              | (241,984)                 | 629                                | 51,311                    | (36,136)                  |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$358,802,835</b>         | <b>\$443,641,752</b>           | <b>\$3,724,404</b>  | <b>\$18,457,597</b>  | <b>(\$25,796,831)</b>     | <b>\$97,513</b>                    | <b>\$6,027,538</b>        | <b>\$2,510,221</b>        |
| <b>Total</b>  | <b>\$4,405,404,302</b>       | <b>\$4,604,301,878</b>         | <b>\$73,203,770</b> | <b>\$228,062,422</b> | <b>(\$267,730,426)</b>    | <b>\$2,218,916</b>                 | <b>\$74,006,492</b>       | <b>\$109,761,174</b>      |

AMERICAN ELECTRIC POWER  
QUALIFIED RETIREMENT PLAN  
ESTIMATED 2016 NET PERIODIC PENSION COST

American Electric Power System Retirement Plan  
Exhibit HEM-2A  
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| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost        | Interest Cost        | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|---------------------|----------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$313,684,728                | \$304,205,021                  | \$3,760,647         | \$16,782,409         | (\$17,693,841)            | \$84,048                           | \$5,308,963               | \$8,242,226               |
| 215 Appalachian Power Co - Generation                     | 264,559,490                  | 260,599,424                    | 3,602,557           | 14,199,586           | (15,157,556)              | 80,120                             | 4,477,542                 | 7,202,249                 |
| 150 Appalachian Power Co - Transmission                   | 36,544,537                   | 33,926,142                     | 212,704             | 1,945,696            | (1,973,287)               | 11,874                             | 618,499                   | 815,486                   |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$614,788,557</b>         | <b>\$598,730,587</b>           | <b>\$7,575,908</b>  | <b>\$32,927,691</b>  | <b>(\$34,824,684)</b>     | <b>\$176,042</b>                   | <b>\$10,405,004</b>       | <b>\$16,259,961</b>       |
| 225 Cedar Coal Co   | 3,304,450                    | 4,474,238                      | 0                   | 173,743              | (260,240)                 | 0                                  | 55,926                    | (30,571)                  |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$618,093,205</b>         | <b>\$603,204,825</b>           | <b>\$7,575,908</b>  | <b>\$33,101,434</b>  | <b>(\$35,084,924)</b>     | <b>\$176,042</b>                   | <b>\$10,460,930</b>       | <b>\$16,229,390</b>       |
| 211 AEP Texas Central Company - Distribution              | \$266,495,064                | \$265,985,028                  | \$4,318,739         | \$14,263,243         | (\$15,470,806)            | \$230,717                          | \$4,510,301               | \$7,852,194               |
| 147 AEP Texas Central Company - Generation                | 6,983,453                    | 15,302,241                     | 0                   | 359,813              | (890,043)                 | 0                                  | 118,192                   | (412,038)                 |
| 169 AEP Texas Central Company - Transmission              | 25,855,857                   | 25,641,284                     | 540,133             | 1,386,270            | (1,491,405)               | 26,282                             | 437,598                   | 898,878                   |
| <b>AEP Texas Central Co.</b>                              | <b>\$299,334,374</b>         | <b>\$306,928,553</b>           | <b>\$4,858,872</b>  | <b>\$16,009,326</b>  | <b>(\$17,852,254)</b>     | <b>\$256,999</b>                   | <b>\$5,066,091</b>        | <b>\$8,339,034</b>        |
| 170 Indiana Michigan Power Co - Distribution              | \$159,709,172                | \$157,641,981                  | \$2,145,308         | \$8,553,495          | (\$9,169,119)             | \$43,409                           | \$2,703,001               | \$4,276,094               |
| 132 Indiana Michigan Power Co - Generation                | 107,010,674                  | 106,243,941                    | 1,579,285           | 5,760,948            | (6,179,594)               | 28,877                             | 1,811,104                 | 3,000,620                 |
| 190 Indiana Michigan Power Co - Nuclear                   | 207,625,428                  | 227,816,314                    | 5,733,182           | 11,363,421           | (13,250,753)              | 80,170                             | 3,519,961                 | 7,439,981                 |
| 120 Indiana Michigan Power Co - Transmission              | 36,159,549                   | 33,930,833                     | 459,649             | 1,939,406            | (1,973,560)               | 9,513                              | 611,983                   | 1,046,991                 |
| 280 Ind Mich River Transp Lakin                           | 32,705,420                   | 37,583,302                     | 924,158             | 1,787,982            | (2,186,003)               | 15,502                             | 553,524                   | 1,095,163                 |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$543,210,243</b>         | <b>\$563,216,371</b>           | <b>\$10,841,582</b> | <b>\$29,405,252</b>  | <b>(\$32,759,029)</b>     | <b>\$177,471</b>                   | <b>\$9,193,573</b>        | <b>\$16,858,849</b>       |
| 202 Price River Coal                                      | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$543,210,243</b>         | <b>\$563,216,371</b>           | <b>\$10,841,582</b> | <b>\$29,405,252</b>  | <b>(\$32,759,029)</b>     | <b>\$177,471</b>                   | <b>\$9,193,573</b>        | <b>\$16,858,849</b>       |
| 110 Kentucky Power Co - Distribution                      | \$69,787,065                 | \$67,352,483                   | \$901,284           | \$3,748,899          | (\$3,917,503)             | \$22,145                           | \$1,181,113               | \$1,935,938               |
| 117 Kentucky Power Co - Generation                        | 33,852,137                   | 31,883,927                     | 332,156             | 1,815,570            | (1,854,503)               | 11,852                             | 572,931                   | 878,006                   |
| 180 Kentucky Power Co - Transmission                      | 6,533,493                    | 6,379,924                      | 128,981             | 354,407              | (371,083)                 | 3,639                              | 110,576                   | 226,520                   |
| 600 Kentucky Power Co. - Kammer Actives                   | 5,053,871                    | 5,783,091                      | 171,583             | 279,347              | (336,369)                 | 1,535                              | 85,534                    | 201,630                   |
| 701 Kentucky Power Co. - Mitchell Actives                 | 28,625,415                   | 38,477,842                     | 947,456             | 1,585,454            | (2,238,033)               | 6,750                              | 484,471                   | 786,098                   |
| 702 Kentucky Power Co. - Mitchell Inactives               | 22,676,800                   | 26,789,027                     | 0                   | 1,195,316            | (1,558,162)               | 5,623                              | 383,794                   | 26,571                    |
| <b>Kentucky Power Co.</b>                                 | <b>\$166,528,781</b>         | <b>\$176,666,294</b>           | <b>\$2,481,460</b>  | <b>\$8,978,993</b>   | <b>(\$10,275,653)</b>     | <b>\$51,544</b>                    | <b>\$2,818,419</b>        | <b>\$4,054,763</b>        |
| 250 Ohio Power Co - Distribution                          | \$416,775,776                | \$422,791,748                  | \$5,507,263         | \$22,283,069         | (\$24,591,343)            | \$113,103                          | \$7,053,730               | \$10,365,822              |
| 160 Ohio Power Co - Transmission                          | 46,249,506                   | 42,208,752                     | 26,749              | 2,434,541            | (2,455,038)               | 22,377                             | 782,751                   | 811,380                   |
| <b>Ohio Power Co.</b>                                     | <b>\$463,025,282</b>         | <b>\$465,000,500</b>           | <b>\$5,534,012</b>  | <b>\$24,717,610</b>  | <b>(\$27,046,381)</b>     | <b>\$135,480</b>                   | <b>\$7,836,481</b>        | <b>\$11,177,202</b>       |
| 167 Public Service Co of Oklahoma - Distribution          | \$153,772,337                | \$156,913,080                  | \$3,238,952         | \$8,251,431          | (\$9,126,723)             | \$148,180                          | \$2,602,523               | \$5,114,363               |
| 198 Public Service Co of Oklahoma - Generation            | 76,632,994                   | 80,076,128                     | 1,961,591           | 4,135,431            | (4,657,564)               | 79,178                             | 1,296,977                 | 2,815,613                 |
| 114 Public Service Co of Oklahoma - Transmission          | 18,356,841                   | 19,370,875                     | 411,019             | 987,620              | (1,126,691)               | 18,956                             | 310,681                   | 601,585                   |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$248,762,172</b>         | <b>\$256,360,083</b>           | <b>\$5,611,562</b>  | <b>\$13,374,482</b>  | <b>(\$14,910,978)</b>     | <b>\$246,314</b>                   | <b>\$4,210,181</b>        | <b>\$8,531,561</b>        |
| 159 Southwestern Electric Power Co - Distribution         | \$93,311,517                 | \$99,095,490                   | \$2,516,587         | \$5,047,828          | (\$5,763,810)             | \$110,193                          | \$1,579,253               | \$3,490,051               |
| 168 Southwestern Electric Power Co - Generation           | 102,982,180                  | 107,251,312                    | 3,053,580           | 5,578,710            | (6,238,187)               | 116,270                            | 1,742,924                 | 4,253,297                 |
| 161 Southwestern Electric Power Co - Texas - Distribution | 50,102,960                   | 49,055,006                     | 1,172,412           | 2,698,682            | (2,853,245)               | 57,264                             | 847,969                   | 1,923,082                 |
| 111 Southwestern Electric Power Co - Texas - Transmission | 142,476                      | 121,170                        | 0                   | 7,312                | (7,048)                   | 0                                  | 2,411                     | 2,675                     |
| 194 Southwestern Electric Power Co - Transmission         | 14,316,869                   | 15,591,771                     | 364,614             | 772,804              | (906,883)                 | 18,985                             | 242,306                   | 491,826                   |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$260,856,002</b>         | <b>\$271,114,749</b>           | <b>\$7,107,193</b>  | <b>\$14,105,336</b>  | <b>(\$15,769,173)</b>     | <b>\$302,712</b>                   | <b>\$4,414,863</b>        | <b>\$10,160,931</b>       |
| 119 AEP Texas North Company - Distribution                | 65,002,146                   | 63,905,083                     | 1,311,151           | 3,488,363            | (3,716,988)               | 76,192                             | 1,100,130                 | 2,258,848                 |
| 166 AEP Texas North Company - Generation                  | 20,340,184                   | 23,686,933                     | 0                   | 1,064,447            | (1,377,731)               | 176                                | 344,248                   | 31,724                    |
| 192 AEP Texas North Company - Transmission                | 9,041,938                    | 9,820,669                      | 246,252             | 489,954              | (571,211)                 | 10,619                             | 153,030                   | 328,644                   |
| <b>AEP Texas North Co.</b>                                | <b>\$94,384,268</b>          | <b>\$97,412,685</b>            | <b>\$1,557,403</b>  | <b>\$5,042,764</b>   | <b>(\$5,665,930)</b>      | <b>\$87,571</b>                    | <b>\$1,597,408</b>        | <b>\$2,619,216</b>        |
| 230 Kingsport Power Co - Distribution                     | \$13,029,040                 | \$12,744,278                   | \$193,060           | \$700,473            | (\$741,261)               | \$3,146                            | \$220,510                 | \$375,928                 |
| 260 Kingsport Power Co - Transmission                     | 2,650,434                    | 2,432,180                      | 20,243              | 140,556              | (141,466)                 | 471                                | 44,857                    | 64,661                    |
| <b>Kingsport Power Co.</b>                                | <b>\$15,679,474</b>          | <b>\$15,176,458</b>            | <b>\$213,303</b>    | <b>\$841,029</b>     | <b>(\$882,727)</b>        | <b>\$3,617</b>                     | <b>\$265,367</b>          | <b>\$440,589</b>          |
| 210 Wheeling Power Co - Distribution                      | \$15,055,803                 | \$15,207,253                   | \$205,605           | \$805,879            | (\$884,518)               | \$5,760                            | \$254,812                 | \$387,538                 |
| 200 Wheeling Power Co - Transmission                      | 670,777                      | 799,759                        | 0                   | 34,630               | (46,517)                  | 0                                  | 11,353                    | (534)                     |
| <b>Wheeling Power Co.</b>                                 | <b>\$15,726,580</b>          | <b>\$16,007,012</b>            | <b>\$205,605</b>    | <b>\$840,509</b>     | <b>(\$931,035)</b>        | <b>\$5,760</b>                     | <b>\$266,165</b>          | <b>\$387,004</b>          |
| 103 American Electric Power Service Corporation           | \$1,383,146,545              | \$1,378,030,795                | \$22,171,262        | \$74,428,731         | (\$80,152,054)            | \$572,446                          | \$23,409,091              | \$40,429,476              |
| <b>American Electric Power Service Corp</b>               | <b>\$1,383,146,545</b>       | <b>\$1,378,030,795</b>         | <b>\$22,171,262</b> | <b>\$74,428,731</b>  | <b>(\$80,152,054)</b>     | <b>\$572,446</b>                   | <b>\$23,409,091</b>       | <b>\$40,429,476</b>       |
| 143 AEP Pro Serv, Inc.                                    | \$1,029,536                  | \$973,557                      | \$0                 | \$54,579             | (\$56,626)                | \$39                               | \$17,424                  | \$15,416                  |
| 171 CSW Energy, Inc.                                      | 10,113,125                   | 11,252,626                     | 547,071             | 575,230              | (654,500)                 | 2,948                              | 171,160                   | 641,909                   |
| 293 Elmwood   | 2,911,313                    | 5,389,306                      | 262,988             | 167,672              | (313,465)                 | 6,512                              | 49,273                    | 172,980                   |
| 292 AEP River Operations LLC                              | 34,123,742                   | 52,848,816                     | 4,158,488           | 2,035,163            | (3,073,909)               | 36,462                             | 577,528                   | 3,733,732                 |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$48,177,716</b>          | <b>\$70,464,305</b>            | <b>\$4,968,547</b>  | <b>\$2,832,644</b>   | <b>(\$4,098,500)</b>      | <b>\$45,961</b>                    | <b>\$815,385</b>          | <b>\$4,564,037</b>        |
| 270 Cook Coal Terminal                                    | \$3,586,487                  | \$4,018,172                    | \$85,367            | \$194,136            | (\$233,714)               | \$871                              | \$60,700                  | \$107,360                 |
| <b>AEP Generating Company</b>                             | <b>\$3,586,487</b>           | <b>\$4,018,172</b>             | <b>\$85,367</b>     | <b>\$194,136</b>     | <b>(\$233,714)</b>        | <b>\$871</b>                       | <b>\$60,700</b>           | <b>\$107,360</b>          |
| 104 Cardinal Operating Company                            | \$75,010,181                 | \$87,329,105                   | \$1,185,752         | \$4,036,141          | (\$5,079,427)             | \$16,734                           | \$1,269,511               | \$1,428,711               |
| 181 Ohio Power Co - Generation                            | 290,752,389                  | 360,647,812                    | 2,738,741           | 15,487,044           | (20,976,791)              | 77,436                             | 4,920,845                 | 2,247,275                 |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$365,762,570</b>         | <b>\$447,976,917</b>           | <b>\$3,924,493</b>  | <b>\$19,523,185</b>  | <b>(\$26,056,218)</b>     | <b>\$94,170</b>                    | <b>\$6,190,356</b>        | <b>\$3,675,986</b>        |
| 290 Conesville Coal Preparation Company                   | 3,140,373                    | 4,174,845                      | 0                   | 165,159              | (242,827)                 | 614                                | 53,149                    | (23,905)                  |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$368,902,943</b>         | <b>\$452,151,762</b>           | <b>\$3,924,493</b>  | <b>\$19,688,344</b>  | <b>(\$26,299,045)</b>     | <b>\$94,784</b>                    | <b>\$6,243,505</b>        | <b>\$3,652,081</b>        |
| <b>Total</b>  | <b>\$4,529,414,072</b>       | <b>\$4,675,752,564</b>         | <b>\$77,136,569</b> | <b>\$243,560,590</b> | <b>(\$271,961,397)</b>    | <b>\$2,157,572</b>                 | <b>\$76,658,159</b>       | <b>\$127,551,493</b>      |

**AMERICAN ELECTRIC POWER  
QUALIFIED RETIREMENT PLAN  
ESTIMATED 2017 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost        | Interest Cost        | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|---------------------|----------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$307,888,278                | \$309,227,507                  | \$4,108,964         | \$16,788,780         | (\$17,994,415)            | \$78,793                           | \$3,892,543               | \$6,874,665               |
| 215 Appalachian Power Co - Generation                     | 259,670,806                  | 263,671,681                    | 3,936,231           | 14,190,482           | (15,343,453)              | 74,093                             | 3,282,944                 | 6,140,297                 |
| 150 Appalachian Power Co - Transmission                   | 35,869,246                   | 35,652,757                     | 232,405             | 1,945,543            | (2,074,688)               | 11,419                             | 453,485                   | 568,164                   |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$603,428,330</b>         | <b>\$608,551,945</b>           | <b>\$8,277,600</b>  | <b>\$32,924,805</b>  | <b>(\$35,412,556)</b>     | <b>\$164,305</b>                   | <b>\$7,628,972</b>        | <b>\$13,583,126</b>       |
| 225 Cedar Coal Co   | 3,243,388                    | 4,518,555                      | 0                   | 173,601              | (262,942)                 | 0                                  | 41,005                    | (48,336)                  |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$606,671,718</b>         | <b>\$613,070,500</b>           | <b>\$8,277,600</b>  | <b>\$33,098,406</b>  | <b>(\$35,675,498)</b>     | <b>\$164,305</b>                   | <b>\$7,669,977</b>        | <b>\$13,534,790</b>       |
| 211 AEP Texas Central Company - Distribution              | \$261,570,612                | \$266,270,148                  | \$4,718,747         | \$14,256,412         | (\$15,494,662)            | \$32,327                           | \$3,306,962               | \$6,819,786               |
| 147 AEP Texas Central Company - Generation                | 6,854,409                    | 15,573,515                     | 0                   | 348,579              | (906,246)                 | 0                                  | 86,658                    | (471,009)                 |
| 169 AEP Texas Central Company - Transmission              | 25,378,078                   | 25,668,951                     | 590,160             | 1,385,967            | (1,493,715)               | 3,887                              | 320,848                   | 807,147                   |
| <b>AEP Texas Central Co.</b>                              | <b>\$293,803,099</b>         | <b>\$307,512,614</b>           | <b>\$5,308,907</b>  | <b>\$15,990,958</b>  | <b>(\$17,894,623)</b>     | <b>\$36,214</b>                    | <b>\$3,714,468</b>        | <b>\$7,155,924</b>        |
| 170 Indiana Michigan Power Co - Distribution              | \$156,757,973                | \$158,462,778                  | \$2,344,009         | \$8,554,804          | (\$9,221,188)             | \$37,120                           | \$1,981,846               | \$3,696,591               |
| 132 Indiana Michigan Power Co - Generation                | 105,033,268                  | 107,812,327                    | 1,725,561           | 5,752,857            | (6,273,762)               | 26,761                             | 1,327,906                 | 2,559,323                 |
| 190 Indiana Michigan Power Co - Nuclear                   | 203,788,804                  | 236,367,773                    | 6,264,198           | 11,349,534           | (13,754,597)              | 67,613                             | 2,576,443                 | 6,503,191                 |
| 120 Indiana Michigan Power Co - Transmission              | 35,491,372                   | 35,509,586                     | 502,223             | 1,937,278            | (2,066,356)               | 8,588                              | 448,707                   | 830,440                   |
| 280 Ind Mich River Transp Lakin                           | 32,101,070                   | 38,960,781                     | 1,009,755           | 1,791,364            | (2,267,187)               | 10,849                             | 405,845                   | 950,626                   |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$533,172,487</b>         | <b>\$577,113,245</b>           | <b>\$11,845,746</b> | <b>\$29,385,837</b>  | <b>(\$33,583,090)</b>     | <b>\$150,931</b>                   | <b>\$6,740,747</b>        | <b>\$14,540,171</b>       |
| 202 Price River Coal                                      | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$533,172,487</b>         | <b>\$577,113,245</b>           | <b>\$11,845,746</b> | <b>\$29,385,837</b>  | <b>(\$33,583,090)</b>     | <b>\$150,931</b>                   | <b>\$6,740,747</b>        | <b>\$14,540,171</b>       |
| 110 Kentucky Power Co - Distribution                      | \$68,497,499                 | \$69,019,177                   | \$984,762           | \$3,746,127          | (\$4,016,330)             | \$21,315                           | \$865,994                 | \$1,601,868               |
| 117 Kentucky Power Co - Generation                        | 33,226,597                   | 33,365,400                     | 362,921             | 1,810,966            | (1,941,583)               | 10,918                             | 420,074                   | 663,296                   |
| 180 Kentucky Power Co - Transmission                      | 6,412,763                    | 6,647,229                      | 140,927             | 354,463              | (386,812)                 | 3,227                              | 81,075                    | 192,880                   |
| 600 Kentucky Power Co. - Kammer Actives                   | 4,960,482                    | 6,075,197                      | 187,475             | 279,014              | (353,525)                 | 1,383                              | 62,714                    | 177,061                   |
| 701 Kentucky Power Co. - Mitchell Actives                 | 28,096,457                   | 40,743,865                     | 1,035,211           | 1,584,857            | (2,370,947)               | 6,082                              | 355,215                   | 610,418                   |
| 702 Kentucky Power Co. - Mitchell Inactives               | 22,257,765                   | 26,899,504                     | 0                   | 1,194,942            | (1,565,323)               | 5,067                              | 281,399                   | (83,915)                  |
| <b>Kentucky Power Co.</b>                                 | <b>\$163,451,563</b>         | <b>\$182,750,372</b>           | <b>\$2,711,296</b>  | <b>\$8,970,369</b>   | <b>(\$10,634,520)</b>     | <b>\$47,992</b>                    | <b>\$2,066,471</b>        | <b>\$3,161,608</b>        |
| 250 Ohio Power Co - Distribution                          | \$409,074,349                | \$424,461,007                  | \$6,017,354         | \$22,300,147         | (\$24,700,026)            | \$96,985                           | \$5,171,810               | \$8,886,270               |
| 160 Ohio Power Co - Transmission                          | 45,394,881                   | 44,350,617                     | 29,227              | 2,433,207            | (2,580,829)               | 19,325                             | 573,914                   | 474,844                   |
| <b>Ohio Power Co.</b>                                     | <b>\$454,469,230</b>         | <b>\$468,811,624</b>           | <b>\$6,046,581</b>  | <b>\$24,733,354</b>  | <b>(\$27,280,855)</b>     | <b>\$116,310</b>                   | <b>\$5,745,724</b>        | <b>\$9,361,114</b>        |
| 167 Public Service Co of Oklahoma - Distribution          | \$150,930,842                | \$157,220,618                  | \$3,538,948         | \$8,254,824          | (\$9,148,905)             | \$23,036                           | \$1,908,175               | \$4,576,078               |
| 198 Public Service Co of Oklahoma - Generation            | 75,216,925                   | 80,836,735                     | 2,143,277           | 4,136,311            | (4,704,012)               | 11,866                             | 950,946                   | 2,538,388                 |
| 114 Public Service Co of Oklahoma - Transmission          | 18,017,632                   | 19,527,618                     | 449,088             | 989,108              | (1,136,342)               | 2,611                              | 227,792                   | 532,257                   |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$244,165,399</b>         | <b>\$257,584,971</b>           | <b>\$6,131,313</b>  | <b>\$13,380,243</b>  | <b>(\$14,989,259)</b>     | <b>\$37,513</b>                    | <b>\$3,086,913</b>        | <b>\$7,646,223</b>        |
| 159 Southwestern Electric Power Co - Distribution         | \$91,587,252                 | \$100,463,072                  | \$2,749,677         | \$5,052,533          | (\$5,846,098)             | \$16,285                           | \$1,157,911               | \$3,130,308               |
| 168 Southwestern Electric Power Co - Generation           | 101,079,215                  | 108,539,938                    | 3,336,407           | 5,574,079            | (6,316,103)               | 15,968                             | 1,277,916                 | 3,888,267                 |
| 161 Southwestern Electric Power Co - Texas - Distribution | 49,177,128                   | 50,193,366                     | 1,281,003           | 2,691,013            | (2,920,828)               | 8,496                              | 621,732                   | 1,681,416                 |
| 111 Southwestern Electric Power Co - Texas - Transmission | 139,843                      | 129,370                        | 0                   | 7,347                | (7,528)                   | 0                                  | 1,768                     | 1,587                     |
| 194 Southwestern Electric Power Co - Transmission         | 14,052,314                   | 15,794,186                     | 398,385             | 776,560              | (919,088)                 | 2,932                              | 177,659                   | 436,448                   |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$256,035,752</b>         | <b>\$275,119,932</b>           | <b>\$7,765,472</b>  | <b>\$14,101,532</b>  | <b>(\$16,009,645)</b>     | <b>\$43,681</b>                    | <b>\$3,236,986</b>        | <b>\$9,138,026</b>        |
| 119 AEP Texas North Company - Distribution                | 63,800,998                   | 64,669,401                     | 1,432,592           | 3,486,999            | (3,763,210)               | 10,480                             | 806,618                   | 1,973,479                 |
| 166 AEP Texas North Company - Generation                  | 19,964,326                   | 23,460,482                     | 0                   | 1,068,186            | (1,365,201)               | 92                                 | 252,403                   | (44,520)                  |
| 192 AEP Texas North Company - Transmission                | 8,874,856                    | 9,999,030                      | 269,061             | 483,128              | (581,859)                 | 1,612                              | 112,202                   | 284,144                   |
| <b>AEP Texas North Co.</b>                                | <b>\$92,640,180</b>          | <b>\$98,128,913</b>            | <b>\$1,701,653</b>  | <b>\$5,038,313</b>   | <b>(\$5,710,270)</b>      | <b>\$12,184</b>                    | <b>\$1,171,223</b>        | <b>\$2,213,103</b>        |
| 230 Kingsport Power Co - Distribution                     | \$12,788,282                 | \$13,027,540                   | \$210,942           | \$700,152            | (\$758,092)               | \$2,930                            | \$161,679                 | \$317,611                 |
| 260 Kingsport Power Co - Transmission                     | 2,601,457                    | 2,558,190                      | 22,118              | 141,150              | (148,865)                 | 389                                | 32,889                    | 47,681                    |
| <b>Kingsport Power Co.</b>                                | <b>\$15,389,739</b>          | <b>\$15,585,730</b>            | <b>\$233,060</b>    | <b>\$841,302</b>     | <b>(\$906,957)</b>        | <b>\$3,319</b>                     | <b>\$194,568</b>          | <b>\$365,292</b>          |
| 210 Wheeling Power Co - Distribution                      | \$14,777,593                 | \$15,289,279                   | \$224,648           | \$806,474            | (\$889,706)               | \$4,849                            | \$186,829                 | \$333,094                 |
| 200 Wheeling Power Co - Transmission                      | 658,382                      | 775,425                        | 0                   | 34,705               | (45,123)                  | 0                                  | 8,324                     | (2,094)                   |
| <b>Wheeling Power Co.</b>                                 | <b>\$15,435,975</b>          | <b>\$16,064,704</b>            | <b>\$224,648</b>    | <b>\$841,179</b>     | <b>(\$934,829)</b>        | <b>\$4,849</b>                     | <b>\$195,153</b>          | <b>\$331,000</b>          |
| 103 American Electric Power Service Corporation           | \$1,357,587,953              | \$1,395,141,132                | \$24,224,799        | \$74,440,911         | (\$81,185,365)            | \$277,416                          | \$17,163,596              | \$34,921,358              |
| <b>American Electric Power Service Corp</b>               | <b>\$1,357,587,953</b>       | <b>\$1,395,141,132</b>         | <b>\$24,224,799</b> | <b>\$74,440,911</b>  | <b>(\$81,185,365)</b>     | <b>\$277,416</b>                   | <b>\$17,163,596</b>       | <b>\$34,921,358</b>       |
| 143 AEP Pro Serv, Inc.                                    | \$1,010,512                  | \$1,002,952                    | \$0                 | \$54,880             | (\$58,363)                | \$39                               | \$12,776                  | \$9,332                   |
| 171 CSW Energy, Inc.                                      | 9,926,249                    | 12,181,170                     | 597,741             | 568,448              | (708,841)                 | 1,319                              | 125,495                   | 584,162                   |
| 293 Elmwood   | 2,857,516                    | 5,773,174                      | 287,347             | 168,295              | (335,950)                 | 3,927                              | 36,127                    | 159,746                   |
| 292 AEP River Operations LLC                              | 33,493,184                   | 57,858,928                     | 4,543,654           | 2,046,841            | (3,366,898)               | 21,752                             | 423,445                   | 3,668,794                 |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$47,287,461</b>          | <b>\$76,816,224</b>            | <b>\$5,428,742</b>  | <b>\$2,838,464</b>   | <b>(\$4,470,052)</b>      | <b>\$27,037</b>                    | <b>\$597,843</b>          | <b>\$4,422,034</b>        |
| 270 Cook Coal Terminal                                    | \$3,520,213                  | \$4,106,116                    | \$93,274            | \$194,119            | (\$238,941)               | \$855                              | \$44,505                  | \$93,812                  |
| <b>AEP Generating Company</b>                             | <b>\$3,520,213</b>           | <b>\$4,106,116</b>             | <b>\$93,274</b>     | <b>\$194,119</b>     | <b>(\$238,941)</b>        | <b>\$855</b>                       | <b>\$44,505</b>           | <b>\$93,812</b>           |
| 104 Cardinal Operating Company                            | \$73,624,099                 | \$89,266,265                   | \$1,295,578         | \$4,030,591          | (\$5,194,539)             | \$15,877                           | \$930,808                 | \$1,078,315               |
| 181 Ohio Power Co - Generation                            | 285,379,696                  | 366,171,243                    | 2,992,408           | 15,470,158           | (21,308,057)              | 69,776                             | 3,607,974                 | 832,259                   |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$359,003,795</b>         | <b>\$455,437,508</b>           | <b>\$4,287,986</b>  | <b>\$19,500,749</b>  | <b>(\$26,502,596)</b>     | <b>\$85,653</b>                    | <b>\$4,538,782</b>        | <b>\$1,910,574</b>        |
| 290 Conesville Coal Preparation Company                   | 3,082,343                    | 4,212,510                      | 0                   | 165,636              | (245,132)                 | 614                                | 38,969                    | (39,913)                  |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$362,086,138</b>         | <b>\$459,650,018</b>           | <b>\$4,287,986</b>  | <b>\$19,666,385</b>  | <b>(\$26,747,728)</b>     | <b>\$86,267</b>                    | <b>\$4,577,751</b>        | <b>\$1,870,661</b>        |
| <b>Total</b>  | <b>\$4,445,716,907</b>       | <b>\$4,747,456,095</b>         | <b>\$84,281,077</b> | <b>\$243,521,372</b> | <b>(\$276,261,632)</b>    | <b>\$1,008,873</b>                 | <b>\$56,205,925</b>       | <b>\$108,755,616</b>      |

AMERICAN ELECTRIC POWER  
QUALIFIED RETIREMENT PLAN  
ESTIMATED 2018 NET PERIODIC PENSION COST

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost        | Interest Cost        | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|---------------------|----------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$302,177,024                | \$308,338,825                  | \$4,314,924         | \$16,740,307         | (\$17,945,116)            | \$865                              | \$2,949,369               | \$6,060,349               |
| 215 Appalachian Power Co - Generation                     | 254,853,974                  | 263,784,396                    | 4,133,533           | 14,177,745           | (15,352,077)              | 815                                | 2,487,477                 | 5,447,493                 |
| 150 Appalachian Power Co - Transmission                   | 35,203,880                   | 35,494,959                     | 244,054             | 1,942,032            | (2,065,783)               | 126                                | 343,604                   | 464,033                   |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$592,234,878</b>         | <b>\$607,618,180</b>           | <b>\$8,692,511</b>  | <b>\$32,860,084</b>  | <b>(\$35,362,976)</b>     | <b>\$1,806</b>                     | <b>\$5,780,450</b>        | <b>\$11,971,875</b>       |
| 225 Cedar Coal Co   | 3,183,224                    | 4,517,519                      | 0                   | 173,387              | (262,917)                 | 0                                  | 31,070                    | (58,460)                  |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$595,418,102</b>         | <b>\$612,135,699</b>           | <b>\$8,692,511</b>  | <b>\$33,033,471</b>  | <b>(\$35,625,893)</b>     | <b>\$1,806</b>                     | <b>\$5,811,520</b>        | <b>\$11,913,415</b>       |
| 211 AEP Texas Central Company - Distribution              | \$256,718,540                | \$264,152,171                  | \$4,955,272         | \$14,253,542         | (\$15,373,482)            | \$66                               | \$2,505,676               | \$6,341,074               |
| 142 AEP Texas Central Company - Generation                | 6,727,261                    | 15,279,123                     | 0                   | 357,834              | (889,235)                 | 0                                  | 65,661                    | (465,740)                 |
| 169 AEP Texas Central Company - Transmission              | 24,907,321                   | 25,458,024                     | 619,742             | 1,394,936            | (1,481,640)               | 10                                 | 243,105                   | 776,153                   |
| <b>AEP Texas Central Co.</b>                              | <b>\$288,353,122</b>         | <b>\$304,889,318</b>           | <b>\$5,575,014</b>  | <b>\$16,006,312</b>  | <b>(\$17,744,357)</b>     | <b>\$76</b>                        | <b>\$2,814,442</b>        | <b>\$6,651,487</b>        |
| 170 Indiana Michigan Power Co - Distribution              | \$153,850,150                | \$158,070,278                  | \$2,461,502         | \$8,521,012          | (\$9,199,586)             | \$408                              | \$1,501,639               | \$3,284,975               |
| 132 Indiana Michigan Power Co - Generation                | 103,084,926                  | 108,287,827                    | 1,812,054           | 5,744,906            | (6,302,280)               | 294                                | 1,006,150                 | 2,261,124                 |
| 190 Indiana Michigan Power Co - Nuclear                   | 200,008,570                  | 243,116,559                    | 6,578,188           | 11,370,681           | (14,149,223)              | 744                                | 1,952,164                 | 5,752,554                 |
| 120 Indiana Michigan Power Co - Transmission              | 34,833,015                   | 35,578,710                     | 527,397             | 1,935,523            | (2,070,657)               | 94                                 | 339,984                   | 732,341                   |
| 280 Ind Mich River Transp Lakin                           | 31,505,603                   | 40,252,347                     | 1,060,369           | 1,788,862            | (2,342,660)               | 119                                | 307,507                   | 814,197                   |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$523,282,264</b>         | <b>\$585,305,721</b>           | <b>\$12,439,510</b> | <b>\$29,360,984</b>  | <b>(\$34,064,406)</b>     | <b>\$1,659</b>                     | <b>\$5,107,444</b>        | <b>\$12,845,191</b>       |
| 202 Price River Coal                                      | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$523,282,264</b>         | <b>\$585,305,721</b>           | <b>\$12,439,510</b> | <b>\$29,360,984</b>  | <b>(\$34,064,406)</b>     | <b>\$1,659</b>                     | <b>\$5,107,444</b>        | <b>\$12,845,191</b>       |
| 110 Kentucky Power Co - Distribution                      | \$67,226,886                 | \$69,181,469                   | \$1,034,123         | \$3,733,971          | (\$4,026,316)             | \$235                              | \$656,161                 | \$1,398,174               |
| 117 Kentucky Power Co - Generation                        | 32,610,252                   | 33,325,255                     | 381,112             | 1,806,972            | (1,939,508)               | 120                                | 318,289                   | 566,985                   |
| 180 Kentucky Power Co - Transmission                      | 6,293,808                    | 6,764,605                      | 147,991             | 353,851              | (393,696)                 | 36                                 | 61,430                    | 169,612                   |
| 600 Kentucky Power Co. - Kammer Actives                   | 4,868,467                    | 6,327,661                      | 196,872             | 277,443              | (368,266)                 | 15                                 | 47,518                    | 153,582                   |
| 701 Kentucky Power Co. - Mitchell Actives                 | 27,575,275                   | 42,807,641                     | 1,087,100           | 1,573,040            | (2,491,376)               | 67                                 | 269,146                   | 437,977                   |
| 702 Kentucky Power Co. - Mitchell Inactives               | 21,844,888                   | 26,751,782                     | 0                   | 1,194,179            | (1,556,936)               | 56                                 | 213,215                   | (149,486)                 |
| <b>Kentucky Power Co.</b>                                 | <b>\$160,419,576</b>         | <b>\$185,158,413</b>           | <b>\$2,847,198</b>  | <b>\$8,939,456</b>   | <b>(\$10,776,098)</b>     | <b>\$529</b>                       | <b>\$1,565,759</b>        | <b>\$2,576,844</b>        |
| 250 Ohio Power Co - Distribution                          | \$401,486,118                | \$423,353,235                  | \$6,318,971         | \$22,280,880         | (\$24,638,878)            | \$1,066                            | \$3,918,666               | \$7,880,705               |
| 160 Ohio Power Co - Transmission                          | 44,552,817                   | 43,791,453                     | 30,692              | 2,431,997            | (2,548,634)               | 213                                | 434,853                   | 349,121                   |
| <b>Ohio Power Co.</b>                                     | <b>\$446,038,935</b>         | <b>\$467,144,688</b>           | <b>\$6,349,663</b>  | <b>\$24,712,877</b>  | <b>(\$27,187,512)</b>     | <b>\$1,279</b>                     | <b>\$4,353,519</b>        | <b>\$8,229,826</b>        |
| 167 Public Service Co of Oklahoma - Distribution          | \$148,131,111                | \$156,440,298                  | \$3,716,337         | \$8,252,506          | (\$9,104,722)             | \$77                               | \$1,445,819               | \$4,310,017               |
| 198 Public Service Co of Oklahoma - Generation            | 73,821,669                   | 81,060,168                     | 2,250,708           | 4,131,158            | (4,717,648)               | 31                                 | 720,529                   | 2,384,778                 |
| 114 Public Service Co of Oklahoma - Transmission          | 17,683,409                   | 19,597,036                     | 471,599             | 989,733              | (1,140,535)               | 5                                  | 172,597                   | 493,399                   |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$239,636,189</b>         | <b>\$257,097,502</b>           | <b>\$6,438,644</b>  | <b>\$13,373,397</b>  | <b>(\$14,962,905)</b>     | <b>\$113</b>                       | <b>\$2,338,945</b>        | <b>\$7,188,194</b>        |
| 159 Southwestern Electric Power Co - Distribution         | \$89,888,331                 | \$101,331,512                  | \$2,887,504         | \$5,031,400          | (\$5,897,427)             | \$45                               | \$877,346                 | \$2,898,868               |
| 168 Southwestern Electric Power Co - Generation           | 99,204,220                   | 108,929,460                    | 3,503,643           | 5,585,767            | (6,339,622)               | 32                                 | 968,273                   | 3,718,093                 |
| 161 Southwestern Electric Power Co - Texas - Distribution | 48,264,904                   | 49,781,196                     | 1,345,212           | 2,703,553            | (2,897,233)               | 22                                 | 471,085                   | 1,622,639                 |
| 111 Southwestern Electric Power Co - Texas - Transmission | 137,249                      | 129,117                        | 0                   | 7,379                | (7,515)                   | 0                                  | 1,340                     | 1,204                     |
| 194 Southwestern Electric Power Co - Transmission         | 13,791,647                   | 16,030,390                     | 418,354             | 775,788              | (932,958)                 | 9                                  | 134,612                   | 395,805                   |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$251,286,351</b>         | <b>\$276,201,675</b>           | <b>\$8,154,713</b>  | <b>\$14,103,887</b>  | <b>(\$16,074,755)</b>     | <b>\$108</b>                       | <b>\$2,452,656</b>        | <b>\$8,636,609</b>        |
| 119 AEP Texas North Company - Distribution                | 62,617,505                   | 64,193,596                     | 1,504,400           | 3,486,002            | (3,736,025)               | 17                                 | 611,172                   | 1,865,566                 |
| 166 AEP Texas North Company - Generation                  | 19,593,993                   | 23,143,809                     | 0                   | 1,067,369            | (1,346,954)               | 0                                  | 191,245                   | (88,340)                  |
| 192 AEP Texas North Company - Transmission                | 8,710,229                    | 9,850,559                      | 282,547             | 488,305              | (573,296)                 | 4                                  | 85,015                    | 282,575                   |
| <b>AEP Texas North Co.</b>                                | <b>\$90,921,727</b>          | <b>\$97,187,964</b>            | <b>\$1,786,947</b>  | <b>\$5,041,676</b>   | <b>(\$5,656,275)</b>      | <b>\$21</b>                        | <b>\$887,432</b>          | <b>\$2,059,801</b>        |
| 230 Kingsport Power Co - Distribution                     | \$12,551,062                 | \$13,067,221                   | \$221,515           | \$699,423            | (\$760,504)               | \$32                               | \$122,503                 | \$282,969                 |
| 260 Kingsport Power Co - Transmission                     | 2,553,201                    | 2,557,237                      | 23,226              | 141,283              | (148,830)                 | 4                                  | 24,920                    | 40,603                    |
| <b>Kingsport Power Co.</b>                                | <b>\$15,104,263</b>          | <b>\$15,624,458</b>            | <b>\$244,741</b>    | <b>\$840,706</b>     | <b>(\$909,334)</b>        | <b>\$36</b>                        | <b>\$147,423</b>          | <b>\$323,572</b>          |
| 210 Wheeling Power Co - Distribution                      | \$14,503,473                 | \$15,272,195                   | \$235,909           | \$804,394            | (\$888,832)               | \$53                               | \$141,560                 | \$293,084                 |
| 200 Wheeling Power Co - Transmission                      | 646,169                      | 745,123                        | 0                   | 34,777               | (43,366)                  | 0                                  | 6,307                     | (2,282)                   |
| <b>Wheeling Power Co.</b>                                 | <b>\$15,149,642</b>          | <b>\$16,017,318</b>            | <b>\$235,909</b>    | <b>\$839,171</b>     | <b>(\$932,198)</b>        | <b>\$53</b>                        | <b>\$147,867</b>          | <b>\$290,802</b>          |
| 103 American Electric Power Service Corporation           | \$1,332,405,027              | \$1,402,484,353                | \$25,439,057        | \$74,322,959         | (\$81,623,662)            | \$2,758                            | \$13,004,812              | \$31,145,924              |
| <b>American Electric Power Service Corp</b>               | <b>\$1,332,405,027</b>       | <b>\$1,402,484,353</b>         | <b>\$25,439,057</b> | <b>\$74,322,959</b>  | <b>(\$81,623,662)</b>     | <b>\$2,758</b>                     | <b>\$13,004,812</b>       | <b>\$31,145,924</b>       |
| 143 AEP Pro Serv, Inc.                                    | \$991,767                    | \$1,005,518                    | \$0                 | \$55,167             | (\$58,520)                | \$0                                | \$9,680                   | \$6,327                   |
| 171 CSW Energy, Inc.                                      | 9,742,119                    | 12,831,826                     | 627,703             | 579,038              | (746,804)                 | 13                                 | 95,087                    | 555,037                   |
| 293 Elmwood   | 2,804,510                    | 6,165,495                      | 301,750             | 169,915              | (358,828)                 | 43                                 | 27,373                    | 140,253                   |
| 292 AEP River Operations LLC                              | 32,871,893                   | 63,347,361                     | 4,771,403           | 2,065,469            | (3,686,774)               | 239                                | 320,843                   | 3,471,180                 |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$46,410,289</b>          | <b>\$83,350,200</b>            | <b>\$5,700,856</b>  | <b>\$2,869,589</b>   | <b>(\$4,850,926)</b>      | <b>\$295</b>                       | <b>\$452,983</b>          | <b>\$4,172,797</b>        |
| 270 Cook Coal Terminal                                    | \$3,454,914                  | \$4,166,439                    | \$97,949            | \$194,127            | (\$242,484)               | \$9                                | \$33,721                  | \$83,322                  |
| <b>AEP Generating Company</b>                             | <b>\$3,454,914</b>           | <b>\$4,166,439</b>             | <b>\$97,949</b>     | <b>\$194,127</b>     | <b>(\$242,484)</b>        | <b>\$9</b>                         | <b>\$33,721</b>           | <b>\$83,322</b>           |
| 104 Cardinal Operating Company                            | \$72,258,390                 | \$90,359,851                   | \$1,360,519         | \$4,029,139          | (\$5,258,884)             | \$175                              | \$705,271                 | \$836,220                 |
| 181 Ohio Power Co - Generation                            | 280,085,971                  | 368,143,162                    | 3,142,401           | 15,468,016           | (21,425,688)              | 768                                | 2,733,752                 | (80,751)                  |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$352,344,361</b>         | <b>\$458,503,013</b>           | <b>\$4,502,920</b>  | <b>\$19,497,155</b>  | <b>(\$26,684,572)</b>     | <b>\$943</b>                       | <b>\$3,439,023</b>        | <b>\$755,469</b>          |
| 290 Conesville Coal Preparation Company                   | 3,025,166                    | 4,231,045                      | 0                   | 165,438              | (246,244)                 | 7                                  | 29,527                    | (51,272)                  |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$355,369,527</b>         | <b>\$462,734,058</b>           | <b>\$4,502,920</b>  | <b>\$19,662,593</b>  | <b>(\$26,930,816)</b>     | <b>\$950</b>                       | <b>\$3,468,550</b>        | <b>\$704,197</b>          |
| <b>Total</b>  | <b>\$4,363,249,928</b>       | <b>\$4,769,497,806</b>         | <b>\$88,505,632</b> | <b>\$243,301,205</b> | <b>(\$277,581,621)</b>    | <b>\$9,692</b>                     | <b>\$42,587,073</b>       | <b>\$96,821,981</b>       |

**AMERICAN ELECTRIC POWER  
QUALIFIED RETIREMENT PLAN  
ESTIMATED 2019 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost        | Interest Cost        | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|---------------------|----------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$296,520,531                | \$305,707,448                  | \$4,533,988         | \$16,741,243         | (\$17,803,062)            | \$0                                | \$2,181,351               | \$5,653,520               |
| 215 Appalachian Power Co - Generation                     | 250,083,328                  | 263,501,011                    | 4,343,387           | 14,158,316           | (15,345,144)              | 0                                  | 1,839,736                 | 4,996,295                 |
| 150 Appalachian Power Co - Transmission                   | 34,544,894                   | 35,133,075                     | 256,445             | 1,930,908            | (2,045,996)               | 0                                  | 254,129                   | 395,486                   |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$581,148,753</b>         | <b>\$604,341,534</b>           | <b>\$9,133,820</b>  | <b>\$32,830,467</b>  | <b>(\$35,194,202)</b>     | <b>\$0</b>                         | <b>\$4,275,216</b>        | <b>\$11,045,301</b>       |
| 225 Cedar Coal Co   | 3,123,637                    | 4,511,813                      | 0                   | 173,155              | (262,748)                 | 0                                  | 22,979                    | (66,614)                  |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$584,272,390</b>         | <b>\$608,853,347</b>           | <b>\$9,133,820</b>  | <b>\$33,003,622</b>  | <b>(\$35,456,950)</b>     | <b>\$0</b>                         | <b>\$4,298,195</b>        | <b>\$10,978,687</b>       |
| 211 AEP Texas Central Company - Distribution              | \$251,912,991                | \$261,838,617                  | \$5,206,845         | \$14,246,436         | (\$15,248,333)            | \$0                                | \$1,853,196               | \$6,058,144               |
| 147 AEP Texas Central Company - Generation                | 6,601,333                    | 15,321,424                     | 0                   | 366,495              | (892,253)                 | 0                                  | 48,563                    | (477,195)                 |
| 169 AEP Texas Central Company - Transmission              | 24,441,077                   | 25,524,483                     | 651,206             | 1,392,554            | (1,486,434)               | 0                                  | 179,801                   | 737,127                   |
| <b>AEP Texas Central Co.</b>                              | <b>\$282,955,401</b>         | <b>\$302,684,524</b>           | <b>\$5,858,051</b>  | <b>\$16,005,485</b>  | <b>(\$17,627,020)</b>     | <b>\$0</b>                         | <b>\$2,081,560</b>        | <b>\$6,318,076</b>        |
| 170 Indiana Michigan Power Co - Distribution              | \$150,970,208                | \$156,430,835                  | \$2,586,469         | \$8,540,399          | (\$9,109,846)             | \$0                                | \$1,110,611               | \$3,127,633               |
| 132 Indiana Michigan Power Co - Generation                | 101,155,266                  | 108,509,886                    | 1,904,050           | 5,724,959            | (6,319,140)               | 0                                  | 744,148                   | 2,054,017                 |
| 190 Indiana Michigan Power Co - Nuclear                   | 196,264,583                  | 250,835,578                    | 6,912,154           | 11,332,072           | (14,607,565)              | 0                                  | 1,443,819                 | 5,080,480                 |
| 120 Indiana Michigan Power Co - Transmission              | 34,180,971                   | 35,464,341                     | 554,172             | 1,933,709            | (2,065,288)               | 0                                  | 251,452                   | 674,045                   |
| 280 Ind Mich River Transp Lakin                           | 30,915,845                   | 41,485,337                     | 1,114,203           | 1,783,328            | (2,415,924)               | 0                                  | 227,432                   | 709,039                   |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$513,486,873</b>         | <b>\$592,725,977</b>           | <b>\$13,071,048</b> | <b>\$29,314,467</b>  | <b>(\$34,517,763)</b>     | <b>\$0</b>                         | <b>\$3,777,462</b>        | <b>\$11,645,214</b>       |
| 202 Price River Coal                                      | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$513,486,873</b>         | <b>\$592,725,977</b>           | <b>\$13,071,048</b> | <b>\$29,314,467</b>  | <b>(\$34,517,763)</b>     | <b>\$0</b>                         | <b>\$3,777,462</b>        | <b>\$11,645,214</b>       |
| 110 Kentucky Power Co - Distribution                      | \$65,968,457                 | \$68,918,189                   | \$1,086,624         | \$3,729,662          | (\$4,013,493)             | \$0                                | \$485,296                 | \$1,288,089               |
| 117 Kentucky Power Co - Generation                        | 31,999,816                   | 33,152,927                     | 400,461             | 1,803,539            | (1,930,681)               | 0                                  | 235,406                   | 508,725                   |
| 180 Kentucky Power Co - Transmission                      | 6,175,993                    | 6,864,287                      | 155,504             | 353,554              | (399,746)                 | 0                                  | 45,434                    | 154,746                   |
| 600 Kentucky Power Co. - Kammer Actives                   | 4,777,333                    | 6,527,915                      | 206,867             | 275,964              | (380,157)                 | 0                                  | 35,144                    | 137,818                   |
| 701 Kentucky Power Co. - Mitchell Actives                 | 27,059,090                   | 44,490,653                     | 1,142,291           | 1,570,648            | (2,590,941)               | 0                                  | 199,060                   | 321,058                   |
| 702 Kentucky Power Co. - Mitchell Inactives               | 21,435,971                   | 26,594,575                     | 0                   | 1,192,869            | (1,548,751)               | 0                                  | 157,694                   | (198,188)                 |
| <b>Kentucky Power Co.</b>                                 | <b>\$157,416,660</b>         | <b>\$186,548,546</b>           | <b>\$2,991,747</b>  | <b>\$8,926,236</b>   | <b>(\$10,863,769)</b>     | <b>\$0</b>                         | <b>\$1,158,034</b>        | <b>\$2,212,248</b>        |
| 250 Ohio Power Co - Distribution                          | \$393,970,645                | \$421,589,345                  | \$6,639,777         | \$22,260,280         | (\$24,551,516)            | \$0                                | \$2,898,242               | \$7,246,783               |
| 160 Ohio Power Co - Transmission                          | 43,718,827                   | 43,204,555                     | 32,250              | 2,422,367            | (2,516,044)               | 0                                  | 321,617                   | 260,190                   |
| <b>Ohio Power Co.</b>                                     | <b>\$437,689,472</b>         | <b>\$464,793,900</b>           | <b>\$6,672,027</b>  | <b>\$24,682,647</b>  | <b>(\$27,067,560)</b>     | <b>\$0</b>                         | <b>\$3,219,859</b>        | <b>\$7,506,973</b>        |
| 167 Public Service Co of Oklahoma - Distribution          | \$145,358,224                | \$155,485,335                  | \$3,905,010         | \$8,261,246          | (\$9,054,784)             | \$0                                | \$1,069,327               | \$4,180,799               |
| 198 Public Service Co of Oklahoma - Generation            | 72,439,791                   | 81,050,227                     | 2,364,974           | 4,128,046            | (4,720,010)               | 0                                  | 532,903                   | 2,305,913                 |
| 114 Public Service Co of Oklahoma - Transmission          | 17,352,391                   | 19,685,703                     | 495,541             | 981,214              | (1,146,409)               | 0                                  | 127,653                   | 457,999                   |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$235,150,406</b>         | <b>\$256,221,265</b>           | <b>\$6,765,525</b>  | <b>\$13,370,506</b>  | <b>(\$14,921,203)</b>     | <b>\$0</b>                         | <b>\$1,729,883</b>        | <b>\$6,944,711</b>        |
| 159 Southwestern Electric Power Co - Distribution         | \$88,205,699                 | \$101,373,818                  | \$3,034,099         | \$5,047,749          | (\$5,903,567)             | \$0                                | \$648,884                 | \$2,827,165               |
| 168 Southwestern Electric Power Co - Generation           | 97,347,203                   | 109,679,597                    | 3,681,518           | 5,580,468            | (6,387,259)               | 0                                  | 716,134                   | 3,590,861                 |
| 161 Southwestern Electric Power Co - Texas - Distribution | 47,361,427                   | 49,798,027                     | 1,413,507           | 2,704,706            | (2,900,019)               | 0                                  | 348,414                   | 1,566,608                 |
| 111 Southwestern Electric Power Co - Texas - Transmission | 134,680                      | 129,360                        | 0                   | 7,406                | (7,533)                   | 0                                  | 991                       | 864                       |
| 194 Southwestern Electric Power Co - Transmission         | 13,533,479                   | 16,240,550                     | 439,594             | 777,379              | (945,778)                 | 0                                  | 99,559                    | 370,754                   |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$246,582,488</b>         | <b>\$277,221,352</b>           | <b>\$8,568,718</b>  | <b>\$14,117,708</b>  | <b>(\$16,144,156)</b>     | <b>\$0</b>                         | <b>\$1,813,982</b>        | <b>\$8,356,252</b>        |
| 119 AEP Texas North Company - Distribution                | 61,445,359                   | 63,641,547                     | 1,580,777           | 3,472,967            | (3,706,205)               | 0                                  | 452,022                   | 1,799,561                 |
| 166 AEP Texas North Company - Generation                  | 19,227,210                   | 22,804,414                     | 0                   | 1,066,093            | (1,328,029)               | 0                                  | 141,445                   | (120,491)                 |
| 192 AEP Texas North Company - Transmission                | 8,547,181                    | 9,882,782                      | 296,892             | 487,781              | (575,530)                 | 0                                  | 62,877                    | 272,020                   |
| <b>AEP Texas North Co.</b>                                | <b>\$89,219,750</b>          | <b>\$96,328,743</b>            | <b>\$1,877,669</b>  | <b>\$5,026,841</b>   | <b>(\$5,609,764)</b>      | <b>\$0</b>                         | <b>\$656,344</b>          | <b>\$1,951,090</b>        |
| 230 Kingsport Power Co - Distribution                     | \$12,316,117                 | \$13,083,776                   | \$232,761           | \$698,840            | (\$761,942)               | \$0                                | \$90,603                  | \$260,262                 |
| 260 Kingsport Power Co - Transmission                     | 2,505,407                    | 2,549,748                      | 24,405              | 140,995              | (148,486)                 | 0                                  | 18,431                    | 35,345                    |
| <b>Kingsport Power Co.</b>                                | <b>\$14,821,524</b>          | <b>\$15,633,524</b>            | <b>\$257,166</b>    | <b>\$839,835</b>     | <b>(\$910,428)</b>        | <b>\$0</b>                         | <b>\$109,034</b>          | <b>\$295,607</b>          |
| 210 Wheeling Power Co - Distribution                      | \$14,231,980                 | \$15,179,775                   | \$247,886           | \$802,699            | (\$884,004)               | \$0                                | \$104,697                 | \$271,278                 |
| 200 Wheeling Power Co - Transmission                      | 634,073                      | 716,752                        | 0                   | 34,842               | (41,740)                  | 0                                  | 4,665                     | (2,233)                   |
| <b>Wheeling Power Co.</b>                                 | <b>\$14,866,053</b>          | <b>\$15,896,527</b>            | <b>\$247,886</b>    | <b>\$837,541</b>     | <b>(\$925,744)</b>        | <b>\$0</b>                         | <b>\$109,362</b>          | <b>\$269,045</b>          |
| 103 American Electric Power Service Corporation           | \$1,307,463,556              | \$1,405,901,457                | \$26,730,565        | \$74,276,780         | (\$81,873,542)            | (\$3)                              | \$9,618,344               | \$28,752,143              |
| <b>American Electric Power Service Corp</b>               | <b>\$1,307,463,556</b>       | <b>\$1,405,901,457</b>         | <b>\$26,730,565</b> | <b>\$74,276,780</b>  | <b>(\$81,873,542)</b>     | <b>(\$3)</b>                       | <b>\$9,618,344</b>        | <b>\$28,752,143</b>       |
| 143 AEP Pro Serv, Inc.                                    | \$973,202                    | \$1,020,481                    | \$0                 | \$55,067             | (\$59,428)                | \$0                                | \$7,159                   | \$2,798                   |
| 171 CSW Energy, Inc.                                      | 9,559,755                    | 13,886,641                     | 659,571             | 579,498              | (808,697)                 | 0                                  | 70,326                    | 500,698                   |
| 293 Elmwood   | 2,752,012                    | 6,621,795                      | 317,069             | 169,091              | (385,624)                 | 0                                  | 20,245                    | 120,781                   |
| 292 AEP River Operations LLC                              | 32,256,560                   | 69,536,794                     | 5,013,641           | 2,077,488            | (4,049,518)               | 0                                  | 237,295                   | 3,278,906                 |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$45,541,529</b>          | <b>\$91,065,711</b>            | <b>\$5,990,281</b>  | <b>\$2,881,144</b>   | <b>(\$5,303,267)</b>      | <b>\$0</b>                         | <b>\$335,025</b>          | <b>\$3,903,183</b>        |
| 270 Cook Coal Terminal                                    | \$3,390,241                  | \$4,228,071                    | \$102,922           | \$193,152            | (\$246,224)               | \$0                                | \$24,940                  | \$74,790                  |
| <b>AEP Generating Company</b>                             | <b>\$3,390,241</b>           | <b>\$4,228,071</b>             | <b>\$102,922</b>    | <b>\$193,152</b>     | <b>(\$246,224)</b>        | <b>\$0</b>                         | <b>\$24,940</b>           | <b>\$74,790</b>           |
| 104 Cardinal Operating Company                            | \$70,905,775                 | \$91,454,067                   | \$1,429,590         | \$4,026,654          | (\$5,325,884)             | \$0                                | \$521,618                 | \$651,978                 |
| 181 Ohio Power Co - Generation                            | 274,843,004                  | 370,258,238                    | 3,301,937           | 15,452,323           | (21,562,217)              | 0                                  | 2,021,880                 | (786,077)                 |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$345,748,779</b>         | <b>\$461,712,305</b>           | <b>\$4,731,527</b>  | <b>\$19,478,977</b>  | <b>(\$26,888,101)</b>     | <b>\$0</b>                         | <b>\$2,543,498</b>        | <b>(\$134,099)</b>        |
| 290 Conesville Coal Preparation Company                   | 2,968,538                    | 4,246,476                      | 0                   | 165,166              | (247,296)                 | 0                                  | 21,838                    | (60,292)                  |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$348,717,317</b>         | <b>\$465,958,781</b>           | <b>\$4,731,527</b>  | <b>\$19,644,143</b>  | <b>(\$27,135,397)</b>     | <b>\$0</b>                         | <b>\$2,565,336</b>        | <b>(\$194,391)</b>        |
| <b>Total</b>  | <b>\$4,281,573,660</b>       | <b>\$4,784,061,725</b>         | <b>\$92,998,952</b> | <b>\$243,120,107</b> | <b>(\$278,602,787)</b>    | <b>(\$3)</b>                       | <b>\$31,497,360</b>       | <b>\$89,013,628</b>       |

AMERICAN ELECTRIC POWER  
QUALIFIED RETIREMENT PLAN  
ESTIMATED 2020 NET PERIODIC PENSION COST

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost        | Interest Cost        | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|---------------------|----------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$294,044,689                | \$302,597,625                  | \$4,722,471         | \$16,615,474         | (\$17,633,972)            | \$0                                | \$1,953,613               | \$5,657,586               |
| 215 Appalachian Power Co - Generation                     | 247,995,220                  | 262,100,038                    | 4,523,947           | 14,049,410           | (15,273,962)              | 0                                  | 1,647,663                 | 4,947,058                 |
| 150 Appalachian Power Co - Transmission                   | 34,256,456                   | 34,316,809                     | 267,105             | 1,922,458            | (1,999,823)               | 0                                  | 227,598                   | 417,338                   |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$576,296,365</b>         | <b>\$599,014,472</b>           | <b>\$9,513,523</b>  | <b>\$32,587,342</b>  | <b>(\$34,907,757)</b>     | <b>\$0</b>                         | <b>\$3,828,874</b>        | <b>\$11,021,982</b>       |
| 225 Cedar Coal Co   | 3,097,556                    | 4,492,141                      | 0                   | 171,840              | (261,781)                 | 0                                  | 20,580                    | (69,361)                  |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$579,393,921</b>         | <b>\$603,506,613</b>           | <b>\$9,513,523</b>  | <b>\$32,759,182</b>  | <b>(\$35,169,538)</b>     | <b>\$0</b>                         | <b>\$3,849,454</b>        | <b>\$10,952,621</b>       |
| 211 AEP Texas Central Company - Distribution              | \$249,809,606                | \$258,719,260                  | \$5,423,300         | \$14,141,674         | (\$15,076,946)            | \$0                                | \$1,659,718               | \$6,147,746               |
| 147 AEP Texas Central Company - Generation                | 6,546,214                    | 15,657,065                     | 0                   | 356,091              | (912,420)                 | 0                                  | 43,493                    | (512,836)                 |
| 169 AEP Texas Central Company - Transmission              | 24,237,003                   | 25,453,227                     | 678,277             | 1,383,914            | (1,483,295)               | 0                                  | 161,029                   | 739,925                   |
| <b>AEP Texas Central Co.</b>                              | <b>\$280,592,823</b>         | <b>\$299,829,552</b>           | <b>\$6,101,577</b>  | <b>\$15,881,679</b>  | <b>(\$17,472,661)</b>     | <b>\$0</b>                         | <b>\$1,864,240</b>        | <b>\$6,374,835</b>        |
| 170 Indiana Michigan Power Co - Distribution              | \$149,709,660                | \$155,213,244                  | \$2,693,992         | \$8,479,414          | (\$9,045,101)             | \$0                                | \$994,661                 | \$3,122,966               |
| 132 Indiana Michigan Power Co - Generation                | 100,310,655                  | 107,829,942                    | 1,983,203           | 5,687,549            | (6,283,824)               | 0                                  | 666,457                   | 2,053,385                 |
| 190 Indiana Michigan Power Co - Nuclear                   | 194,625,843                  | 256,797,227                    | 7,199,501           | 11,233,658           | (14,964,939)              | 0                                  | 1,293,081                 | 4,761,301                 |
| 120 Indiana Michigan Power Co - Transmission              | 33,895,572                   | 35,229,276                     | 577,210             | 1,919,062            | (2,052,997)               | 0                                  | 225,200                   | 668,475                   |
| 280 Ind Mich River Transp Lakin                           | 30,657,709                   | 42,454,409                     | 1,160,521           | 1,765,038            | (2,474,044)               | 0                                  | 203,688                   | 655,203                   |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$509,199,439</b>         | <b>\$597,524,098</b>           | <b>\$13,614,427</b> | <b>\$29,084,721</b>  | <b>(\$34,820,905)</b>     | <b>\$0</b>                         | <b>\$3,383,087</b>        | <b>\$11,261,330</b>       |
| 202 Price River Coal                                      | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$509,199,439</b>         | <b>\$597,524,098</b>           | <b>\$13,614,427</b> | <b>\$29,084,721</b>  | <b>(\$34,820,905)</b>     | <b>\$0</b>                         | <b>\$3,383,087</b>        | <b>\$11,261,330</b>       |
| 110 Kentucky Power Co - Distribution                      | \$65,417,644                 | \$68,388,233                   | \$1,131,797         | \$3,700,446          | (\$3,985,346)             | \$0                                | \$434,630                 | \$1,281,527               |
| 117 Kentucky Power Co - Generation                        | 31,732,629                   | 32,808,027                     | 417,108             | 1,789,708            | (1,911,898)               | 0                                  | 210,829                   | 505,747                   |
| 180 Kentucky Power Co - Transmission                      | 6,124,426                    | 6,944,078                      | 161,969             | 351,130              | (404,668)                 | 0                                  | 40,690                    | 149,121                   |
| 600 Kentucky Power Co. - Kammer Actives                   | 4,737,444                    | 6,661,644                      | 215,467             | 273,922              | (388,209)                 | 0                                  | 31,475                    | 132,655                   |
| 701 Kentucky Power Co. - Mitchell Actives                 | 26,833,156                   | 46,022,985                     | 1,189,777           | 1,559,737            | (2,682,004)               | 0                                  | 178,278                   | 245,788                   |
| 702 Kentucky Power Co. - Mitchell Inactives               | 21,256,988                   | 26,361,008                     | 0                   | 1,184,277            | (1,536,196)               | 0                                  | 141,230                   | (210,689)                 |
| <b>Kentucky Power Co.</b>                                 | <b>\$156,102,287</b>         | <b>\$187,185,975</b>           | <b>\$3,116,118</b>  | <b>\$8,859,220</b>   | <b>(\$10,908,321)</b>     | <b>\$0</b>                         | <b>\$1,037,132</b>        | <b>\$2,104,149</b>        |
| 250 Ohio Power Co - Distribution                          | \$390,681,128                | \$418,366,022                  | \$6,915,801         | \$22,090,901         | (\$24,380,412)            | \$0                                | \$2,595,659               | \$7,221,949               |
| 160 Ohio Power Co - Transmission                          | 43,353,790                   | 42,168,724                     | 33,591              | 2,411,041            | (2,457,396)               | 0                                  | 288,040                   | 275,276                   |
| <b>Ohio Power Co.</b>                                     | <b>\$434,034,918</b>         | <b>\$460,534,746</b>           | <b>\$6,949,392</b>  | <b>\$24,501,942</b>  | <b>(\$26,837,808)</b>     | <b>\$0</b>                         | <b>\$2,883,699</b>        | <b>\$7,497,225</b>        |
| 167 Public Service Co of Oklahoma - Distribution          | \$144,144,534                | \$154,482,377                  | \$4,067,347         | \$8,226,433          | (\$9,002,509)             | \$0                                | \$957,686                 | \$4,248,957               |
| 198 Public Service Co of Oklahoma - Generation            | 71,834,944                   | 80,719,739                     | 2,463,288           | 4,094,239            | (4,703,968)               | 0                                  | 477,226                   | 2,330,825                 |
| 114 Public Service Co of Oklahoma - Transmission          | 17,207,505                   | 19,418,113                     | 516,141             | 981,937              | (1,131,597)               | 0                                  | 114,325                   | 480,806                   |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$233,186,983</b>         | <b>\$254,620,229</b>           | <b>\$7,046,776</b>  | <b>\$13,302,609</b>  | <b>(\$14,838,074)</b>     | <b>\$0</b>                         | <b>\$1,549,277</b>        | <b>\$7,060,588</b>        |
| 159 Southwestern Electric Power Co - Distribution         | \$87,469,212                 | \$101,756,496                  | \$3,160,230         | \$5,012,458          | (\$5,929,892)             | \$0                                | \$581,139                 | \$2,823,935               |
| 168 Southwestern Electric Power Co - Generation           | 96,534,388                   | 109,956,654                    | 3,834,564           | 5,549,999            | (6,407,759)               | 0                                  | 641,368                   | 3,618,172                 |
| 161 Southwestern Electric Power Co - Texas - Distribution | 46,965,976                   | 49,745,572                     | 1,472,268           | 2,683,858            | (2,898,939)               | 0                                  | 312,039                   | 1,569,226                 |
| 111 Southwestern Electric Power Co - Texas - Transmission | 133,555                      | 127,602                        | 0                   | 7,386                | (7,436)                   | 0                                  | 887                       | 837                       |
| 194 Southwestern Electric Power Co - Transmission         | 13,420,479                   | 16,477,516                     | 457,868             | 773,905              | (960,232)                 | 0                                  | 89,165                    | 360,706                   |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$244,523,610</b>         | <b>\$278,063,840</b>           | <b>\$8,924,930</b>  | <b>\$14,027,606</b>  | <b>(\$16,204,258)</b>     | <b>\$0</b>                         | <b>\$1,624,598</b>        | <b>\$8,372,876</b>        |
| 119 AEP Texas North Company - Distribution                | 60,932,312                   | 62,453,164                     | 1,646,492           | 3,465,080            | (3,639,478)               | 0                                  | 404,830                   | 1,876,924                 |
| 166 AEP Texas North Company - Generation                  | 19,066,670                   | 22,386,833                     | 0                   | 1,058,246            | (1,304,600)               | 0                                  | 126,678                   | (119,676)                 |
| 192 AEP Texas North Company - Transmission                | 8,475,816                    | 9,870,058                      | 309,234             | 485,199              | (575,181)                 | 0                                  | 56,313                    | 275,565                   |
| <b>AEP Texas North Co.</b>                                | <b>\$88,474,798</b>          | <b>\$94,710,055</b>            | <b>\$1,955,726</b>  | <b>\$5,008,525</b>   | <b>(\$5,519,259)</b>      | <b>\$0</b>                         | <b>\$587,821</b>          | <b>\$2,032,813</b>        |
| 230 Kingsport Power Co - Distribution                     | \$12,213,282                 | \$13,058,499                   | \$242,438           | \$694,017            | (\$760,988)               | \$0                                | \$81,144                  | \$256,611                 |
| 260 Kingsport Power Co - Transmission                     | 2,484,488                    | 2,519,403                      | 25,420              | 139,928              | (146,819)                 | 0                                  | 16,507                    | 35,036                    |
| <b>Kingsport Power Co.</b>                                | <b>\$14,697,770</b>          | <b>\$15,577,902</b>            | <b>\$267,858</b>    | <b>\$833,945</b>     | <b>(\$907,807)</b>        | <b>\$0</b>                         | <b>\$97,651</b>           | <b>\$291,647</b>          |
| 210 Wheeling Power Co - Distribution                      | \$14,113,148                 | \$14,998,438                   | \$258,191           | \$798,627            | (\$874,039)               | \$0                                | \$93,767                  | \$276,546                 |
| 200 Wheeling Power Co - Transmission                      | 628,779                      | 689,075                        | 0                   | 34,695               | (40,156)                  | 0                                  | 4,178                     | (1,283)                   |
| <b>Wheeling Power Co.</b>                                 | <b>\$14,741,927</b>          | <b>\$15,687,513</b>            | <b>\$258,191</b>    | <b>\$833,322</b>     | <b>(\$914,195)</b>        | <b>\$0</b>                         | <b>\$97,945</b>           | <b>\$275,263</b>          |
| 103 American Electric Power Service Corporation           | \$1,296,546,691              | \$1,405,391,286                | \$2,841,788         | \$73,690,563         | (\$81,899,617)            | (\$1)                              | \$8,614,169               | \$28,246,902              |
| <b>American Electric Power Service Corp</b>               | <b>\$1,296,546,691</b>       | <b>\$1,405,391,286</b>         | <b>\$2,841,788</b>  | <b>\$73,690,563</b>  | <b>(\$81,899,617)</b>     | <b>(\$1)</b>                       | <b>\$8,614,169</b>        | <b>\$28,246,902</b>       |
| 143 AEP Pro Serv, Inc.                                    | \$965,076                    | \$1,032,142                    | \$0                 | \$54,604             | (\$60,148)                | \$0                                | \$6,412                   | \$868                     |
| 171 CSW Energy, Inc.                                      | 9,479,934                    | 14,947,642                     | 686,990             | 573,998              | (871,079)                 | 0                                  | 62,984                    | 452,893                   |
| 293 Elmwood   | 2,729,034                    | 7,033,117                      | 330,250             | 168,562              | (409,857)                 | 0                                  | 18,132                    | 107,087                   |
| 292 AEP River Operations LLC                              | 31,987,229                   | 75,988,306                     | 5,222,064           | 2,071,061            | (4,428,242)               | 0                                  | 212,521                   | 3,077,404                 |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$45,161,273</b>          | <b>\$99,001,207</b>            | <b>\$6,239,304</b>  | <b>\$2,868,225</b>   | <b>(\$5,769,326)</b>      | <b>\$0</b>                         | <b>\$300,049</b>          | <b>\$3,638,252</b>        |
| 270 Cook Coal Terminal                                    | \$3,361,934                  | \$4,245,919                    | \$107,201           | \$192,073            | (\$247,432)               | \$0                                | \$22,336                  | \$74,178                  |
| <b>AEP Generating Company</b>                             | <b>\$3,361,934</b>           | <b>\$4,245,919</b>             | <b>\$107,201</b>    | <b>\$192,073</b>     | <b>(\$247,432)</b>        | <b>\$0</b>                         | <b>\$22,336</b>           | <b>\$74,178</b>           |
| 104 Cardinal Operating Company                            | \$70,313,737                 | \$92,330,571                   | \$1,489,020         | \$3,993,996          | (\$5,380,593)             | \$0                                | \$467,160                 | \$569,583                 |
| 181 Ohio Power Co - Generation                            | 272,548,161                  | 371,302,954                    | 3,439,202           | 15,351,872           | (21,637,797)              | 0                                  | 1,810,791                 | (1,035,932)               |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$342,861,898</b>         | <b>\$463,633,525</b>           | <b>\$4,928,222</b>  | <b>\$19,345,868</b>  | <b>(\$27,018,390)</b>     | <b>\$0</b>                         | <b>\$2,277,951</b>        | <b>(\$466,349)</b>        |
| 290 Conesville Coal Preparation Company                   | 2,943,751                    | 4,247,860                      | 0                   | 164,057              | (247,545)                 | 0                                  | 19,558                    | (63,930)                  |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$345,805,649</b>         | <b>\$467,881,385</b>           | <b>\$4,928,222</b>  | <b>\$19,509,925</b>  | <b>(\$27,265,935)</b>     | <b>\$0</b>                         | <b>\$2,297,509</b>        | <b>(\$530,279)</b>        |
| <b>Total</b>  | <b>\$4,245,824,023</b>       | <b>\$4,783,760,320</b>         | <b>\$96,865,033</b> | <b>\$241,353,537</b> | <b>(\$278,775,136)</b>    | <b>(\$1)</b>                       | <b>\$28,208,967</b>       | <b>\$87,652,400</b>       |



**AMERICAN ELECTRIC POWER  
QUALIFIED RETIREMENT PLAN  
ESTIMATED 2021 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost        | Interest Cost        | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|---------------------|----------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$291,915,023                | \$299,686,103                  | \$4,845,737         | \$16,493,850         | (\$17,466,966)            | \$0                                | \$1,744,672               | \$5,617,293               |
| 215 Appalachian Power Co - Generation                     | 246,199,075                  | 260,807,286                    | 4,642,031           | 13,949,854           | (15,200,945)              | 0                                  | 1,471,444                 | 4,862,384                 |
| 150 Appalachian Power Co - Transmission                   | 34,008,348                   | 33,961,379                     | 274,077             | 1,898,459            | (1,979,412)               | 0                                  | 203,256                   | 396,380                   |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$572,122,446</b>         | <b>\$594,454,768</b>           | <b>\$9,761,845</b>  | <b>\$32,342,163</b>  | <b>(\$34,647,323)</b>     | <b>\$0</b>                         | <b>\$3,419,372</b>        | <b>\$10,876,057</b>       |
| 225 Cedar Coal Co   | 3,075,121                    | 4,478,397                      | 0                   | 170,744              | (261,020)                 | 0                                  | 18,379                    | (71,897)                  |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$575,197,567</b>         | <b>\$598,933,165</b>           | <b>\$9,761,845</b>  | <b>\$32,512,907</b>  | <b>(\$34,908,343)</b>     | <b>\$0</b>                         | <b>\$3,437,751</b>        | <b>\$10,804,160</b>       |
| 211 AEP Texas Central Company - Distribution              | \$248,000,320                | \$255,739,573                  | \$5,564,859         | \$14,044,002         | (\$14,905,577)            | \$0                                | \$1,482,209               | \$6,185,493               |
| 147 AEP Texas Central Company - Generation                | 6,498,802                    | 15,745,089                     | 0                   | 353,100              | (917,690)                 | 0                                  | 38,841                    | (525,749)                 |
| 169 AEP Texas Central Company - Transmission              | 24,061,462                   | 25,458,014                     | 695,981             | 1,376,038            | (1,483,800)               | 0                                  | 143,807                   | 732,026                   |
| <b>AEP Texas Central Co.</b>                              | <b>\$278,560,584</b>         | <b>\$296,942,676</b>           | <b>\$6,260,840</b>  | <b>\$15,773,140</b>  | <b>(\$17,307,067)</b>     | <b>\$0</b>                         | <b>\$1,664,857</b>        | <b>\$6,391,770</b>        |
| 170 Indiana Michigan Power Co - Distribution              | \$148,625,363                | \$154,217,185                  | \$2,764,311         | \$8,424,524          | (\$8,988,426)             | \$0                                | \$888,281                 | \$3,088,690               |
| 132 Indiana Michigan Power Co - Generation                | 99,584,139                   | 107,425,219                    | 2,034,969           | 5,645,053            | (6,261,193)               | 0                                  | 595,179                   | 2,014,008                 |
| 190 Indiana Michigan Power Co - Nuclear                   | 193,216,234                  | 262,595,295                    | 7,387,423           | 11,150,776           | (15,305,158)              | 0                                  | 1,154,784                 | 4,387,825                 |
| 120 Indiana Michigan Power Co - Transmission              | 33,650,078                   | 35,017,333                     | 592,276             | 1,905,807            | (2,040,957)               | 0                                  | 201,114                   | 658,240                   |
| 280 Ind Mich River Transp Lakin                           | 30,435,666                   | 43,294,347                     | 1,190,813           | 1,759,759            | (2,523,377)               | 0                                  | 181,903                   | 609,098                   |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$505,511,480</b>         | <b>\$602,549,379</b>           | <b>\$13,969,792</b> | <b>\$28,885,919</b>  | <b>(\$35,119,111)</b>     | <b>\$0</b>                         | <b>\$3,021,261</b>        | <b>\$10,757,861</b>       |
| 202 Price River Coal                                      | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$505,511,480</b>         | <b>\$602,549,379</b>           | <b>\$13,969,792</b> | <b>\$28,885,919</b>  | <b>(\$35,119,111)</b>     | <b>\$0</b>                         | <b>\$3,021,261</b>        | <b>\$10,757,861</b>       |
| 110 Kentucky Power Co - Distribution                      | \$64,943,846                 | \$67,861,684                   | \$1,161,339         | \$3,672,131          | (\$3,955,264)             | \$0                                | \$388,146                 | \$1,266,352               |
| 117 Kentucky Power Co - Generation                        | 31,502,800                   | 32,480,221                     | 427,996             | 1,772,327            | (1,893,084)               | 0                                  | 188,281                   | 495,520                   |
| 180 Kentucky Power Co - Transmission                      | 6,080,069                    | 7,039,813                      | 166,197             | 348,509              | (410,310)                 | 0                                  | 36,338                    | 140,734                   |
| 600 Kentucky Power Co. - Kammer Actives                   | 4,703,132                    | 6,801,227                      | 221,091             | 271,564              | (396,404)                 | 0                                  | 28,109                    | 124,360                   |
| 701 Kentucky Power Co. - Mitchell Actives                 | 26,638,812                   | 47,663,871                     | 1,220,833           | 1,542,700            | (2,778,051)               | 0                                  | 159,211                   | 144,693                   |
| 702 Kentucky Power Co. - Mitchell Inactives               | 21,103,031                   | 26,178,277                     | 0                   | 1,176,867            | (1,525,780)               | 0                                  | 126,125                   | (222,788)                 |
| <b>Kentucky Power Co.</b>                                 | <b>\$154,971,690</b>         | <b>\$188,025,093</b>           | <b>\$3,197,456</b>  | <b>\$8,784,098</b>   | <b>(\$10,958,893)</b>     | <b>\$0</b>                         | <b>\$926,210</b>          | <b>\$1,948,871</b>        |
| 250 Ohio Power Co - Distribution                          | \$387,851,557                | \$415,342,231                  | \$7,096,317         | \$21,967,647         | (\$24,207,891)            | \$0                                | \$2,318,050               | \$7,174,123               |
| 160 Ohio Power Co - Transmission                          | 43,039,793                   | 42,143,244                     | 34,467              | 2,396,973            | (2,456,285)               | 0                                  | 257,233                   | 232,388                   |
| <b>Ohio Power Co.</b>                                     | <b>\$430,891,350</b>         | <b>\$457,485,475</b>           | <b>\$7,130,784</b>  | <b>\$24,364,620</b>  | <b>(\$26,664,176)</b>     | <b>\$0</b>                         | <b>\$2,575,283</b>        | <b>\$7,406,511</b>        |
| 167 Public Service Co of Oklahoma - Distribution          | \$143,100,544                | \$154,509,476                  | \$4,173,512         | \$8,151,491          | (\$9,005,462)             | \$0                                | \$855,261                 | \$4,174,802               |
| 198 Public Service Co of Oklahoma - Generation            | 71,314,668                   | 80,278,297                     | 2,527,585           | 4,082,000            | (4,678,957)               | 0                                  | 426,222                   | 2,356,850                 |
| 114 Public Service Co of Oklahoma - Transmission          | 17,082,877                   | 19,443,552                     | 529,614             | 975,850              | (1,133,252)               | 0                                  | 102,098                   | 474,310                   |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$231,498,089</b>         | <b>\$254,231,325</b>           | <b>\$7,230,711</b>  | <b>\$13,209,341</b>  | <b>(\$14,817,671)</b>     | <b>\$0</b>                         | <b>\$1,383,581</b>        | <b>\$7,005,962</b>        |
| 159 Southwestern Electric Power Co - Distribution         | \$86,835,703                 | \$102,261,899                  | \$3,242,718         | \$4,975,473          | (\$5,960,253)             | \$0                                | \$518,986                 | \$2,776,924               |
| 168 Southwestern Electric Power Co - Generation           | 95,835,222                   | 110,655,193                    | 3,934,654           | 5,508,010            | (6,449,450)               | 0                                  | 572,773                   | 3,565,987                 |
| 161 Southwestern Electric Power Co - Texas - Distribution | 46,625,817                   | 49,684,224                     | 1,510,697           | 2,673,665            | (2,895,805)               | 0                                  | 278,666                   | 1,567,223                 |
| 111 Southwestern Electric Power Co - Texas - Transmission | 132,588                      | 128,455                        | 0                   | 7,372                | (7,487)                   | 0                                  | 792                       | 677                       |
| 194 Southwestern Electric Power Co - Transmission         | 13,323,279                   | 16,818,212                     | 469,819             | 768,477              | (980,236)                 | 0                                  | 79,628                    | 337,688                   |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$242,752,609</b>         | <b>\$279,547,983</b>           | <b>\$9,157,888</b>  | <b>\$13,932,997</b>  | <b>(\$16,293,231)</b>     | <b>\$0</b>                         | <b>\$1,450,845</b>        | <b>\$8,248,499</b>        |
| 119 AEP Texas North Company - Distribution                | 60,491,000                   | 62,043,924                     | 1,689,468           | 3,444,282            | (3,616,181)               | 0                                  | 361,533                   | 1,879,102                 |
| 166 AEP Texas North Company - Generation                  | 18,928,576                   | 21,996,865                     | 0                   | 1,052,105            | (1,282,070)               | 0                                  | 113,129                   | (116,836)                 |
| 192 AEP Texas North Company - Transmission                | 8,414,428                    | 9,896,882                      | 317,306             | 482,486              | (576,832)                 | 0                                  | 50,290                    | 273,250                   |
| <b>AEP Texas North Co.</b>                                | <b>\$87,834,004</b>          | <b>\$93,937,671</b>            | <b>\$2,006,774</b>  | <b>\$4,978,873</b>   | <b>(\$5,475,083)</b>      | <b>\$0</b>                         | <b>\$524,952</b>          | <b>\$2,035,516</b>        |
| 230 Kingsport Power Co - Distribution                     | \$12,124,825                 | \$13,061,094                   | \$248,766           | \$688,649            | (\$761,255)               | \$0                                | \$72,466                  | \$248,626                 |
| 260 Kingsport Power Co - Transmission                     | 2,466,494                    | 2,491,382                      | 26,084              | 138,830              | (145,208)                 | 0                                  | 14,741                    | 34,447                    |
| <b>Kingsport Power Co.</b>                                | <b>\$14,591,319</b>          | <b>\$15,552,476</b>            | <b>\$274,850</b>    | <b>\$827,479</b>     | <b>(\$906,463)</b>        | <b>\$0</b>                         | <b>\$87,207</b>           | <b>\$283,073</b>          |
| 210 Wheeling Power Co - Distribution                      | \$14,010,931                 | \$14,895,173                   | \$264,930           | \$792,977            | (\$868,153)               | \$0                                | \$83,738                  | \$273,492                 |
| 200 Wheeling Power Co - Transmission                      | 624,225                      | 665,610                        | 0                   | 34,593               | (38,795)                  | 0                                  | 3,731                     | (471)                     |
| <b>Wheeling Power Co.</b>                                 | <b>\$14,635,156</b>          | <b>\$15,560,783</b>            | <b>\$264,930</b>    | <b>\$827,570</b>     | <b>(\$906,948)</b>        | <b>\$0</b>                         | <b>\$87,469</b>           | <b>\$273,021</b>          |
| 103 American Electric Power Service Corporation           | \$1,287,156,243              | \$1,405,012,100                | \$28,568,514        | \$73,188,470         | (\$81,890,013)            | \$3                                | \$7,692,876               | \$27,559,850              |
| <b>American Electric Power Service Corp</b>               | <b>\$1,287,156,243</b>       | <b>\$1,405,012,100</b>         | <b>\$28,568,514</b> | <b>\$73,188,470</b>  | <b>(\$81,890,013)</b>     | <b>\$3</b>                         | <b>\$7,692,876</b>        | <b>\$27,559,850</b>       |
| 143 AEP Pro Serv, Inc.                                    | \$958,087                    | \$1,044,808                    | \$0                 | \$54,209             | (\$60,896)                | \$0                                | \$5,726                   | (\$961)                   |
| 171 CSW Energy, Inc.                                      | 9,411,275                    | 16,003,144                     | 704,922             | 569,873              | (932,731)                 | 0                                  | 56,248                    | 398,312                   |
| 293 Elmwood   | 2,709,268                    | 7,481,524                      | 338,870             | 168,715              | (436,055)                 | 0                                  | 16,192                    | 87,722                    |
| 292 AEP River Operations LLC                              | 31,755,556                   | 82,889,489                     | 5,358,370           | 2,047,742            | (4,831,148)               | 0                                  | 189,792                   | 2,764,756                 |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                   | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$44,834,186</b>          | <b>\$107,418,965</b>           | <b>\$6,402,162</b>  | <b>\$2,840,539</b>   | <b>(\$6,260,830)</b>      | <b>\$0</b>                         | <b>\$267,958</b>          | <b>\$3,249,829</b>        |
| 270 Cook Coal Terminal                                    | \$3,337,585                  | \$4,280,580                    | \$109,999           | \$191,386            | (\$249,490)               | \$0                                | \$19,948                  | \$71,843                  |
| <b>AEP Generating Company</b>                             | <b>\$3,337,585</b>           | <b>\$4,280,580</b>             | <b>\$109,999</b>    | <b>\$191,386</b>     | <b>(\$249,490)</b>        | <b>\$0</b>                         | <b>\$19,948</b>           | <b>\$71,843</b>           |
| 104 Cardinal Operating Company                            | \$69,804,478                 | \$93,237,878                   | \$1,527,887         | \$3,963,294          | (\$5,434,295)             | \$0                                | \$417,196                 | \$474,082                 |
| 181 Ohio Power Co - Generation                            | 270,574,187                  | 373,419,809                    | 3,528,972           | 15,235,953           | (21,764,476)              | 0                                  | 1,617,125                 | (1,382,426)               |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$340,378,665</b>         | <b>\$466,657,687</b>           | <b>\$5,056,859</b>  | <b>\$19,199,247</b>  | <b>(\$27,198,771)</b>     | <b>\$0</b>                         | <b>\$2,034,321</b>        | <b>(\$908,344)</b>        |
| 290 Conesville Coal Preparation Company                   | 2,922,431                    | 4,261,325                      | 0                   | 163,763              | (248,368)                 | 0                                  | 17,466                    | (67,139)                  |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$343,301,096</b>         | <b>\$470,919,012</b>           | <b>\$5,056,859</b>  | <b>\$19,363,010</b>  | <b>(\$27,447,139)</b>     | <b>\$0</b>                         | <b>\$2,051,787</b>        | <b>(\$975,483)</b>        |
| <b>Total</b>  | <b>\$4,215,072,958</b>       | <b>\$4,790,396,683</b>         | <b>\$99,393,404</b> | <b>\$239,680,349</b> | <b>(\$279,204,458)</b>    | <b>\$3</b>                         | <b>\$25,191,985</b>       | <b>\$85,061,283</b>       |

AMERICAN ELECTRIC POWER  
QUALIFIED RETIREMENT PLAN  
ESTIMATED 2022 NET PERIODIC PENSION COST

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost         | Interest Cost        | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|----------------------|----------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$289,756,503                | \$296,539,010                  | \$5,013,079          | \$16,396,441         | (\$17,298,942)            | \$0                                | \$1,556,369               | \$5,666,947               |
| 215 Appalachian Power Co - Generation                     | 244,378,594                  | 259,484,970                    | 4,802,338            | 13,862,462           | (15,137,352)              | 0                                  | 1,312,631                 | 4,840,079                 |
| 150 Appalachian Power Co - Transmission                   | 33,756,879                   | 33,291,532                     | 283,542              | 1,894,182            | (1,942,100)               | 0                                  | 181,318                   | 416,942                   |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$567,891,976</b>         | <b>\$589,315,512</b>           | <b>\$10,098,959</b>  | <b>\$32,153,085</b>  | <b>(\$34,378,394)</b>     | <b>\$0</b>                         | <b>\$3,050,318</b>        | <b>\$10,923,968</b>       |
| 225 Cedar Coal Co   | 3,052,383                    | 4,471,369                      | 0                    | 169,653              | (260,842)                 | 0                                  | 16,395                    | (74,794)                  |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$570,944,359</b>         | <b>\$593,786,881</b>           | <b>\$10,098,959</b>  | <b>\$32,322,738</b>  | <b>(\$34,639,236)</b>     | <b>\$0</b>                         | <b>\$3,066,713</b>        | <b>\$10,849,174</b>       |
| 211 AEP Texas Central Company - Distribution              | \$246,166,520                | \$252,700,759                  | \$5,757,035          | \$13,965,531         | (\$14,741,587)            | \$0                                | \$1,322,234               | \$6,303,213               |
| 147 AEP Texas Central Company - Generation                | 6,450,748                    | 15,829,357                     | 0                    | 361,640              | (923,424)                 | 0                                  | 34,649                    | (527,135)                 |
| 169 AEP Texas Central Company - Transmission              | 23,883,544                   | 25,530,423                     | 720,016              | 1,367,652            | (1,489,346)               | 0                                  | 128,286                   | 726,608                   |
| <b>AEP Texas Central Co.</b>                              | <b>\$276,500,812</b>         | <b>\$294,060,539</b>           | <b>\$6,477,051</b>   | <b>\$15,694,823</b>  | <b>(\$17,154,357)</b>     | <b>\$0</b>                         | <b>\$1,485,169</b>        | <b>\$6,502,686</b>        |
| 170 Indiana Michigan Power Co - Distribution              | \$147,526,376                | \$153,384,186                  | \$2,859,773          | \$8,375,418          | (\$8,947,842)             | \$0                                | \$792,408                 | \$3,079,757               |
| 132 Indiana Michigan Power Co - Generation                | 98,847,779                   | 106,928,966                    | 2,105,244            | 5,607,854            | (6,237,823)               | 0                                  | 530,941                   | 2,006,216                 |
| 190 Indiana Michigan Power Co - Nuclear                   | 191,787,526                  | 268,517,153                    | 7,642,538            | 11,057,166           | (15,664,255)              | 0                                  | 1,030,148                 | 4,065,597                 |
| 120 Indiana Michigan Power Co - Transmission              | 33,401,258                   | 34,812,978                     | 612,729              | 1,892,444            | (2,030,855)               | 0                                  | 179,408                   | 653,726                   |
| 280 Ind Mich River Transp Lakin                           | 30,210,614                   | 44,437,410                     | 1,231,937            | 1,748,501            | (2,592,307)               | 0                                  | 162,270                   | 550,401                   |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$501,773,553</b>         | <b>\$608,080,693</b>           | <b>\$14,452,221</b>  | <b>\$28,681,383</b>  | <b>(\$35,473,082)</b>     | <b>\$0</b>                         | <b>\$2,695,175</b>        | <b>\$10,355,697</b>       |
| 202 Price River Coal                                      | 0                            | 0                              | 0                    | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$501,773,553</b>         | <b>\$608,080,693</b>           | <b>\$14,452,221</b>  | <b>\$28,681,383</b>  | <b>(\$35,473,082)</b>     | <b>\$0</b>                         | <b>\$2,695,175</b>        | <b>\$10,355,697</b>       |
| 110 Kentucky Power Co - Distribution                      | \$64,463,629                 | \$67,241,258                   | \$1,201,444          | \$3,650,833          | (\$3,922,596)             | \$0                                | \$346,253                 | \$1,275,934               |
| 117 Kentucky Power Co - Generation                        | 31,269,858                   | 31,969,664                     | 442,776              | 1,762,369            | (1,864,987)               | 0                                  | 167,960                   | 508,118                   |
| 180 Kentucky Power Co - Transmission                      | 6,035,111                    | 7,135,758                      | 171,936              | 346,212              | (416,273)                 | 0                                  | 32,416                    | 134,291                   |
| 600 Kentucky Power Co. - Kammer Actives                   | 4,668,356                    | 6,929,934                      | 228,726              | 268,984              | (404,266)                 | 0                                  | 25,075                    | 118,519                   |
| 701 Kentucky Power Co. - Mitchell Actives                 | 26,441,836                   | 49,160,321                     | 1,262,993            | 1,530,865            | (2,867,823)               | 0                                  | 142,027                   | 68,062                    |
| 702 Kentucky Power Co. - Mitchell Inactives               | 20,946,988                   | 26,040,402                     | 0                    | 1,169,080            | (1,519,097)               | 0                                  | 112,513                   | (237,504)                 |
| <b>Kentucky Power Co.</b>                                 | <b>\$153,825,778</b>         | <b>\$188,477,337</b>           | <b>\$3,307,875</b>   | <b>\$8,728,343</b>   | <b>(\$10,995,042)</b>     | <b>\$0</b>                         | <b>\$826,244</b>          | <b>\$1,867,420</b>        |
| 250 Ohio Power Co - Distribution                          | \$384,983,650                | \$413,463,755                  | \$7,341,380          | \$21,810,077         | (\$24,119,880)            | \$0                                | \$2,067,862               | \$7,099,439               |
| 160 Ohio Power Co - Transmission                          | 42,721,542                   | 41,962,997                     | 35,658               | 2,382,809            | (2,447,959)               | 0                                  | 229,470                   | 199,978                   |
| <b>Ohio Power Co.</b>                                     | <b>\$427,705,192</b>         | <b>\$455,426,752</b>           | <b>\$7,377,038</b>   | <b>\$24,192,886</b>  | <b>(\$26,567,839)</b>     | <b>\$0</b>                         | <b>\$2,297,332</b>        | <b>\$7,299,417</b>        |
| 167 Public Service Co of Oklahoma - Distribution          | \$142,042,410                | \$153,895,527                  | \$4,317,640          | \$8,131,818          | (\$8,977,671)             | \$0                                | \$762,952                 | \$4,234,739               |
| 198 Public Service Co of Oklahoma - Generation            | 70,787,343                   | 80,409,483                     | 2,614,872            | 4,055,084            | (4,690,779)               | 0                                  | 380,220                   | 2,359,397                 |
| 114 Public Service Co of Oklahoma - Transmission          | 16,956,560                   | 19,499,619                     | 547,903              | 972,533              | (1,137,533)               | 0                                  | 91,079                    | 473,982                   |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$229,786,313</b>         | <b>\$253,804,629</b>           | <b>\$7,480,415</b>   | <b>\$13,159,435</b>  | <b>(\$14,805,983)</b>     | <b>\$0</b>                         | <b>\$1,234,251</b>        | <b>\$7,068,118</b>        |
| 159 Southwestern Electric Power Co - Distribution         | \$86,193,610                 | \$102,705,038                  | \$3,354,702          | \$4,950,074          | (\$5,991,416)             | \$0                                | \$462,972                 | \$2,776,332               |
| 168 Southwestern Electric Power Co - Generation           | 95,126,583                   | 111,242,195                    | 4,070,532            | 5,483,967            | (6,489,440)               | 0                                  | 510,953                   | 3,576,012                 |
| 161 Southwestern Electric Power Co - Texas - Distribution | 46,281,050                   | 49,934,412                     | 1,562,868            | 2,653,209            | (2,912,981)               | 0                                  | 248,589                   | 1,551,685                 |
| 111 Southwestern Electric Power Co - Texas - Transmission | 131,608                      | 128,797                        | 0                    | 7,354                | (7,514)                   | 0                                  | 707                       | 547                       |
| 194 Southwestern Electric Power Co - Transmission         | 13,224,762                   | 17,175,507                     | 486,044              | 763,890              | (1,001,953)               | 0                                  | 71,034                    | 319,015                   |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$240,957,613</b>         | <b>\$281,185,949</b>           | <b>\$9,474,146</b>   | <b>\$13,858,494</b>  | <b>(\$16,403,304)</b>     | <b>\$0</b>                         | <b>\$1,294,255</b>        | <b>\$8,223,591</b>        |
| 119 AEP Texas North Company - Distribution                | 60,043,709                   | 61,755,930                     | 1,747,812            | 3,426,174            | (3,602,603)               | 0                                  | 322,513                   | 1,893,896                 |
| 166 AEP Texas North Company - Generation                  | 18,788,612                   | 21,652,016                     | 0                    | 1,043,511            | (1,263,095)               | 0                                  | 100,919                   | (118,665)                 |
| 132 AEP Texas North Company - Transmission                | 8,352,209                    | 9,948,895                      | 328,263              | 479,709              | (580,380)                 | 0                                  | 44,862                    | 272,454                   |
| <b>AEP Texas North Co.</b>                                | <b>\$87,184,530</b>          | <b>\$93,356,841</b>            | <b>\$2,076,075</b>   | <b>\$4,949,394</b>   | <b>(\$5,446,078)</b>      | <b>\$0</b>                         | <b>\$468,294</b>          | <b>\$2,047,685</b>        |
| 230 Kingsport Power Co - Distribution                     | \$12,035,170                 | \$13,047,617                   | \$257,357            | \$684,245            | (\$761,148)               | \$0                                | \$64,644                  | \$245,098                 |
| 260 Kingsport Power Co - Transmission                     | 2,448,256                    | 2,460,300                      | 26,984               | 137,573              | (143,524)                 | 0                                  | 13,150                    | 34,183                    |
| <b>Kingsport Power Co.</b>                                | <b>\$14,483,426</b>          | <b>\$15,507,917</b>            | <b>\$284,341</b>     | <b>\$821,818</b>     | <b>(\$904,672)</b>        | <b>\$0</b>                         | <b>\$77,794</b>           | <b>\$279,281</b>          |
| 210 Wheeling Power Co - Distribution                      | \$13,907,330                 | \$14,788,650                   | \$274,079            | \$786,864            | (\$862,713)               | \$0                                | \$74,700                  | \$272,930                 |
| 200 Wheeling Power Co - Transmission                      | 619,609                      | 646,716                        | 0                    | 34,487               | (37,727)                  | 0                                  | 3,328                     | 88                        |
| <b>Wheeling Power Co.</b>                                 | <b>\$14,526,939</b>          | <b>\$15,435,366</b>            | <b>\$274,079</b>     | <b>\$821,351</b>     | <b>(\$900,440)</b>        | <b>\$0</b>                         | <b>\$78,028</b>           | <b>\$273,018</b>          |
| 103 American Electric Power Service Corporation           | \$1,277,638,568              | \$1,405,440,154                | \$29,555,094         | \$72,691,381         | (\$81,987,957)            | \$0                                | \$6,862,578               | \$27,121,096              |
| <b>American Electric Power Service Corp</b>               | <b>\$1,277,638,568</b>       | <b>\$1,405,440,154</b>         | <b>\$29,555,094</b>  | <b>\$72,691,381</b>  | <b>(\$81,987,957)</b>     | <b>\$0</b>                         | <b>\$6,862,578</b>        | <b>\$27,121,096</b>       |
| 143 AEP Pro Serv, Inc.                                    | \$951,002                    | \$1,058,609                    | \$0                  | \$53,533             | (\$61,755)                | \$0                                | \$5,108                   | (\$3,114)                 |
| 171 CSW Energy, Inc.                                      | 9,341,684                    | 17,100,710                     | 729,265              | 566,772              | (997,589)                 | 0                                  | 50,177                    | 348,625                   |
| 293 Elmwood   | 2,689,235                    | 7,996,672                      | 350,573              | 167,800              | (466,495)                 | 0                                  | 14,445                    | 66,323                    |
| 292 AEP River Operations LLC                              | 31,520,744                   | 89,711,116                     | 5,543,415            | 2,050,240            | (5,233,400)               | 0                                  | 169,307                   | 2,529,562                 |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                    | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$44,502,665</b>          | <b>\$115,867,107</b>           | <b>\$6,623,253</b>   | <b>\$2,838,345</b>   | <b>(\$6,759,239)</b>      | <b>\$0</b>                         | <b>\$239,037</b>          | <b>\$2,941,396</b>        |
| 270 Cook Coal Terminal                                    | \$3,312,905                  | \$4,341,399                    | \$113,798            | \$190,213            | (\$253,260)               | \$0                                | \$17,795                  | \$68,546                  |
| <b>AEP Generating Company</b>                             | <b>\$3,312,905</b>           | <b>\$4,341,399</b>             | <b>\$113,798</b>     | <b>\$190,213</b>     | <b>(\$253,260)</b>        | <b>\$0</b>                         | <b>\$17,795</b>           | <b>\$68,546</b>           |
| 104 Cardinal Operating Company                            | \$69,288,320                 | \$94,117,557                   | \$1,580,650          | \$3,937,441          | (\$5,490,455)             | \$0                                | \$372,168                 | \$399,804                 |
| 181 Ohio Power Co - Generation                            | 268,573,469                  | 375,519,089                    | 3,650,841            | 15,157,552           | (21,906,335)              | 0                                  | 1,442,588                 | (1,655,354)               |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$337,861,789</b>         | <b>\$469,636,646</b>           | <b>\$5,231,491</b>   | <b>\$19,094,993</b>  | <b>(\$27,396,790)</b>     | <b>\$0</b>                         | <b>\$1,814,756</b>        | <b>(\$1,255,550)</b>      |
| 290 Conesville Coal Preparation Company                   | 2,900,821                    | 4,310,574                      | 0                    | 163,227              | (251,462)                 | 0                                  | 15,581                    | (72,654)                  |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$340,762,610</b>         | <b>\$473,947,220</b>           | <b>\$5,231,491</b>   | <b>\$19,258,220</b>  | <b>(\$27,648,252)</b>     | <b>\$0</b>                         | <b>\$1,830,337</b>        | <b>(\$1,328,204)</b>      |
| <b>Total</b>  | <b>\$4,183,905,263</b>       | <b>\$4,798,718,784</b>         | <b>\$102,825,836</b> | <b>\$238,208,824</b> | <b>(\$279,938,741)</b>    | <b>\$0</b>                         | <b>\$22,473,002</b>       | <b>\$83,568,921</b>       |

**AMERICAN ELECTRIC POWER  
QUALIFIED RETIREMENT PLAN  
ESTIMATED 2023 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost         | Interest Cost        | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|----------------------|----------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$288,066,768                | \$294,032,288                  | \$5,149,389          | \$16,315,236         | (\$17,174,285)            | \$0                                | \$1,381,260               | \$5,671,600               |
| 215 Appalachian Power Co - Generation                     | 242,953,484                  | 258,569,033                    | 4,932,918            | 13,799,740           | (15,102,893)              | 0                                  | 1,164,945                 | 4,794,710                 |
| 150 Appalachian Power Co - Transmission                   | 33,560,023                   | 33,153,238                     | 291,252              | 1,879,814            | (1,936,465)               | 0                                  | 160,918                   | 395,519                   |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$564,580,275</b>         | <b>\$585,754,559</b>           | <b>\$10,373,559</b>  | <b>\$31,994,790</b>  | <b>(\$34,213,643)</b>     | <b>\$0</b>                         | <b>\$2,707,123</b>        | <b>\$10,861,829</b>       |
| 225 Cedar Coal Co   | 3,034,582                    | 4,472,102                      | 0                    | 168,911              | (261,213)                 | 0                                  | 14,551                    | (77,751)                  |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$567,614,857</b>         | <b>\$590,226,661</b>           | <b>\$10,373,559</b>  | <b>\$32,163,701</b>  | <b>(\$34,474,856)</b>     | <b>\$0</b>                         | <b>\$2,721,674</b>        | <b>\$10,784,078</b>       |
| 211 AEP Texas Central Company - Distribution              | \$244,730,983                | \$250,289,452                  | \$5,913,574          | \$13,907,773         | (\$14,619,287)            | \$0                                | \$1,173,468               | \$6,375,528               |
| 147 AEP Texas Central Company - Generation                | 6,413,130                    | 16,338,466                     | 0                    | 363,943              | (954,322)                 | 0                                  | 30,751                    | (559,628)                 |
| 169 AEP Texas Central Company - Transmission              | 23,744,265                   | 25,651,329                     | 739,594              | 1,361,667            | (1,498,282)               | 0                                  | 113,852                   | 716,831                   |
| <b>AEP Texas Central Co.</b>                              | <b>\$274,888,378</b>         | <b>\$292,279,247</b>           | <b>\$6,653,168</b>   | <b>\$15,633,383</b>  | <b>(\$17,071,891)</b>     | <b>\$0</b>                         | <b>\$1,318,071</b>        | <b>\$6,532,731</b>        |
| 170 Indiana Michigan Power Co - Distribution              | \$146,666,066                | \$152,931,007                  | \$2,937,533          | \$8,328,014          | (\$8,932,627)             | \$0                                | \$703,253                 | \$3,036,173               |
| 132 Indiana Michigan Power Co - Generation                | 98,271,342                   | 106,524,755                    | 2,162,488            | 5,578,597            | (6,222,060)               | 0                                  | 471,204                   | 1,990,229                 |
| 190 Indiana Michigan Power Co - Nuclear                   | 190,669,104                  | 274,113,568                    | 7,850,346            | 11,006,821           | (16,010,842)              | 0                                  | 914,245                   | 3,760,570                 |
| 120 Indiana Michigan Power Co - Transmission              | 33,206,476                   | 34,612,002                     | 629,390              | 1,881,893            | (2,021,670)               | 0                                  | 159,223                   | 648,836                   |
| 280 Ind Mich River Transp Lakin                           | 30,034,438                   | 45,670,906                     | 1,265,434            | 1,742,935            | (2,667,616)               | 0                                  | 144,013                   | 484,766                   |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$498,847,426</b>         | <b>\$613,852,238</b>           | <b>\$14,845,191</b>  | <b>\$28,538,260</b>  | <b>(\$35,854,815)</b>     | <b>\$0</b>                         | <b>\$2,391,938</b>        | <b>\$9,920,574</b>        |
| 202 Price River Coal                                      | 0                            | 0                              | 0                    | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$498,847,426</b>         | <b>\$613,852,238</b>           | <b>\$14,845,191</b>  | <b>\$28,538,260</b>  | <b>(\$35,854,815)</b>     | <b>\$0</b>                         | <b>\$2,391,938</b>        | <b>\$9,920,574</b>        |
| 110 Kentucky Power Co - Distribution                      | \$64,087,705                 | \$66,779,412                   | \$1,234,113          | \$3,634,400          | (\$3,900,553)             | \$0                                | \$307,296                 | \$1,275,256               |
| 117 Kentucky Power Co - Generation                        | 31,087,505                   | 31,541,889                     | 454,816              | 1,753,747            | (1,842,347)               | 0                                  | 149,062                   | 515,278                   |
| 180 Kentucky Power Co - Transmission                      | 5,999,917                    | 7,242,744                      | 176,611              | 344,255              | (423,045)                 | 0                                  | 28,769                    | 126,590                   |
| 600 Kentucky Power Co. - Kammer Actives                   | 4,641,132                    | 7,037,301                      | 234,945              | 267,900              | (411,045)                 | 0                                  | 22,254                    | 114,054                   |
| 701 Kentucky Power Co. - Mitchell Actives                 | 26,287,638                   | 50,684,597                     | 1,297,335            | 1,525,110            | (2,960,463)               | 0                                  | 126,047                   | (11,971)                  |
| 702 Kentucky Power Co. - Mitchell Inactives               | 20,824,834                   | 25,939,506                     | 0                    | 1,163,304            | (1,515,114)               | 0                                  | 99,854                    | (251,956)                 |
| <b>Kentucky Power Co.</b>                                 | <b>\$152,928,731</b>         | <b>\$189,225,449</b>           | <b>\$3,397,820</b>   | <b>\$8,688,716</b>   | <b>(\$11,052,567)</b>     | <b>\$0</b>                         | <b>\$733,282</b>          | <b>\$1,767,251</b>        |
| 250 Ohio Power Co - Distribution                          | \$382,738,591                | \$411,506,457                  | \$7,540,999          | \$21,737,557         | (\$24,035,895)            | \$0                                | \$1,835,204               | \$7,077,865               |
| 160 Ohio Power Co - Transmission                          | 42,472,408                   | 41,780,747                     | 36,627               | 2,369,137            | (2,440,393)               | 0                                  | 203,652                   | 169,023                   |
| <b>Ohio Power Co.</b>                                     | <b>\$425,210,999</b>         | <b>\$453,287,204</b>           | <b>\$7,577,626</b>   | <b>\$24,106,694</b>  | <b>(\$26,476,288)</b>     | <b>\$0</b>                         | <b>\$2,038,856</b>        | <b>\$7,246,888</b>        |
| 167 Public Service Co of Oklahoma - Distribution          | \$141,214,080                | \$154,627,898                  | \$4,435,040          | \$8,100,231          | (\$9,031,741)             | \$0                                | \$677,111                 | \$4,180,641               |
| 198 Public Service Co of Oklahoma - Generation            | 70,374,541                   | 80,585,835                     | 2,685,973            | 4,051,811            | (4,706,980)               | 0                                  | 337,441                   | 2,368,245                 |
| 114 Public Service Co of Oklahoma - Transmission          | 16,857,677                   | 19,686,598                     | 562,801              | 969,768              | (1,149,885)               | 0                                  | 80,831                    | 463,515                   |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$228,446,298</b>         | <b>\$254,900,331</b>           | <b>\$7,683,814</b>   | <b>\$13,121,810</b>  | <b>(\$14,888,606)</b>     | <b>\$0</b>                         | <b>\$1,095,383</b>        | <b>\$7,012,401</b>        |
| 159 Southwestern Electric Power Co - Distribution         | \$85,690,965                 | \$103,488,131                  | \$3,445,919          | \$4,944,065          | (\$6,044,692)             | \$0                                | \$410,882                 | \$2,756,174               |
| 168 Southwestern Electric Power Co - Generation           | 94,571,846                   | 112,345,125                    | 4,181,214            | 5,466,671            | (6,562,025)               | 0                                  | 453,465                   | 3,539,325                 |
| 161 Southwestern Electric Power Co - Texas - Distribution | 46,011,159                   | 50,122,937                     | 1,605,363            | 2,648,167            | (2,927,657)               | 0                                  | 220,620                   | 1,546,493                 |
| 111 Southwestern Electric Power Co - Texas - Transmission | 130,840                      | 129,540                        | 0                    | 7,346                | (7,566)                   | 0                                  | 627                       | 407                       |
| 194 Southwestern Electric Power Co - Transmission         | 13,147,641                   | 17,577,669                     | 499,260              | 758,306              | (1,026,703)               | 0                                  | 63,042                    | 293,905                   |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$239,552,451</b>         | <b>\$283,663,402</b>           | <b>\$9,731,756</b>   | <b>\$13,824,555</b>  | <b>(\$16,568,643)</b>     | <b>\$0</b>                         | <b>\$1,148,636</b>        | <b>\$8,136,304</b>        |
| 119 AEP Texas North Company - Distribution                | 59,693,560                   | 61,567,392                     | 1,795,337            | 3,415,564            | (3,596,122)               | 0                                  | 286,226                   | 1,901,005                 |
| 166 AEP Texas North Company - Generation                  | 18,679,045                   | 21,267,067                     | 0                    | 1,041,780            | (1,242,199)               | 0                                  | 89,565                    | (110,854)                 |
| 192 AEP Texas North Company - Transmission                | 8,303,502                    | 10,022,502                     | 337,189              | 472,211              | (585,410)                 | 0                                  | 39,815                    | 263,805                   |
| <b>AEP Texas North Co.</b>                                | <b>\$86,676,107</b>          | <b>\$92,856,961</b>            | <b>\$2,132,526</b>   | <b>\$4,929,555</b>   | <b>(\$5,423,731)</b>      | <b>\$0</b>                         | <b>\$415,606</b>          | <b>\$2,053,956</b>        |
| 230 Kingsport Power Co - Distribution                     | \$11,964,986                 | \$13,053,190                   | \$264,354            | \$679,045            | (\$762,431)               | \$0                                | \$57,371                  | \$238,339                 |
| 260 Kingsport Power Co - Transmission                     | 2,433,978                    | 2,433,747                      | 27,718               | 137,133              | (142,154)                 | 0                                  | 11,671                    | 34,368                    |
| <b>Kingsport Power Co.</b>                                | <b>\$14,398,964</b>          | <b>\$15,486,937</b>            | <b>\$292,072</b>     | <b>\$816,178</b>     | <b>(\$904,585)</b>        | <b>\$0</b>                         | <b>\$69,042</b>           | <b>\$272,707</b>          |
| 210 Wheeling Power Co - Distribution                      | \$13,826,228                 | \$14,661,803                   | \$281,531            | \$785,382            | (\$856,389)               | \$0                                | \$66,296                  | \$276,820                 |
| 200 Wheeling Power Co - Transmission                      | 615,996                      | 632,642                        | 0                    | 34,437               | (36,952)                  | 0                                  | 2,954                     | 439                       |
| <b>Wheeling Power Co.</b>                                 | <b>\$14,442,224</b>          | <b>\$15,294,445</b>            | <b>\$281,531</b>     | <b>\$819,819</b>     | <b>(\$893,341)</b>        | <b>\$0</b>                         | <b>\$69,250</b>           | <b>\$277,259</b>          |
| 103 American Electric Power Service Corporation           | \$1,270,187,930              | \$1,406,790,382                | \$30,358,724         | \$72,367,278         | (\$82,169,954)            | \$0                                | \$6,090,461               | \$26,646,509              |
| <b>American Electric Power Service Corp</b>               | <b>\$1,270,187,930</b>       | <b>\$1,406,790,382</b>         | <b>\$30,358,724</b>  | <b>\$72,367,278</b>  | <b>(\$82,169,954)</b>     | <b>\$0</b>                         | <b>\$6,090,461</b>        | <b>\$26,646,509</b>       |
| 143 AEP Pro Serv, Inc.                                    | \$945,456                    | \$1,063,371                    | \$0                  | \$52,952             | (\$62,111)                | \$0                                | \$4,533                   | (\$4,626)                 |
| 171 CSW Energy, Inc.                                      | 9,287,208                    | 18,272,571                     | 749,095              | 561,485              | (1,067,292)               | 0                                  | 44,531                    | 287,819                   |
| 293 Elmwood   | 2,673,552                    | 8,539,749                      | 360,105              | 166,252              | (498,803)                 | 0                                  | 12,819                    | 40,373                    |
| 292 AEP River Operations LLC                              | 31,336,929                   | 97,345,513                     | 5,694,146            | 2,049,884            | (5,685,905)               | 0                                  | 150,258                   | 2,208,383                 |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                    | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$44,243,145</b>          | <b>\$125,221,204</b>           | <b>\$6,803,346</b>   | <b>\$2,830,573</b>   | <b>(\$7,314,111)</b>      | <b>\$0</b>                         | <b>\$212,141</b>          | <b>\$2,531,949</b>        |
| 270 Cook Coal Terminal                                    | \$3,293,586                  | \$4,410,310                    | \$116,892            | \$190,149            | (\$257,604)               | \$0                                | \$15,793                  | \$65,230                  |
| <b>AEP Generating Company</b>                             | <b>\$3,293,586</b>           | <b>\$4,410,310</b>             | <b>\$116,892</b>     | <b>\$190,149</b>     | <b>(\$257,604)</b>        | <b>\$0</b>                         | <b>\$15,793</b>           | <b>\$65,230</b>           |
| 104 Cardinal Operating Company                            | \$68,884,260                 | \$95,140,264                   | \$1,623,630          | \$3,923,386          | (\$5,557,097)             | \$0                                | \$330,295                 | \$320,214                 |
| 181 Ohio Power Co - Generation                            | 267,007,264                  | 378,991,843                    | 3,750,111            | 15,079,999           | (22,136,732)              | 0                                  | 1,280,281                 | (2,026,341)               |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$335,891,524</b>         | <b>\$474,132,107</b>           | <b>\$5,373,741</b>   | <b>\$19,003,385</b>  | <b>(\$27,693,829)</b>     | <b>\$0</b>                         | <b>\$1,610,576</b>        | <b>(\$1,706,127)</b>      |
| 290 Conesville Coal Preparation Company                   | 2,883,905                    | 4,389,232                      | 0                    | 162,344              | (256,373)                 | 0                                  | 13,828                    | (80,201)                  |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$338,775,429</b>         | <b>\$478,521,339</b>           | <b>\$5,373,741</b>   | <b>\$19,165,729</b>  | <b>(\$27,950,202)</b>     | <b>\$0</b>                         | <b>\$1,624,404</b>        | <b>(\$1,786,328)</b>      |
| <b>Total</b>  | <b>\$4,159,506,525</b>       | <b>\$4,816,016,110</b>         | <b>\$105,621,766</b> | <b>\$237,196,400</b> | <b>(\$281,301,194)</b>    | <b>\$0</b>                         | <b>\$19,944,537</b>       | <b>\$81,461,509</b>       |

AMERICAN ELECTRIC POWER  
QUALIFIED RETIREMENT PLAN  
ESTIMATED 2024 NET PERIODIC PENSION COST

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost         | Interest Cost        | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|----------------------|----------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$287,084,675                | \$291,813,174                  | \$5,299,235          | \$16,296,550         | (\$17,066,878)            | \$0                                | \$1,215,340               | \$5,744,247               |
| 215 Appalachian Power Co - Generation                     | 242,125,193                  | 258,164,484                    | 5,076,465            | 13,752,448           | (15,098,913)              | 0                                  | 1,025,009                 | 4,755,009                 |
| 150 Appalachian Power Co - Transmission                   | 33,445,609                   | 32,823,656                     | 299,727              | 1,880,228            | (1,919,712)               | 0                                  | 141,588                   | 401,831                   |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$562,655,477</b>         | <b>\$582,801,314</b>           | <b>\$10,675,427</b>  | <b>\$31,929,226</b>  | <b>(\$34,085,503)</b>     | <b>\$0</b>                         | <b>\$2,381,937</b>        | <b>\$10,901,087</b>       |
| 225 Cedar Coal Co   | 3,024,237                    | 4,483,322                      | 0                    | 168,700              | (262,210)                 | 0                                  | 12,803                    | (80,707)                  |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$565,679,714</b>         | <b>\$587,284,636</b>           | <b>\$10,675,427</b>  | <b>\$32,097,926</b>  | <b>(\$34,347,713)</b>     | <b>\$0</b>                         | <b>\$2,394,740</b>        | <b>\$10,820,380</b>       |
| 211 AEP Texas Central Company - Distribution              | \$243,896,633                | \$248,851,465                  | \$6,085,657          | \$13,902,256         | (\$14,554,235)            | \$0                                | \$1,032,508               | \$6,466,186               |
| 147 AEP Texas Central Company - Generation                | 6,391,266                    | 17,044,091                     | 0                    | 359,017              | (996,834)                 | 0                                  | 27,057                    | (610,760)                 |
| 169 AEP Texas Central Company - Transmission              | 23,663,315                   | 25,832,371                     | 761,116              | 1,359,965            | (1,510,823)               | 0                                  | 100,176                   | 710,434                   |
| <b>AEP Texas Central Co.</b>                              | <b>\$273,951,214</b>         | <b>\$291,727,927</b>           | <b>\$6,846,773</b>   | <b>\$15,621,238</b>  | <b>(\$17,061,892)</b>     | <b>\$0</b>                         | <b>\$1,159,741</b>        | <b>\$6,565,860</b>        |
| 170 Indiana Michigan Power Co - Distribution              | \$146,166,044                | \$152,439,974                  | \$3,023,014          | \$8,318,754          | (\$8,915,548)             | \$0                                | \$618,777                 | \$3,044,997               |
| 132 Indiana Michigan Power Co - Generation                | 97,936,310                   | 106,175,677                    | 2,225,415            | 5,570,344            | (6,209,752)               | 0                                  | 414,602                   | 2,000,609                 |
| 190 Indiana Michigan Power Co - Nuclear                   | 190,019,064                  | 280,328,349                    | 8,078,788            | 11,001,551           | (16,395,181)              | 0                                  | 804,424                   | 3,489,582                 |
| 120 Indiana Michigan Power Co - Transmission              | 33,093,267                   | 34,404,879                     | 647,705              | 1,877,924            | (2,012,191)               | 0                                  | 140,097                   | 653,535                   |
| 280 Ind Mich River Transp Lakin                           | 29,932,043                   | 47,110,186                     | 1,302,258            | 1,735,287            | (2,755,269)               | 0                                  | 126,714                   | 408,990                   |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$497,146,728</b>         | <b>\$620,459,065</b>           | <b>\$15,277,180</b>  | <b>\$28,503,860</b>  | <b>(\$36,287,941)</b>     | <b>\$0</b>                         | <b>\$2,104,614</b>        | <b>\$9,597,713</b>        |
| 202 Price River Coal                                      | 0                            | 0                              | 0                    | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$497,146,728</b>         | <b>\$620,459,065</b>           | <b>\$15,277,180</b>  | <b>\$28,503,860</b>  | <b>(\$36,287,941)</b>     | <b>\$0</b>                         | <b>\$2,104,614</b>        | <b>\$9,597,713</b>        |
| 110 Kentucky Power Co - Distribution                      | \$63,869,213                 | \$66,444,989                   | \$1,270,025          | \$3,631,492          | (\$3,886,077)             | \$0                                | \$270,383                 | \$1,285,823               |
| 117 Kentucky Power Co - Generation                        | 30,981,520                   | 31,144,811                     | 468,051              | 1,748,451            | (1,821,524)               | 0                                  | 131,157                   | 526,135                   |
| 180 Kentucky Power Co - Transmission                      | 5,979,461                    | 7,353,062                      | 181,750              | 342,862              | (430,048)                 | 0                                  | 25,313                    | 119,877                   |
| 600 Kentucky Power Co. - Kammer Actives                   | 4,625,309                    | 7,162,078                      | 241,782              | 268,230              | (418,879)                 | 0                                  | 19,581                    | 110,714                   |
| 701 Kentucky Power Co. - Mitchell Actives                 | 26,198,017                   | 52,376,994                     | 1,335,087            | 1,519,674            | (3,063,302)               | 0                                  | 110,906                   | (97,635)                  |
| 702 Kentucky Power Co. - Mitchell Inactives               | 20,753,837                   | 25,879,025                     | 0                    | 1,160,540            | (1,513,551)               | 0                                  | 87,859                    | (265,152)                 |
| <b>Kentucky Power Co.</b>                                 | <b>\$152,407,357</b>         | <b>\$190,360,959</b>           | <b>\$3,496,695</b>   | <b>\$8,671,249</b>   | <b>(\$11,133,381)</b>     | <b>\$0</b>                         | <b>\$645,199</b>          | <b>\$1,679,762</b>        |
| 250 Ohio Power Co - Distribution                          | \$381,433,737                | \$411,306,006                  | \$7,760,439          | \$21,706,783         | (\$24,055,492)            | \$0                                | \$1,614,756               | \$7,026,486               |
| 160 Ohio Power Co - Transmission                          | 42,327,609                   | 41,540,858                     | 37,693               | 2,367,706            | (2,429,543)               | 0                                  | 179,189                   | 155,045                   |
| <b>Ohio Power Co.</b>                                     | <b>\$423,761,346</b>         | <b>\$452,846,864</b>           | <b>\$7,798,132</b>   | <b>\$24,074,489</b>  | <b>(\$26,485,035)</b>     | <b>\$0</b>                         | <b>\$1,793,945</b>        | <b>\$7,181,531</b>        |
| 167 Public Service Co of Oklahoma - Distribution          | \$140,732,645                | \$155,867,278                  | \$4,564,099          | \$8,079,103          | (\$9,115,996)             | \$0                                | \$595,775                 | \$4,122,981               |
| 198 Public Service Co of Oklahoma - Generation            | 70,134,617                   | 81,451,176                     | 2,764,134            | 4,050,484            | (4,763,723)               | 0                                  | 296,907                   | 2,347,802                 |
| 114 Public Service Co of Oklahoma - Transmission          | 16,800,205                   | 19,976,626                     | 579,179              | 967,884              | (1,168,346)               | 0                                  | 71,122                    | 449,839                   |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$227,667,467</b>         | <b>\$257,295,080</b>           | <b>\$7,907,412</b>   | <b>\$13,097,471</b>  | <b>(\$15,048,065)</b>     | <b>\$0</b>                         | <b>\$963,804</b>          | <b>\$6,920,622</b>        |
| 159 Southwestern Electric Power Co - Distribution         | \$85,398,823                 | \$105,064,441                  | \$3,546,194          | \$4,940,893          | (\$6,144,760)             | \$0                                | \$361,526                 | \$2,703,853               |
| 168 Southwestern Electric Power Co - Generation           | 94,249,426                   | 113,930,617                    | 4,302,886            | 5,461,577            | (6,663,304)               | 0                                  | 398,994                   | 3,500,153                 |
| 161 Southwestern Electric Power Co - Texas - Distribution | 45,854,295                   | 50,664,121                     | 1,652,079            | 2,646,415            | (2,963,123)               | 0                                  | 194,119                   | 1,529,490                 |
| 111 Southwestern Electric Power Co - Texas - Transmission | 130,394                      | 129,539                        | 0                    | 7,353                | (7,576)                   | 0                                  | 552                       | 329                       |
| 194 Southwestern Electric Power Co - Transmission         | 13,102,818                   | 17,946,229                     | 513,788              | 748,257              | (1,049,597)               | 0                                  | 55,469                    | 267,917                   |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$238,735,756</b>         | <b>\$287,734,947</b>           | <b>\$10,014,947</b>  | <b>\$13,804,495</b>  | <b>(\$16,828,360)</b>     | <b>\$0</b>                         | <b>\$1,010,660</b>        | <b>\$8,001,742</b>        |
| 119 AEP Texas North Company - Distribution                | 59,490,049                   | 61,628,809                     | 1,847,581            | 3,410,630            | (3,604,400)               | 0                                  | 251,844                   | 1,905,655                 |
| 166 AEP Texas North Company - Generation                  | 18,615,363                   | 21,028,496                     | 0                    | 1,033,365            | (1,229,865)               | 0                                  | 78,806                    | (117,694)                 |
| 192 AEP Texas North Company - Transmission                | 8,275,194                    | 9,915,639                      | 347,001              | 476,720              | (579,922)                 | 0                                  | 35,032                    | 278,831                   |
| <b>AEP Texas North Co.</b>                                | <b>\$86,380,606</b>          | <b>\$92,572,944</b>            | <b>\$2,194,582</b>   | <b>\$4,920,715</b>   | <b>(\$5,414,187)</b>      | <b>\$0</b>                         | <b>\$365,682</b>          | <b>\$2,066,792</b>        |
| 230 Kingsport Power Co - Distribution                     | \$11,924,195                 | \$13,008,553                   | \$272,047            | \$679,505            | (\$760,813)               | \$0                                | \$50,480                  | \$241,219                 |
| 260 Kingsport Power Co - Transmission                     | 2,425,680                    | 2,431,994                      | 28,525               | 136,903              | (142,237)                 | 0                                  | 10,269                    | 33,460                    |
| <b>Kingsport Power Co.</b>                                | <b>\$14,349,875</b>          | <b>\$15,440,547</b>            | <b>\$300,572</b>     | <b>\$816,408</b>     | <b>(\$903,050)</b>        | <b>\$0</b>                         | <b>\$60,749</b>           | <b>\$274,679</b>          |
| 210 Wheeling Power Co - Distribution                      | \$13,779,091                 | \$14,637,037                   | \$289,724            | \$784,424            | (\$856,056)               | \$0                                | \$58,332                  | \$276,424                 |
| 200 Wheeling Power Co - Transmission                      | 613,896                      | 623,557                        | 0                    | 34,468               | (36,469)                  | 0                                  | 2,599                     | 598                       |
| <b>Wheeling Power Co.</b>                                 | <b>\$14,392,987</b>          | <b>\$15,260,594</b>            | <b>\$289,724</b>     | <b>\$818,892</b>     | <b>(\$892,525)</b>        | <b>\$0</b>                         | <b>\$60,931</b>           | <b>\$277,022</b>          |
| 103 American Electric Power Service Corporation           | \$1,265,857,535              | \$1,411,185,674                | \$31,242,153         | \$72,209,558         | (\$82,534,087)            | \$0                                | \$5,358,858               | \$26,276,483              |
| <b>American Electric Power Service Corp</b>               | <b>\$1,265,857,535</b>       | <b>\$1,411,185,674</b>         | <b>\$31,242,153</b>  | <b>\$72,209,558</b>  | <b>(\$82,534,087)</b>     | <b>\$0</b>                         | <b>\$5,358,858</b>        | <b>\$26,276,483</b>       |
| 143 AEP Pro Serv, Inc.                                    | \$942,233                    | \$1,058,721                    | \$0                  | \$52,785             | (\$61,920)                | \$0                                | \$3,989                   | (\$5,146)                 |
| 171 CSW Energy, Inc.                                      | 9,255,545                    | 19,413,502                     | 770,893              | 553,516              | (1,135,411)               | 0                                  | 39,182                    | 228,180                   |
| 293 Elmwood   | 2,664,438                    | 9,080,845                      | 370,584              | 166,075              | (531,099)                 | 0                                  | 11,280                    | 16,840                    |
| 292 AEP River Operations LLC                              | 31,230,093                   | 105,646,882                    | 5,859,843            | 2,046,617            | (6,178,825)               | 0                                  | 132,209                   | 1,859,844                 |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                    | 0                    | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$44,092,309</b>          | <b>\$135,199,950</b>           | <b>\$7,001,320</b>   | <b>\$2,818,993</b>   | <b>(\$7,907,255)</b>      | <b>\$0</b>                         | <b>\$186,660</b>          | <b>\$2,099,718</b>        |
| 270 Cook Coal Terminal                                    | \$3,282,357                  | \$4,518,890                    | \$120,293            | \$190,243            | (\$264,290)               | \$0                                | \$13,895                  | \$60,141                  |
| <b>AEP Generating Company</b>                             | <b>\$3,282,357</b>           | <b>\$4,518,890</b>             | <b>\$120,293</b>     | <b>\$190,243</b>     | <b>(\$264,290)</b>        | <b>\$0</b>                         | <b>\$13,895</b>           | <b>\$60,141</b>           |
| 104 Cardinal Operating Company                            | \$68,649,416                 | \$96,516,687                   | \$1,670,877          | \$3,914,385          | (\$5,644,839)             | \$0                                | \$290,619                 | \$231,042                 |
| 181 Ohio Power Co - Generation                            | 266,096,968                  | 383,026,207                    | 3,859,238            | 15,060,408           | (22,401,530)              | 0                                  | 1,126,491                 | (2,355,393)               |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$334,746,384</b>         | <b>\$479,542,894</b>           | <b>\$5,530,115</b>   | <b>\$18,974,793</b>  | <b>(\$28,046,369)</b>     | <b>\$0</b>                         | <b>\$1,417,110</b>        | <b>(\$2,124,351)</b>      |
| 290 Conesville Coal Preparation Company                   | 2,874,073                    | 4,476,038                      | 0                    | 161,873              | (261,784)                 | 0                                  | 12,167                    | (87,744)                  |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$337,620,457</b>         | <b>\$484,018,932</b>           | <b>\$5,530,115</b>   | <b>\$19,136,666</b>  | <b>(\$28,308,153)</b>     | <b>\$0</b>                         | <b>\$1,429,277</b>        | <b>(\$2,212,095)</b>      |
| <b>Total</b>  | <b>\$4,145,325,708</b>       | <b>\$4,845,907,009</b>         | <b>\$108,695,325</b> | <b>\$236,782,203</b> | <b>(\$283,415,934)</b>    | <b>\$0</b>                         | <b>\$17,548,755</b>       | <b>\$79,610,350</b>       |

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**American Electric Power**

**Excess Benefit Plan**

Actuarial Valuation Report

Pension Cost for Fiscal Year Ending  
December 31, 2014 under US GAAP

April 2014



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## Purpose and actuarial statement

As requested by American Electric Power (the Company or AEP), this report documents the results of an actuarial valuation of the American Electric Power Excess Benefit Plan (the Plan)

The primary purpose of this valuation is to determine the Net Periodic Benefit Cost/(Income) (Benefit Cost), in accordance with FASB Accounting Standards Codification Topic 715 (ASC 715) for the fiscal year beginning January 1, 2014. It is anticipated that a separate report will be prepared for year-end disclosure purposes.

Accumulated other comprehensive (income)/loss amounts shown in the report are shown prior to adjustment for deferred taxes. Any such deferred tax allowance should be made in consultation with the Company's tax advisors and auditors.

This report is provided subject to the terms set out herein and in our master consulting services agreement dated July 29, 2004 and the accompanying General Terms and Conditions of Business. This report is provided solely for the Company's use and for the specific purposes indicated above. It may not be suitable for use in any other context or for any other purpose.

Except where we expressly agree in writing, this report should not be disclosed or provided to any third party, other than as provided below. In the absence of such consent and an express assumption of responsibility, no responsibility whatsoever is accepted by us for any consequences arising from any third party relying on this report or any advice relating to its contents.

The Company may make a copy of this report available to its auditors, but we make no representation as to the suitability of this report for any purpose other than that for which it was originally provided and accept no responsibility or liability to the Company's auditors in this regard. The Company should draw the provisions of this paragraph to the attention of its auditors when passing this report to them.

In preparing these results, we have relied upon information and data provided to us orally and in writing by AEP and other persons or organizations designated by AEP. We have relied on all the data and information provided, including Plan provisions, membership data and asset information, as being complete and accurate. We have not independently verified the accuracy or completeness of the data or information provided, but we have performed limited checks for consistency.

The results summarized in this report involve actuarial calculations that require assumptions about future events. AEP is responsible for the selection of the assumptions.

As required by U.S. GAAP, the actuarial assumptions and methods employed in the development of the pension cost have been selected by the plan sponsor. Towers Watson has concurred with these assumptions and methods. ASC 715-30-35 requires that each significant assumption "individually represent the best estimate of a particular future event."

In our opinion, all calculations are in accordance with US GAAP and the procedures followed and the results presented are in conformity with applicable actuarial standards of practice.

The undersigned consulting actuaries are members of the Society of Actuaries and meet the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" relating to pension plans. Our objectivity is not impaired by any relationship between the plan sponsor and our employer, Towers Watson Delaware Inc.



Joseph A. Perko, FSA, EA, MAAA  
Senior Consultant



Ryan S. Carney, FSA, EA, MAAA  
Senior Consultant

Towers Watson Delaware Inc.

April 2014

# Section 1: Summary of key results

## Benefit cost, assets & obligations

All monetary amounts shown in US Dollars

| Fiscal Year Beginning                                |  | January 1, 2014                      | January 1, 2013                      |
|--|--|--------------------------------------|--------------------------------------|
| <b>Benefit Cost/<br/>(Income)</b>                    | Net Periodic Benefit Cost/(Income)                                   | 6,402,078                            | 7,353,696                            |
|  | Immediate Recognition of Benefit Cost/(Income) due to Special Events | 0                                    | 0                                    |
|  | <b>Total Benefit Cost/(Income)</b>                                   | <b>6,402,078</b>                     | <b>7,353,696</b>                     |
| Measurement Date                                     |  | January 1, 2014                      | January 1, 2013                      |
| <b>Plan Assets</b>                                   | Fair Value of Assets (FVA)   | 0                                    | 0                                    |
|  | Market Related Value of Assets (MRVA)                                | 0                                    | 0                                    |
|  | Return on Fair Value Assets during Prior Year                        | N/A                                  | N/A                                  |
| <b>Benefit Obligations</b>                           | Accumulated Benefit Obligation (ABO)                                 | (74,774,033)                         | (84,704,119)                         |
|  | Projected Benefit Obligation (PBO)                                   | (76,771,087)                         | (86,575,004)                         |
| <b>Funded Ratios</b>                                 | Fair Value of Assets to ABO  | 0.0%                                 | 0.0%                                 |
|  | Fair Value of Assets to PBO  | 0.0%                                 | 0.0%                                 |
| <b>Accumulated Other Comprehensive (Income)/Loss</b> | Net Prior Service Cost/(Credit)                                      | 179,858                              | 478,655                              |
|  | Net Loss/(Gain)  | 33,456,219                           | 43,841,210                           |
|  | <b>Total Accumulated Other Comprehensive (Income)/Loss</b>           | <b>33,636,077</b>                    | <b>44,319,865</b>                    |
| <b>Assumptions<sup>1</sup></b>                       | Discount Rate  | 4.55%                                | 3.80%                                |
|  | Expected Long-term Rate of Return on Plan Assets                     | N/A                                  | N/A                                  |
|  | Rate of Compensation Increase  | Rates vary by age from 3.5% to 11.5% | Rates vary by age from 3.5% to 11.5% |
| <b>Participant Data</b>                              | Census Date  | January 1, 2014                      | January 1, 2013                      |

<sup>1</sup> Rates are expressed on an annual basis where applicable.

## Comments on results

The pension cost declined from \$7,353,696 in fiscal 2013 to \$6,402,078 in fiscal 2014, as set forth below:

All monetary amounts shown in US Dollars

|  | Pension<br>Cost  |
|--|------------------|
| Prior year   | 7,353,696        |
| Change due to:   |                  |
| ▶ Expected based on prior valuation and payments during the prior year | (632,187)        |
| ▶ Unexpected noninvestment experience                                  | (183,515)        |
| ▶ Unexpected investment experience                                     | 0                |
| ▶ Assumption changes   | (135,916)        |
| ▶ Plan amendments  | 0                |
| ▶ Method change  | 0                |
| ▶ Interim events   | 0                |
| Current year   | <u>6,402,078</u> |

Significant reasons for these changes include the following:

- The discount rate increased 75 basis points compared to the prior year, which decreased the pension cost.
- Demographic experience was more favorable than expected which decreased the pension cost.

**Plan provisions and assumptions**

Appendix A outlines the assumptions and methods used in the valuation. Appendix B outlines our understanding of the principal provisions of the Plan being valued.

**Changes in assumptions**

The discount rate decreased from 3.80% to 4.55%.

The mortality table used to value the benefit obligations was updated from the RP2000 with projections to 2020 for annuitants and to 2028 for nonannuitants to RP2000 with projections to 2021 for annuitants and to 2029 for nonannuitants.

The lump sum conversion rate increased from 5.10% to 5.90%.

The mortality used to convert to 417(e) based forms of payment was updated for an additional year of mortality improvements.

**Changes in methods**

None.

**Changes in benefits valued**

None.

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## Section 2: Accounting exhibits

### 2.1 Balance sheet asset/(liability)

All monetary amounts shown in US Dollars

| Measurement Date  | 01/01/2014                           | 01/01/2013                           |
|---|--------------------------------------|--------------------------------------|
| <b>A Development of Balance Sheet Asset/(Liability)<sup>1</sup></b> |                                      |                                      |
| 1 Projected benefit obligation (PBO) <sup>2</sup>                   | (76,771,087)                         | (86,575,004)                         |
| 2 Fair value of assets (FVA)  | 0                                    | 0                                    |
| 3 Net balance sheet asset/(liability)                               | (76,771,087)                         | (86,575,004)                         |
| <b>B Current and Noncurrent Allocation<sup>3</sup></b>              |                                      |                                      |
| 1 Noncurrent assets   | 0                                    | 0                                    |
| 2 Current liabilities   | (8,743,143)                          | (7,943,073)                          |
| 3 Noncurrent liabilities  | (68,027,944)                         | (78,631,931)                         |
| 4 Net balance sheet asset/(liability)                               | (76,771,087)                         | (86,575,004)                         |
| <b>C Accumulated Benefit Obligation (ABO)</b>                       | (74,774,033)                         | (84,704,119)                         |
| <b>D Accumulated Other Comprehensive (Income)/Loss</b>              |                                      |                                      |
| 1 Net prior service cost/(credit)                                   | 179,858                              | 478,655                              |
| 2 Net loss/(gain)   | 33,456,219                           | 43,841,210                           |
| 3 Accumulated other comprehensive (income)/loss <sup>3</sup>        | 33,636,077                           | 44,319,865                           |
| <b>E Assumptions and Dates<sup>4</sup></b>                          |                                      |                                      |
| 1 Discount rate   | 4.55%                                | 3.80%                                |
| 2 Rate of compensation increase                                     | Rates vary by age from 3.5% to 11.5% | Rates vary by age from 3.5% to 11.5% |
| 3 Census date   | January 1, 2014                      | January 1, 2013                      |

<sup>1</sup> Whether the amounts in this table that differ from those disclosed at year-end must be disclosed in subsequent interim financial statements should be determined.

<sup>2</sup> East PBO = \$44,112,394; West PBO = \$32,658,693.

<sup>3</sup> Amount shown is pre-tax and should be adjusted by plan sponsor for tax effects. .

<sup>4</sup> Rates we expressed on an annual basis where applicable.

## 2.2 Summary and comparison of benefit cost and cash flows

All monetary amounts shown in US Dollars

| Fiscal Year Ending                              | December 31, 2014                       | December 31, 2013                       |
|---|---|---|
| <b>A Total Benefit Cost</b>                     |   |   |
| 1 Employer service cost                         | 509,338                                 | 547,672                                 |
| 2 Interest cost                                 | 3,319,565                               | 3,161,150                               |
| 3 Expected return on assets                     | 0                                       | 0                                       |
| 4 Subtotal                                      | 3,828,903                               | 3,708,822                               |
| 5 Net prior service cost/(credit) amortization  | 35,541                                  | 298,793                                 |
| 6 Net loss/(gain) amortization                  | 2,537,634                               | 3,346,081                               |
| 7 Amortization subtotal                         | 2,573,175                               | 3,644,874                               |
| 8 Net periodic benefit cost/(income)            | 6,402,078                               | 7,353,696                               |
| 9 Curtailments                                  | 0                                       | 0                                       |
| 10 Settlements                                  | 0                                       | 0                                       |
| 11 Special/contractual termination benefits     | 0                                       | 0                                       |
| 12 Total benefit cost                           | 6,402,078                               | 7,353,696                               |
| <b>B Assumptions<sup>1</sup></b>                |   |   |
| 1 Discount rate                                 | 4.55%                                   | 3.80%                                   |
| 2 Rate of return on assets                      | N/A                                     | N/A                                     |
| 3 Rate of compensation increase                 | Rates vary by age from<br>3.5% to 11.5% | Rates vary by age from<br>3.5% to 11.5% |
| 4 Census date                                   | January 1, 2014                         | January 1, 2013                         |
| <b>C Assets at Beginning of Year</b>            |   |   |
| 1 Fair market value                             | 0                                       | 0                                       |
| 2 Market-related value                          | 0                                       | 0                                       |
| <b>D Cash Flow</b>                              |   |   |
|   | Expected                                | Actual                                  |
| 1 Employer contributions                        | 0                                       | 0                                       |
| 2 Plan participants' contributions <sup>2</sup> | 0                                       | 0                                       |
| 3 Benefits paid from the Company                | 8,743,143                               | 6,475,259                               |
| 4 Benefits paid from plan assets <sup>2</sup>   | 0                                       | 0                                       |

<sup>1</sup> These assumptions were used to calculate Net Periodic Benefit Cost/(Income) as of the beginning of the year. Rates are expressed on an annual basis where applicable. For assumptions used for interim measurement periods, if any, refer to Appendix A.

<sup>2</sup> Over the fiscal year.



## Section 3: Data exhibits

### 3.1 Plan participant data

All monetary amounts shown in US Dollars

| Census Date                                  | January 1, 2014 | January 1, 2013 |
|--|-----------------|-----------------|
| <b>A Participating Employees</b>             |                 |                 |
| 1 Number                                     | 17,684          | 17,631          |
| 2 Total annual plan compensation             | 1,624,739,458   | 1,592,436,325   |
| 3 Average plan compensation                  | 91,876          | 90,320          |
| 4 Average age (years)                        | 47.5            | 46.8            |
| 5 Average credited service (years)           | 18.0            | 17.3            |
| 6 Average future working life (years)        | 10.159          | 10.5149         |
| <b>B Participants with Deferred Benefits</b> |                 |                 |
| 1 Number (non-cash balance)                  | 2               | 2               |
| 2 Total annual pension (non-cash balance)    | 8,018           | 240,580         |
| 3 Average annual pension (non-cash balance)  | 4,009           | 120,290         |
| 4 Number of cash balance                     | 2               | 2               |
| 5 Total cash balance                         | 422,671         | 406,415         |
| 6 Average cash balance                       | 211,336         | 203,208         |
| 7 Average age                                | 61.9            | 60.0            |
| <b>C Participants Receiving Benefits</b>     |                 |                 |
| 1 Number                                     | 94              | 93              |
| 2 Total annual pension                       | 5,776,198       | 6,972,897       |
| 3 Average annual pension                     | 61,449          | 74,977          |
| 4 Average age (years)                        | 73.1            | 72.5            |

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# Appendix A : Statement of actuarial assumptions and methods

## Actuarial Assumptions and Methods — Pension Cost

### Economic Assumptions

|                                     |            |             |
|-------------------------------------|------------|-------------|
| Discount rate                       |            | 4.55%       |
| Annual rates of increase            |            |             |
| ▶ Compensation:                     |            |             |
| – Representative rates              | <i>Age</i> | <i>Rate</i> |
|                                     | < 26       | 11.50%      |
|                                     | 26 – 30    | 9.50%       |
|                                     | 31 – 35    | 7.50%       |
|                                     | 36 – 40    | 6.50%       |
|                                     | 41 – 45    | 5.00%       |
|                                     | 46 – 50    | 4.00%       |
|                                     | > 50       | 3.50%       |
| – Weighted average                  |            |             |
| ▶ Cash balance crediting rate       |            | 4.00%       |
| ▶ Lump sum/annuity conversion rate  |            | 5.90%       |
| ▶ Future Social Security wage bases |            | 4.00%       |
| ▶ Statutory limits on compensation  |            | 3.00%       |

**Demographic Assumptions**

**Inclusion Date** The valuation date coincident with or next following the date on which the employee becomes a participant.

**New or rehired employees** It was assumed there will be no new or rehired employees.

**Mortality**

▶ **Healthy** Separate rates for (1) non-annuitants (based on RP-2000 “Employees” table without collar or amount adjustments, projected to 2029 using Scale AA and (2) annuitants (based on RP-2000 “Healthy Annuitants” table without collar or amount adjustments, projected to 2021 using Scale AA.

▶ **Disabled** RP2000 – disabled retirees, no projection.

▶ **Lump sum/annuity conversion** Applicable 417(e) IRS Mortality Table

**Termination** Rates varying by age and service

| Percentage leaving during the year |                                 |                               |
|------------------------------------|---------------------------------|-------------------------------|
| Attained Age                       | Less than five years of service | Five or more years of service |
| < 25                               | 8.00%                           | 8.00%                         |
| 25 – 29                            | 8.00%                           | 6.00%                         |
| 30 – 34                            | 8.00%                           | 5.00%                         |
| 35 – 39                            | 8.00%                           | 3.00%                         |
| 40 – 49                            | 8.00%                           | 2.50%                         |
| > 49                               | 8.00%                           | 4.00%                         |

**Disability**

Rates apply to employees not eligible to retire and vary by age and sex as indicated by the following sample values:

| Percentage becoming disabled during the year |        |        |
|--|--------|--------|
| Age  | Male   | Female |
| 20   | 0.060% | 0.090% |
| 30   | 0.060% | 0.090% |
| 40   | 0.074% | 0.110% |
| 50   | 0.178% | 0.267% |
| 60   | 0.690% | 1.035% |

## Retirement

Rates varying by age; average retirement age 61:

| Percentage retiring during the year |         |
|-------------------------------------|---------|
| Age                                 | Rate    |
| 55-57                               | 7.00%   |
| 58-60                               | 10.00%  |
| 61-63                               | 25.00%  |
| 64-65                               | 50.00%  |
| 66-69                               | 25.00%  |
| 70+                                 | 100.00% |

## Benefit commencement date:

- ▶ Preretirement death benefit The later of the death of the active participant or the date the participant would have attained age 55.
- ▶ Deferred vested benefit The later of age 55 or termination of employment.
- ▶ Disability benefit Upon disablement.
- ▶ Retirement benefit Upon termination of employment.

## Form of payment

40% lump sum; 60% annuity for retirement eligible East grandfathered participants and 75% lump sum; 25% annuity for all other participants. Married participants are assumed to elect the 50% joint and survivor annuity and unmarried participants are assumed to elect the single life annuity. No other optional form of payment election is assumed.

## Percent married

80% of male participants; 70% of female participants.

## Spouse ages

Wives are assumed to be three years younger than husbands.

## Valuation pay

2014 base salary pay (Grandfathered) – not estimated due to freeze of final average pay accruals at December 31, 2010.

2014 expanded pay (Cash Balance) – sum of the following updated one year according to the salary increase assumption:

- (i) 2014 base salary
- (ii) a 15% increase for overtime eligible employees and a target bonus percent increase for incentive-eligible employees

## Timing of benefit payments

Annuity payments are payable monthly at the beginning of the month and lump sum payments are payable on date of decrement.

## Methods

|   |  |
|---|--|
| Service cost and projected benefit obligation           | Projected unit credit  |
| Benefits not valued                                     | All benefits described in the Plan Provisions sections of this report were valued. Towers Watson has reviewed the plan provisions with AEP and is not aware of any significant benefits required to be valued that were not.   |
| Change in assumptions and methods since prior valuation | <p>The discount rate was increased from 3.80% to 4.55%.</p> <p>The mortality table used to value the benefit obligations was updated from the RP2000 with projections to 2020 for annuitants and to 2028 for nonannuitants to RP2000 with projections to 2021 and 2029, respectively.</p> <p>The mortality table used for lump sum/annuity conversions was updated for an additional year of mortality improvements.</p> <p>Accruals were frozen for participants with LTD status.</p> <p>The lump sum conversion rate was changed from 5.10% to 5.90%.</p>  |
| Data Sources  | Towers Watson used participant and asset data as of January 1, 2014, supplied by ACS, the third party database for the AEP pension data with the exception of certain data records that were not provided on the original file but are due benefits. The data for such exceptions was collected from the ACS system. Data were reviewed for reasonableness and consistency, but no audit was performed. Assumptions or estimates were made by Towers Watson actuaries when data were not available. We are not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations. |

## Appendix B : Summary of principal plan provisions

The Excess Benefit Plan provides a benefit determined in accordance with the provisions of the American Electric Power System's Retirement Plan (a qualified defined benefit plan), without recognition of the statutory maximums on benefits and pay, less the benefit payable from the qualified plan. MICP awards are also included in the definition of pay for the former East Plan grandfathered benefit for executives with base pay in excess of the IRS limit. Certain executives have contracts providing additional benefits. Certain former Central and South West company executives are eligible for a final average pay cash balance benefit (pension equity – type formula) if it produces a larger benefit. The schedule of contribution percentages for this formula is identical to the cash balance formula.

Prior to 2004, all executives had their cash balance pay limited to \$1,000,000. In addition, pay was limited for executives in an uncapped incentive plan to two times base pay for both the final average pay formula and the cash balance formula. Base pay rate is determined at the earlier of year-end or date of termination.

Effective January 1, 2004, pay for all executives is limited to the greater of two times base pay or \$1 million for the cash balance formula only. The executives in the uncapped incentive plan continue to have two times pay limit apply to the former East Plan final average pay formula.

Effective December 31, 2010, accruals under the east grandfathered final average pay formula were discontinued.

Effective December 31, 2013, accruals for participates in long-term disability were discontinued.

### Future Plan Changes

Towers Watson is not aware of any future plan changes that are required to be reflected.

### Changes in Benefits Valued Since Prior Year

None.

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# Appendix C: Results by Business Unit

Summary of key assumptions for Appendix C of 2014 Excess Benefit Plan valuation report:

|                             | 2014   | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  | 2021  | 2022  | 2023  |
|-----------------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Discount Rate               | 4.55%  | 5.15% | 5.35% | 5.45% | 5.55% | 5.65% | 5.65% | 5.65% | 5.65% | 5.65% |
| Cash balance crediting rate | 4.00%  | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% | 4.00% |
| Lump sum conversion rate    | 5.90%  | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% | 5.90% |
| Expected mortality          | IRS-prescribed mortality table for minimum funding purposes, with adoption of RP-2014 and projection scale MP-2014 at year end 2015. |       |       |       |       |       |       |       |       |       |
| Valuation and data          | January 1, 2014  |       |       |       |       |       |       |       |       |       |

AMERICAN ELECTRIC POWER  
NONQUALIFIED PENSION PLAN  
10-YEAR PENSION COST FORECAST  
(\$000s)

| Location  | ASC 715-30         |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|   | Cost 2014          | 2015               | 2016               | 2017               | 2018               | 2019               | 2020               | 2021               | 2022               | 2023               | 2024               |
| 140 Appalachian Power Co - Distribution                   | \$54,478           | \$51,273           | \$55,382           | \$54,008           | \$52,596           | \$51,574           | \$50,193           | \$49,936           | \$50,015           | \$49,306           | \$50,309           |
| 215 Appalachian Power Co - Generation                     | 7                  | 7                  | 7                  | 7                  | 5                  | 4                  | 4                  | 5                  | 5                  | 5                  | 5                  |
| 150 Appalachian Power Co - Transmission                   | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| <b>Appalachian Power Co. - FERC</b>                       | <b>54,485</b>      | <b>51,280</b>      | <b>55,389</b>      | <b>54,015</b>      | <b>52,601</b>      | <b>51,578</b>      | <b>50,197</b>      | <b>49,941</b>      | <b>50,020</b>      | <b>49,311</b>      | <b>50,314</b>      |
| 225 Cedar Coal Co   | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| <b>Appalachian Power Co. - SEC</b>                        | <b>54,485</b>      | <b>51,280</b>      | <b>55,389</b>      | <b>54,015</b>      | <b>52,601</b>      | <b>51,578</b>      | <b>50,197</b>      | <b>49,941</b>      | <b>50,020</b>      | <b>49,311</b>      | <b>50,314</b>      |
| 211 AEP Texas Central Company - Distribution              | 181,014            | 169,301            | 184,911            | 175,386            | 165,577            | 156,463            | 149,074            | 142,017            | 135,403            | 129,615            | 124,366            |
| 147 AEP Texas Central Company - Generation                | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| 169 AEP Texas Central Company - Transmission              | 0                  | 0                  | 2                  | 2                  | 1                  | 1                  | 1                  | 1                  | 1                  | 1                  | 1                  |
| <b>AEP Texas Central Co.</b>                              | <b>181,014</b>     | <b>169,301</b>     | <b>184,913</b>     | <b>175,388</b>     | <b>165,578</b>     | <b>156,464</b>     | <b>149,075</b>     | <b>142,018</b>     | <b>135,404</b>     | <b>129,616</b>     | <b>124,367</b>     |
| 170 Indiana Michigan Power Co - Distribution              | 18,745             | 17,918             | 19,292             | 19,219             | 19,016             | 18,955             | 19,061             | 19,179             | 19,426             | 19,752             | 19,605             |
| 132 Indiana Michigan Power Co - Generation                | 4                  | 4                  | 4                  | 4                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| 190 Indiana Michigan Power Co - Nuclear                   | 35,774             | 33,886             | 37,283             | 37,679             | 37,041             | 36,449             | 36,109             | 36,401             | 36,725             | 37,003             | 37,284             |
| 120 Indiana Michigan Power Co - Transmission              | 8,155              | 7,518              | 8,153              | 7,725              | 7,280              | 6,867              | 6,519              | 6,190              | 5,875              | 5,600              | 5,348              |
| 280 Ind Mich River Transp Lakin                           | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>62,678</b>      | <b>59,326</b>      | <b>64,732</b>      | <b>64,627</b>      | <b>63,337</b>      | <b>62,271</b>      | <b>61,689</b>      | <b>61,770</b>      | <b>62,026</b>      | <b>62,355</b>      | <b>62,237</b>      |
| 202 Price River Coal                                      | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>62,678</b>      | <b>59,326</b>      | <b>64,732</b>      | <b>64,627</b>      | <b>63,337</b>      | <b>62,271</b>      | <b>61,689</b>      | <b>61,770</b>      | <b>62,026</b>      | <b>62,355</b>      | <b>62,237</b>      |
| 110 Kentucky Power Co - Distribution                      | 239                | 229                | 246                | 249                | 236                | 235                | 237                | 225                | 246                | 250                | 255                |
| 117 Kentucky Power Co - Generation                        | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| 180 Kentucky Power Co - Transmission                      | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| 600 Kentucky Power Co. - Kammer Actives                   | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| 701 Kentucky Power Co. - Mitchell Actives                 | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| 702 Kentucky Power Co. - Mitchell Inactives               | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| <b>Kentucky Power Co.</b>                                 | <b>239</b>         | <b>229</b>         | <b>246</b>         | <b>249</b>         | <b>236</b>         | <b>235</b>         | <b>237</b>         | <b>225</b>         | <b>246</b>         | <b>250</b>         | <b>255</b>         |
| 250 Ohio Power Co - Distribution                          | 22,541             | 21,664             | 23,302             | 23,361             | 23,410             | 23,480             | 23,865             | 24,309             | 24,753             | 25,306             | 25,989             |
| 160 Ohio Power Co - Transmission                          | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| <b>Ohio Power Co.</b>                                     | <b>22,541</b>      | <b>21,664</b>      | <b>23,302</b>      | <b>23,361</b>      | <b>23,410</b>      | <b>23,480</b>      | <b>23,865</b>      | <b>24,309</b>      | <b>24,753</b>      | <b>25,306</b>      | <b>25,989</b>      |
| 167 Public Service Co of Oklahoma - Distribution          | 165,808            | 153,921            | 167,041            | 158,777            | 150,951            | 143,723            | 137,272            | 131,146            | 125,165            | 120,135            | 116,038            |
| 198 Public Service Co of Oklahoma - Generation            | 28,977             | 27,133             | 29,591             | 28,025             | 26,430             | 24,952             | 23,676             | 22,533             | 21,401             | 20,415             | 19,515             |
| 114 Public Service Co of Oklahoma - Transmission          | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| <b>Public Service Co. of Oklahoma</b>                     | <b>194,785</b>     | <b>181,054</b>     | <b>196,632</b>     | <b>186,802</b>     | <b>177,381</b>     | <b>168,675</b>     | <b>160,948</b>     | <b>153,679</b>     | <b>146,566</b>     | <b>140,550</b>     | <b>135,553</b>     |
| 159 Southwestern Electric Power Co - Distribution         | 71,504             | 68,151             | 73,404             | 72,502             | 71,914             | 71,536             | 70,569             | 71,574             | 72,684             | 72,631             | 75,050             |
| 168 Southwestern Electric Power Co - Generation           | 73,960             | 69,020             | 75,128             | 71,107             | 67,054             | 63,298             | 60,088             | 57,063             | 54,152             | 51,590             | 49,290             |
| 161 Southwestern Electric Power Co - Texas - Distribution | 24                 | 22                 | 23                 | 22                 | 21                 | 19                 | 19                 | 18                 | 17                 | 16                 | 15                 |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| 194 Southwestern Electric Power Co - Transmission         | 6,374              | 5,834              | 6,311              | 5,944              | 5,563              | 5,205              | 5,139              | 5,109              | 4,848              | 4,619              | 4,408              |
| <b>Southwestern Electric Power Co.</b>                    | <b>151,862</b>     | <b>143,027</b>     | <b>154,866</b>     | <b>149,575</b>     | <b>144,552</b>     | <b>140,058</b>     | <b>135,815</b>     | <b>133,764</b>     | <b>131,701</b>     | <b>128,856</b>     | <b>128,763</b>     |
| 119 AEP Texas North Company - Distribution                | 63,586             | 59,166             | 64,436             | 60,914             | 57,350             | 54,065             | 51,301             | 48,711             | 46,234             | 44,092             | 42,148             |
| 166 AEP Texas North Company - Generation                  | 48,163             | 44,818             | 48,725             | 46,045             | 43,335             | 40,823             | 38,682             | 36,686             | 34,759             | 33,076             | 31,541             |
| 192 AEP Texas North Company - Transmission                | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| <b>AEP Texas North Co.</b>                                | <b>111,749</b>     | <b>103,984</b>     | <b>113,161</b>     | <b>106,959</b>     | <b>100,685</b>     | <b>94,888</b>      | <b>89,993</b>      | <b>85,397</b>      | <b>80,993</b>      | <b>77,168</b>      | <b>73,689</b>      |
| 230 Kingsport Power Co - Distribution                     | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| 260 Kingsport Power Co - Transmission                     | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| <b>Kingsport Power Co.</b>                                | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           |
| 210 Wheeling Power Co - Distribution                      | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| 200 Wheeling Power Co - Transmission                      | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| <b>Wheeling Power Co.</b>                                 | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           | <b>0</b>           |
| 103 American Electric Power Service Corporation           | 5,261,342          | 4,925,142          | 5,356,709          | 5,067,298          | 4,797,412          | 4,566,098          | 4,376,403          | 4,194,956          | 4,032,584          | 3,892,028          | 3,760,267          |
| <b>American Electric Power Service Corp</b>               | <b>5,261,342</b>   | <b>4,925,142</b>   | <b>5,356,709</b>   | <b>5,067,298</b>   | <b>4,797,412</b>   | <b>4,566,098</b>   | <b>4,376,403</b>   | <b>4,194,956</b>   | <b>4,032,584</b>   | <b>3,892,028</b>   | <b>3,760,267</b>   |
| 143 AEP Pro Serv, Inc.                                    | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| 171 CSW Energy, Inc.                                      | 278,364            | 260,712            | 281,435            | 271,058            | 261,332            | 251,999            | 245,395            | 238,654            | 233,188            | 228,615            | 223,561            |
| 293 Elmwood   | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| 189 Central Coal Company                                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| 292 AEP River Operations LLC                              | 16,762             | 14,976             | 16,863             | 17,194             | 16,656             | 15,975             | 15,400             | 14,641             | 14,547             | 14,144             | 13,791             |
| <b>Miscellaneous</b>                                      | <b>295,126</b>     | <b>275,688</b>     | <b>298,298</b>     | <b>288,252</b>     | <b>277,988</b>     | <b>267,974</b>     | <b>260,795</b>     | <b>253,295</b>     | <b>247,735</b>     | <b>242,759</b>     | <b>237,352</b>     |
| 270 Cook Coal Terminal                                    | 2                  | 3                  | 3                  | 56                 | 62                 | 69                 | 47                 | 86                 | 97                 | 139                | 151                |
| <b>AEP Generating Company</b>                             | <b>2</b>           | <b>3</b>           | <b>3</b>           | <b>56</b>          | <b>62</b>          | <b>69</b>          | <b>47</b>          | <b>86</b>          | <b>97</b>          | <b>139</b>         | <b>151</b>         |
| 104 Cardinal Operating Company                            | 398                | 377                | 406                | 405                | 391                | 390                | 393                | 389                | 398                | 405                | 409                |
| 181 Ohio Power Co - Generation                            | 65,858             | 60,349             | 65,354             | 61,806             | 57,714             | 54,908             | 52,079             | 49,595             | 47,805             | 45,860             | 44,107             |
| <b>AEP Generation Resources - FERC</b>                    | <b>66,256</b>      | <b>60,726</b>      | <b>65,760</b>      | <b>62,211</b>      | <b>58,105</b>      | <b>55,298</b>      | <b>52,472</b>      | <b>49,984</b>      | <b>48,203</b>      | <b>46,265</b>      | <b>44,516</b>      |
| 290 Conesville Coal Preparation Company                   | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  | 0                  |
| <b>AEP Generation Resources - SEC</b>                     | <b>66,256</b>      | <b>60,726</b>      | <b>65,760</b>      | <b>62,211</b>      | <b>58,105</b>      | <b>55,298</b>      | <b>52,472</b>      | <b>49,984</b>      | <b>48,203</b>      | <b>46,265</b>      | <b>44,516</b>      |
| <b>Total</b>  | <b>\$6,402,079</b> | <b>\$5,991,424</b> | <b>\$6,514,011</b> | <b>\$6,178,793</b> | <b>\$5,861,347</b> | <b>\$5,587,088</b> | <b>\$5,361,536</b> | <b>\$5,149,424</b> | <b>\$4,960,328</b> | <b>\$4,794,603</b> | <b>\$4,643,453</b> |

**AMERICAN ELECTRIC POWER  
NONQUALIFIED RETIREMENT PLAN  
2014 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost     | Interest Cost      | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|------------------|--------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$481,782                    | \$0                            | \$17,057         | \$21,495           | \$0                       | \$1                                | \$15,925                  | \$54,478                  |
| 215 Appalachian Power Co - Generation                     | 21                           | 0                              | 3                | 1                  | 0                         | 2                                  | 1                         | 7                         |
| 150 Appalachian Power Co - Transmission                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$481,803</b>             | <b>\$0</b>                     | <b>\$17,060</b>  | <b>\$21,496</b>    | <b>\$0</b>                | <b>\$3</b>                         | <b>\$15,926</b>           | <b>\$54,485</b>           |
| 225 Cedar Coal Co   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$481,803</b>             | <b>\$0</b>                     | <b>\$17,060</b>  | <b>\$21,496</b>    | <b>\$0</b>                | <b>\$3</b>                         | <b>\$15,926</b>           | <b>\$54,485</b>           |
| 211 AEP Texas Central Company - Distribution              | \$2,350,877                  | \$0                            | \$4,510          | \$102,156          | \$0                       | (\$3,359)                          | \$77,707                  | \$181,014                 |
| 147 AEP Texas Central Company - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 169 AEP Texas Central Company - Transmission              | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Texas Central Co.</b>                              | <b>\$2,350,877</b>           | <b>\$0</b>                     | <b>\$4,510</b>   | <b>\$102,156</b>   | <b>\$0</b>                | <b>(\$3,359)</b>                   | <b>\$77,707</b>           | <b>\$181,014</b>          |
| 170 Indiana Michigan Power Co - Distribution              | \$117,696                    | \$0                            | \$9,149          | \$5,714            | \$0                       | (\$8)                              | \$3,890                   | \$18,745                  |
| 132 Indiana Michigan Power Co - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 4                                  | 0                         | 4                         |
| 190 Indiana Michigan Power Co - Nuclear                   | 277,833                      | 0                              | 14,934           | 12,440             | 0                         | (784)                              | 9,184                     | 35,774                    |
| 120 Indiana Michigan Power Co - Transmission              | 106,989                      | 0                              | 0                | 4,619              | 0                         | 0                                  | 3,536                     | 8,155                     |
| 280 Ind Mich River Transp Lakin                           | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$502,518</b>             | <b>\$0</b>                     | <b>\$24,083</b>  | <b>\$22,773</b>    | <b>\$0</b>                | <b>(\$788)</b>                     | <b>\$16,610</b>           | <b>\$62,678</b>           |
| 202 Price River Coal                                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$502,518</b>             | <b>\$0</b>                     | <b>\$24,083</b>  | <b>\$22,773</b>    | <b>\$0</b>                | <b>(\$788)</b>                     | <b>\$16,610</b>           | <b>\$62,678</b>           |
| 110 Kentucky Power Co - Distribution                      | \$1,514                      | \$0                            | \$115            | \$74               | \$0                       | \$0                                | \$50                      | \$239                     |
| 117 Kentucky Power Co - Generation                        | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 180 Kentucky Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 600 Kentucky Power Co. - Kammer Actives                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 701 Kentucky Power Co. - Mitchell Actives                 | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 702 Kentucky Power Co. - Mitchell Inactives               | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kentucky Power Co.</b>                                 | <b>\$1,514</b>               | <b>\$0</b>                     | <b>\$115</b>     | <b>\$74</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$50</b>               | <b>\$239</b>              |
| 250 Ohio Power Co - Distribution                          | \$118,180                    | \$0                            | \$12,700         | \$5,925            | \$0                       | \$10                               | \$3,906                   | \$22,541                  |
| 160 Ohio Power Co - Transmission                          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Ohio Power Co.</b>                                     | <b>\$118,180</b>             | <b>\$0</b>                     | <b>\$12,700</b>  | <b>\$5,925</b>     | <b>\$0</b>                | <b>\$10</b>                        | <b>\$3,906</b>            | <b>\$22,541</b>           |
| 167 Public Service Co of Oklahoma - Distribution          | \$2,072,336                  | \$0                            | \$7,911          | \$90,752           | \$0                       | (\$1,355)                          | \$68,500                  | \$165,808                 |
| 198 Public Service Co of Oklahoma - Generation            | 377,846                      | 0                              | 418              | 16,588             | 0                         | (519)                              | 12,490                    | 28,977                    |
| 114 Public Service Co of Oklahoma - Transmission          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$2,450,182</b>           | <b>\$0</b>                     | <b>\$8,329</b>   | <b>\$107,340</b>   | <b>\$0</b>                | <b>(\$1,874)</b>                   | <b>\$80,990</b>           | <b>\$194,785</b>          |
| 159 Southwestern Electric Power Co - Distribution         | \$479,326                    | \$0                            | \$32,963         | \$22,695           | \$0                       | \$2                                | \$15,844                  | \$71,504                  |
| 168 Southwestern Electric Power Co - Generation           | 962,865                      | 0                              | 775              | 42,446             | 0                         | (1,088)                            | 31,827                    | 73,960                    |
| 161 Southwestern Electric Power Co - Texas - Distribution | 297                          | 0                              | 0                | 14                 | 0                         | 0                                  | 10                        | 24                        |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 194 Southwestern Electric Power Co - Transmission         | 84,985                       | 0                              | 0                | 3,563              | 0                         | 2                                  | 2,809                     | 6,374                     |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$1,527,473</b>           | <b>\$0</b>                     | <b>\$33,738</b>  | <b>\$68,718</b>    | <b>\$0</b>                | <b>(\$1,084)</b>                   | <b>\$50,490</b>           | <b>\$151,862</b>          |
| 119 AEP Texas North Company - Distribution                | 844,592                      | 0                              | 0                | 36,520             | 0                         | (852)                              | 27,918                    | 63,586                    |
| 166 AEP Texas North Company - Generation                  | 634,079                      | 0                              | 0                | 27,751             | 0                         | (547)                              | 20,959                    | 48,163                    |
| 192 AEP Texas North Company - Transmission                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Texas North Co.</b>                                | <b>\$1,478,671</b>           | <b>\$0</b>                     | <b>\$0</b>       | <b>\$64,271</b>    | <b>\$0</b>                | <b>(\$1,399)</b>                   | <b>\$48,877</b>           | <b>\$111,749</b>          |
| 230 Kingsport Power Co - Distribution                     | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 260 Kingsport Power Co - Transmission                     | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kingsport Power Co.</b>                                | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 210 Wheeling Power Co - Distribution                      | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 200 Wheeling Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Wheeling Power Co.</b>                                 | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 103 American Electric Power Service Corporation           | \$63,925,209                 | \$0                            | \$354,486        | \$2,749,366        | \$0                       | \$44,471                           | \$2,113,019               | \$5,261,342               |
| <b>American Electric Power Service Corp</b>               | <b>\$63,925,209</b>          | <b>\$0</b>                     | <b>\$354,486</b> | <b>\$2,749,366</b> | <b>\$0</b>                | <b>\$44,471</b>                    | <b>\$2,113,019</b>        | <b>\$5,261,342</b>        |
| 143 AEP Pro Serv, Inc.                                    | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 171 CSW Energy, Inc.                                      | 2,900,535                    | 0                              | 48,777           | 133,288            | 0                         | 423                                | 95,876                    | 278,364                   |
| 293 Elmwood   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 292 AEP River Operations LLC                              | 205,929                      | 0                              | 2,074            | 8,670              | 0                         | (789)                              | 6,807                     | 16,762                    |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$3,106,464</b>           | <b>\$0</b>                     | <b>\$50,851</b>  | <b>\$141,958</b>   | <b>\$0</b>                | <b>(\$366)</b>                     | <b>\$102,683</b>          | <b>\$295,126</b>          |
| 270 Cook Coal Terminal                                    | \$0                          | \$0                            | \$0              | \$2                | \$0                       | \$0                                | \$0                       | \$2                       |
| <b>AEP Generating Company</b>                             | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$2</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$2</b>                |
| 104 Cardinal Operating Company                            | \$2,987                      | \$0                            | \$163            | \$139              | \$0                       | (\$3)                              | \$99                      | \$398                     |
| 181 Ohio Power Co - Generation                            | 825,209                      | 0                              | 3,303            | 35,348             | 0                         | (70)                               | 27,277                    | 65,858                    |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$828,196</b>             | <b>\$0</b>                     | <b>\$3,466</b>   | <b>\$35,487</b>    | <b>\$0</b>                | <b>(\$73)</b>                      | <b>\$27,376</b>           | <b>\$66,256</b>           |
| 290 Conesville Coal Preparation Company                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$828,196</b>             | <b>\$0</b>                     | <b>\$3,466</b>   | <b>\$35,487</b>    | <b>\$0</b>                | <b>(\$73)</b>                      | <b>\$27,376</b>           | <b>\$66,256</b>           |
| <b>Total</b>  | <b>\$76,771,087</b>          | <b>\$0</b>                     | <b>\$509,338</b> | <b>\$3,319,566</b> | <b>\$0</b>                | <b>\$35,541</b>                    | <b>\$2,537,634</b>        | <b>\$6,402,079</b>        |

**AMERICAN ELECTRIC POWER  
NONQUALIFIED RETIREMENT PLAN  
ESTIMATED 2015 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost     | Interest Cost      | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|------------------|--------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$429,175                    | \$0                            | \$16,721         | \$21,563           | \$0                       | \$1                                | \$12,988                  | \$51,273                  |
| 215 Appalachian Power Co - Generation                     | 19                           | 0                              | 3                | 1                  | 0                         | 2                                  | 1                         | 7                         |
| 150 Appalachian Power Co - Transmission                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$429,194</b>             | <b>\$0</b>                     | <b>\$16,724</b>  | <b>\$21,564</b>    | <b>\$0</b>                | <b>\$3</b>                         | <b>\$12,989</b>           | <b>\$51,280</b>           |
| 225 Cedar Coal Co   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$429,194</b>             | <b>\$0</b>                     | <b>\$16,724</b>  | <b>\$21,564</b>    | <b>\$0</b>                | <b>\$3</b>                         | <b>\$12,989</b>           | <b>\$51,280</b>           |
| 211 AEP Texas Central Company - Distribution              | \$2,094,178                  | \$0                            | \$4,421          | \$102,450          | \$0                       | (\$947)                            | \$63,377                  | \$169,301                 |
| 147 AEP Texas Central Company - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 169 AEP Texas Central Company - Transmission              | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Texas Central Co.</b>                              | <b>\$2,094,178</b>           | <b>\$0</b>                     | <b>\$4,421</b>   | <b>\$102,450</b>   | <b>\$0</b>                | <b>(\$947)</b>                     | <b>\$63,377</b>           | <b>\$169,301</b>          |
| 170 Indiana Michigan Power Co - Distribution              | \$104,844                    | \$0                            | \$8,969          | \$5,784            | \$0                       | (\$8)                              | \$3,173                   | \$17,918                  |
| 132 Indiana Michigan Power Co - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 4                                  | 0                         | 4                         |
| 190 Indiana Michigan Power Co - Nuclear                   | 247,496                      | 0                              | 14,640           | 12,540             | 0                         | (784)                              | 7,490                     | 33,886                    |
| 120 Indiana Michigan Power Co - Transmission              | 95,307                       | 0                              | 0                | 4,634              | 0                         | 0                                  | 2,884                     | 7,518                     |
| 280 Ind Mich River Transp Lakin                           | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$447,647</b>             | <b>\$0</b>                     | <b>\$23,609</b>  | <b>\$22,958</b>    | <b>\$0</b>                | <b>(\$788)</b>                     | <b>\$13,547</b>           | <b>\$59,326</b>           |
| 202 Price River Coal                                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$447,647</b>             | <b>\$0</b>                     | <b>\$23,609</b>  | <b>\$22,958</b>    | <b>\$0</b>                | <b>(\$788)</b>                     | <b>\$13,547</b>           | <b>\$59,326</b>           |
| 110 Kentucky Power Co - Distribution                      | \$1,349                      | \$0                            | \$113            | \$75               | \$0                       | \$0                                | \$41                      | \$229                     |
| 117 Kentucky Power Co - Generation                        | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 180 Kentucky Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 600 Kentucky Power Co. - Kammer Actives                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 701 Kentucky Power Co. - Mitchell Actives                 | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 702 Kentucky Power Co. - Mitchell Inactives               | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kentucky Power Co.</b>                                 | <b>\$1,349</b>               | <b>\$0</b>                     | <b>\$113</b>     | <b>\$75</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$41</b>               | <b>\$229</b>              |
| 250 Ohio Power Co - Distribution                          | \$105,276                    | \$0                            | \$12,450         | \$6,018            | \$0                       | \$10                               | \$3,186                   | \$21,664                  |
| 160 Ohio Power Co - Transmission                          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Ohio Power Co.</b>                                     | <b>\$105,276</b>             | <b>\$0</b>                     | <b>\$12,450</b>  | <b>\$6,018</b>     | <b>\$0</b>                | <b>\$10</b>                        | <b>\$3,186</b>            | <b>\$21,664</b>           |
| 167 Public Service Co of Oklahoma - Distribution          | \$1,846,051                  | \$0                            | \$7,755          | \$91,281           | \$0                       | (\$983)                            | \$55,868                  | \$153,921                 |
| 198 Public Service Co of Oklahoma - Generation            | 336,588                      | 0                              | 410              | 16,671             | 0                         | (134)                              | 10,186                    | 27,133                    |
| 114 Public Service Co of Oklahoma - Transmission          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$2,182,639</b>           | <b>\$0</b>                     | <b>\$8,165</b>   | <b>\$107,953</b>   | <b>\$0</b>                | <b>(\$1,117)</b>                   | <b>\$66,054</b>           | <b>\$181,055</b>          |
| 159 Southwestern Electric Power Co - Distribution         | \$426,987                    | \$0                            | \$32,314         | \$22,913           | \$0                       | \$2                                | \$12,922                  | \$68,151                  |
| 168 Southwestern Electric Power Co - Generation           | 857,727                      | 0                              | 760              | 42,609             | 0                         | (307)                              | 25,958                    | 69,020                    |
| 161 Southwestern Electric Power Co - Texas - Distribution | 265                          | 0                              | 0                | 14                 | 0                         | 0                                  | 8                         | 22                        |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 194 Southwestern Electric Power Co - Transmission         | 75,705                       | 0                              | 0                | 3,541              | 0                         | 2                                  | 2,291                     | 5,834                     |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$1,360,684</b>           | <b>\$0</b>                     | <b>\$33,074</b>  | <b>\$69,076</b>    | <b>\$0</b>                | <b>(\$303)</b>                     | <b>\$41,179</b>           | <b>\$143,026</b>          |
| 119 AEP Texas North Company - Distribution                | 752,368                      | 0                              | 0                | 36,590             | 0                         | (193)                              | 22,769                    | 59,166                    |
| 166 AEP Texas North Company - Generation                  | 564,842                      | 0                              | 0                | 27,826             | 0                         | (102)                              | 17,094                    | 44,818                    |
| 192 AEP Texas North Company - Transmission                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Texas North Co.</b>                                | <b>\$1,317,210</b>           | <b>\$0</b>                     | <b>\$0</b>       | <b>\$64,416</b>    | <b>\$0</b>                | <b>(\$295)</b>                     | <b>\$39,863</b>           | <b>\$103,984</b>          |
| 230 Kingsport Power Co - Distribution                     | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 260 Kingsport Power Co - Transmission                     | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kingsport Power Co.</b>                                | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 210 Wheeling Power Co - Distribution                      | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 200 Wheeling Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Wheeling Power Co.</b>                                 | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 103 American Electric Power Service Corporation           | \$56,945,022                 | \$0                            | \$347,505        | \$2,791,562        | \$0                       | \$62,724                           | \$1,723,349               | \$4,925,140               |
| <b>American Electric Power Service Corp</b>               | <b>\$56,945,022</b>          | <b>\$0</b>                     | <b>\$347,505</b> | <b>\$2,791,562</b> | <b>\$0</b>                | <b>\$62,724</b>                    | <b>\$1,723,349</b>        | <b>\$4,925,140</b>        |
| 143 AEP Pro Serv, Inc.                                    | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 171 CSW Energy, Inc.                                      | 2,583,817                    | 0                              | 47,816           | 134,278            | 0                         | 423                                | 78,195                    | 260,712                   |
| 293 Elmwood   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 292 AEP River Operations LLC                              | 183,443                      | 0                              | 2,033            | 8,180              | 0                         | (789)                              | 5,552                     | 14,976                    |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$2,767,260</b>           | <b>\$0</b>                     | <b>\$49,849</b>  | <b>\$142,459</b>   | <b>\$0</b>                | <b>(\$366)</b>                     | <b>\$83,747</b>           | <b>\$275,689</b>          |
| 270 Cook Coal Terminal                                    | \$0                          | \$0                            | \$0              | \$3                | \$0                       | \$0                                | \$0                       | \$3                       |
| <b>AEP Generating Company</b>                             | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$3</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$3</b>                |
| 104 Cardinal Operating Company                            | \$2,661                      | \$0                            | \$160            | \$139              | \$0                       | (\$3)                              | \$81                      | \$377                     |
| 181 Ohio Power Co - Generation                            | 735,102                      | 0                              | 3,238            | 34,934             | 0                         | (70)                               | 22,247                    | 60,349                    |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$737,763</b>             | <b>\$0</b>                     | <b>\$3,398</b>   | <b>\$35,073</b>    | <b>\$0</b>                | <b>(\$73)</b>                      | <b>\$22,328</b>           | <b>\$60,726</b>           |
| 290 Conesville Coal Preparation Company                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$737,763</b>             | <b>\$0</b>                     | <b>\$3,398</b>   | <b>\$35,073</b>    | <b>\$0</b>                | <b>(\$73)</b>                      | <b>\$22,328</b>           | <b>\$60,726</b>           |
| <b>Total</b>  | <b>\$68,388,222</b>          | <b>\$0</b>                     | <b>\$499,308</b> | <b>\$3,363,607</b> | <b>\$0</b>                | <b>\$58,848</b>                    | <b>\$2,069,660</b>        | <b>\$5,991,423</b>        |

**AMERICAN ELECTRIC POWER  
NONQUALIFIED RETIREMENT PLAN  
ESTIMATED 2016 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost     | Interest Cost      | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|------------------|--------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$435,357                    | \$0                            | \$17,905         | \$22,810           | \$0                       | \$1                                | \$14,666                  | \$55,382                  |
| 215 Appalachian Power Co - Generation                     | 19                           | 0                              | 3                | 1                  | 0                         | 2                                  | 1                         | 7                         |
| 150 Appalachian Power Co - Transmission                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$435,376</b>             | <b>\$0</b>                     | <b>\$17,908</b>  | <b>\$22,811</b>    | <b>\$0</b>                | <b>\$3</b>                         | <b>\$14,667</b>           | <b>\$55,389</b>           |
| 225 Cedar Coal Co   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$435,376</b>             | <b>\$0</b>                     | <b>\$17,908</b>  | <b>\$22,811</b>    | <b>\$0</b>                | <b>\$3</b>                         | <b>\$14,667</b>           | <b>\$55,389</b>           |
| 211 AEP Texas Central Company - Distribution              | \$2,124,345                  | \$0                            | \$4,734          | \$108,282          | \$0                       | \$333                              | \$71,562                  | \$184,911                 |
| 147 AEP Texas Central Company - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 169 AEP Texas Central Company - Transmission              | 0                            | 0                              | 0                | 2                  | 0                         | 0                                  | 0                         | 2                         |
| <b>AEP Texas Central Co.</b>                              | <b>\$2,124,345</b>           | <b>\$0</b>                     | <b>\$4,734</b>   | <b>\$108,284</b>   | <b>\$0</b>                | <b>\$333</b>                       | <b>\$71,562</b>           | <b>\$184,913</b>          |
| 170 Indiana Michigan Power Co - Distribution              | \$106,355                    | \$0                            | \$9,604          | \$6,111            | \$0                       | (\$6)                              | \$3,583                   | \$19,292                  |
| 132 Indiana Michigan Power Co - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 4                                  | 0                         | 4                         |
| 190 Indiana Michigan Power Co - Nuclear                   | 251,061                      | 0                              | 15,677           | 13,869             | 0                         | (720)                              | 8,457                     | 37,283                    |
| 120 Indiana Michigan Power Co - Transmission              | 96,679                       | 0                              | 0                | 4,896              | 0                         | 0                                  | 3,257                     | 8,153                     |
| 280 Ind Mich River Transp Lakin                           | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$454,095</b>             | <b>\$0</b>                     | <b>\$25,281</b>  | <b>\$24,876</b>    | <b>\$0</b>                | <b>(\$722)</b>                     | <b>\$15,297</b>           | <b>\$64,732</b>           |
| 202 Price River Coal                                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$454,095</b>             | <b>\$0</b>                     | <b>\$25,281</b>  | <b>\$24,876</b>    | <b>\$0</b>                | <b>(\$722)</b>                     | <b>\$15,297</b>           | <b>\$64,732</b>           |
| 110 Kentucky Power Co - Distribution                      | \$1,368                      | \$0                            | \$121            | \$79               | \$0                       | \$0                                | \$46                      | \$246                     |
| 117 Kentucky Power Co - Generation                        | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 180 Kentucky Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 600 Kentucky Power Co. - Kammer Actives                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 701 Kentucky Power Co. - Mitchell Actives                 | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 702 Kentucky Power Co. - Mitchell Inactives               | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kentucky Power Co.</b>                                 | <b>\$1,368</b>               | <b>\$0</b>                     | <b>\$121</b>     | <b>\$79</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$46</b>               | <b>\$246</b>              |
| 250 Ohio Power Co - Distribution                          | \$106,792                    | \$0                            | \$13,332         | \$6,363            | \$0                       | \$10                               | \$3,597                   | \$23,302                  |
| 160 Ohio Power Co - Transmission                          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Ohio Power Co.</b>                                     | <b>\$106,792</b>             | <b>\$0</b>                     | <b>\$13,332</b>  | <b>\$6,363</b>     | <b>\$0</b>                | <b>\$10</b>                        | <b>\$3,597</b>            | <b>\$23,302</b>           |
| 167 Public Service Co of Oklahoma - Distribution          | \$1,872,645                  | \$0                            | \$8,304          | \$96,071           | \$0                       | (\$417)                            | \$63,083                  | \$167,041                 |
| 198 Public Service Co of Oklahoma - Generation            | 341,437                      | 0                              | 439              | 17,603             | 0                         | 47                                 | 11,502                    | 29,591                    |
| 114 Public Service Co of Oklahoma - Transmission          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$2,214,082</b>           | <b>\$0</b>                     | <b>\$8,743</b>   | <b>\$113,674</b>   | <b>\$0</b>                | <b>(\$370)</b>                     | <b>\$74,585</b>           | <b>\$196,632</b>          |
| 159 Southwestern Electric Power Co - Distribution         | \$433,138                    | \$0                            | \$34,603         | \$24,208           | \$0                       | \$2                                | \$14,591                  | \$73,404                  |
| 168 Southwestern Electric Power Co - Generation           | 870,083                      | 0                              | 814              | 44,905             | 0                         | 99                                 | 29,310                    | 75,128                    |
| 161 Southwestern Electric Power Co - Texas - Distribution | 268                          | 0                              | 0                | 14                 | 0                         | 0                                  | 9                         | 23                        |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 194 Southwestern Electric Power Co - Transmission         | 76,796                       | 0                              | 0                | 3,722              | 0                         | 2                                  | 2,587                     | 6,311                     |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$1,380,285</b>           | <b>\$0</b>                     | <b>\$35,417</b>  | <b>\$72,849</b>    | <b>\$0</b>                | <b>\$103</b>                       | <b>\$46,497</b>           | <b>\$154,866</b>          |
| 119 AEP Texas North Company - Distribution                | 763,207                      | 0                              | 0                | 38,604             | 0                         | 122                                | 25,710                    | 64,436                    |
| 166 AEP Texas North Company - Generation                  | 572,979                      | 0                              | 0                | 29,325             | 0                         | 98                                 | 19,302                    | 48,725                    |
| 192 AEP Texas North Company - Transmission                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Texas North Co.</b>                                | <b>\$1,336,186</b>           | <b>\$0</b>                     | <b>\$0</b>       | <b>\$67,929</b>    | <b>\$0</b>                | <b>\$220</b>                       | <b>\$45,012</b>           | <b>\$113,161</b>          |
| 230 Kingsport Power Co - Distribution                     | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 260 Kingsport Power Co - Transmission                     | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kingsport Power Co.</b>                                | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 210 Wheeling Power Co - Distribution                      | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 200 Wheeling Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Wheeling Power Co.</b>                                 | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 103 American Electric Power Service Corporation           | \$57,765,344                 | \$0                            | \$372,118        | \$2,967,627        | \$0                       | \$71,040                           | \$1,945,919               | \$5,356,704               |
| <b>American Electric Power Service Corp</b>               | <b>\$57,765,344</b>          | <b>\$0</b>                     | <b>\$372,118</b> | <b>\$2,967,627</b> | <b>\$0</b>                | <b>\$71,040</b>                    | <b>\$1,945,919</b>        | <b>\$5,356,704</b>        |
| 143 AEP Pro Serv, Inc.                                    | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 171 CSW Energy, Inc.                                      | 2,621,038                    | 0                              | 51,203           | 141,515            | 0                         | 423                                | 88,294                    | 281,435                   |
| 293 Elmwood   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 292 AEP River Operations LLC                              | 186,086                      | 0                              | 2,177            | 9,167              | 0                         | (750)                              | 6,269                     | 16,863                    |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$2,807,124</b>           | <b>\$0</b>                     | <b>\$53,380</b>  | <b>\$150,683</b>   | <b>\$0</b>                | <b>(\$327)</b>                     | <b>\$94,563</b>           | <b>\$298,299</b>          |
| 270 Cook Coal Terminal                                    | \$0                          | \$0                            | \$0              | \$3                | \$0                       | \$0                                | \$0                       | \$3                       |
| <b>AEP Generating Company</b>                             | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$3</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$3</b>                |
| 104 Cardinal Operating Company                            | \$2,699                      | \$0                            | \$171            | \$147              | \$0                       | (\$3)                              | \$91                      | \$406                     |
| 181 Ohio Power Co - Generation                            | 745,691                      | 0                              | 3,467            | 36,832             | 0                         | (65)                               | 25,120                    | 65,354                    |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$748,390</b>             | <b>\$0</b>                     | <b>\$3,638</b>   | <b>\$36,979</b>    | <b>\$0</b>                | <b>(\$68)</b>                      | <b>\$25,211</b>           | <b>\$65,760</b>           |
| 290 Conesville Coal Preparation Company                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$748,390</b>             | <b>\$0</b>                     | <b>\$3,638</b>   | <b>\$36,979</b>    | <b>\$0</b>                | <b>(\$68)</b>                      | <b>\$25,211</b>           | <b>\$65,760</b>           |
| <b>Total</b>  | <b>\$69,373,387</b>          | <b>\$0</b>                     | <b>\$534,672</b> | <b>\$3,572,159</b> | <b>\$0</b>                | <b>\$70,222</b>                    | <b>\$2,336,956</b>        | <b>\$6,514,009</b>        |

AMERICAN ELECTRIC POWER  
NONQUALIFIED RETIREMENT PLAN  
ESTIMATED 2017 NET PERIODIC PENSION COST

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost     | Interest Cost      | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|------------------|--------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$417,680                    | \$0                            | \$18,587         | \$22,167           | \$0                       | \$1                                | \$13,253                  | \$54,008                  |
| 215 Appalachian Power Co - Generation                     | 18                           | 0                              | 3                | 1                  | 0                         | 2                                  | 1                         | 7                         |
| 150 Appalachian Power Co - Transmission                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$417,698</b>             | <b>\$0</b>                     | <b>\$18,590</b>  | <b>\$22,169</b>    | <b>\$0</b>                | <b>\$3</b>                         | <b>\$13,254</b>           | <b>\$54,016</b>           |
| 225 Cedar Coal Co   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$417,698</b>             | <b>\$0</b>                     | <b>\$18,590</b>  | <b>\$22,169</b>    | <b>\$0</b>                | <b>\$3</b>                         | <b>\$13,254</b>           | <b>\$54,016</b>           |
| 211 AEP Texas Central Company - Distribution              | \$2,038,089                  | \$0                            | \$4,914          | \$105,736          | \$0                       | \$65                               | \$64,671                  | \$175,386                 |
| 147 AEP Texas Central Company - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 169 AEP Texas Central Company - Transmission              | 0                            | 0                              | 0                | 2                  | 0                         | 0                                  | 0                         | 2                         |
| <b>AEP Texas Central Co.</b>                              | <b>\$2,038,089</b>           | <b>\$0</b>                     | <b>\$4,914</b>   | <b>\$105,739</b>   | <b>\$0</b>                | <b>\$65</b>                        | <b>\$64,671</b>           | <b>\$175,389</b>          |
| 170 Indiana Michigan Power Co - Distribution              | \$102,036                    | \$0                            | \$9,970          | \$5,996            | \$0                       | \$15                               | \$3,238                   | \$19,219                  |
| 132 Indiana Michigan Power Co - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 4                                  | 0                         | 4                         |
| 190 Indiana Michigan Power Co - Nuclear                   | 240,867                      | 0                              | 16,273           | 13,590             | 0                         | 173                                | 7,643                     | 37,679                    |
| 120 Indiana Michigan Power Co - Transmission              | 92,754                       | 0                              | 0                | 4,782              | 0                         | 0                                  | 2,943                     | 7,725                     |
| 280 Ind Mich River Transp Lakin                           | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$435,657</b>             | <b>\$0</b>                     | <b>\$26,243</b>  | <b>\$24,367</b>    | <b>\$0</b>                | <b>\$192</b>                       | <b>\$13,824</b>           | <b>\$64,626</b>           |
| 202 Price River Coal                                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$435,657</b>             | <b>\$0</b>                     | <b>\$26,243</b>  | <b>\$24,367</b>    | <b>\$0</b>                | <b>\$192</b>                       | <b>\$13,824</b>           | <b>\$64,626</b>           |
| 110 Kentucky Power Co - Distribution                      | \$1,313                      | \$0                            | \$125            | \$78               | \$0                       | \$4                                | \$42                      | \$249                     |
| 117 Kentucky Power Co - Generation                        | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 180 Kentucky Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 600 Kentucky Power Co. - Kammer Actives                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 701 Kentucky Power Co. - Mitchell Actives                 | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 702 Kentucky Power Co. - Mitchell Inactives               | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kentucky Power Co.</b>                                 | <b>\$1,313</b>               | <b>\$0</b>                     | <b>\$125</b>     | <b>\$78</b>        | <b>\$0</b>                | <b>\$4</b>                         | <b>\$42</b>               | <b>\$249</b>              |
| 250 Ohio Power Co - Distribution                          | \$102,456                    | \$0                            | \$13,839         | \$6,261            | \$0                       | \$10                               | \$3,251                   | \$23,361                  |
| 160 Ohio Power Co - Transmission                          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Ohio Power Co.</b>                                     | <b>\$102,456</b>             | <b>\$0</b>                     | <b>\$13,839</b>  | <b>\$6,261</b>     | <b>\$0</b>                | <b>\$10</b>                        | <b>\$3,251</b>            | <b>\$23,361</b>           |
| 167 Public Service Co of Oklahoma - Distribution          | \$1,796,608                  | \$0                            | \$8,620          | \$93,195           | \$0                       | (\$46)                             | \$57,008                  | \$158,777                 |
| 198 Public Service Co of Oklahoma - Generation            | 327,573                      | 0                              | 455              | 17,169             | 0                         | 7                                  | 10,394                    | 28,025                    |
| 114 Public Service Co of Oklahoma - Transmission          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$2,124,181</b>           | <b>\$0</b>                     | <b>\$9,075</b>   | <b>\$110,364</b>   | <b>\$0</b>                | <b>(\$39)</b>                      | <b>\$67,402</b>           | <b>\$186,802</b>          |
| 159 Southwestern Electric Power Co - Distribution         | \$415,551                    | \$0                            | \$35,919         | \$23,397           | \$0                       | \$0                                | \$13,186                  | \$72,502                  |
| 168 Southwestern Electric Power Co - Generation           | 834,754                      | 0                              | 845              | 43,755             | 0                         | 19                                 | 26,488                    | 71,107                    |
| 161 Southwestern Electric Power Co - Texas - Distribution | 257                          | 0                              | 0                | 14                 | 0                         | 0                                  | 8                         | 22                        |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 194 Southwestern Electric Power Co - Transmission         | 73,678                       | 0                              | 0                | 3,606              | 0                         | 0                                  | 2,338                     | 5,944                     |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$1,324,240</b>           | <b>\$0</b>                     | <b>\$36,764</b>  | <b>\$70,772</b>    | <b>\$0</b>                | <b>\$19</b>                        | <b>\$42,020</b>           | <b>\$149,575</b>          |
| 119 AEP Texas North Company - Distribution                | 732,218                      | 0                              | 0                | 37,663             | 0                         | 17                                 | 23,234                    | 60,914                    |
| 166 AEP Texas North Company - Generation                  | 549,714                      | 0                              | 0                | 28,590             | 0                         | 12                                 | 17,443                    | 46,045                    |
| 192 AEP Texas North Company - Transmission                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Texas North Co.</b>                                | <b>\$1,281,932</b>           | <b>\$0</b>                     | <b>\$0</b>       | <b>\$66,253</b>    | <b>\$0</b>                | <b>\$29</b>                        | <b>\$40,677</b>           | <b>\$106,959</b>          |
| 230 Kingsport Power Co - Distribution                     | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 260 Kingsport Power Co - Transmission                     | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kingsport Power Co.</b>                                | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 210 Wheeling Power Co - Distribution                      | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 200 Wheeling Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Wheeling Power Co.</b>                                 | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 103 American Electric Power Service Corporation           | \$55,419,849                 | \$0                            | \$386,277        | \$2,907,913        | \$0                       | \$14,583                           | \$1,758,526               | \$5,067,299               |
| <b>American Electric Power Service Corp</b>               | <b>\$55,419,849</b>          | <b>\$0</b>                     | <b>\$386,277</b> | <b>\$2,907,913</b> | <b>\$0</b>                | <b>\$14,583</b>                    | <b>\$1,758,526</b>        | <b>\$5,067,299</b>        |
| 143 AEP Pro Serv, Inc.                                    | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 171 CSW Energy, Inc.                                      | 2,514,614                    | 0                              | 53,151           | 137,693            | 0                         | 423                                | 79,791                    | 271,058                   |
| 293 Elmwood   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 292 AEP River Operations LLC                              | 178,530                      | 0                              | 2,260            | 9,470              | 0                         | (201)                              | 5,665                     | 17,194                    |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$2,693,144</b>           | <b>\$0</b>                     | <b>\$55,411</b>  | <b>\$147,162</b>   | <b>\$0</b>                | <b>\$222</b>                       | <b>\$85,456</b>           | <b>\$288,251</b>          |
| 270 Cook Coal Terminal                                    | \$0                          | \$0                            | \$0              | \$56               | \$0                       | \$0                                | \$0                       | \$56                      |
| <b>AEP Generating Company</b>                             | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$56</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$56</b>               |
| 104 Cardinal Operating Company                            | \$2,590                      | \$0                            | \$178            | \$145              | \$0                       | \$0                                | \$82                      | \$405                     |
| 181 Ohio Power Co - Generation                            | 715,414                      | 0                              | 3,599            | 35,506             | 0                         | 0                                  | 22,701                    | 61,806                    |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$718,004</b>             | <b>\$0</b>                     | <b>\$3,777</b>   | <b>\$35,650</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$22,783</b>           | <b>\$62,210</b>           |
| 290 Conesville Coal Preparation Company                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$718,004</b>             | <b>\$0</b>                     | <b>\$3,777</b>   | <b>\$35,650</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$22,783</b>           | <b>\$62,210</b>           |
| <b>Total</b>  | <b>\$66,556,563</b>          | <b>\$0</b>                     | <b>\$555,015</b> | <b>\$3,496,784</b> | <b>\$0</b>                | <b>\$15,088</b>                    | <b>\$2,111,906</b>        | <b>\$6,178,793</b>        |

**AMERICAN ELECTRIC POWER  
NONQUALIFIED RETIREMENT PLAN  
ESTIMATED 2018 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost     | Interest Cost      | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|------------------|--------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$402,175                    | \$0                            | \$19,294         | \$21,629           | \$0                       | \$0                                | \$11,673                  | \$52,596                  |
| 215 Appalachian Power Co - Generation                     | 18                           | 0                              | 3                | 1                  | 0                         | 0                                  | 1                         | 5                         |
| 150 Appalachian Power Co - Transmission                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$402,193</b>             | <b>\$0</b>                     | <b>\$19,297</b>  | <b>\$21,630</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$11,674</b>           | <b>\$52,601</b>           |
| 225 Cedar Coal Co   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$402,193</b>             | <b>\$0</b>                     | <b>\$19,297</b>  | <b>\$21,630</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$11,674</b>           | <b>\$52,601</b>           |
| 211 AEP Texas Central Company - Distribution              | \$1,962,432                  | \$0                            | \$5,101          | \$103,517          | \$0                       | \$0                                | \$56,959                  | \$165,577                 |
| 147 AEP Texas Central Company - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 169 AEP Texas Central Company - Transmission              | 0                            | 0                              | 0                | 1                  | 0                         | 0                                  | 0                         | 1                         |
| <b>AEP Texas Central Co.</b>                              | <b>\$1,962,432</b>           | <b>\$0</b>                     | <b>\$5,101</b>   | <b>\$103,518</b>   | <b>\$0</b>                | <b>\$0</b>                         | <b>\$56,959</b>           | <b>\$165,578</b>          |
| 170 Indiana Michigan Power Co - Distribution              | \$98,249                     | \$0                            | \$10,349         | \$5,815            | \$0                       | \$0                                | \$2,852                   | \$19,016                  |
| 132 Indiana Michigan Power Co - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 190 Indiana Michigan Power Co - Nuclear                   | 231,925                      | 0                              | 16,893           | 13,414             | 231,925                   | 2                                  | 6,732                     | 37,041                    |
| 120 Indiana Michigan Power Co - Transmission              | 89,311                       | 0                              | 0                | 4,688              | 0                         | 0                                  | 2,592                     | 7,280                     |
| 280 Ind Mich River Transp Lakin                           | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$419,485</b>             | <b>\$0</b>                     | <b>\$27,242</b>  | <b>\$23,918</b>    | <b>\$0</b>                | <b>\$2</b>                         | <b>\$12,176</b>           | <b>\$63,338</b>           |
| 202 Price River Coal                                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$419,485</b>             | <b>\$0</b>                     | <b>\$27,242</b>  | <b>\$23,918</b>    | <b>\$0</b>                | <b>\$2</b>                         | <b>\$12,176</b>           | <b>\$63,338</b>           |
| 110 Kentucky Power Co - Distribution                      | \$1,264                      | \$0                            | \$130            | \$69               | \$0                       | \$0                                | \$37                      | \$236                     |
| 117 Kentucky Power Co - Generation                        | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 180 Kentucky Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 600 Kentucky Power Co. - Kammer Actives                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 701 Kentucky Power Co. - Mitchell Actives                 | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 702 Kentucky Power Co. - Mitchell Inactives               | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kentucky Power Co.</b>                                 | <b>\$1,264</b>               | <b>\$0</b>                     | <b>\$130</b>     | <b>\$69</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$37</b>               | <b>\$236</b>              |
| 250 Ohio Power Co - Distribution                          | \$98,653                     | \$0                            | \$14,366         | \$6,181            | \$0                       | \$0                                | \$2,863                   | \$23,410                  |
| 160 Ohio Power Co - Transmission                          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Ohio Power Co.</b>                                     | <b>\$98,653</b>              | <b>\$0</b>                     | <b>\$14,366</b>  | <b>\$6,181</b>     | <b>\$0</b>                | <b>\$0</b>                         | <b>\$2,863</b>            | <b>\$23,410</b>           |
| 167 Public Service Co of Oklahoma - Distribution          | \$1,729,915                  | \$0                            | \$8,948          | \$91,794           | \$0                       | (\$1)                              | \$50,210                  | \$150,951                 |
| 198 Public Service Co of Oklahoma - Generation            | 315,413                      | 0                              | 473              | 16,802             | 0                         | 0                                  | 9,155                     | 26,430                    |
| 114 Public Service Co of Oklahoma - Transmission          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$2,045,328</b>           | <b>\$0</b>                     | <b>\$9,421</b>   | <b>\$108,597</b>   | <b>\$0</b>                | <b>(\$1)</b>                       | <b>\$59,365</b>           | <b>\$177,382</b>          |
| 159 Southwestern Electric Power Co - Distribution         | \$400,125                    | \$0                            | \$37,286         | \$23,014           | \$0                       | \$0                                | \$11,614                  | \$71,914                  |
| 168 Southwestern Electric Power Co - Generation           | 803,767                      | 0                              | 877              | 42,848             | 0                         | 0                                  | 23,329                    | 67,054                    |
| 161 Southwestern Electric Power Co - Texas - Distribution | 248                          | 0                              | 0                | 14                 | 0                         | 0                                  | 7                         | 21                        |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 194 Southwestern Electric Power Co - Transmission         | 70,943                       | 0                              | 0                | 3,504              | 0                         | 0                                  | 2,059                     | 5,563                     |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$1,275,083</b>           | <b>\$0</b>                     | <b>\$38,163</b>  | <b>\$69,380</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$37,009</b>           | <b>\$144,552</b>          |
| 119 AEP Texas North Company - Distribution                | 705,037                      | 0                              | 0                | 36,887             | 0                         | 0                                  | 20,463                    | 57,350                    |
| 166 AEP Texas North Company - Generation                  | 529,307                      | 0                              | 0                | 27,972             | 0                         | 0                                  | 15,363                    | 43,335                    |
| 192 AEP Texas North Company - Transmission                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Texas North Co.</b>                                | <b>\$1,234,344</b>           | <b>\$0</b>                     | <b>\$0</b>       | <b>\$64,859</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$35,826</b>           | <b>\$100,685</b>          |
| 230 Kingsport Power Co - Distribution                     | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 260 Kingsport Power Co - Transmission                     | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kingsport Power Co.</b>                                | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 210 Wheeling Power Co - Distribution                      | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 200 Wheeling Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Wheeling Power Co.</b>                                 | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 103 American Electric Power Service Corporation           | \$53,362,580                 | \$0                            | \$400,975        | \$2,847,446        | \$0                       | \$158                              | \$1,548,834               | \$4,797,413               |
| <b>American Electric Power Service Corp</b>               | <b>\$53,362,580</b>          | <b>\$0</b>                     | <b>\$400,975</b> | <b>\$2,847,446</b> | <b>\$0</b>                | <b>\$158</b>                       | <b>\$1,548,834</b>        | <b>\$4,797,413</b>        |
| 143 AEP Pro Serv, Inc.                                    | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 171 CSW Energy, Inc.                                      | 2,421,268                    | 0                              | 55,174           | 135,876            | 0                         | 5                                  | 70,277                    | 261,332                   |
| 293 Elmwood   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 292 AEP River Operations LLC                              | 171,902                      | 0                              | 2,346            | 9,323              | 0                         | (2)                                | 4,989                     | 16,656                    |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$2,593,170</b>           | <b>\$0</b>                     | <b>\$57,520</b>  | <b>\$145,199</b>   | <b>\$0</b>                | <b>\$3</b>                         | <b>\$75,266</b>           | <b>\$277,988</b>          |
| 270 Cook Coal Terminal                                    | \$0                          | \$0                            | \$0              | \$62               | \$0                       | \$0                                | \$0                       | \$62                      |
| <b>AEP Generating Company</b>                             | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$62</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$62</b>               |
| 104 Cardinal Operating Company                            | \$2,493                      | \$0                            | \$184            | \$135              | \$0                       | \$0                                | \$72                      | \$391                     |
| 181 Ohio Power Co - Generation                            | 688,856                      | 0                              | 3,736            | 33,984             | 0                         | 0                                  | 19,994                    | 57,714                    |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$691,349</b>             | <b>\$0</b>                     | <b>\$3,920</b>   | <b>\$34,119</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$20,066</b>           | <b>\$58,105</b>           |
| 290 Conesville Coal Preparation Company                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$691,349</b>             | <b>\$0</b>                     | <b>\$3,920</b>   | <b>\$34,119</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$20,066</b>           | <b>\$58,105</b>           |
| <b>Total</b>  | <b>\$64,085,881</b>          | <b>\$0</b>                     | <b>\$576,135</b> | <b>\$3,424,978</b> | <b>\$0</b>                | <b>\$162</b>                       | <b>\$1,860,075</b>        | <b>\$5,861,350</b>        |

**AMERICAN ELECTRIC POWER  
NONQUALIFIED RETIREMENT PLAN  
ESTIMATED 2019 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost     | Interest Cost      | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|------------------|--------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$386,467                    | \$0                            | \$20,028         | \$21,273           | \$0                       | \$0                                | \$10,273                  | \$51,574                  |
| 215 Appalachian Power Co - Generation                     | 17                           | 0                              | 4                | (0)                | 0                         | 0                                  | 0                         | 4                         |
| 150 Appalachian Power Co - Transmission                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$386,484</b>             | <b>\$0</b>                     | <b>\$20,032</b>  | <b>\$21,273</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$10,273</b>           | <b>\$51,578</b>           |
| 225 Cedar Coal Co   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$386,484</b>             | <b>\$0</b>                     | <b>\$20,032</b>  | <b>\$21,273</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$10,273</b>           | <b>\$51,578</b>           |
| 211 AEP Texas Central Company - Distribution              | \$1,885,784                  | \$0                            | \$5,296          | \$101,037          | \$0                       | \$0                                | \$50,130                  | \$156,463                 |
| 147 AEP Texas Central Company - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 169 AEP Texas Central Company - Transmission              | 0                            | 0                              | 0                | 1                  | 0                         | 0                                  | 0                         | 1                         |
| <b>AEP Texas Central Co.</b>                              | <b>\$1,885,784</b>           | <b>\$0</b>                     | <b>\$5,296</b>   | <b>\$101,038</b>   | <b>\$0</b>                | <b>\$0</b>                         | <b>\$50,130</b>           | <b>\$156,464</b>          |
| 170 Indiana Michigan Power Co - Distribution              | \$94,411                     | \$0                            | \$10,743         | \$5,702            | \$0                       | \$0                                | \$2,510                   | \$18,955                  |
| 132 Indiana Michigan Power Co - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 190 Indiana Michigan Power Co - Nuclear                   | 222,867                      | 0                              | 17,535           | 12,990             | 0                         | 0                                  | 5,924                     | 36,449                    |
| 120 Indiana Michigan Power Co - Transmission              | 85,822                       | 0                              | 0                | 4,586              | 0                         | 0                                  | 2,281                     | 6,867                     |
| 280 Ind Mich River Transp Lakin                           | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$403,100</b>             | <b>\$0</b>                     | <b>\$28,278</b>  | <b>\$23,277</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$10,715</b>           | <b>\$62,270</b>           |
| 202 Price River Coal                                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$403,100</b>             | <b>\$0</b>                     | <b>\$28,278</b>  | <b>\$23,277</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$10,715</b>           | <b>\$62,270</b>           |
| 110 Kentucky Power Co - Distribution                      | \$1,214                      | \$0                            | \$135            | \$68               | \$0                       | \$0                                | \$32                      | \$235                     |
| 117 Kentucky Power Co - Generation                        | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 180 Kentucky Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 600 Kentucky Power Co. - Kammer Actives                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 701 Kentucky Power Co. - Mitchell Actives                 | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 702 Kentucky Power Co. - Mitchell Inactives               | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kentucky Power Co.</b>                                 | <b>\$1,214</b>               | <b>\$0</b>                     | <b>\$135</b>     | <b>\$68</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$32</b>               | <b>\$235</b>              |
| 250 Ohio Power Co - Distribution                          | \$94,799                     | \$0                            | \$14,912         | \$6,048            | \$0                       | \$0                                | \$2,520                   | \$23,480                  |
| 160 Ohio Power Co - Transmission                          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Ohio Power Co.</b>                                     | <b>\$94,799</b>              | <b>\$0</b>                     | <b>\$14,912</b>  | <b>\$6,048</b>     | <b>\$0</b>                | <b>\$0</b>                         | <b>\$2,520</b>            | <b>\$23,480</b>           |
| 167 Public Service Co of Oklahoma - Distribution          | \$1,662,349                  | \$0                            | \$9,289          | \$90,244           | \$0                       | \$0                                | \$44,190                  | \$143,723                 |
| 198 Public Service Co of Oklahoma - Generation            | 303,094                      | 0                              | 491              | 16,404             | 0                         | 0                                  | 8,057                     | 24,952                    |
| 114 Public Service Co of Oklahoma - Transmission          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$1,965,443</b>           | <b>\$0</b>                     | <b>\$9,780</b>   | <b>\$106,648</b>   | <b>\$0</b>                | <b>\$0</b>                         | <b>\$52,247</b>           | <b>\$168,675</b>          |
| 159 Southwestern Electric Power Co - Distribution         | \$384,497                    | \$0                            | \$38,705         | \$22,610           | \$0                       | \$0                                | \$10,221                  | \$71,536                  |
| 168 Southwestern Electric Power Co - Generation           | 772,373                      | 0                              | 910              | 41,856             | 0                         | 0                                  | 20,532                    | 63,298                    |
| 161 Southwestern Electric Power Co - Texas - Distribution | 238                          | 0                              | 0                | 13                 | 0                         | 0                                  | 6                         | 19                        |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 194 Southwestern Electric Power Co - Transmission         | 68,172                       | 0                              | 0                | 3,393              | 0                         | 0                                  | 1,812                     | 5,205                     |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$1,225,280</b>           | <b>\$0</b>                     | <b>\$39,615</b>  | <b>\$67,872</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$32,571</b>           | <b>\$140,058</b>          |
| 119 AEP Texas North Company - Distribution                | 677,499                      | 0                              | 0                | 36,055             | 0                         | 0                                  | 18,010                    | 54,065                    |
| 166 AEP Texas North Company - Generation                  | 508,634                      | 0                              | 0                | 27,302             | 0                         | 0                                  | 13,521                    | 40,823                    |
| 192 AEP Texas North Company - Transmission                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Texas North Co.</b>                                | <b>\$1,186,133</b>           | <b>\$0</b>                     | <b>\$0</b>       | <b>\$63,357</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$31,531</b>           | <b>\$94,888</b>           |
| 230 Kingsport Power Co - Distribution                     | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 260 Kingsport Power Co - Transmission                     | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kingsport Power Co.</b>                                | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 210 Wheeling Power Co - Distribution                      | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 200 Wheeling Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Wheeling Power Co.</b>                                 | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 103 American Electric Power Service Corporation           | \$51,278,355                 | \$0                            | \$416,232        | \$2,786,734        | \$0                       | \$0                                | \$1,363,131               | \$4,566,097               |
| <b>American Electric Power Service Corp</b>               | <b>\$51,278,355</b>          | <b>\$0</b>                     | <b>\$416,232</b> | <b>\$2,786,734</b> | <b>\$0</b>                | <b>\$0</b>                         | <b>\$1,363,131</b>        | <b>\$4,566,097</b>        |
| 143 AEP Pro Serv, Inc.                                    | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 171 CSW Energy, Inc.                                      | 2,326,698                    | 0                              | 57,273           | 132,875            | 0                         | 0                                  | 61,851                    | 251,999                   |
| 293 Elmwood   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 292 AEP River Operations LLC                              | 165,188                      | 0                              | 2,435            | 9,149              | 0                         | 0                                  | 4,391                     | 15,975                    |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$2,491,886</b>           | <b>\$0</b>                     | <b>\$59,708</b>  | <b>\$142,023</b>   | <b>\$0</b>                | <b>\$0</b>                         | <b>\$66,242</b>           | <b>\$267,973</b>          |
| 270 Cook Coal Terminal                                    | \$0                          | \$0                            | \$0              | \$69               | \$0                       | \$0                                | \$0                       | \$69                      |
| <b>AEP Generating Company</b>                             | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$69</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$69</b>               |
| 104 Cardinal Operating Company                            | \$2,396                      | \$0                            | \$191            | \$135              | \$0                       | \$0                                | \$64                      | \$390                     |
| 181 Ohio Power Co - Generation                            | 661,951                      | 0                              | 3,878            | 33,433             | 0                         | 0                                  | 17,597                    | 54,908                    |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$664,347</b>             | <b>\$0</b>                     | <b>\$4,069</b>   | <b>\$33,568</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$17,661</b>           | <b>\$55,298</b>           |
| 290 Conesville Coal Preparation Company                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$664,347</b>             | <b>\$0</b>                     | <b>\$4,069</b>   | <b>\$33,568</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$17,661</b>           | <b>\$55,298</b>           |
| <b>Total</b>  | <b>\$61,582,825</b>          | <b>\$0</b>                     | <b>\$598,057</b> | <b>\$3,351,976</b> | <b>\$0</b>                | <b>\$0</b>                         | <b>\$1,637,053</b>        | <b>\$5,587,086</b>        |



**AMERICAN ELECTRIC POWER  
NONQUALIFIED RETIREMENT PLAN  
ESTIMATED 2020 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost     | Interest Cost      | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|------------------|--------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$374,847                    | \$0                            | \$21,029         | \$19,853           | \$0                       | \$0                                | \$9,311                   | \$50,193                  |
| 215 Appalachian Power Co - Generation                     | 16                           | 0                              | 4                | 0                  | 0                         | 0                                  | 0                         | 4                         |
| 150 Appalachian Power Co - Transmission                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$374,863</b>             | <b>\$0</b>                     | <b>\$21,033</b>  | <b>\$19,853</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$9,311</b>            | <b>\$50,197</b>           |
| 225 Cedar Coal Co   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$374,863</b>             | <b>\$0</b>                     | <b>\$21,033</b>  | <b>\$19,853</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$9,311</b>            | <b>\$50,197</b>           |
| 211 AEP Texas Central Company - Distribution              | \$1,829,084                  | \$0                            | \$5,560          | \$98,082           | \$0                       | \$0                                | \$45,432                  | \$149,074                 |
| 147 AEP Texas Central Company - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 169 AEP Texas Central Company - Transmission              | 0                            | 0                              | 0                | 1                  | 0                         | 0                                  | 0                         | 1                         |
| <b>AEP Texas Central Co.</b>                              | <b>\$1,829,084</b>           | <b>\$0</b>                     | <b>\$5,560</b>   | <b>\$98,082</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$45,432</b>           | <b>\$149,074</b>          |
| 170 Indiana Michigan Power Co - Distribution              | \$91,573                     | \$0                            | \$11,280         | \$5,506            | \$0                       | \$0                                | \$2,275                   | \$19,061                  |
| 132 Indiana Michigan Power Co - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 190 Indiana Michigan Power Co - Nuclear                   | 216,166                      | 0                              | 18,412           | 12,328             | 0                         | 0                                  | 5,369                     | 36,109                    |
| 120 Indiana Michigan Power Co - Transmission              | 83,242                       | 0                              | 0                | 4,451              | 0                         | 0                                  | 2,068                     | 6,519                     |
| 280 Ind Mich River Transp Lakin                           | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$390,981</b>             | <b>\$0</b>                     | <b>\$29,692</b>  | <b>\$22,285</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$9,712</b>            | <b>\$61,689</b>           |
| 202 Price River Coal                                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$390,981</b>             | <b>\$0</b>                     | <b>\$29,692</b>  | <b>\$22,285</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$9,712</b>            | <b>\$61,689</b>           |
| 110 Kentucky Power Co - Distribution                      | \$1,178                      | \$0                            | \$142            | \$66               | \$0                       | \$0                                | \$29                      | \$237                     |
| 117 Kentucky Power Co - Generation                        | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 180 Kentucky Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 600 Kentucky Power Co. - Kammer Actives                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 701 Kentucky Power Co. - Mitchell Actives                 | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 702 Kentucky Power Co. - Mitchell Inactives               | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kentucky Power Co.</b>                                 | <b>\$1,178</b>               | <b>\$0</b>                     | <b>\$142</b>     | <b>\$66</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$29</b>               | <b>\$237</b>              |
| 250 Ohio Power Co - Distribution                          | \$91,949                     | \$0                            | \$15,658         | \$5,923            | \$0                       | \$0                                | \$2,284                   | \$23,865                  |
| 160 Ohio Power Co - Transmission                          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Ohio Power Co.</b>                                     | <b>\$91,949</b>              | <b>\$0</b>                     | <b>\$15,658</b>  | <b>\$5,923</b>     | <b>\$0</b>                | <b>\$0</b>                         | <b>\$2,284</b>            | <b>\$23,865</b>           |
| 167 Public Service Co of Oklahoma - Distribution          | \$1,612,367                  | \$0                            | \$9,753          | \$87,470           | \$0                       | \$0                                | \$40,049                  | \$137,272                 |
| 198 Public Service Co of Oklahoma - Generation            | 293,980                      | 0                              | 515              | 15,859             | 0                         | 0                                  | 7,302                     | 23,676                    |
| 114 Public Service Co of Oklahoma - Transmission          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$1,906,347</b>           | <b>\$0</b>                     | <b>\$10,268</b>  | <b>\$103,329</b>   | <b>\$0</b>                | <b>\$0</b>                         | <b>\$47,351</b>           | <b>\$160,948</b>          |
| 159 Southwestern Electric Power Co - Distribution         | \$372,936                    | \$0                            | \$40,640         | \$20,666           | \$0                       | \$0                                | \$9,263                   | \$70,569                  |
| 168 Southwestern Electric Power Co - Generation           | 749,150                      | 0                              | 955              | 40,525             | 0                         | 0                                  | 18,608                    | 60,088                    |
| 161 Southwestern Electric Power Co - Texas - Distribution | 231                          | 0                              | 0                | 13                 | 0                         | 0                                  | 6                         | 19                        |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 194 Southwestern Electric Power Co - Transmission         | 66,122                       | 0                              | 0                | 3,497              | 0                         | 0                                  | 1,642                     | 5,139                     |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$1,188,439</b>           | <b>\$0</b>                     | <b>\$41,595</b>  | <b>\$64,701</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$29,519</b>           | <b>\$135,815</b>          |
| 119 AEP Texas North Company - Distribution                | 657,129                      | 0                              | 0                | 34,979             | 0                         | 0                                  | 16,322                    | 51,301                    |
| 166 AEP Texas North Company - Generation                  | 493,341                      | 0                              | 0                | 26,438             | 0                         | 0                                  | 12,254                    | 38,692                    |
| 192 AEP Texas North Company - Transmission                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Texas North Co.</b>                                | <b>\$1,150,470</b>           | <b>\$0</b>                     | <b>\$0</b>       | <b>\$61,417</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$28,576</b>           | <b>\$89,993</b>           |
| 230 Kingsport Power Co - Distribution                     | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 260 Kingsport Power Co - Transmission                     | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kingsport Power Co.</b>                                | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 210 Wheeling Power Co - Distribution                      | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 200 Wheeling Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Wheeling Power Co.</b>                                 | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 103 American Electric Power Service Corporation           | \$49,736,564                 | \$0                            | \$437,044        | \$2,703,956        | \$0                       | \$0                                | \$1,235,404               | \$4,376,404               |
| <b>American Electric Power Service Corp</b>               | <b>\$49,736,564</b>          | <b>\$0</b>                     | <b>\$437,044</b> | <b>\$2,703,956</b> | <b>\$0</b>                | <b>\$0</b>                         | <b>\$1,235,404</b>        | <b>\$4,376,404</b>        |
| 143 AEP Pro Serv, Inc.                                    | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 171 CSW Energy, Inc.                                      | 2,256,741                    | 0                              | 60,137           | 129,203            | 0                         | 0                                  | 56,055                    | 245,395                   |
| 293 Elmwood   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 292 AEP River Operations LLC                              | 160,222                      | 0                              | 2,557            | 8,863              | 0                         | 0                                  | 3,980                     | 15,400                    |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$2,416,963</b>           | <b>\$0</b>                     | <b>\$62,694</b>  | <b>\$138,066</b>   | <b>\$0</b>                | <b>\$0</b>                         | <b>\$60,035</b>           | <b>\$260,795</b>          |
| 270 Cook Coal Terminal                                    | \$0                          | \$0                            | \$0              | \$47               | \$0                       | \$0                                | \$0                       | \$47                      |
| <b>AEP Generating Company</b>                             | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$47</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$47</b>               |
| 104 Cardinal Operating Company                            | \$2,324                      | \$0                            | \$201            | \$134              | \$0                       | \$0                                | \$58                      | \$393                     |
| 181 Ohio Power Co - Generation                            | 642,048                      | 0                              | 4,072            | 32,059             | 0                         | 0                                  | 15,948                    | 52,079                    |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$644,372</b>             | <b>\$0</b>                     | <b>\$4,273</b>   | <b>\$32,193</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$16,006</b>           | <b>\$52,472</b>           |
| 290 Conesville Coal Preparation Company                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$644,372</b>             | <b>\$0</b>                     | <b>\$4,273</b>   | <b>\$32,193</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$16,006</b>           | <b>\$52,472</b>           |
| <b>Total</b>  | <b>\$59,731,210</b>          | <b>\$0</b>                     | <b>\$627,959</b> | <b>\$3,249,919</b> | <b>\$0</b>                | <b>\$0</b>                         | <b>\$1,483,659</b>        | <b>\$5,361,537</b>        |

**AMERICAN ELECTRIC POWER  
NONQUALIFIED RETIREMENT PLAN  
ESTIMATED 2021 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost     | Interest Cost      | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|------------------|--------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$362,971                    | \$0                            | \$22,081         | \$19,403           | \$0                       | \$0                                | \$8,452                   | \$49,936                  |
| 215 Appalachian Power Co - Generation                     | 16                           | 0                              | 4                | 1                  | 0                         | 0                                  | 0                         | 5                         |
| 150 Appalachian Power Co - Transmission                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$362,987</b>             | <b>\$0</b>                     | <b>\$22,085</b>  | <b>\$19,404</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$8,452</b>            | <b>\$49,941</b>           |
| 225 Cedar Coal Co   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$362,987</b>             | <b>\$0</b>                     | <b>\$22,085</b>  | <b>\$19,404</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$8,452</b>            | <b>\$49,941</b>           |
| 211 AEP Texas Central Company - Distribution              | \$1,771,132                  | \$0                            | \$5,838          | \$94,939           | \$0                       | \$0                                | \$41,240                  | \$142,017                 |
| 147 AEP Texas Central Company - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 169 AEP Texas Central Company - Transmission              | 0                            | 0                              | 0                | 1                  | 0                         | 0                                  | 0                         | 1                         |
| <b>AEP Texas Central Co.</b>                              | <b>\$1,771,132</b>           | <b>\$0</b>                     | <b>\$5,838</b>   | <b>\$94,940</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$41,240</b>           | <b>\$142,018</b>          |
| 170 Indiana Michigan Power Co - Distribution              | \$88,671                     | \$0                            | \$11,844         | \$5,270            | \$0                       | \$0                                | \$2,065                   | \$19,179                  |
| 132 Indiana Michigan Power Co - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 190 Indiana Michigan Power Co - Nuclear                   | 209,317                      | 0                              | 19,333           | 12,194             | 0                         | 0                                  | 4,874                     | 36,401                    |
| 120 Indiana Michigan Power Co - Transmission              | 80,605                       | 0                              | 0                | 4,313              | 0                         | 0                                  | 1,877                     | 6,190                     |
| 280 Ind Mich River Transp Lakin                           | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$378,593</b>             | <b>\$0</b>                     | <b>\$31,177</b>  | <b>\$21,777</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$8,816</b>            | <b>\$61,770</b>           |
| 202 Price River Coal                                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$378,593</b>             | <b>\$0</b>                     | <b>\$31,177</b>  | <b>\$21,777</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$8,816</b>            | <b>\$61,770</b>           |
| 110 Kentucky Power Co - Distribution                      | \$1,141                      | \$0                            | \$149            | \$49               | \$0                       | \$0                                | \$27                      | \$225                     |
| 117 Kentucky Power Co - Generation                        | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 180 Kentucky Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 600 Kentucky Power Co. - Kammer Actives                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 701 Kentucky Power Co. - Mitchell Actives                 | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 702 Kentucky Power Co. - Mitchell Inactives               | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kentucky Power Co.</b>                                 | <b>\$1,141</b>               | <b>\$0</b>                     | <b>\$149</b>     | <b>\$49</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$27</b>               | <b>\$225</b>              |
| 250 Ohio Power Co - Distribution                          | \$89,036                     | \$0                            | \$16,441         | \$5,795            | \$0                       | \$0                                | \$2,073                   | \$24,309                  |
| 160 Ohio Power Co - Transmission                          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Ohio Power Co.</b>                                     | <b>\$89,036</b>              | <b>\$0</b>                     | <b>\$16,441</b>  | <b>\$5,795</b>     | <b>\$0</b>                | <b>\$0</b>                         | <b>\$2,073</b>            | <b>\$24,309</b>           |
| 167 Public Service Co of Oklahoma - Distribution          | \$1,561,282                  | \$0                            | \$10,241         | \$84,551           | \$0                       | \$0                                | \$36,354                  | \$131,146                 |
| 198 Public Service Co of Oklahoma - Generation            | 284,666                      | 0                              | 541              | 15,364             | 0                         | 0                                  | 6,628                     | 22,533                    |
| 114 Public Service Co of Oklahoma - Transmission          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$1,845,948</b>           | <b>\$0</b>                     | <b>\$10,782</b>  | <b>\$99,915</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$42,982</b>           | <b>\$153,679</b>          |
| 159 Southwestern Electric Power Co - Distribution         | \$361,120                    | \$0                            | \$42,672         | \$20,494           | \$0                       | \$0                                | \$8,408                   | \$71,574                  |
| 168 Southwestern Electric Power Co - Generation           | 725,415                      | 0                              | 1,003            | 39,169             | 0                         | 0                                  | 16,891                    | 57,063                    |
| 161 Southwestern Electric Power Co - Texas - Distribution | 224                          | 0                              | 0                | 13                 | 0                         | 0                                  | 5                         | 18                        |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 194 Southwestern Electric Power Co - Transmission         | 64,027                       | 0                              | 0                | 3,618              | 0                         | 0                                  | 1,491                     | 5,109                     |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$1,150,786</b>           | <b>\$0</b>                     | <b>\$43,675</b>  | <b>\$63,293</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$26,795</b>           | <b>\$133,763</b>          |
| 119 AEP Texas North Company - Distribution                | 636,309                      | 0                              | 0                | 33,895             | 0                         | 0                                  | 14,816                    | 48,711                    |
| 166 AEP Texas North Company - Generation                  | 477,710                      | 0                              | 0                | 25,563             | 0                         | 0                                  | 11,123                    | 36,686                    |
| 192 AEP Texas North Company - Transmission                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Texas North Co.</b>                                | <b>\$1,114,019</b>           | <b>\$0</b>                     | <b>\$0</b>       | <b>\$59,458</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$25,939</b>           | <b>\$85,397</b>           |
| 230 Kingsport Power Co - Distribution                     | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 260 Kingsport Power Co - Transmission                     | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kingsport Power Co.</b>                                | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 210 Wheeling Power Co - Distribution                      | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 200 Wheeling Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Wheeling Power Co.</b>                                 | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 103 American Electric Power Service Corporation           | \$48,160,757                 | \$0                            | \$458,896        | \$2,614,664        | \$0                       | \$0                                | \$1,121,397               | \$4,194,957               |
| <b>American Electric Power Service Corp</b>               | <b>\$48,160,757</b>          | <b>\$0</b>                     | <b>\$458,896</b> | <b>\$2,614,664</b> | <b>\$0</b>                | <b>\$0</b>                         | <b>\$1,121,397</b>        | <b>\$4,194,957</b>        |
| 143 AEP Pro Serv, Inc.                                    | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 171 CSW Energy, Inc.                                      | 2,185,241                    | 0                              | 63,144           | 124,628            | 0                         | 0                                  | 50,882                    | 238,654                   |
| 293 Elmwood   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 292 AEP River Operations LLC                              | 155,145                      | 0                              | 2,685            | 8,344              | 0                         | 0                                  | 3,612                     | 14,641                    |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$2,340,386</b>           | <b>\$0</b>                     | <b>\$65,829</b>  | <b>\$132,972</b>   | <b>\$0</b>                | <b>\$0</b>                         | <b>\$54,494</b>           | <b>\$253,295</b>          |
| 270 Cook Coal Terminal                                    | \$0                          | \$0                            | \$0              | \$86               | \$0                       | \$0                                | \$0                       | \$86                      |
| <b>AEP Generating Company</b>                             | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$86</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$86</b>               |
| 104 Cardinal Operating Company                            | \$2,250                      | \$0                            | \$211            | \$126              | \$0                       | \$0                                | \$52                      | \$389                     |
| 181 Ohio Power Co - Generation                            | 621,706                      | 0                              | 4,276            | 30,843             | 0                         | 0                                  | 14,476                    | 49,595                    |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$623,956</b>             | <b>\$0</b>                     | <b>\$4,487</b>   | <b>\$30,970</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$14,528</b>           | <b>\$49,985</b>           |
| 290 Conesville Coal Preparation Company                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$623,956</b>             | <b>\$0</b>                     | <b>\$4,487</b>   | <b>\$30,970</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$14,528</b>           | <b>\$49,985</b>           |
| <b>Total</b>  | <b>\$57,838,741</b>          | <b>\$0</b>                     | <b>\$659,359</b> | <b>\$3,143,323</b> | <b>\$0</b>                | <b>\$0</b>                         | <b>\$1,346,743</b>        | <b>\$5,149,425</b>        |

**AMERICAN ELECTRIC POWER  
NONQUALIFIED RETIREMENT PLAN  
ESTIMATED 2022 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost     | Interest Cost      | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|------------------|--------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$350,296                    | \$0                            | \$23,185         | \$19,139           | \$0                       | \$0                                | \$7,691                   | \$50,015                  |
| 215 Appalachian Power Co - Generation                     | 15                           | 0                              | 4                | 1                  | 0                         | 0                                  | 0                         | 5                         |
| 150 Appalachian Power Co - Transmission                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$350,311</b>             | <b>\$0</b>                     | <b>\$23,189</b>  | <b>\$19,140</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$7,691</b>            | <b>\$50,020</b>           |
| 225 Cedar Coal Co   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$350,311</b>             | <b>\$0</b>                     | <b>\$23,189</b>  | <b>\$19,140</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$7,691</b>            | <b>\$50,020</b>           |
| 211 AEP Texas Central Company - Distribution              | \$1,709,286                  | \$0                            | \$6,130          | \$91,747           | \$0                       | \$0                                | \$37,526                  | \$135,403                 |
| 147 AEP Texas Central Company - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 169 AEP Texas Central Company - Transmission              | 0                            | 0                              | 0                | 1                  | 0                         | 0                                  | 0                         | 1                         |
| <b>AEP Texas Central Co.</b>                              | <b>\$1,709,286</b>           | <b>\$0</b>                     | <b>\$6,130</b>   | <b>\$91,748</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$37,526</b>           | <b>\$135,404</b>          |
| 170 Indiana Michigan Power Co - Distribution              | \$85,575                     | \$0                            | \$12,436         | \$5,111            | \$0                       | \$0                                | \$1,879                   | \$19,426                  |
| 132 Indiana Michigan Power Co - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 190 Indiana Michigan Power Co - Nuclear                   | 202,008                      | 0                              | 20,299           | 11,991             | 0                         | 0                                  | 4,435                     | 36,725                    |
| 120 Indiana Michigan Power Co - Transmission              | 77,790                       | 0                              | 0                | 4,167              | 0                         | 0                                  | 1,708                     | 5,875                     |
| 280 Ind Mich River Transp Lakin                           | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$365,373</b>             | <b>\$0</b>                     | <b>\$32,735</b>  | <b>\$21,268</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$8,022</b>            | <b>\$62,025</b>           |
| 202 Price River Coal                                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$365,373</b>             | <b>\$0</b>                     | <b>\$32,735</b>  | <b>\$21,268</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$8,022</b>            | <b>\$62,025</b>           |
| 110 Kentucky Power Co - Distribution                      | \$1,101                      | \$0                            | \$156            | \$66               | \$0                       | \$0                                | \$24                      | \$246                     |
| 117 Kentucky Power Co - Generation                        | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 180 Kentucky Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 600 Kentucky Power Co. - Kammer Actives                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 701 Kentucky Power Co. - Mitchell Actives                 | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 702 Kentucky Power Co. - Mitchell Inactives               | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kentucky Power Co.</b>                                 | <b>\$1,101</b>               | <b>\$0</b>                     | <b>\$156</b>     | <b>\$66</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$24</b>               | <b>\$246</b>              |
| 250 Ohio Power Co - Distribution                          | \$85,927                     | \$0                            | \$17,263         | \$5,604            | \$0                       | \$0                                | \$1,886                   | \$24,753                  |
| 160 Ohio Power Co - Transmission                          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Ohio Power Co.</b>                                     | <b>\$85,927</b>              | <b>\$0</b>                     | <b>\$17,263</b>  | <b>\$5,604</b>     | <b>\$0</b>                | <b>\$0</b>                         | <b>\$1,886</b>            | <b>\$24,753</b>           |
| 167 Public Service Co of Oklahoma - Distribution          | \$1,506,763                  | \$0                            | \$10,753         | \$81,332           | \$0                       | \$0                                | \$33,080                  | \$125,165                 |
| 198 Public Service Co of Oklahoma - Generation            | 274,726                      | 0                              | 568              | 14,802             | 0                         | 0                                  | 6,031                     | 21,401                    |
| 114 Public Service Co of Oklahoma - Transmission          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$1,781,489</b>           | <b>\$0</b>                     | <b>\$11,321</b>  | <b>\$96,133</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$39,111</b>           | <b>\$146,565</b>          |
| 159 Southwestern Electric Power Co - Distribution         | \$348,510                    | \$0                            | \$44,805         | \$20,228           | \$0                       | \$0                                | \$7,651                   | \$72,684                  |
| 168 Southwestern Electric Power Co - Generation           | 700,084                      | 0                              | 1,053            | 37,729             | 0                         | 0                                  | 15,370                    | 54,152                    |
| 161 Southwestern Electric Power Co - Texas - Distribution | 216                          | 0                              | 0                | 12                 | 0                         | 0                                  | 5                         | 17                        |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 194 Southwestern Electric Power Co - Transmission         | 61,791                       | 0                              | 0                | 3,491              | 0                         | 0                                  | 1,357                     | 4,848                     |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$1,110,601</b>           | <b>\$0</b>                     | <b>\$45,858</b>  | <b>\$61,461</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$24,383</b>           | <b>\$131,702</b>          |
| 119 AEP Texas North Company - Distribution                | 614,090                      | 0                              | 0                | 32,752             | 0                         | 0                                  | 13,482                    | 46,234                    |
| 166 AEP Texas North Company - Generation                  | 461,029                      | 0                              | 0                | 24,637             | 0                         | 0                                  | 10,122                    | 34,759                    |
| 192 AEP Texas North Company - Transmission                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Texas North Co.</b>                                | <b>\$1,075,119</b>           | <b>\$0</b>                     | <b>\$0</b>       | <b>\$57,389</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$23,604</b>           | <b>\$80,993</b>           |
| 230 Kingsport Power Co - Distribution                     | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 260 Kingsport Power Co - Transmission                     | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kingsport Power Co.</b>                                | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 210 Wheeling Power Co - Distribution                      | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 200 Wheeling Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Wheeling Power Co.</b>                                 | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 103 American Electric Power Service Corporation           | \$46,479,024                 | \$0                            | \$481,841        | \$2,530,328        | \$0                       | \$0                                | \$1,020,417               | \$4,032,586               |
| <b>American Electric Power Service Corp</b>               | <b>\$46,479,024</b>          | <b>\$0</b>                     | <b>\$481,841</b> | <b>\$2,530,328</b> | <b>\$0</b>                | <b>\$0</b>                         | <b>\$1,020,417</b>        | <b>\$4,032,586</b>        |
| 143 AEP Pro Serv, Inc.                                    | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 171 CSW Energy, Inc.                                      | 2,108,934                    | 0                              | 66,301           | 120,587            | 0                         | 0                                  | 46,300                    | 233,188                   |
| 293 Elmwood   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 292 AEP River Operations LLC                              | 149,728                      | 0                              | 2,819            | 8,441              | 0                         | 0                                  | 3,287                     | 14,547                    |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$2,258,662</b>           | <b>\$0</b>                     | <b>\$69,120</b>  | <b>\$129,027</b>   | <b>\$0</b>                | <b>\$0</b>                         | <b>\$49,587</b>           | <b>\$247,734</b>          |
| 270 Cook Coal Terminal                                    | \$0                          | \$0                            | \$0              | \$97               | \$0                       | \$0                                | \$0                       | \$97                      |
| <b>AEP Generating Company</b>                             | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$97</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$97</b>               |
| 104 Cardinal Operating Company                            | \$2,172                      | \$0                            | \$222            | \$128              | \$0                       | \$0                                | \$48                      | \$398                     |
| 181 Ohio Power Co - Generation                            | 599,997                      | 0                              | 4,490            | 30,142             | 0                         | 0                                  | 13,173                    | 47,805                    |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$602,169</b>             | <b>\$0</b>                     | <b>\$4,712</b>   | <b>\$30,270</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$13,221</b>           | <b>\$48,203</b>           |
| 290 Conesville Coal Preparation Company                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$602,169</b>             | <b>\$0</b>                     | <b>\$4,712</b>   | <b>\$30,270</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$13,221</b>           | <b>\$48,203</b>           |
| <b>Total</b>  | <b>\$55,819,062</b>          | <b>\$0</b>                     | <b>\$692,325</b> | <b>\$3,042,531</b> | <b>\$0</b>                | <b>\$0</b>                         | <b>\$1,225,472</b>        | <b>\$4,960,328</b>        |

AMERICAN ELECTRIC POWER  
NONQUALIFIED RETIREMENT PLAN  
ESTIMATED 2023 NET PERIODIC PENSION COST

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost     | Interest Cost      | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|------------------|--------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$339,783                    | \$0                            | \$24,344         | \$17,975           | \$0                       | \$0                                | \$6,987                   | \$49,306                  |
| 215 Appalachian Power Co - Generation                     | 15                           | 0                              | 4                | 1                  | 0                         | 0                                  | 0                         | 5                         |
| 150 Appalachian Power Co - Transmission                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$339,798</b>             | <b>\$0</b>                     | <b>\$24,348</b>  | <b>\$17,976</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$6,987</b>            | <b>\$49,311</b>           |
| 225 Cedar Coal Co   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$339,798</b>             | <b>\$0</b>                     | <b>\$24,348</b>  | <b>\$17,976</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$6,987</b>            | <b>\$49,311</b>           |
| 211 AEP Texas Central Company - Distribution              | \$1,657,986                  | \$0                            | \$6,437          | \$89,084           | \$0                       | \$0                                | \$34,094                  | \$129,615                 |
| 147 AEP Texas Central Company - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 169 AEP Texas Central Company - Transmission              | 0                            | 0                              | 0                | 1                  | 0                         | 0                                  | 0                         | 1                         |
| <b>AEP Texas Central Co.</b>                              | <b>\$1,657,986</b>           | <b>\$0</b>                     | <b>\$6,437</b>   | <b>\$89,085</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$34,094</b>           | <b>\$129,616</b>          |
| 170 Indiana Michigan Power Co - Distribution              | \$83,007                     | \$0                            | \$13,058         | \$4,987            | \$0                       | \$0                                | \$1,707                   | \$19,752                  |
| 132 Indiana Michigan Power Co - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 190 Indiana Michigan Power Co - Nuclear                   | 195,945                      | 0                              | 21,314           | 11,660             | 0                         | 0                                  | 4,029                     | 37,003                    |
| 120 Indiana Michigan Power Co - Transmission              | 75,455                       | 0                              | 0                | 4,048              | 0                         | 0                                  | 1,552                     | 5,600                     |
| 280 Ind Mich River Transp Lakin                           | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$354,407</b>             | <b>\$0</b>                     | <b>\$34,372</b>  | <b>\$20,694</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$7,288</b>            | <b>\$62,354</b>           |
| 202 Price River Coal                                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$354,407</b>             | <b>\$0</b>                     | <b>\$34,372</b>  | <b>\$20,694</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$7,288</b>            | <b>\$62,354</b>           |
| 110 Kentucky Power Co - Distribution                      | \$1,068                      | \$0                            | \$164            | \$64               | \$0                       | \$0                                | \$22                      | \$250                     |
| 117 Kentucky Power Co - Generation                        | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 180 Kentucky Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 600 Kentucky Power Co. - Kammer Actives                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 701 Kentucky Power Co. - Mitchell Actives                 | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 702 Kentucky Power Co. - Mitchell Inactives               | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kentucky Power Co.</b>                                 | <b>\$1,068</b>               | <b>\$0</b>                     | <b>\$164</b>     | <b>\$64</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$22</b>               | <b>\$250</b>              |
| 250 Ohio Power Co - Distribution                          | \$83,348                     | \$0                            | \$18,126         | \$5,466            | \$0                       | \$0                                | \$1,714                   | \$25,306                  |
| 160 Ohio Power Co - Transmission                          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Ohio Power Co.</b>                                     | <b>\$83,348</b>              | <b>\$0</b>                     | <b>\$18,126</b>  | <b>\$5,466</b>     | <b>\$0</b>                | <b>\$0</b>                         | <b>\$1,714</b>            | <b>\$25,306</b>           |
| 167 Public Service Co of Oklahoma - Distribution          | \$1,461,542                  | \$0                            | \$11,291         | \$78,789           | \$0                       | \$0                                | \$30,055                  | \$120,135                 |
| 198 Public Service Co of Oklahoma - Generation            | 266,481                      | 0                              | 597              | 14,338             | 0                         | 0                                  | 5,480                     | 20,415                    |
| 114 Public Service Co of Oklahoma - Transmission          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$1,728,023</b>           | <b>\$0</b>                     | <b>\$11,888</b>  | <b>\$93,127</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$35,535</b>           | <b>\$140,550</b>          |
| 159 Southwestern Electric Power Co - Distribution         | \$338,051                    | \$0                            | \$47,046         | \$18,633           | \$0                       | \$0                                | \$6,952                   | \$72,631                  |
| 168 Southwestern Electric Power Co - Generation           | 679,073                      | 0                              | 1,106            | 36,520             | 0                         | 0                                  | 13,964                    | 51,590                    |
| 161 Southwestern Electric Power Co - Texas - Distribution | 209                          | 0                              | 0                | 12                 | 0                         | 0                                  | 4                         | 16                        |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 194 Southwestern Electric Power Co - Transmission         | 59,937                       | 0                              | 0                | 3,386              | 0                         | 0                                  | 1,233                     | 4,619                     |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$1,077,270</b>           | <b>\$0</b>                     | <b>\$48,152</b>  | <b>\$58,551</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$22,153</b>           | <b>\$128,856</b>          |
| 119 AEP Texas North Company - Distribution                | 595,659                      | 0                              | 0                | 31,843             | 0                         | 0                                  | 12,249                    | 44,092                    |
| 166 AEP Texas North Company - Generation                  | 447,192                      | 0                              | 0                | 23,880             | 0                         | 0                                  | 9,196                     | 33,076                    |
| 192 AEP Texas North Company - Transmission                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Texas North Co.</b>                                | <b>\$1,042,851</b>           | <b>\$0</b>                     | <b>\$0</b>       | <b>\$55,723</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$21,445</b>           | <b>\$77,168</b>           |
| 230 Kingsport Power Co - Distribution                     | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 260 Kingsport Power Co - Transmission                     | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kingsport Power Co.</b>                                | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 210 Wheeling Power Co - Distribution                      | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 200 Wheeling Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Wheeling Power Co.</b>                                 | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 103 American Electric Power Service Corporation           | \$45,084,077                 | \$0                            | \$505,933        | \$2,459,010        | \$0                       | \$0                                | \$927,089                 | \$3,892,032               |
| <b>American Electric Power Service Corp</b>               | <b>\$45,084,077</b>          | <b>\$0</b>                     | <b>\$505,933</b> | <b>\$2,459,010</b> | <b>\$0</b>                | <b>\$0</b>                         | <b>\$927,089</b>          | <b>\$3,892,032</b>        |
| 143 AEP Pro Serv, Inc.                                    | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 171 CSW Energy, Inc.                                      | 2,045,640                    | 0                              | 69,616           | 116,933            | 0                         | 0                                  | 42,066                    | 228,615                   |
| 293 Elmwood   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 292 AEP River Operations LLC                              | 145,234                      | 0                              | 2,960            | 8,197              | 0                         | 0                                  | 2,987                     | 14,144                    |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$2,190,874</b>           | <b>\$0</b>                     | <b>\$72,576</b>  | <b>\$125,129</b>   | <b>\$0</b>                | <b>\$0</b>                         | <b>\$45,053</b>           | <b>\$242,758</b>          |
| 270 Cook Coal Terminal                                    | \$0                          | \$0                            | \$0              | \$139              | \$0                       | \$0                                | \$0                       | \$139                     |
| <b>AEP Generating Company</b>                             | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$139</b>       | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$139</b>              |
| 104 Cardinal Operating Company                            | \$2,107                      | \$0                            | \$233            | \$129              | \$0                       | \$0                                | \$43                      | \$405                     |
| 181 Ohio Power Co - Generation                            | 581,989                      | 0                              | 4,714            | 29,178             | 0                         | 0                                  | 11,968                    | 45,860                    |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$584,096</b>             | <b>\$0</b>                     | <b>\$4,947</b>   | <b>\$29,307</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$12,011</b>           | <b>\$46,265</b>           |
| 290 Conesville Coal Preparation Company                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$584,096</b>             | <b>\$0</b>                     | <b>\$4,947</b>   | <b>\$29,307</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$12,011</b>           | <b>\$46,265</b>           |
| <b>Total</b>  | <b>\$54,143,798</b>          | <b>\$0</b>                     | <b>\$726,943</b> | <b>\$2,954,272</b> | <b>\$0</b>                | <b>\$0</b>                         | <b>\$1,113,391</b>        | <b>\$4,794,606</b>        |

**AMERICAN ELECTRIC POWER  
NONQUALIFIED RETIREMENT PLAN  
ESTIMATED 2024 NET PERIODIC PENSION COST**

| Location  | Projected Benefit Obligation | Market-Related Value of Assets | Service Cost     | Interest Cost      | Expected Return on Assets | Amortization of Prior Service Cost | Amortization of Gain/Loss | Net Periodic Pension Cost |
|---|------------------------------|--------------------------------|------------------|--------------------|---------------------------|------------------------------------|---------------------------|---------------------------|
| 140 Appalachian Power Co - Distribution                   | \$329,935                    | \$0                            | \$25,561         | \$18,397           | \$0                       | \$0                                | \$6,351                   | \$50,309                  |
| 215 Appalachian Power Co - Generation                     | 14                           | 0                              | 4                | 1                  | 0                         | 0                                  | 0                         | 5                         |
| 150 Appalachian Power Co - Transmission                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - FERC</b>                       | <b>\$329,949</b>             | <b>\$0</b>                     | <b>\$25,565</b>  | <b>\$18,398</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$6,351</b>            | <b>\$50,314</b>           |
| 225 Cedar Coal Co   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Appalachian Power Co. - SEC</b>                        | <b>\$329,949</b>             | <b>\$0</b>                     | <b>\$25,565</b>  | <b>\$18,398</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$6,351</b>            | <b>\$50,314</b>           |
| 211 AEP Texas Central Company - Distribution              | \$1,609,933                  | \$0                            | \$6,759          | \$86,619           | \$0                       | \$0                                | \$30,988                  | \$124,366                 |
| 147 AEP Texas Central Company - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 169 AEP Texas Central Company - Transmission              | 0                            | 0                              | 0                | 1                  | 0                         | 0                                  | 0                         | 1                         |
| <b>AEP Texas Central Co.</b>                              | <b>\$1,609,933</b>           | <b>\$0</b>                     | <b>\$6,759</b>   | <b>\$86,620</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$30,988</b>           | <b>\$124,367</b>          |
| 170 Indiana Michigan Power Co - Distribution              | \$80,601                     | \$0                            | \$13,711         | \$4,343            | \$0                       | \$0                                | \$1,551                   | \$19,605                  |
| 132 Indiana Michigan Power Co - Generation                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 190 Indiana Michigan Power Co - Nuclear                   | 190,266                      | 0                              | 22,380           | 11,242             | 0                         | 0                                  | 3,662                     | 37,284                    |
| 120 Indiana Michigan Power Co - Transmission              | 73,268                       | 0                              | 0                | 3,938              | 0                         | 0                                  | 1,410                     | 5,348                     |
| 280 Ind Mich River Transp Lakin                           | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - FERC</b>                  | <b>\$344,135</b>             | <b>\$0</b>                     | <b>\$36,091</b>  | <b>\$19,523</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$6,623</b>            | <b>\$62,237</b>           |
| 202 Price River Coal                                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Indiana Michigan Power Co. - SEC</b>                   | <b>\$344,135</b>             | <b>\$0</b>                     | <b>\$36,091</b>  | <b>\$19,523</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$6,623</b>            | <b>\$62,237</b>           |
| 110 Kentucky Power Co - Distribution                      | \$1,037                      | \$0                            | \$172            | \$63               | \$0                       | \$0                                | \$20                      | \$255                     |
| 117 Kentucky Power Co - Generation                        | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 180 Kentucky Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 600 Kentucky Power Co. - Kammer Actives                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 701 Kentucky Power Co. - Mitchell Actives                 | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 702 Kentucky Power Co. - Mitchell Inactives               | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kentucky Power Co.</b>                                 | <b>\$1,037</b>               | <b>\$0</b>                     | <b>\$172</b>     | <b>\$63</b>        | <b>\$0</b>                | <b>\$0</b>                         | <b>\$20</b>               | <b>\$255</b>              |
| 250 Ohio Power Co - Distribution                          | \$80,932                     | \$0                            | \$19,032         | \$5,399            | \$0                       | \$0                                | \$1,558                   | \$25,989                  |
| 160 Ohio Power Co - Transmission                          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Ohio Power Co.</b>                                     | <b>\$80,932</b>              | <b>\$0</b>                     | <b>\$19,032</b>  | <b>\$5,399</b>     | <b>\$0</b>                | <b>\$0</b>                         | <b>\$1,558</b>            | <b>\$25,989</b>           |
| 167 Public Service Co of Oklahoma - Distribution          | \$1,419,182                  | \$0                            | \$11,855         | \$76,866           | \$0                       | \$0                                | \$27,317                  | \$116,038                 |
| 198 Public Service Co of Oklahoma - Generation            | 258,757                      | 0                              | 626              | 13,908             | 0                         | 0                                  | 4,981                     | 19,515                    |
| 114 Public Service Co of Oklahoma - Transmission          | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Public Service Co. of Oklahoma</b>                     | <b>\$1,677,939</b>           | <b>\$0</b>                     | <b>\$12,481</b>  | <b>\$90,774</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$32,298</b>           | <b>\$135,553</b>          |
| 159 Southwestern Electric Power Co - Distribution         | \$328,253                    | \$0                            | \$49,398         | \$19,334           | \$0                       | \$0                                | \$6,318                   | \$75,050                  |
| 168 Southwestern Electric Power Co - Generation           | 659,392                      | 0                              | 1,161            | 35,437             | 0                         | 0                                  | 12,692                    | 49,290                    |
| 161 Southwestern Electric Power Co - Texas - Distribution | 203                          | 0                              | 0                | 11                 | 0                         | 0                                  | 4                         | 15                        |
| 111 Southwestern Electric Power Co - Texas - Transmission | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 194 Southwestern Electric Power Co - Transmission         | 58,200                       | 0                              | 0                | 3,288              | 0                         | 0                                  | 1,120                     | 4,408                     |
| <b>Southwestern Electric Power Co.</b>                    | <b>\$1,046,048</b>           | <b>\$0</b>                     | <b>\$50,559</b>  | <b>\$58,071</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$20,134</b>           | <b>\$128,764</b>          |
| 119 AEP Texas North Company - Distribution                | 578,396                      | 0                              | 0                | 31,015             | 0                         | 0                                  | 11,133                    | 42,148                    |
| 166 AEP Texas North Company - Generation                  | 434,232                      | 0                              | 0                | 23,183             | 0                         | 0                                  | 8,358                     | 31,541                    |
| 192 AEP Texas North Company - Transmission                | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Texas North Co.</b>                                | <b>\$1,012,628</b>           | <b>\$0</b>                     | <b>\$0</b>       | <b>\$54,198</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$19,491</b>           | <b>\$73,689</b>           |
| 230 Kingsport Power Co - Distribution                     | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 260 Kingsport Power Co - Transmission                     | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Kingsport Power Co.</b>                                | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 210 Wheeling Power Co - Distribution                      | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 200 Wheeling Power Co - Transmission                      | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Wheeling Power Co.</b>                                 | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$0</b>         | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$0</b>                |
| 103 American Electric Power Service Corporation           | \$43,777,417                 | \$0                            | \$531,229        | \$2,386,398        | \$0                       | \$0                                | \$842,636                 | \$3,760,263               |
| <b>American Electric Power Service Corp</b>               | <b>\$43,777,417</b>          | <b>\$0</b>                     | <b>\$531,229</b> | <b>\$2,386,398</b> | <b>\$0</b>                | <b>\$0</b>                         | <b>\$842,636</b>          | <b>\$3,760,263</b>        |
| 143 AEP Pro Serv, Inc.                                    | \$0                          | \$0                            | \$0              | \$0                | \$0                       | \$0                                | \$0                       | \$0                       |
| 171 CSW Energy, Inc.                                      | 1,986,351                    | 0                              | 73,097           | 112,230            | 0                         | 0                                  | 38,234                    | 223,561                   |
| 293 Elmwood   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| 292 AEP River Operations LLC                              | 141,025                      | 0                              | 3,108            | 7,969              | 0                         | 0                                  | 2,714                     | 13,791                    |
| 189 Central Coal Company                                  | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>Miscellaneous</b>                                      | <b>\$2,127,376</b>           | <b>\$0</b>                     | <b>\$76,205</b>  | <b>\$120,200</b>   | <b>\$0</b>                | <b>\$0</b>                         | <b>\$40,948</b>           | <b>\$237,353</b>          |
| 270 Cook Coal Terminal                                    | \$0                          | \$0                            | \$0              | \$151              | \$0                       | \$0                                | \$0                       | \$151                     |
| <b>AEP Generating Company</b>                             | <b>\$0</b>                   | <b>\$0</b>                     | <b>\$0</b>       | <b>\$151</b>       | <b>\$0</b>                | <b>\$0</b>                         | <b>\$0</b>                | <b>\$151</b>              |
| 104 Cardinal Operating Company                            | \$2,046                      | \$0                            | \$244            | \$126              | \$0                       | \$0                                | \$39                      | \$409                     |
| 181 Ohio Power Co - Generation                            | 565,122                      | 0                              | 4,950            | 28,279             | 0                         | 0                                  | 10,878                    | 44,107                    |
| <b>AEP Generation Resources - FERC</b>                    | <b>\$567,168</b>             | <b>\$0</b>                     | <b>\$5,194</b>   | <b>\$28,405</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$10,917</b>           | <b>\$44,516</b>           |
| 290 Conesville Coal Preparation Company                   | 0                            | 0                              | 0                | 0                  | 0                         | 0                                  | 0                         | 0                         |
| <b>AEP Generation Resources - SEC</b>                     | <b>\$567,168</b>             | <b>\$0</b>                     | <b>\$5,194</b>   | <b>\$28,405</b>    | <b>\$0</b>                | <b>\$0</b>                         | <b>\$10,917</b>           | <b>\$44,516</b>           |
| <b>Total</b>  | <b>\$52,574,562</b>          | <b>\$0</b>                     | <b>\$763,287</b> | <b>\$2,868,199</b> | <b>\$0</b>                | <b>\$0</b>                         | <b>\$1,011,964</b>        | <b>\$4,643,450</b>        |

**American Electric Power**  
**Non-UMWA Postretirement Health Care Plan**  
**Actuarial Valuation Report**  
**Postretirement Welfare Cost for Fiscal Year Ending**  
**December 31, 2014 under U.S. GAAP**

**Employer Contributions for Plan Year Beginning**  
**January 1, 2014**

**April 2014**

**TOWERS WATSON** 



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# Purpose and actuarial statement

## Purposes of valuation

American Electric Power retained Towers Watson Delaware Inc. (“Towers Watson”), to perform an actuarial valuation of its postretirement welfare programs for the purpose of determining the following:

- (1) The value of benefit obligations as of January 1, 2014, and American Electric Power’s postretirement welfare cost for fiscal year ending December 31, 2014, in accordance with FASB Accounting Standards Codification Topic 715 (ASC 715-60). It is anticipated that a separate report will be prepared for year-end financial reporting and disclosure purposes.
- (2) Plan reporting information in accordance with FASB Accounting Standards Codification Topic 965 (ASC 965).
- (3) Expected contributions under the plan sponsor’s funding policy for the 2014 plan year.
- (4) The estimated maximum tax-deductible contribution for the tax year in which the 2014 plan year ends as allowed by the Internal Revenue Code. The maximum tax-deductible contribution should be finalized in consultation with American Electric Power’s tax advisor.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices.

## Reliances

In preparing the results presented in this report, we have relied upon information regarding plan provisions, participants, claims data, contributions and assets (if any) provided by American Electric Power and other persons or organizations designated by American Electric Power. We have reviewed this information for overall reasonableness and consistency, but have neither audited nor independently verified this information. Based on discussions with and concurrence by the plan sponsor, assumptions or estimates may have been made if data were not available. We are not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations. We have relied on all the information provided as complete and accurate. The results presented in this report are dependent upon the accuracy and completeness of the underlying data and information. Any material inaccuracy in the data and information provided to us may have produced results that are not suitable for the purposes of this report and such inaccuracies, as corrected by American Electric Power, may produce materially different results that could require that a revised report be issued.

## Assumptions and methods under the Internal Revenue Code for contribution limit purposes

The actuarial assumptions and methods employed in the development of the contribution limits have been selected by the plan sponsor, with the concurrence of Towers Watson. The Internal Revenue Code requires the use of reasonable assumptions (taking into account the experience of the plan and reasonable expectations) which, in combination, offer the actuary’s best estimate of anticipated experience under the plan. We believe that the assumptions used in our valuation are reasonable and appropriate for the purposes for which they have been used.

## Assumptions and methods under ASC 715-60

The actuarial assumptions and methods employed in the development of the postretirement welfare cost have been selected by the plan sponsor with the concurrence of Towers Watson, except for the expected rate of return on plan assets selected for fiscal 2014. Evaluation of the expected rate of return assumption was outside the scope of Towers Watson's assignment and would have required substantial additional work that we were not engaged to perform. ASC 715-60 requires that each significant assumption "individually represent the best estimate of a particular future event".

Accumulated other comprehensive (income)/loss amounts shown in the report are shown prior to adjustment for deferred taxes. Any deferred tax effects in AOCI should be determined in consultation with American Electric Power's tax advisors and auditors.

## Effects of Health Care Legislation

In March 2010, the Patient Protection and Affordable Care Act (PPACA) and Health Care and Education Reconciliation Act (HCERA) were enacted. The key aspects of the Acts affecting American Electric Power's benefit obligation and cost of providing retiree medical benefits are:

- Availability of subsidies from the Early Retiree Reinsurance Program (ERRP)
- Preventive care benefits covered at 100% beginning in 2011
- Mandatory coverage for adult children until age 26 beginning in 2011
- Loss of the tax free status of the Retiree Drug Subsidy (RDS) beginning in 2013
- Excise ("Cadillac") tax on high-cost plans beginning in 2018
- Elimination of lifetime maximums beginning in 2011
- Transitional reinsurance fees beginning in 2014

All subsequent measurements for tax purposes reflect the new law.

This valuation reflects our understanding of the relevant provisions of PPACA and HCERA. The IRS and HHS have yet to issue final guidance with respect to many aspects of this law. It is possible that future guidance may conflict with our understanding of these laws based on currently available guidance and could therefore affect the results shown in this report.

## Nature of actuarial calculations

The results shown in this report have been developed based on actuarial assumptions that, to the extent evaluated or selected by Towers Watson, we consider reasonable and within the "best-estimate range" as described by the Actuarial Standards of Practice. Other actuarial assumptions could also be considered to be reasonable and within the best-estimate range. Thus, reasonable results differing from those presented in this report could have been developed by selecting different points within the best-estimate ranges for various assumptions.

The results shown in this report are estimates based on data that may be imperfect and on assumptions about future events that cannot be predicted with certainty. The effects of certain plan provisions may be approximated, or determined to be insignificant and therefore not valued. Assumptions may be made, in consultation with American Electric Power, about participant data or other factors. Reasonable efforts were made in preparing this valuation to confirm that items that are significant in the context of the actuarial liabilities or costs are treated appropriately, and are not excluded or included inappropriately. The numbers shown in this report are not rounded. This is for

convenience only and should not imply precision; by their nature, actuarial calculations are not precise.

If overall future plan experience produces higher benefit payments or lower investment returns than assumed, the relative level of plan costs or contribution requirements reported in this valuation will likely increase in future valuations (and vice versa). Future actuarial measurements may differ significantly from the current measurements presented in this report due to many factors, including: plan experience differing from that anticipated by the economic or demographic assumptions; increases or reductions expected as part of the natural operation of the methodology used for the measurements (such as the end of an amortization period); and changes in plan provisions or applicable law. It is beyond the scope of this valuation to analyze the potential range of future postretirement welfare contributions, but we can do so upon request.

See Basis for Valuation in Section 1 below for a discussion of any material events that have occurred after the valuation date that are not reflected in this valuation.

### Limitations on use

This report is provided subject to the terms set out herein and in our master consulting services agreement dated July 29, 2004, and any accompanying or referenced terms and conditions.

The information contained in this report was prepared for the internal use of American Electric Power and its auditors in connection with our actuarial valuation of the postretirement welfare plan as described in Purposes of Valuation above. It is not intended for and may not be used for other purposes, and we accept no responsibility or liability in this regard. American Electric Power may distribute this actuarial valuation report to the appropriate authorities who have the legal right to require American Electric Power to provide them this report, in which case American Electric Power will use best efforts to notify Towers Watson in advance of this distribution, and will include the non-reliance notice included at the end of this report. Further distribution to, or use by, other parties of all or part of this report is expressly prohibited without Towers Watson's prior written consent. In the absence of such consent and an express assumption of responsibility, we accept no responsibility whatsoever for any consequences arising from any third party relying on this report or any advice relating to its contents. There are no intended third-party beneficiaries of this report or the work underlying it.

## Professional Qualifications

The undersigned consulting actuaries are members of the Society of Actuaries and meet the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" relating to postretirement welfare plans. Our objectivity is not impaired by any relationship between American Electric Power and our employer, Towers Watson Delaware Inc.



Martin P. Franzinger, ASA, MAAA  
Consulting Actuary



Chad M. Greenwalt, FSA, EA  
Consulting Actuary



Joseph A. Perko, FSA, EA, MAAA  
Senior Consultant

Towers Watson Delaware Inc.

April 2014

# Section 1: Summary of key results

## Benefit cost, assets & obligations

All monetary amounts shown in US Dollars

| Fiscal Year Beginning                                |  | January 1, 2014                      | January 1, 2013                      |
|--|--|--------------------------------------|--------------------------------------|
| <b>Benefit Cost/ (Income)</b>                        | Net Periodic Postretirement Benefit Cost/(Income)                        | (\$84,466,169)                       | (\$27,206,006)                       |
| Measurement Date                                     |  | January 1, 2014                      | January 1, 2013                      |
| <b>Plan Assets</b>                                   | Fair Value of Assets (FVA)   | 1,678,022,909                        | 1,568,431,705                        |
| <b>Benefit Obligations</b>                           | Accumulated Postretirement Benefit Obligation (APBO)                     | 1,361,155,680                        | 1,702,312,240                        |
| <b>Funded Status</b>                                 | Funded Status  | 316,867,229                          | (133,880,535)                        |
| <b>Accumulated Other Comprehensive (Income)/Loss</b> | Net Transition Obligation/(Asset)  | 0                                    | 0                                    |
|  | Net Prior Service Cost/(Credit)  | (692,534,083)                        | (761,590,889)                        |
|  | Net Loss/(Gain)  | 393,952,797                          | 895,454,738                          |
|  | Total Accumulated Other Comprehensive (Income)/Loss                      | (298,581,286)                        | 133,863,849                          |
| <b>Assumptions<sup>1</sup></b>                       | Discount Rate  | 4.70%                                | 3.95%                                |
|  | Expected Long-term Return on Plan Assets                                 | 6.75%                                | 7.00%                                |
|  | Rate of Compensation/Salary Increase                                     | Rates vary by age from 3.5% to 11.5% | Rates vary by age from 3.5% to 11.5% |
|  | Current Health Care Cost Trend Rate                                      | 6.50%                                | 6.75%                                |
|  | Ultimate Health Care Cost Trend Rate                                     | 5.00%                                | 5.00%                                |
|  | Year of Ultimate Trend Rate  | 2020                                 | 2020                                 |
| <b>Participant Data</b>                              | Census Date  | January 1, 2014                      | January 1, 2013                      |
| Plan reporting (ASC 965) for Plan Year Beginning     |  | January 1, 2014                      | January 1, 2013                      |
|  | Present value of accumulated benefits                                    | 1,361,705,751                        | 1,702,879,344                        |
|  | Market value of assets   | 1,678,022,909                        | 1,568,431,705                        |
|  | Plan reporting discount rate   | 4.70%                                | 3.95%                                |
| Employer Contributions (net of Medicare subsidy)     |  | Plan Year 2014                       | Plan Year 2013                       |
| <b>Cash Flow</b>                                     | Funding Policy contributions   | 0                                    | 0                                    |
|  | Maximum Tax Deductible contributions                                     | 86,031,463 (est.)                    | 0                                    |
|  | Actual contributions   | N/A                                  | N/A                                  |
|  | Expected benefit payments and expenses, net of participant contributions | 102,698,063                          | 94,150,747                           |

## Employer Contributions

Employer contributions are the amounts paid by American Electric Power to provide for postretirement benefits, net of participant contributions and Medicare subsidy. Most participants receiving benefits are required to contribute toward the cost of the plan.

<sup>1</sup> Rates are expressed on an annual basis where applicable.

American Electric Power's funding policy is to contribute an amount equal to the postretirement welfare cost plus retiree drug subsidy payments received (the sum of which can be no less than zero). American Electric Power maximizes its contribution to the 401(h) account and contributes the remainder to the various VEBAs. American Electric Power may deviate from this policy, as permitted by its terms, based on cash, tax or other considerations.

### Postretirement welfare cost and funded position

The cost of the postretirement welfare plan is determined in accordance with generally accepted accounting principles in the U.S. ("U.S. GAAP"). The Fiscal 2014 postretirement welfare benefit cost for the plan is \$(84,466,169). Under U.S. GAAP, the funded position (fair value of plan assets less the projected benefit obligation, or "APBO") of each postretirement welfare plan at the plan sponsor's fiscal year-end (measurement date) is required to be reported as a liability. The APBO is the actuarial present value of benefits attributed to service rendered prior to the measurement date, taking into consideration expected future pay increases for pay-related plans. The plan's (underfunded) APBO as of January 1, 2013 was \$316,867,229 based on the fair value of plan assets of \$1,678,022,909 and the APBO of \$1,361,155,680.

Fiscal year-end financial reporting information and disclosures are prepared before detailed participant data and full valuation results are available. Therefore, the postretirement benefit asset (liability) at January 1, 2014 was derived from a roll forward of the January 1, 2013 valuation results, adjusted for the year-end discount rate and asset values, as well as significant changes in plan provisions and participant population. The next fiscal year financial reporting information will be developed based on the results of the January 1, 2014 valuation, projected to the end of the year and similarly adjusted for the year-end discount rate and asset values, as well as significant changes in plan provisions and participant population.

### Change in postretirement welfare cost and funded position

The postretirement welfare cost decreased from \$(27,206,006) in fiscal 2013 to \$(84,466,169) in fiscal 2014 and the funded position increased from \$(133,880,535) on January 1, 2013 to \$316,867,229 on January 1, 2014, as set forth below:

| All monetary amounts shown in US Dollars                                |                             |
|---|-----------------------------|
|   | Postretirement Welfare Cost |
| Prior year  | (27,206,006)                |
| Change due to:  |                             |
| ▶ Expected based on prior valuation and contributions during prior year | (1,570,214)                 |
| ▶ Unexpected noninvestment experience                                   | 1,235,151                   |
| ▶ Unexpected investment experience                                      | (15,023,495)                |
| ▶ Assumption changes  | (41,901,605)                |
| ▶ Changes in substantive plan   | 0                           |
| ▶ Changes due to Affordable Care Act                                    | 0                           |
| Current year  | (84,466,169)                |

Significant reasons for these changes include the following:

- On average, per capita claims costs increased greater than expected, which increased the postretirement welfare cost.

All monetary amounts shown in US Dollars

|  | 2014  | 2013  |
|--|-------|-------|
| Medical (Overall Average)                |       |       |
| Under age 65                             |       |       |
| ▶ Aetna                                  | 9,425 | 9,066 |
| ▶ Lumenos                                | 9,591 | 8,970 |
| Age 65 and older (before Part D offsets) |       |       |
| ▶ COB                                    | 4,258 | 4,003 |
| ▶ MOB                                    | 3,217 | 2,948 |
| ▶ CSP                                    | 1,976 | 1,978 |
| Medicare Part D Subsidy offsets          |       |       |
| ▶ MOB/COB (EGWP)                         | (805) | (891) |
| ▶ CSP (RDS)                              | (286) | (223) |

See Appendix A for additional details on per capita claims costs assumptions including assumed claims costs by age and/or morbidity adjustments applied.

- The discount rate increased 75 basis points since the prior year which decreased the postretirement welfare cost.
- The expected return on the fair value of assets was decreased from 7.00% to 6.75% which increased the postretirement welfare cost.
- Actual asset returns during 2013 were more than the assumed rate of 7.00% which decreased the postretirement welfare cost.
- The assumption for the percentage of future retirees electing coverage decreased from 95% for all years to 95% in 2014 and 2015 with the rate decreasing by 5% annually beginning in 2016 to an ultimate rate of 75% in 2019, which decreased the postretirement welfare cost.
- The retiree medical persistency assumption was added stating that beginning in 2014. Non-capped retirees will drop coverage at a rate of 2% annually and Capped retirees will drop coverage at a rate of 4% annually which decreased the postretirement welfare cost.



## Basis for valuation

Appendix A summarizes the assumptions and methods used in the valuation. Appendix B summarizes our understanding of the principal provisions of the plan being valued. The most recent plan change reflected in this valuation was effective on January 1, 2013.

### Changes in Assumptions

- Per capita claims costs were updated to reflect more recent retiree claims experience.
- Discount rate was changed from 3.95% to 4.70%.
- Mortality was updated for an additional year of mortality improvements.
- The expected return on assets was decreased from 7.00% to 6.75% for postretirement welfare costs purposes. The expected return on assets used to calculate funding requirements was also reduced by 25 basis points for each funding vehicle.
- The assumption for the percentage of future retirees electing coverage decreased from 95% for all years to 95% in 2014 and 2015 with the rate decreasing by 5% annually beginning in 2016 to an ultimate rate of 75% in 2019.
- The retiree medical persistency assumption was added stating that beginning in 2014. Non-capped retirees will drop coverage at a rate of 2% annually and Capped retirees will drop coverage at a rate of 4% annually.

### Changes in Methods

None.

### Changes in Benefits Valued

None.

## Section 2 : Actuarial exhibits

### 2.1 Balance sheet asset/(liability)

All monetary amounts shown in US Dollars

| Measurement Date  | January 1, 2014                      | January 1, 2013                      |
|---|--------------------------------------|--------------------------------------|
| <b>A Development of Balance Sheet Asset/(Liability)<sup>1</sup></b> |                                      |                                      |
| 1 Accumulated postretirement benefit obligation (APBO)              | 1,361,155,680                        | 1,702,312,240                        |
| 2 Fair value of assets (FVA)  | 1,678,022,909                        | 1,568,431,705                        |
| 3 Net balance sheet asset/(liability)                               | 316,867,229                          | (133,880,535)                        |
| <b>B Current and Noncurrent Allocation</b>                          |                                      |                                      |
| 1 Noncurrent assets   | 0                                    | 0                                    |
| 2 Current liabilities   | 0                                    | 0                                    |
| 3 Noncurrent liabilities  | 316,867,229                          | (133,880,535)                        |
| 4 Net balance sheet asset/(liability)                               | 316,867,229                          | (133,880,535)                        |
| <b>C Accumulated Other Comprehensive (Income)/Loss</b>              |                                      |                                      |
| 1 Net transition obligation/(asset)                                 | 0                                    | 0                                    |
| 2 Net prior service cost/(credit)                                   | (692,534,083)                        | (761,590,889)                        |
| 3 Net loss/(gain)   | 393,952,797                          | 895,454,738                          |
| 4 Accumulated other comprehensive (income)/loss <sup>2</sup>        | (298,581,286)                        | 133,863,849                          |
| <b>D Assumptions and Dates</b>                                      |                                      |                                      |
| 1 Discount rate   | 4.70%                                | 3.95%                                |
| 2 Rate of compensation/salary increase                              | Rates vary by age from 3.5% to 11.5% | Rates vary by age from 3.5% to 11.5% |
| 3 Current health care cost trend rate                               | 6.50%                                | 6.75%                                |
| 4 Ultimate health care cost trend rate                              | 5.00%                                | 5.00%                                |
| 5 Year of ultimate trend rate                                       | 2020                                 | 2020                                 |
| 6 Census date   | January 1, 2014                      | January 1, 2013                      |

<sup>1</sup> Whether the amounts in this table that differ from those disclosed at year-end must be disclosed in subsequent interim financial statements should be determined.

<sup>2</sup> Amount shown is pre-tax and should be adjusted by plan sponsor for tax effects.

## 2.2 Summary and comparison of postretirement benefit cost and cash flows

All monetary amounts shown in US Dollars

| Fiscal Year Ending   | December 31, 2014                       | December 31, 2013                       |
|--|---|---|
| <b>A Total Postretirement Benefit Cost</b>                   |   |   |
| 1 Employer service cost                                      | 12,916,313                              | 21,325,637                              |
| 2 Interest cost  | 62,195,689                              | 66,243,553                              |
| 3 Expected return on assets                                  | (109,857,082)                           | (106,553,009)                           |
| 4 Subtotal   | (34,745,080)                            | (18,983,819)                            |
| 5 Net prior service cost/(credit) amortization               | (69,056,806)                            | (69,056,806)                            |
| 6 Net loss/(gain) amortization                               | 19,335,717                              | 60,834,619                              |
| 7 Transition obligation/(asset) amortization                 | 0                                       | 0                                       |
| 8 Amortization subtotal                                      | (49,721,089)                            | (8,222,187)                             |
| 9 Net periodic postretirement benefit cost/(income)          | (84,466,169)                            | (27,206,006)                            |
| <b>B Assumptions<sup>1</sup></b>                             |   |   |
| 1 Discount rate  | 4.70 %                                  | 3.95 %                                  |
| 2 Long-term rate of return on assets                         | 6.75 %                                  | 7.00 %                                  |
| 3 Rate of compensation/salary increase                       | Rates vary by age<br>from 3.5% to 11.5% | Rates vary by age<br>from 3.5% to 11.5% |
| 4 Current health care cost trend rate                        | 6.50 %                                  | 6.75 %                                  |
| 5 Ultimate health care cost trend rate                       | 5.00 %                                  | 5.00 %                                  |
| 6 Year ultimate trend rate is expected                       | 2020                                    | 2020                                    |
| <b>C Census Date</b>   |   |   |
|  | January 1, 2014                         | January 1, 2013                         |
| <b>D Assets at Beginning of Year</b>                         |   |   |
| 1 Fair market value  | 1,678,022,909                           | 1,568,431,705                           |
| <b>E Cash Flow</b>   |   |   |
|  | <b>Expected</b>                         | <b>Actual</b>                           |
| 1 Employer contributions                                     | 0                                       | 0                                       |
| 2 Plan participants' contributions                           | 30,994,353                              | 38,769,562                              |
| 3 Benefits paid from plan assets                             | 133,772,859                             | 134,972,370                             |
| 4 Expected Medicare subsidy on current year benefit payments | (80,443)                                | N/A                                     |

<sup>1</sup> These assumptions were used to calculate the Net Postretirement Benefit Cost/ (Income) as of the beginning of the year. Rates are expressed on an annual basis where applicable. For assumptions used for interim measurement periods, if any, refer to Appendix A.

## 2.3 Information for deferred tax calculations

The following information is provided for purposes of determining the deferred portion of the tax provision and the deferred tax asset associated with the postretirement welfare cost and obligation, respectively. This information reflects the tax-exempt status of the Retiree Drug Subsidy (“RDS”) payment at the valuation date.

All monetary amounts shown in US Dollars

|                                      |                               | Book Basis Net of Part<br>D Subsidy | Tax Basis Net of Part D<br>Subsidy after 2012 |
|--------------------------------------|-------------------------------|-------------------------------------|---|
| <b>A Postretirement Welfare Cost</b> |                               |                                     |   |
| 1                                    | Fiscal 2014                   | (84,466,169)                        | (100,327,313)                                 |
| 2                                    | Fiscal 2013                   | (27,206,006)                        | (45,021,502)                                  |
| <b>B Funded Position</b>             |                               |                                     |   |
| 1                                    | Overfunded (underfunded) APBO | 316,867,229                         | 316,867,229                                   |

## 2.4 Detailed results for postretirement welfare cost and funded position

All monetary amounts shown in US Dollars

| Detailed results  | January 1, 2014 | January 1, 2013 |
|---|-----------------|-----------------|
| <b>A Service Cost</b>   |                 |                 |
| 1 Medical   | 10,209,364      | 17,844,928      |
| 2 Life insurance  | 2,704,640       | 3,475,991       |
| 3 Dental  | 2,309           | 4,718           |
| 4 Total   | 12,916,313      | 21,325,637      |
| <b>B Accumulated Postretirement Benefit Obligation [APBO]</b> |                 |                 |
| 1 Medical <sup>1</sup> :                                      |                 |                 |
| a Participants currently receiving benefits                   | 744,543,186     | 920,847,291     |
| b Fully eligible active participants                          | 24,418,320      | 24,157,727      |
| c Other participants  | 242,502,413     | 391,590,878     |
| d Total   | 1,011,463,919   | 1,336,595,896   |
| 2 Life insurance:   |                 |                 |
| a Participants currently receiving benefits                   | 257,582,776     | 258,635,009     |
| b Fully eligible active participants                          | 7,452,219       | 5,716,564       |
| c Other participants  | 66,267,434      | 79,722,542      |
| d Total   | 331,302,429     | 344,074,115     |
| 3 Dental:   |                 |                 |
| a Participants currently receiving benefits                   | 17,893,482      | 20,798,974      |
| b Fully eligible active participants                          | 0               | 0               |
| c Other participants  | 495,850         | 843,255         |
| d Total   | 18,389,332      | 21,642,229      |
| 4 All Benefits:   |                 |                 |
| a Participants currently receiving benefits                   | 1,020,019,444   | 1,200,281,274   |
| b Fully eligible active participants                          | 31,870,539      | 29,874,291      |
| c Other participants  | 309,265,697     | 472,156,675     |
| d Total   | 1,361,155,680   | 1,702,312,240   |
| <b>C Assets</b>   |                 |                 |
| 1 Fair value [FV]   | 1,678,022,909   | 1,568,431,705   |
| <b>D Funded Position</b>                                      |                 |                 |
| 1 Overfunded (underfunded) APBO                               | 316,867,229     | (133,880,535)   |
| 2 APBO funded percentage                                      | 123.3%          | 92.1%           |

<sup>1</sup> The Transitional Reinsurance Fee was allocated among the different segments of the medical liability in proportion to the total medical liability.

**E Amounts in Accumulated Other Comprehensive Income**

|   |                               |               |               |
|---|-------------------------------|---------------|---------------|
| 1 | Prior service cost (credit)   | (692,534,083) | (761,590,889) |
| 2 | Net actuarial loss (gain)     | 393,952,797   | 895,454,738   |
| 3 | Transition obligation (asset) | 0             | 0             |
| 4 | Total                         | (298,581,286) | 133,863,849   |

**F Effect of Change in Health Care Cost Trend Rate**

|   |   |              |              |
|---|---|--------------|--------------|
| 1 | One-percentage-point increase:          |              |              |
|   | a Sum of service cost and interest cost | 2,684,320    | 4,434,775    |
|   | b APBO                                  | 56,819,974   | 95,451,772   |
| 2 | One-percentage-point decrease:          |              |              |
|   | a Sum of service cost and interest cost | (2,065,260)  | (2,924,226)  |
|   | b APBO                                  | (46,669,068) | (72,246,544) |

## 2.5 ASC 965 (plan reporting) information (formerly SOP 92-6, as amended by SOP 01-2)

All monetary amounts shown in US Dollars

| Summary of Present Value of Benefits                  | January 1, 2014 | January 1, 2013 |
|---|-----------------|-----------------|
| <b>A Medical (ignoring Retiree Drug Subsidy)</b>      |                 |                 |
| 1 Current retirees                                    | 745,093,257     | 921,414,395     |
| 2 Active participants fully eligible for participants | 24,418,320      | 24,157,727      |
| 3 Other active participants                           | 242,502,413     | 391,590,878     |
| 4 Total   | 1,012,013,990   | 1,337,163,000   |
| <b>B Life Insurance</b>                               |                 |                 |
| 1 Current retirees                                    | 257,582,776     | 258,635,009     |
| 2 Active participants fully eligible for participants | 7,452,219       | 5,716,564       |
| 3 Other active participants                           | 66,267,434      | 79,722,542      |
| 4 Total   | 331,302,429     | 344,074,115     |
| <b>C Dental</b>                                       |                 |                 |
| 1 Current retirees                                    | 17,893,482      | 20,798,974      |
| 2 Active participants fully eligible for participants | 0               | 0               |
| 3 Other active participants                           | 495,850         | 843,255         |
| 4 Total   | 18,389,332      | 21,642,229      |
| <b>D Total (ignoring Retiree Drug Subsidy)</b>        |                 |                 |
| 1 Current retirees                                    | 1,020,569,515   | 1,200,848,378   |
| 2 Active participants fully eligible for participants | 31,870,539      | 29,874,291      |
| 3 Other active participants                           | 309,265,697     | 472,156,675     |
| 4 Total   | 1,361,705,751   | 1,702,879,344   |

### Actuarial assumptions and methods

The key actuarial assumptions used for plan reporting calculations are the same as those used to determine the postretirement welfare cost and are shown in the Actuarial Assumptions and Methods section, except that the Retiree Drug Subsidy (RDS) associated with Medicare Part D is not reflected. For the prior valuation, a discount rate of 3.95% was used. The same plan provisions shown in Appendix B were used to determine the present value of accumulated benefits.

| Reconciliation of Present Value of Benefits      |                                       | Fiscal 2013   | Fiscal 2012   |
|--|---------------------------------------|---------------|---------------|
| <b>A Medical (ignoring Retiree Drug Subsidy)</b> |                                       |               |               |
| 1  | Benefit obligation, beginning of year | 1,337,163,000 | 1,765,617,401 |
| 2  | Service cost                          | 17,844,928    | 42,695,197    |
| 3  | Interest cost                         | 51,716,805    | 82,868,101    |
| 4  | Participant contributions             | 29,543,748    | 29,426,161    |
| 5  | Actuarial (gain)/loss                 | (302,373,040) | 123,767,283   |
| 6  | Plan amendments                       | 0             | (578,273,313) |
| 7  | Gross benefits paid                   | (121,881,451) | (128,937,830) |
| 8  | Benefit obligation, end of year       | 1,012,013,990 | 1,337,163,000 |
| <b>B Life Insurance</b>                          |                                       |               |               |
| 1  | Benefit obligation, beginning of year | 344,074,115   | 303,722,815   |
| 2  | Service cost                          | 3,475,991     | 2,917,895     |
| 3  | Interest cost                         | 13,476,642    | 14,287,347    |
| 4  | Participant contributions             | 1,590,196     | 1,686,524     |
| 5  | Actuarial (gain)/loss                 | (16,861,174)  | 33,305,895    |
| 6  | Plan amendments                       | 0             | 0             |
| 7  | Gross benefits paid                   | (14,453,341)  | (11,846,361)  |
| 8  | Benefit obligation, end of year       | 331,302,429   | 344,074,115   |
| <b>C Dental</b>                                  |                                       |               |               |
| 1  | Benefit obligation, beginning of year | 21,642,229    | 21,070,446    |
| 2  | Service cost                          | 4,718         | 5,434         |
| 3  | Interest cost                         | 803,562       | 857,492       |
| 4  | Participant contributions             | 3,769,553     | 3,969,765     |
| 5  | Actuarial (gain)/loss                 | (1,428,469)   | 1,856,905     |
| 6  | Plan amendments                       | 0             | 0             |
| 7  | Gross benefits paid                   | (6,402,261)   | (6,117,813)   |
| 8  | Benefit obligation, end of year       | 18,389,332    | 21,642,229    |
| <b>D Total (ignoring Retiree Drug Subsidy)</b>   |                                       |               |               |
| 1  | Benefit obligation, beginning of year | 1,702,879,344 | 2,090,410,662 |
| 2  | Service cost                          | 21,325,637    | 45,618,526    |
| 3  | Interest cost                         | 65,997,009    | 98,012,940    |
| 4  | Participant contributions             | 34,903,497    | 35,082,450    |
| 5  | Actuarial (gain)/loss                 | (320,662,683) | 158,930,083   |
| 6  | Plan amendments                       | 0             | (578,273,313) |
| 7  | Gross benefits paid                   | (142,737,053) | (146,902,004) |
| 8  | Benefit obligation, end of year       | 1,361,705,751 | 1,702,879,344 |



## 2.6 Basic results for employer contributions - VEBA's

All monetary amounts shown in US Dollars

| All Postretirement VEBA's                      | Estimated         |                   |
|--|-------------------|-------------------|
|  | December 31, 2014 | December 31, 2013 |
| <b>A Qualified Asset Account Limits [QAAL]</b> | 721,662,041       | 750,652,358       |
| <b>B Assets</b>                                |                   |                   |
| 1 Market value                                 | 1,308,712,908     | 1,322,244,577     |
| 2 Unrecognized investment losses (gains)       | 0                 | 0                 |
| 3 Actuarial value [AV]                         | 1,308,712,908     | 1,322,244,577     |
| <b>C Funded Position</b>                       |                   |                   |
| 1 Unfunded account limits [QAAL – FV]          | (587,050,867)     | (571,592,219)     |
| <b>D Employer Contributions</b>                |                   |                   |
| 1 Maximum deductible available                 | 84,581,378        | 77,026,026        |
| 2 Qualified additions                          |                   |                   |
| a Prior years' carryover                       | 0                 | 0                 |
| b Current year additions                       | 0                 | 0                 |
| c Total deductions available [a + b]           | 0                 | 0                 |
| 3 Other non-deductible current year additions  | 0                 | 0                 |
| 4 Total additions [2.c + 3]                    | 0                 | 0                 |
| a Life insurance VEBA                          | 0                 | 0                 |
| b Union medical and dental VEBA's              | 0                 | 0                 |
| c Non-union medical and dental VEBA's          | 0                 | 0                 |

## 2.7 VEBA deduction limits

All monetary amounts shown in US Dollars

| Life Insurance  | 2013        | 2012        |
|---|-------------|-------------|
| <b>A Qualified Asset Account Limit (QAAL)</b>                   |             |             |
| 1 December 31 actuarial accrued liability                       | 217,706,691 | 171,324,145 |
| 2 Unrecognized liability  | 0           | 0           |
| 3 QAAL  | 217,706,691 | 171,324,145 |
| <b>B Assets</b>   |             |             |
| 1 Market value as of December 31                                | 140,680,665 | 140,292,810 |
| 2 Unrecognized investment losses (gains)                        | 0           | 0           |
| 3 Actuarial value [AV]  | 140,680,665 | 140,292,810 |
| <b>C Funded position</b>  |             |             |
| 1 Unfunded account limit [QAAL - AV]                            | 77,026,026  | 31,031,335  |
| 2 Contributions received in trust, but not yet deducted         |             |             |
| 2009  | 0           | 0           |
| 2010  | 0           | 0           |
| 2011  | 0           | 0           |
| 2012  | 0           | 0           |
| 2013  | 0           | N/A         |
| Total   | 0           | 0           |
| <b>D Employer deductions for contributions to VEBAs</b>         |             |             |
| 1 Maximum deduction available <sup>1</sup> [C.1 + Total of C.2] | 77,026,026  | 31,031,335  |
| 2 Qualified additions   |             |             |
| a Prior years' carryover  | 0           | 0           |
| b Current year additions  | 0           | 0           |
| c Total deductions available [a + b]                            | 0           | 0           |
| 3 Other non-deductible current year additions                   | 0           | 0           |
| 4 Total additions [2.c + 3]                                     | 0           | 0           |

<sup>1</sup> Includes amounts not contributed.

All monetary amounts shown in US Dollars

| Union Medical and Dental                                |   | 2013          | 2012          |
|---|---|---------------|---------------|
| <b>A Qualified Asset Account Limit (QAAL)</b>           |   |               |               |
| 1   | December 31 present value of projected benefits               | 212,964,386   | 253,933,697   |
| 2   | Unrecognized liability  | 0             | 0             |
| 3   | QAAL  | 212,964,386   | 253,933,697   |
| <b>B Assets</b>   |   |               |               |
| 1   | Market value as of December 31                                | 436,275,257   | 419,870,918   |
| 2   | Unrecognized investment losses (gains)                        | 0             | 0             |
| 3   | Actuarial value [AV]  | 436,275,257   | 419,870,918   |
| <b>C Funded position</b>                                |   |               |               |
| 1   | Unfunded account limit [QAAL - AV]                            | (233,310,871) | (165,937,221) |
| 2   | Contributions received in trust, but not yet deducted         |               |               |
|   | 2009  | 0             | 0             |
|   | 2010  | 0             | 0             |
|   | 2011  | 0             | 0             |
|   | 2012  | 0             | 0             |
|   | 2013  | 0             | N/A           |
|   | Total   | 0             | 0             |
| <b>D Employer deductions for contributions to VEBAs</b> |   |               |               |
| 1   | Maximum deduction available <sup>1</sup> [C.1 + Total of C.2] | 0             | 0             |
| 2   | Qualified additions   |               |               |
|   | a Prior years' carryover                                      | 0             | 0             |
|   | b Current year additions                                      | 0             | 1,008,523     |
|   | c Total deductions available [a + b]                          | 0             | 1,008,523     |
| 3   | Other non-deductible current year additions                   | 0             | 0             |
| 4   | Total additions [2.c + 3]                                     | 0             | 1,008,523     |

<sup>1</sup> Includes amounts not contributed.

All monetary amounts shown in US Dollars

| Non-union Medical and Dental                            |   | 2013          | 2012          |
|---|---|---------------|---------------|
| <b>A Qualified Asset Account Limit (QAAL)</b>           |   |               |               |
| 1   | December 31 present value of projected benefits                     | 319,981,281   | 406,874,206   |
| 2   | Unrecognized liability  | 0             | 0             |
| 3   | QAAL  | 319,981,281   | 406,874,206   |
| <b>B Assets</b>   |   |               |               |
| 1   | Market value as of December 31                                      | 745,288,655   | 706,535,443   |
| 2   | Unrecognized investment losses (gains)                              | 0             | 0             |
| 3   | Actuarial value [AV]  | 745,288,655   | 706,535,443   |
| <b>C Funded position</b>                                |   |               |               |
| 1   | Unfunded account limit [QAAL - AV]                                  | (425,307,374) | (299,661,237) |
| 2   | Contributions received in trust, but not yet deducted               |               |               |
|   | 2008  | 0             | 0             |
|   | 2009  | 105,440,603   | 105,440,603   |
|   | 2010  | 73,467,453    | 73,467,453    |
|   | 2011  | 38,701,148    | 38,701,148    |
|   | 2012  | 68,292,490    | 68,292,490    |
|   | 2013  | 0             | N/A           |
|   | Total   | 285,901,694   | 285,901,694   |
| <b>D Employer deductions for contributions to VEBAs</b> |   |               |               |
| 1   | Maximum deduction available <sup>1</sup> [greater of C.1+C.2 and 0] | 0             | 0             |
| 2   | Qualified additions   |               |               |
|   | a Prior years' carryover  | 0             | 0             |
|   | b Current year additions  | 0             | 0             |
|   | c Total deductions available [a + b]                                | 0             | 0             |
| 3   | Other non-deductible current year additions                         | 0             | 68,292,400    |
| 4   | Total additions [2.c + 3]   | 0             | 68,292,400    |

<sup>1</sup> Includes amounts not contributed.

## 2.8 Cumulative nondeductible contributions

All monetary amounts shown in US Dollars

### Non-union Retiree Medical and Dental VEBAs

|       | Contributions Made<br>by December 31,<br>2013, but Not<br>Deducted as of<br>December 31, 2012 | Deductible in 2013 | Remaining Nondeductible<br>Contributions as of<br>December 31, 2013 |
|-------|---|--------------------|---|
| 2005  | 0   | 0                  | 0   |
| 2006  | 0   | 0                  | 0   |
| 2007  | 0   | 0                  | 0   |
| 2008  | 0   | 0                  | 0   |
| 2009  | 105,440,603   | 0                  | 105,440,603   |
| 2010  | 73,467,453  | 0                  | 73,467,453  |
| 2011  | 38,701,148  | 0                  | 38,701,148  |
| 2012  | 68,292,490  | 0                  | 68,292,490  |
| 2013  | 0   | 0                  | 0   |
| Total | 285,901,694   | 0                  | 285,901,694   |

### Retiree Life Insurance VEBAs

|       | Contributions Made<br>by December 31,<br>2013, but Not<br>Deducted as of<br>December 31, 2012 | Deductible in 2013 | Remaining Nondeductible<br>Contributions as of<br>December 31, 2013 |
|-------|---|--------------------|---|
| 2005  | 0   | 0                  | 0   |
| 2006  | 0   | 0                  | 0   |
| 2007  | 0   | 0                  | 0   |
| 2008  | 0   | 0                  | 0   |
| 2009  | 0   | 0                  | 0   |
| 2010  | 0   | 0                  | 0   |
| 2011  | 0   | 0                  | 0   |
| 2012  | 0   | 0                  | 0   |
| 2013  | 0   | 0                  | 0   |
| Total | 0   | 0                  | 0   |

## 2.9 Development of maximum deductible contribution – 401(h)

All monetary amounts shown in US Dollars

**Plan Year Beginning** **January 1, 2014**

### A Development of Maximum Deductible Contribution

|    |   |              |
|----|---|--------------|
| 1  | Present value of projected benefits                                       | 301,556,945  |
| 2  | Fair value of assets  | 354,307,378  |
| 3  | Unfunded surplus [1 - 2]  | (52,750,433) |
| 4  | Average present value of future service                                   | 12           |
| 5  | Preliminary maximum deductible contribution                               |              |
| a  | 10% of unfunded surplus [10% x A.3]                                       | (5,275,043)  |
| b  | Aggregate normal cost [A.3 / A.4]   | (4,395,869)  |
| c  | Greater of A.5.a, A.5.b and 0   | 0            |
| 6  | Preliminary maximum 2013 contribution [1.0753 x A.5.c]                    | 0            |
| 7  | Subordination test (development shown below)                              | 3,851,910    |
| 8  | Maximum deductible contribution ignoring expenses [lesser of A.6 and A.7] | 0            |
| 9  | Total trust expenses paid from 401(h) account                             | 1,450,085    |
| 10 | Maximum deductible contribution including expenses [A.8 + A.9]            | 1,450,085    |

### B Subordination Test

Year-by-year minimum of actual pension plan contribution and pension plan normal cost with interest

|   | Year        | West Plan   | East Plan    | Combined Plan |
|---|-------------|-------------|--------------|---------------|
|   | 1992        | 9,766,169   | N/A          | N/A           |
|   | 1993        | 22,392,743  | N/A          | N/A           |
|   | 1994        | 21,208,326  | N/A          | N/A           |
|   | 1995        | 21,683,436  | N/A          | N/A           |
|   | 1996        | 20,271,648  | N/A          | N/A           |
|   | 1997 - 2002 | 0           | N/A          | N/A           |
|   | 2003        | 19,197,145  | 39,165,054 * | N/A           |
|   | 2004        | 18,614,338  | 56,614,811   | N/A           |
|   | 2005        | 16,222,550  | 55,872,817   | N/A           |
|   | 2006        | 0           | 0            | N/A           |
|   | 2007        | 0           | 0            | N/A           |
|   | 2008        | N/A         | N/A          | 0             |
|   | 2009        | N/A         | N/A          | 100,540,448   |
|   | 2010        | N/A         | N/A          | 125,586,018   |
|   | 2011        | N/A         | N/A          | 62,751,522    |
|   | 2012        | N/A         | N/A          | 0             |
|   | 2013        | N/A         | N/A          | 0             |
| Cumulative pension contributions not for past service |             | 149,356,355 | 151,652,681  | 589,887,025   |
|   |             | x 1/3       | x 1/3        | x 1/3         |
|   |             | 49,785,452  | 50,550,894   | 196,629,008   |
| Cumulative 401(h) contributions before plan year 2014 |             | 49,785,452  | 50,550,894   | 192,777,098   |
| Subordination limit                                   |             | 0           | 0            | 3,851,910     |

\* Includes only portion of normal cost and contributions after 401(h) account adoption for indicated years.

## 2.10 Expected benefit disbursements, administrative expenses, and participant contributions

All monetary amounts shown in US Dollars

|                             | January 1, 2014 | January 1, 2013 |
|-----------------------------|-----------------|-----------------|
| <b>A Medical and Dental</b> |                 |                 |
| 1 Gross disbursements       | 117,516,479     | 114,982,040     |
| 2 Participant contributions | (29,490,760)    | (33,396,799)    |
| 3 Net disbursements         | 88,025,719      | 81,585,241      |
| <b>B Life Insurance</b>     |                 |                 |
| 1 Gross disbursements       | 16,256,380      | 15,932,506      |
| 2 Participant contributions | (1,503,593)     | (3,434,791)     |
| 3 Net disbursements         | 14,752,787      | 12,497,715      |
| <b>C Gross without RDS</b>  |                 |                 |
| 1 Gross disbursements       | 133,772,859     | 130,914,546     |
| 2 Participant contributions | (30,994,353)    | (36,831,590)    |
| 3 Net disbursements         | 102,778,506     | 94,082,956      |
| <b>D RDS*</b>               |                 |                 |
| 1 Gross disbursements       | (80,443)        | (67,791)        |
| 2 Participant contributions | 0               | 0               |
| 3 Net disbursements         | (80,443)        | (67,791)        |
| <b>E Net with RDS</b>       |                 |                 |
| 1 Gross disbursements       | 133,692,416     | 130,982,337     |
| 2 Participant contributions | (30,994,353)    | (36,831,590)    |
| 3 Net disbursements         | 102,698,063     | 94,150,747      |

\* 2013-2014 RDS payments expected to be received in 2015-2016.

## Section 3 : Data exhibits

### 3.1 Plan participant data

All monetary amounts shown in US Dollars

| Census Date                             | January 1, 2014 | January 1, 2013 |
|---|-----------------|-----------------|
| <b>A Participating Employees</b>        |                 |                 |
| 1 Number                                |                 |                 |
| a Fully eligible                        | 694             | 466             |
| b Other <sup>1</sup>                    | 17,868          | 18,111          |
| c Total participating employees         | 18,562          | 18,577          |
| 2 Total annual compensation/salary      | \$1,352,753,749 | \$1,315,622,699 |
| 3 Average compensation/salary           | \$74,532        | \$72,722        |
| 4 Average age (years)                   | 46.63           | 46.44           |
| 5 Average credited service (years)      | 17.04           | 16.99           |
| 6 Average future working life (years)   |                 |                 |
| a to full retirement age                | 11.696          | 11.921          |
| b to full eligibility age               | 10.934          | 10.988          |
| <b>B Retirees and Surviving Spouses</b> |                 |                 |
| 1 Retirees and Surviving Spouses        |                 |                 |
| a Number under 65                       | 3,282           | 3,640           |
| b Number 65 and older                   | 13,167          | 12,826          |
| c Total                                 | 16,449          | 16,466          |
| d Average age (years)                   | 73.4            | 73.1            |
| e Age Distribution at January 1, 2013   |                 |                 |
|   | <b>Age</b>      | <b>Number</b>   |
|   | Under 55        | 30              |
|   | 55-59           | 790             |
|   | 60-64           | 2,462           |
|   | 65-69           | 3,781           |
|   | 70-74           | 2,836           |
|   | 75-79           | 2,193           |
|   | 80-84           | 2,026           |
|   | 85 and over     | 2,331           |

<sup>1</sup> Includes 412 disabled participants in 2014 and 509 disabled participants in 2013. These participants were not included in the calculation of the other data statistics in this section.



| Census Date | January 1, 2014 | January 1, 2013 |
|-------------|-----------------|-----------------|
|-------------|-----------------|-----------------|

**C Dependents**

|                                       |       |       |
|---------------------------------------|-------|-------|
| 1 Number                              | 8,386 | 8,509 |
| 2 Average Age                         | 68.4  | 68.0  |
| 3 Age Distribution at January 1, 2014 |       |       |

| Age         | Number |
|-------------|--------|
| Under 55    | 301    |
| 55-59       | 953    |
| 60-64       | 1,916  |
| 65-69       | 2,025  |
| 70-74       | 1,316  |
| 75-79       | 997    |
| 80-84       | 560    |
| 85 and over | 318    |

### 3.2 Age and service distribution of participating employees

All monetary amounts shown in US Dollars

| Attained Age |                  | Attained Years of Credited Service and Number |                         |               |               |                |               |               |               | Total           |
|--------------|------------------|---|-------------------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|
|              |                  | 0-4   | 5-9                     | 10-14         | 15-19         | 20-24          | 25-29         | 30-34         | Over 34       |                 |
| Under 25     | Count            | 374   | 14                      | 0             | 0             | 0              | 0             | 0             | 0             | 388             |
|              | Total Earnings   | \$17,043,749                                  | \$666,220               | \$0           | \$0           | \$0            | \$0           | \$0           | \$0           | \$17,709,969    |
|              | Average Earnings | \$45,572                                      | \$47,587                | \$0           | \$0           | \$0            | \$0           | \$0           | \$0           | \$45,644        |
| 25-29        | Count            | 651   | 519                     | 5             | 0             | 0              | 0             | 0             | 0             | 1,175           |
|              | Total Earnings   | \$34,367,753                                  | \$31,241,837            | \$313,245     | \$0           | \$0            | \$0           | \$0           | \$0           | \$65,922,835    |
|              | Average Earnings | \$52,792                                      | \$60,196                | \$62,649      | \$0           | \$0            | \$0           | \$0           | \$0           | \$56,105        |
| 30-34        | Count            | 565   | 1,027                   | 185           | 4             | 0              | 0             | 0             | 0             | 1,781           |
|              | Total Earnings   | \$31,498,635                                  | \$68,155,586            | \$12,612,463  | \$226,116     | \$0            | \$0           | \$0           | \$0           | \$112,492,800   |
|              | Average Earnings | \$55,750                                      | \$66,364                | \$68,175      | \$56,529      | \$0            | \$0           | \$0           | \$0           | \$63,163        |
| 35-39        | Count            | 400   | 907                     | 400           | 129           | 2              | 0             | 0             | 0             | 1,838           |
|              | Total Earnings   | \$22,715,631                                  | \$60,955,195            | \$30,171,485  | \$9,207,893   | \$145,913      | \$0           | \$0           | \$0           | \$123,196,116   |
|              | Average Earnings | \$56,789                                      | \$67,205                | \$75,429      | \$71,379      | \$72,956       | \$0           | \$0           | \$0           | \$67,027        |
| 40-44        | Count            | 295   | 746                     | 424           | 308           | 127            | 6             | 0             | 0             | 1,906           |
|              | Total Earnings   | \$18,405,817                                  | \$51,978,546            | \$34,200,225  | \$23,699,975  | \$10,983,077   | \$370,576     | \$0           | \$0           | \$139,638,215   |
|              | Average Earnings | \$62,393                                      | \$69,676                | \$80,661      | \$76,948      | \$86,481       | \$61,763      | \$0           | \$0           | \$73,262        |
| 45-49        | Count            | 225   | 531                     | 343           | 306           | 524            | 316           | 12            | 0             | 2,257           |
|              | Total Earnings   | \$14,223,755                                  | \$37,220,875            | \$28,242,172  | \$24,604,670  | \$45,884,337   | \$25,798,785  | \$829,894     | \$0           | \$176,804,488   |
|              | Average Earnings | \$63,217                                      | \$70,096                | \$82,339      | \$80,407      | \$87,566       | \$81,642      | \$69,158      | \$0           | \$78,336        |
| 50-54        | Count            | 167   | 415                     | 266           | 299           | 450            | 958           | 880           | 52            | 3,487           |
|              | Total Earnings   | \$10,550,155                                  | \$29,744,248            | \$21,401,924  | \$22,752,208  | \$36,216,957   | \$82,447,248  | \$73,770,585  | \$3,960,518   | \$280,843,844   |
|              | Average Earnings | \$63,175                                      | \$71,673                | \$80,458      | \$76,094      | \$80,482       | \$86,062      | \$83,830      | \$76,164      | \$80,540        |
| 55-59        | Count            | 131   | 278                     | 178           | 175           | 321            | 608           | 1,099         | 765           | 3,555           |
|              | Total Earnings   | \$8,731,784                                   | \$20,549,371            | \$15,221,089  | \$13,010,460  | \$25,574,985   | \$49,848,426  | \$96,148,930  | \$63,536,000  | \$292,621,045   |
|              | Average Earnings | \$66,655                                      | \$73,919                | \$85,512      | \$74,345      | \$79,673       | \$81,988      | \$87,488      | \$83,054      | \$82,313        |
| 60-64        | Count            | 49  | 147                     | 95            | 86            | 131            | 225           | 319           | 466           | 1,518           |
|              | Total Earnings   | \$3,134,284                                   | \$11,072,642            | \$7,400,733   | \$7,490,071   | \$9,346,867    | \$18,172,569  | \$27,028,082  | \$40,027,608  | \$123,672,855   |
|              | Average Earnings | \$63,965                                      | \$75,324                | \$77,902      | \$87,094      | \$71,350       | \$80,767      | \$84,728      | \$85,896      | \$81,471        |
| 65-69        | Count            | 0   | 38                      | 29            | 18            | 17             | 31            | 28            | 58            | 219             |
|              | Total Earnings   | \$0   | \$2,804,097             | \$2,615,636   | \$1,278,499   | \$1,160,164    | \$2,260,515   | \$2,621,214   | \$5,137,257   | \$17,877,382    |
|              | Average Earnings | \$0   | \$73,792                | \$90,194      | \$71,028      | \$68,245       | \$72,920      | \$93,615      | \$88,573      | \$81,632        |
| 70 & over    | Count            | 0   | 0                       | 12            | 3             | 5              | 3             | 2             | 1             | 26              |
|              | Total Earnings   | \$0   | \$0                     | \$971,979     | \$133,783     | \$427,693      | \$213,410     | \$176,627     | \$50,708      | \$1,974,199     |
|              | Average Earnings | \$0   | \$0                     | \$80,998      | \$44,594      | \$85,539       | \$71,137      | \$88,313      | \$50,708      | \$75,931        |
| Total        | Count            | 2,857   | 4,622                   | 1,937         | 1,328         | 1,577          | 2,147         | 2,340         | 1,342         | 18,150          |
|              | Total Earnings   | \$160,671,562                                 | \$314,388,615           | \$153,150,951 | \$102,403,675 | \$129,739,993  | \$179,111,529 | \$200,575,332 | \$112,712,091 | \$1,352,753,748 |
|              | Average Earnings | \$56,238                                      | \$68,020                | \$79,066      | \$77,111      | \$82,270       | \$83,424      | \$85,716      | \$83,988      | \$74,532        |
| Average:     | Age              | 47  | Number of Participants: |               |               | Fully eligible | 694           | Males         | 14,913        |                 |
|              | Service          | 17  |                         |               |               | Other          | 17,868        | Females       | 3,237         |                 |

Census data as of January 1, 2014

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# Appendix A : Statement of actuarial assumptions and methods

## Actuarial Assumptions and Methods — Postretirement Welfare Cost and Funding/Tax Deductions Based on Plan Year beginning January 1, 2014

### Economic Assumptions

|  | Postretirement Welfare Cost | Plan Reporting | Employer Contributions |
|--|-----------------------------|----------------|------------------------|
| Discount rate <sup>1</sup>                         | 4.70 %                      | 4.70 %         | N/A                    |
| Rates of return on assets, pre-tax: <sup>1</sup>   |                             |                |                        |
| 401(h) accounts                                    | N/A                         | N/A            | 7.53 %                 |
| Life insurance and union medical/dental            | N/A                         | N/A            | 6.60 %                 |
| Non-union medical/dental                           | N/A                         | N/A            | 6.64 %                 |
| Aggregate  | 6.75 %                      | N/A            | N/A                    |
| Annual rates of compensation increase <sup>1</sup> |                             |                |                        |
| Representative rates                               | Age                         | Rate           |                        |
|  | < 26                        | 11.50%         |                        |
|  | 26 – 30                     | 9.50           |                        |
|  | 31 – 35                     | 7.50           |                        |
|  | 36 – 40                     | 6.50           |                        |
|  | 41 – 45                     | 5.00           |                        |
|  | 46 – 50                     | 4.00           |                        |
|  | > 50                        | 3.50           |                        |
| Weighted average                                   | 4.95%                       |                |                        |
| Medical cost trend rate <sup>2</sup>               | 2014                        | 6.50%          |                        |
|  | 2015                        | 6.25%          |                        |
|  | 2016                        | 6.00%          |                        |
|  | 2017                        | 5.75%          |                        |
|  | 2018                        | 5.50%          |                        |
|  | 2019                        | 5.25%          |                        |
|  | 2020+                       | 5.00%          |                        |
| Dental cost trend rate <sup>2</sup>                | 2014+                       | 5.00%          |                        |

<sup>1</sup> Only discount rate and asset return assumptions vary between the reporting standards. All other assumptions are consistent throughout.

<sup>2</sup> 0% trend assumed for non-union VEBA account limit.

## Participation Assumptions

|                          |  |  |
|--------------------------|--|--|
| Inclusion Date           | The valuation date coincident with or next following the date on which the employee is hired.                                    |  |
| New or rehired employees | It was assumed there will be no new or rehired employees.  |  |
|                          | <i>Current Retirees</i>  | <i>Future Retirees</i>   |
| Participation            | Based on valuation census data.  | 95% in 2014 and 2015 with the rate decreasing by 5% annually beginning in 2016 to an ultimate rate of 75% in 2019. |
| Persistency              | Non-capped retirees will drop coverage at a rate of 2% annually and Capped retirees will drop coverage at a rate of 4% annually. | Same as current retirees   |
| Percent married          | Based on valuation census data.  | 69% for males, 50% for females.  |
| Spouse age               | Based on valuation census data.  | Wife three years younger than husband.   |

## Demographic Assumptions

Mortality Preretirement: RP2000, projected to 2029.  
Postretirement: RP2000, projected to 2021.

Disabled mortality (through age 65) Rates vary by age and sex.

Representative rates:

| Age | Males | Females |
|-----|-------|---------|
| 30  | 2.60% | 2.60%   |
| 40  | 2.60  | 2.60    |
| 50  | 3.10  | 3.10    |
| 60  | 6.20  | 6.20    |

Disability Rates apply to employees not eligible to retire and vary by age and sex.

Representative rates:

| Percentage becoming disabled during the year |        |         |
|--|--------|---------|
| Age  | Males  | Females |
| 20   | 0.060% | 0.090%  |
| 30   | 0.060  | 0.090   |
| 40   | 0.074  | 0.110   |
| 50   | 0.178  | 0.270   |
| 60   | 0.690  | 1.035   |

Termination  
(not due to disability  
or retirement)

Rates apply to employees not eligible to retiree and vary by age and service.

Representative rates:

| Percentage leaving during the year |             |          |
|------------------------------------|-------------|----------|
| Age                                | 0 – 5 Years | 5+ Years |
| 20                                 | 8.0%        | 8.0%     |
| 30                                 | 8.0         | 5.0      |
| 40                                 | 8.0         | 2.5      |
| 50                                 | 8.0         | 4.0      |
| 60                                 | 8.0         | 4.0      |

Retirement

Rates vary by age.

Representative rates:

| Percentage retiring during the year |       |
|-------------------------------------|-------|
| Age                                 | Rate  |
| 55 – 57                             | 7.0%  |
| 58 – 60                             | 10.0  |
| 61 – 63                             | 25.0  |
| 64 – 65                             | 50.0  |
| 66 – 69                             | 25.0  |
| 70                                  | 100.0 |

## 2014 Per Capita Claims Costs

### Medical

| Prior to age 65 | Age     | Aetna  | Lumenos |
|-----------------|---------|--------|---------|
|                 | < 50    | 5,957  | 6,061   |
|                 | 50 – 54 | 6,958  | 7,081   |
|                 | 55 – 59 | 7,749  | 7,885   |
|                 | 60 – 64 | 10,543 | 10,728  |
|                 | Average | 9,425  | 9,591   |

| Age 65 and after (net of Medicare Parts A & B) | Age     | COB   | MOB   | CSP   |
|--|---------|-------|-------|-------|
|  | 65 – 69 | 3,525 | 2,920 | 1,500 |
|  | 70 – 74 | 4,095 | 3,377 | 1,755 |
|  | 75 – 79 | 4,415 | 3,618 | 1,905 |
|  | 80 – 84 | 4,602 | 3,744 | 1,980 |
|  | 85 – 89 | 4,779 | 3,862 | 2,055 |
|  | 90 – 94 | 4,594 | 3,686 | 2,025 |
|  | ≥ 95    | 4,056 | 3,219 | 1,875 |
|  | Average | 4,258 | 3,217 | 1,976 |

| Medicare Part D - RDS | Age     | MOB/COB | CSP   |
|-----------------------|---------|---------|-------|
|                       | 65 – 69 | N/A     | (260) |
|                       | 70 – 74 | N/A     | (293) |
|                       | 75 – 79 | N/A     | (304) |
|                       | 80 – 84 | N/A     | (301) |
|                       | 85 – 89 | N/A     | (299) |
|                       | 90 – 94 | N/A     | (273) |
|                       | ≥ 95    | N/A     | (221) |
|                       | Average | N/A     | (286) |

| Medicare Part D - Employer Group Waiver Plan (EGWP) for MOB/COB | Age     | CMS Direct Payments & Catastrophic Reinsurance | Manufacturer's Discount |
|---|---------|--|-------------------------|
|   | 65 – 69 | (438)  | (294)                   |
|   | 70 – 74 | (494)  | (332)                   |
|   | 75 – 79 | (512)  | (344)                   |
|   | 80 – 84 | (508)  | (341)                   |
|   | 85 – 89 | (503)  | (338)                   |
|   | 90 – 94 | (459)  | (308)                   |
|   | ≥ 95    | (372)  | (250)                   |
|   | Average | (482)  | (323)                   |

Expected EGWP subsidies for direct payments plus catastrophic reinsurance increase in future years at rates different than the annual trend assumption due to the progressive filling in of the Standard Part D “donut hole” between 2014 and 2020.

|       |       |
|-------|-------|
| 2014  | 12.1% |
| 2015  | 8.2   |
| 2016  | 14.4  |
| 2017  | 13.5  |
| 2018  | 12.7  |
| 2019  | 13.1  |
| 2020+ | 5.0   |

Dental \$308

Medicare covered charges trend rate Same as medical cost trend, except for growth in expected EGWP subsidies differ as shown above.

Retiree contribution trend rate Same as medical cost trend. For capped retirees, future retiree contributions are developed based on expected gross costs compared to the applicable cap.

Administrative expenses Included in claims costs shown above.

Basis for Per Capita Claims Cost Assumptions

Pre-65 retiree medical rates Aetna, Medco, Lumenos and Magellan supplied data on retiree medical claims incurred in 2012. Claim experience rates are calculated for Aetna and Lumenos plans by dividing incurred claims by covered lives and trending forward two years to 2014. Adjustments for benefit, geographic and vendor efficiency differences are also made. Medical and prescription drug claim rates are then multiplied by plan change factors representing the effect of any substantive plan design changes for 2014. Aetna and Lumenos claims cost models are developed separately by age-grading these claims rates over standard Towers Watson morbidity curves for both medical and prescription drugs to develop the quinquennial claims cost models.

Post-65 retiree medical rates 2014 monthly claim rates are calculated separately for MOB, COB and CSP Medicare-eligible plans by dividing 2012 incurred claims by covered lives and trending forward two years to 2014. Prescription drug claim rates are then multiplied by pricing change factors representing the effect of any substantive design changes for 2014. MOB and COB claims cost models are developed separately by age-grading these claim rates over standard Towers Watson morbidity curves for both medical and prescription drugs to develop the quinquennial claims cost models.

Dental rates Aetna supplied data on dental claims incurred in 2012. Claims experience for all active and retired employees was analyzed to derive the dental claim rates.

Medicare Part D Retiree Drug Subsidy (RDS) We calibrated our modelling tool to reflect the 2014 cost of the current prescription drug plans for AEP’s post-65 retirees. The tool employs a continuance table of annual retiree drug utilization levels, developed from analyzing the experience of several large Towers Watson clients.

After the plan-specific benefit provisions have been calibrated to



current costs, the Modeler trends costs forward to 2014. Actuarial equivalence was determined using the following two-prong approach outlined in the regulations for Medicare Part D:

*Gross Value Test* – The Modeler calculates the value of standard Medicare Part D coverage and compares it to AEP’s plan costs. AEP’s plans passed this test by being richer than the projected value of standard Medicare part D coverage for these groups.

*Net Value Test* – The net value prong of the test compares the value of Standard Part D coverage in 2014 minus the greater of \$389.04 per year (the national average Part D premium) and 25.5% of the gross value of Part D to the projected 2014 value of AEP coverage minus the average projected 2014 retiree contribution rate. For this purpose, retiree contributions were assumed to apply pro rata between the value of medical benefits and prescription drug benefits.

When the plans are deemed to be actuarially equivalent, the tool calculates the average expected value of the employer subsidy in 2013, using the continuance table calibrated to AEP’s plan costs. This produced a 2014 per person employer subsidy of \$286 for CSP.

Employer Group Waiver Plan  
(EGWP)

Estimated plan cost offsets associated with transitioning to an EGWP arrangement were developed using the same post-65 retiree prescription drug continuance table that was used in the Retiree Drug Subsidy payment estimates. AEP’s plan-specific benefit provisions were calibrated to current costs to estimate the level of pharmaceutical company discounts and reinsurance dollars that the plan would receive for participants who enter or exceed the Standard Medicare Part D “donut hole.” An estimate of direct monthly government payments under the EGWP was provided by Express Scripts based on average Part D plan payments risk-adjusted for AEP’s post-65 retiree population.

To account for the gradual fill-in of the “donut hole” through 2020, higher trend levels are applied to estimated direct monthly EGWP payments between 2014 (effective date of plan change) and 2020, after which EGWP plan cost offsets are assumed to increase at the valuation trend rate assumption.

### Additional Assumptions

Excise tax

To determine impact of the excise tax on the non-UMWA postretirement plan, we projected future gross plan costs using the valuation trend assumption and compared these on a year-by-year basis to the excise tax thresholds beginning in 2018 and projected to future years using CPI (CPI + 1% for 2019). The expected cost of each non-UMWA benefit combination, which were blended pre-65/post-65 based on headcounts, exceeded these thresholds at various points in time, but no earlier than 2040.

The amount of the excise tax valued was 40% times the portion of the cost exceeding the thresholds, grossed up by 35% to account for the nondeductibility of these charges for AEP’s administrators.

Timing of benefit payments

Benefit payments are assumed to be made uniformly throughout the year and on average at mid-year.

## Methods

|                                      |   |
|--------------------------------------|---|
| Census date                          | January 1, 2014   |
| Measurement date                     | January 1, 2014   |
| Service cost and APBO                | Costs are determined using the Projected Unit Credit Cost Method. The annual service cost is equal to the present value of the portion of the projected benefit attributable to service during the upcoming year, and the Accumulated Postretirement Benefit Obligation (APBO) is equal to the present value of the portion of the projected benefit attributable to service before the valuation date. Service from hire date through the expected full eligibility date is counted in allocating costs.   |
| Market-related value of assets       | The fair value of assets on the measurement date.   |
| Amortization of unamortized amounts: |   |
| Prior service cost (credit)          | Increase in APBO resulting from a plan amendment is amortized on a straight-line basis over the average expected remaining service of active participants expected to benefit under the plan. Amortization of net prior service cost/(credit) resulting from a plan change is included as a component of Net Periodic Postretirement Benefit Cost/(Income) in the year first recognized and every year thereafter until such time as it is fully amortized. The annual amortization payment is determined in the first year as the increase in APBO due to the plan change divided by the average remaining service period to full eligibility for participating employees expected to receive benefits under the Plan. Reductions in APBO first reduce any unrecognized prior service cost; any remaining amount is amortized on a straight-line basis as described above. |
| Net loss (gain)                      | Amortization of the net gain or loss resulting from experience different from that assumed and from changes in assumptions (excluding asset gains and losses not yet reflected in market-related value) is included as a component of Net Periodic Postretirement Benefit Cost/(Income) for a year.<br><br>Net loss (gain) in excess of 10% of the greater of APBO or the market-related value of assets is amortized on a straight-line basis over the average expected remaining service of active participants expected to benefit under the plan.   |
| ASC 965 (formerly SOP 92-6)          |   |
| Present value of benefits            | Present value of benefits is equal to the present value of the portion of the projected benefit attributable to service before the valuation date. Service from hire date through the expected full eligibility date is counted in allocating costs.  |
| Funding policy                       | AEP's funding policy is to contribute an amount equal to the postretirement welfare cost plus retiree drug subsidy payments received (the sum of which can be no less than zero). AEP maximizes its contribution to the 401(h) account and contributes the remainder to the VEBAs.  |

|   |  |
|---|--|
| Benefits Not Valued                                     | <p>All benefits described in the Plan Provisions section of this report were valued. Life insurance benefits in excess of \$50,000 and health care benefits for key employees were not included in determining the maximum deductible contribution. Towers Watson has reviewed the plan provisions with AEP and based on that review is not aware of any significant benefits required to be valued that were not included.</p>  |
| Change in Assumptions and Methods Since Prior Valuation | <p>The discount rate for APBO was changed from 3.95% to 4.70%.</p> <p>Mortality was updated to reflect an additional year of mortality improvements.</p> <p>Per capita claims costs were updated to reflect 2012 claims experience.</p> <p>The percentage of future retirees electing coverage decreased from 95% for all years to 95% in 2014 and 2015 with the rate decreasing by 5% annually beginning in 2016 to an ultimate rate of 75% in 2019.</p> <p>A persistency assumption was added stating that beginning in 2014. Non-capped retirees will drop coverage at a rate of 2% annually and Capped retirees will drop coverage at a rate of 4% annually.</p> |

### Data Sources

American Electric Power (AEP), through its third party administrator, furnished active participant data as of January 1, 2014. AEP provided inactive participant data as of January 1, 2014. AEP also provided the accrued postretirement benefit costs as of December 31, 2013. Health plan vendors furnished the claims cost data. Data were reviewed for reasonableness and consistency, but no audit was performed. Based on discussions with the plan sponsor, assumptions or estimates were made when data were not available, and the data was adjusted to reflect any significant events that occurred between the date the data was collected and the measurement date. We are not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations.

# Appendix B : Summary of substantive plan provisions

## Health Care Benefits

**Eligibility** Participants are eligible upon retirement after age 55 with ten years of service or upon attaining age 55 with ten years of service after becoming permanently disabled. If involuntary termination, then eligible after age 50 with ten years of service.

Employees hired on or after January 1, 2014 are not eligible to participate in the plan.

**Surviving spouse** After the death of a retiree or active employee eligible to retire, surviving spouses are eligible until death or remarriage. Surviving children are also eligible, subject to the limiting age provision outlined above.

**Dependent** Eligible dependents are spouse, unmarried children under age 19 (age 25 if a full-time student) and unmarried disabled children of any age.

**Benefits** The AEP Post-65 Medical Plan provides broad medical coverage with a deductible of \$200, 80% coinsurance and a maximum annual out-of-pocket expense of \$2,000 per person. Discounted charges and different benefits (\$250 deductible, 85% coinsurance and a \$2,500 out-of-pocket maximum) may be obtained by pre-65 retirees electing to use Aetna network providers.

Pre-65 retirees who live in areas designated as “Network Area” will have reduced benefits (\$500 deductible, 70% coinsurance, \$5,000 out-of-pocket maximum) if they do not use network providers. Alternatively, these retirees can elect coverage under consumer driven health plan designs.

Prescription drug benefits are provided under a separate design with the following copayments for those who do not enroll in a consumer driven health plan:

|               | <i>Generic</i> | <i>Brand Name Formulary</i>          | <i>Brand Name Nonformulary</i>       |
|---------------|----------------|--------------------------------------|--------------------------------------|
| 30-day retail | \$5 copay      | 20%<br>\$20 minimum<br>\$100 maximum | 20%<br>\$35 minimum<br>\$200 maximum |
| 90-day retail | \$12 copay     | 20%<br>\$50 minimum<br>\$200 maximum | 20%<br>\$90 minimum<br>\$300 maximum |

Prescription drug benefits are also subject to a \$50 deductible and a \$1,000 out-of-pocket maximum per person.

Benefits after age 65 are coordinated with Medicare using the carve-out method (MOB benefits). Participants have the option to "buy up" to exclusion coordination of benefits coverage (COB benefits). Exclusion coordination is automatically provided to East retirees who attained age 65 prior to January 1, 2001.

Deductibles and out-of-pocket maximums are assumed to increase over time at approximately the same rate as benefit costs.

Postretirement contributions

Participant contributions are determined as a percentage of plan costs and vary by points (age at retirement plus service) as follows:

| <i>Points</i> | <i>Retiree Cost</i> |
|---------------|---------------------|
| 65-69         | 46%                 |
| 70-74         | 42                  |
| 75-79         | 36                  |
| 80-84         | 32                  |
| 85-89         | 26                  |
| 90-94         | 22                  |
| 95+           | 20                  |
| Grandfathered | 20                  |

For participants retiring on or after January 1, 2013, AEP's subsidy is capped at \$11,500 and \$3,500 times employer cost sharing percentage for pre-65 and post-65 participants, respectively.

For East participants who retired prior to January 1, 1989, and West participants who retired prior to January 1, 1993, no contributions are required.

For East participants who retired on or after January 1, 1989, and West participants who retired on or after January 1, 1993, the 20% "Grandfathered" contributions are in effect if they retired by December 31, 2000, or attained age 50 and had ten or more years of service with the company on that date. The percentages described above are applied to plan costs that differ from the per capita claims costs assumed in the valuation as follows:

The Medicare status of dependents is not used to determine whether "pre-65" or "post-65" rates apply. The pre-65 plan rates used to calculate participant contributions are a blend of pre-65 retiree costs and active employee costs for those participants retired prior to January 1, 2013, only.

For purposes of determining retiree contribution rates, AEP excludes the government's monthly direct payment amount from offsetting the plan cost to which the contribution percentages are applied.

Disabled employee contributions

Disabled employees have a provision where active employee contribution rates are charged while an employee remains disabled and is receiving LTD benefits.

If an employee retires while disabled and became disabled before January 1, 2001, the waiver of premium provision continues for life as long as the retirement commenced on or before September 1, 2013. If an employee retires while disabled and became disabled after January 1, 2001, the employee will continue to accrue points as if actively-at-work until age 65 and be subject to the same contribution schedule as normal retirees.

Those participants retiring after January 1, 2013, pay a percentage of true pre-65 retiree costs.

**Life Insurance Benefits**

**Grandfathered participants** Participants over age 50 with ten years of service as of December 31, 2000.

**Grandfathered benefits** Grandfathered participants have the option of keeping current coverage. Active employee coverage for grandfathered East participants is one times final base pay at no cost with the option to buy up to two times base pay. The entire amount of coverage (basic plus supplemental) in force prior to retirement can be carried into retirement subject to reduction beginning at age 66. Current coverage for grandfathered West participants is one and one-half times final base pay prior to age 60, one times final base pay from age 60 to 64 and one-half times final base pay after age 65.

*Life Insurance Benefit Reduction Table  
for Grandfathered East Participants*

| <i>Years of Coverage</i> | <i>Age 66</i> | <i>Age 67</i> | <i>Age 68</i> | <i>Age 69</i> | <i>Age 70 or Over</i> |
|--------------------------|---------------|---------------|---------------|---------------|-----------------------|
| 10 – 11                  | 65%           | 55%           | 45%           | 35%           | 25%                   |
| 11 – 12                  | 70            | 60            | 50            | 40            | 30                    |
| 12 – 13                  | 75            | 65            | 55            | 45            | 35                    |
| 13 – 14                  | 80            | 70            | 60            | 50            | 40                    |
| 14 – 15                  | 85            | 75            | 65            | 55            | 45                    |
| 15 or more               | 90            | 80            | 70            | 60            | 50                    |

**Grandfathered contributions** Grandfathered East retirees must contribute \$0.60/\$1,000 of coverage (basic + supplemental) per month. West retirees are not required to contribute to the cost of coverage.

**Nongrandfathered benefits** \$30,000 for those hired before January 1, 2011. No benefit for those hired on or after January 1, 2011.

**Dental Benefits**

**Eligibility** Participants, including retirees and surviving dependents, are eligible upon retirement after age 55 with ten years of service. There is a one-time election and if coverage terminates there is no opportunity to reenroll.

Employees hired on or after January 1, 2014 are not eligible to participate in the plan.

**Benefits** The AEP Dental Plan provides dental coverage with a deductible of \$50 single/\$150 family, 100% coinsurance for preventive care, 80% coinsurance for basic restorative care, 50% coinsurance for major restorative care and 50% coinsurance for orthodontia.

Most retirees pay the full cost of dental coverage if they enroll. CSW employees who retire before January 1, 1993, contribute nothing to enroll for dental coverage. Former CSW employees retiring after January 1, 1993, who were either retired or had attained age 50 with ten years of service as of January 1, 2001, pay 30%.

## Changes in Benefits Valued Since Prior Year

None

## Overview of Benefits Provided by Funding Vehicles

| <b>Funding vehicle</b>                        | <b>Provides for</b>  |
|---|--|
| Non-union postretirement medical/dental VEBAs | 100% of medical benefits to non-union employees before 2016 and 50% of retiree medical benefits thereafter.<br><br>100% of dental benefits to non-union employees. |
| Union postretirement medical/dental VEBAs     | 100% of medical/dental benefits to union employees.  |
| Postretirement life insurance VEBA            | Life insurance benefits for all retirees.  |
| 401(h) account                                | 50% of retiree medical benefits after 2015 for non-union retirees.   |

# Appendix C : Results by business unit

Summary of key assumptions for Appendix C of 2014 NUMWA Postretirement Health Care Plan valuation report:

|                           | <b>2014</b> | <b>2015</b> | <b>2016</b> | <b>2017</b> | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>2022</b> | <b>2023</b> | <b>2024</b> |
|---------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Discount Rate             | 4.70%       | 5.30%       | 5.50%       | 5.60%       | 5.70%       | 5.80%       | 5.80%       | 5.80%       | 5.80%       | 5.80%       | 5.80%       |
| Expected Return on Assets | 6.75%       | 6.75%       | 6.75%       | 6.75%       | 6.75%       | 6.75%       | 6.75%       | 6.75%       | 6.75%       | 6.75%       | 6.75%       |
| Initial Medical Trend     | 6.50%       | 6.25%       | 6.00%       | 5.75%       | 5.50%       | 5.25%       | 5.00%       | 5.00%       | 5.00%       | 5.00%       | 5.00%       |

Expected mortality                      IRS-prescribed mortality table for minimum funding purposes, with adoption of RP-2014 and projection scale MP-2014 at year end 2015.

Valuation and data                      January 1, 2014

Per capita claims costs                2014 cost models based on actual claims experience incurred through December 31, 2012.

Non-UMWA PRW Plan participation assumption: 95% of future retirees will elect coverage in 2014 and 2015, with rate decreasing by 5% annually beginning in 2016 to ultimate rate of 75% in 2019+.

Non-UMWA PRW Plan persistency assumption: Beginning in 2014, non-capped retirees will drop coverage at a rate of 2% annually; Capped retirees will drop coverage at a rate of 4% annually.

Includes Transitional Reinsurance Fees and Comparative Effectiveness fees under Health Care Reform



**AMERICAN ELECTRIC POWER  
NON-UMWA POSTRETIREMENT WELFARE PLAN  
SUMMARY OF PLAN PARTICIPANTS FOR THE 2014 VALUATION**

| Location   | Nonretired Participants |            |               | Retired Participants |              |                  |               |
|--|-------------------------|------------|---------------|----------------------|--------------|------------------|---------------|
|  | Active                  | Disabled   | Total         | Retiree              | Dependent    |                  | Total         |
|  |                         |            |               |                      | Spouse       | Surviving Spouse |               |
| 140 Appalachian Power Co. - Distribution                   | 1,026                   | 38         | 1,064         | 1,139                | 741          | 342              | 2,222         |
| 215 Appalachian Power Co. - Generation                     | 878                     | 47         | 925           | 898                  | 620          | 204              | 1,722         |
| 150 Appalachian Power Co. - Transmission                   | 57                      | 8          | 65            | 137                  | 105          | 6                | 248           |
| <b>Appalachian Power Co. - FERC</b>                        | <b>1,961</b>            | <b>93</b>  | <b>2,054</b>  | <b>2,174</b>         | <b>1,466</b> | <b>552</b>       | <b>4,192</b>  |
| 225 Cedar Coal Co  | 0                       | 0          | 0             | 13                   | 5            | 15               | 33            |
| <b>Appalachian Power Co. - SEC</b>                         | <b>1,961</b>            | <b>93</b>  | <b>2,054</b>  | <b>2,187</b>         | <b>1,471</b> | <b>567</b>       | <b>4,225</b>  |
| 211 AEP Texas Central Company - Distribution               | 904                     | 29         | 933           | 900                  | 555          | 266              | 1,721         |
| 147 AEP Texas Central Company - Generation                 | 0                       | 0          | 0             | 0                    | 0            | 0                | 0             |
| 169 AEP Texas Central Company - Transmission               | 115                     | 1          | 116           | 80                   | 46           | 30               | 156           |
| <b>AEP Texas Central Co.</b>                               | <b>1,019</b>            | <b>30</b>  | <b>1,049</b>  | <b>980</b>           | <b>601</b>   | <b>296</b>       | <b>1,877</b>  |
| 170 Indiana Michigan Power Co. - Distribution              | 581                     | 6          | 587           | 664                  | 377          | 237              | 1,278         |
| 132 Indiana Michigan Power Co. - Generation                | 380                     | 7          | 387           | 274                  | 183          | 82               | 539           |
| 190 Indiana Michigan Power Co. - Nuclear                   | 1,158                   | 17         | 1,175         | 393                  | 259          | 52               | 704           |
| 120 Indiana Michigan Power Co. - Transmission              | 131                     | 1          | 132           | 124                  | 88           | 10               | 222           |
| 280 Ind Mich River Transp Lakin                            | 319                     | 20         | 339           | 119                  | 49           | 27               | 195           |
| <b>Indiana Michigan Power Co. - FERC</b>                   | <b>2,569</b>            | <b>51</b>  | <b>2,620</b>  | <b>1,574</b>         | <b>956</b>   | <b>408</b>       | <b>2,938</b>  |
| 202 Price River Coal                                       | 0                       | 0          | 0             | 0                    | 0            | 0                | 0             |
| <b>Indiana Michigan Power Co. - SEC</b>                    | <b>2,569</b>            | <b>51</b>  | <b>2,620</b>  | <b>1,574</b>         | <b>956</b>   | <b>408</b>       | <b>2,938</b>  |
| 110 Kentucky Power Co. - Distribution                      | 246                     | 12         | 258           | 180                  | 94           | 60               | 334           |
| 117 Kentucky Power Co. - Generation                        | 85                      | 9          | 94            | 125                  | 89           | 31               | 245           |
| 180 Kentucky Power Co. - Transmission                      | 32                      | 1          | 33            | 16                   | 13           | 0                | 29            |
| 600 Kentucky Power Co. - Kammer Actives                    | 39                      | 0          | 39            | 0                    | 0            | 0                | 0             |
| 701 Kentucky Power Co. - Mitchell Actives                  | 240                     | 0          | 240           | 0                    | 0            | 0                | 0             |
| 702 Kentucky Power Co. - Mitchell Inactives                | 0                       | 4          | 4             | 96                   | 73           | 6                | 175           |
| <b>Kentucky Power Co.</b>                                  | <b>642</b>              | <b>26</b>  | <b>668</b>    | <b>417</b>           | <b>269</b>   | <b>97</b>        | <b>783</b>    |
| 250 Ohio Power Co. - Distribution                          | 1,528                   | 26         | 1,554         | 1,717                | 1,010        | 427              | 3,154         |
| 160 Ohio Power Co. - Transmission                          | 13                      | 4          | 17            | 229                  | 160          | 49               | 438           |
| <b>Ohio Power Co.</b>                                      | <b>1,541</b>            | <b>30</b>  | <b>1,571</b>  | <b>1,946</b>         | <b>1,170</b> | <b>476</b>       | <b>3,592</b>  |
| 167 Public Service Co. of Oklahoma - Distribution          | 679                     | 16         | 695           | 534                  | 336          | 158              | 1,028         |
| 198 Public Service Co. of Oklahoma - Generation            | 371                     | 6          | 377           | 214                  | 137          | 55               | 406           |
| 114 Public Service Co. of Oklahoma - Transmission          | 95                      | 3          | 98            | 55                   | 38           | 13               | 106           |
| <b>Public Service Co. of Oklahoma</b>                      | <b>1,145</b>            | <b>25</b>  | <b>1,170</b>  | <b>803</b>           | <b>511</b>   | <b>226</b>       | <b>1,540</b>  |
| 159 Southwestern Electric Power Co. - Distribution         | 524                     | 10         | 534           | 326                  | 203          | 84               | 613           |
| 168 Southwestern Electric Power Co. - Generation           | 597                     | 11         | 608           | 271                  | 184          | 78               | 533           |
| 161 Southwestern Electric Power Co. - Texas - Distribution | 241                     | 7          | 248           | 154                  | 97           | 39               | 290           |
| 111 Southwestern Electric Power Co. - Texas - Transmission | 0                       | 0          | 0             | 0                    | 0            | 0                | 0             |
| 194 Southwestern Electric Power Co. - Transmission         | 84                      | 1          | 85            | 54                   | 34           | 17               | 105           |
| <b>Southwestern Electric Power Co.</b>                     | <b>1,446</b>            | <b>29</b>  | <b>1,475</b>  | <b>805</b>           | <b>518</b>   | <b>218</b>       | <b>1,541</b>  |
| 119 AEP Texas North Company - Distribution                 | 252                     | 13         | 265           | 241                  | 138          | 66               | 445           |
| 166 AEP Texas North Company - Generation                   | 0                       | 0          | 0             | 114                  | 62           | 38               | 214           |
| 192 AEP Texas North Company - Transmission                 | 59                      | 0          | 59            | 35                   | 18           | 8                | 61            |
| <b>AEP Texas North Co.</b>                                 | <b>311</b>              | <b>13</b>  | <b>324</b>    | <b>390</b>           | <b>218</b>   | <b>112</b>       | <b>720</b>    |
| 230 Kingsport Power Co. - Distribution                     | 52                      | 1          | 53            | 50                   | 31           | 15               | 96            |
| 260 Kingsport Power Co. - Transmission                     | 5                       | 1          | 6             | 7                    | 3            | 1                | 11            |
| <b>Kingsport Power Co.</b>                                 | <b>57</b>               | <b>2</b>   | <b>59</b>     | <b>57</b>            | <b>34</b>    | <b>16</b>        | <b>107</b>    |
| 210 Wheeling Power Co. - Distribution                      | 46                      | 3          | 49            | 62                   | 41           | 31               | 134           |
| 200 Wheeling Power Co. - Transmission                      | 0                       | 0          | 0             | 3                    | 2            | 9                | 14            |
| <b>Wheeling Power Co.</b>                                  | <b>46</b>               | <b>3</b>   | <b>49</b>     | <b>65</b>            | <b>43</b>    | <b>40</b>        | <b>148</b>    |
| 103 American Electric Power Service Corporation            | 5,344                   | 54         | 5,398         | 2,732                | 1,639        | 239              | 4,610         |
| <b>American Electric Power Service Corporation</b>         | <b>5,344</b>            | <b>54</b>  | <b>5,398</b>  | <b>2,732</b>         | <b>1,639</b> | <b>239</b>       | <b>4,610</b>  |
| 143 AEP Pro Serv, Inc.                                     | 0                       | 0          | 0             | 1                    | 1            | 0                | 2             |
| 171 CSW Energy, Inc.                                       | 90                      | 0          | 90            | 8                    | 1            | 0                | 9             |
| 293 Elmwood  | 81                      | 3          | 84            | 18                   | 4            | 0                | 22            |
| 292 AEP River Operations LLC                               | 949                     | 17         | 966           | 57                   | 21           | 0                | 78            |
| 189 Central Coal Company                                   | 0                       | 0          | 0             | 0                    | 0            | 0                | 0             |
| <b>Miscellaneous</b>                                       | <b>1,120</b>            | <b>20</b>  | <b>1,140</b>  | <b>84</b>            | <b>27</b>    | <b>0</b>         | <b>111</b>    |
| 270 Cook Coal Terminal                                     | 22                      | 0          | 22            | 8                    | 6            | 2                | 16            |
| <b>AEP Generating Company</b>                              | <b>22</b>               | <b>0</b>   | <b>22</b>     | <b>8</b>             | <b>6</b>     | <b>2</b>         | <b>16</b>     |
| 104 Cardinal Operating Company                             | 300                     | 5          | 305           | 197                  | 134          | 46               | 377           |
| 181 Ohio Power Co. - Generation                            | 627                     | 31         | 658           | 1,171                | 778          | 276              | 2,225         |
| <b>AEP Generation Resources - FERC</b>                     | <b>927</b>              | <b>36</b>  | <b>963</b>    | <b>1,368</b>         | <b>912</b>   | <b>322</b>       | <b>2,602</b>  |
| 290 Conesville Coal Preparation Company                    | 0                       | 0          | 0             | 13                   | 11           | 1                | 25            |
| <b>AEP Generation Resources - SEC</b>                      | <b>927</b>              | <b>36</b>  | <b>963</b>    | <b>1,381</b>         | <b>923</b>   | <b>323</b>       | <b>2,627</b>  |
| <b>Total</b>   | <b>18,150</b>           | <b>412</b> | <b>18,562</b> | <b>13,429</b>        | <b>8,386</b> | <b>3,020</b>     | <b>24,835</b> |

**AMERICAN ELECTRIC POWER  
NON-UMWA POSTRETIREMENT WELFARE PLAN  
2014 NET PERIODIC POSTRETIREMENT BENEFIT COST**

| Location   | Accumulated Postretirement Benefit Obligation | Expected Net Benefit Payments | Fair Value of Assets   | Service Cost        | Interest Cost       | Expected Return on Assets | Amortizations         |                     | Net Periodic Postretirement Benefit Cost |
|--|---|-------------------------------|------------------------|---------------------|---------------------|---------------------------|-----------------------|---------------------|--|
|  |   |                               |                        |                     |                     |                           | PSC                   | (G)/L               |  |
| 140 Appalachian Power Co. - Distribution                   | \$118,157,017                                 | \$9,669,233                   | \$145,663,119          | \$759,058           | \$5,364,438         | (\$9,536,297)             | (\$5,097,397)         | \$1,678,464         | (\$6,831,734)                            |
| 215 Appalachian Power Co. - Generation                     | \$97,377,175                                  | \$7,844,094                   | \$120,045,879          | \$652,670           | \$4,425,183         | (\$7,859,184)             | (\$4,162,884)         | \$1,383,279         | (\$5,560,936)                            |
| 150 Appalachian Power Co. - Transmission                   | \$13,122,077                                  | \$998,263                     | \$16,176,802           | \$35,802            | \$595,231           | (\$1,059,066)             | (\$781,538)           | \$186,404           | (\$1,023,167)                            |
| <b>Appalachian Power Co. - FERC</b>                        | <b>\$228,656,270</b>                          | <b>\$18,511,589</b>           | <b>\$281,885,800</b>   | <b>\$1,447,530</b>  | <b>\$10,384,852</b> | <b>(\$18,454,547)</b>     | <b>(\$10,041,819)</b> | <b>\$3,248,147</b>  | <b>(\$13,415,837)</b>                    |
| 225 Cedar Coal Co  | \$968,900                                     | \$131,773                     | \$1,194,453            | \$0                 | \$42,477            | (\$78,199)                | (\$8,202)             | \$13,764            | (\$30,160)                               |
| <b>Appalachian Power Co. - SEC</b>                         | <b>\$229,625,170</b>                          | <b>\$18,643,362</b>           | <b>\$283,080,253</b>   | <b>\$1,447,530</b>  | <b>\$10,427,329</b> | <b>(\$18,532,746)</b>     | <b>(\$10,050,021)</b> | <b>\$3,261,911</b>  | <b>(\$13,445,997)</b>                    |
| 211 AEP Texas Central Company - Distribution               | \$83,219,618                                  | \$6,492,837                   | \$102,592,545          | \$642,132           | \$3,790,672         | (\$6,716,546)             | (\$3,881,048)         | \$1,182,165         | (\$4,982,625)                            |
| 147 AEP Texas Central Company - Generation                 | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                 | (\$15,337)                               |
| 169 AEP Texas Central Company - Transmission               | \$7,537,590                                   | \$558,466                     | \$9,292,286            | \$73,815            | \$344,763           | (\$608,349)               | (\$391,921)           | \$107,074           | (\$474,618)                              |
| <b>AEP Texas Central Co.</b>                               | <b>\$90,757,208</b>                           | <b>\$7,051,303</b>            | <b>\$111,884,831</b>   | <b>\$715,947</b>    | <b>\$4,135,435</b>  | <b>(\$7,324,895)</b>      | <b>(\$4,288,306)</b>  | <b>\$1,289,239</b>  | <b>(\$5,472,580)</b>                     |
| 170 Indiana Michigan Power Co. - Distribution              | \$58,886,073                                  | \$5,123,042                   | \$72,594,326           | \$420,670           | \$2,668,408         | (\$4,752,617)             | (\$2,601,438)         | \$836,498           | (\$3,428,479)                            |
| 132 Indiana Michigan Power Co. - Generation                | \$32,934,203                                  | \$2,421,875                   | \$40,601,048           | \$304,351           | \$1,505,951         | (\$2,658,076)             | (\$1,850,054)         | \$467,842           | (\$2,229,986)                            |
| 190 Indiana Michigan Power Co. - Nuclear                   | \$50,585,607                                  | \$3,235,097                   | \$62,361,571           | \$938,318           | \$2,346,473         | (\$4,082,698)             | (\$3,561,730)         | \$718,587           | (\$3,641,050)                            |
| 120 Indiana Michigan Power Co. - Transmission              | \$11,777,027                                  | \$870,402                     | \$14,518,634           | \$85,089            | \$537,300           | (\$950,508)               | (\$596,815)           | \$167,297           | (\$757,637)                              |
| 280 Ind Mich River Transp Lakin                            | \$12,515,063                                  | \$774,793                     | \$15,428,480           | \$198,914           | \$579,558           | (\$1,010,074)             | (\$811,278)           | \$177,781           | (\$865,099)                              |
| <b>Indiana Michigan Power Co. - FERC</b>                   | <b>\$166,697,973</b>                          | <b>\$12,425,210</b>           | <b>\$205,504,059</b>   | <b>\$1,947,342</b>  | <b>\$7,637,690</b>  | <b>(\$13,453,973)</b>     | <b>(\$9,421,315)</b>  | <b>\$2,368,005</b>  | <b>(\$10,922,251)</b>                    |
| 202 Price River Coal                                       | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                 | \$0                                      |
| <b>Indiana Michigan Power Co. - SEC</b>                    | <b>\$166,697,973</b>                          | <b>\$12,425,210</b>           | <b>\$205,504,059</b>   | <b>\$1,947,342</b>  | <b>\$7,637,690</b>  | <b>(\$13,453,973)</b>     | <b>(\$9,421,315)</b>  | <b>\$2,368,005</b>  | <b>(\$10,922,251)</b>                    |
| 110 Kentucky Power Co. - Distribution                      | \$21,384,752                                  | \$1,584,274                   | \$26,362,968           | \$161,414           | \$975,867           | (\$1,725,935)             | (\$1,210,578)         | \$303,778           | (\$1,495,454)                            |
| 117 Kentucky Power Co. - Generation                        | \$14,385,672                                  | \$1,073,051                   | \$17,734,552           | \$58,348            | \$653,942           | (\$1,161,049)             | (\$611,828)           | \$204,354           | (\$856,233)                              |
| 180 Kentucky Power Co. - Transmission                      | \$2,028,778                                   | \$138,214                     | \$2,501,063            | \$20,958            | \$93,127            | (\$163,740)               | (\$198,150)           | \$28,820            | (\$218,985)                              |
| 600 Kentucky Power Co. - Kammer Actives                    | \$1,101,990                                   | \$9,347                       | \$1,358,525            | \$38,072            | \$53,366            | (\$88,940)                | (\$42,530)            | \$15,654            | (\$24,378)                               |
| 701 Kentucky Power Co. - Mitchell Actives                  | \$5,375,970                                   | \$30,388                      | \$6,627,457            | \$193,796           | \$261,073           | (\$433,887)               | (\$160,767)           | \$76,368            | (\$63,417)                               |
| 702 Kentucky Power Co. - Mitchell Inactives                | \$8,249,696                                   | \$870,798                     | \$10,170,166           | \$107,590           | \$367,507           | (\$665,822)               | (\$200,743)           | \$117,190           | (\$381,868)                              |
| <b>Kentucky Power Co.</b>                                  | <b>\$52,526,857</b>                           | <b>\$3,706,072</b>            | <b>\$64,754,731</b>    | <b>\$472,588</b>    | <b>\$2,404,882</b>  | <b>(\$4,239,373)</b>      | <b>(\$2,424,596)</b>  | <b>\$746,164</b>    | <b>(\$3,040,335)</b>                     |
| 250 Ohio Power Co. - Distribution                          | \$149,118,692                                 | \$12,162,005                  | \$183,832,448          | \$1,018,052         | \$6,773,901         | (\$12,035,173)            | (\$5,890,962)         | \$2,118,286         | (\$8,015,896)                            |
| 160 Ohio Power Co. - Transmission                          | \$18,388,360                                  | \$1,592,521                   | \$22,669,038           | \$7,709             | \$827,621           | (\$1,484,100)             | (\$1,031,548)         | \$261,213           | (\$1,419,105)                            |
| <b>Ohio Power Co.</b>                                      | <b>\$167,507,052</b>                          | <b>\$13,754,526</b>           | <b>\$206,501,486</b>   | <b>\$1,025,761</b>  | <b>\$7,601,522</b>  | <b>(\$13,519,273)</b>     | <b>(\$6,922,510)</b>  | <b>\$2,379,499</b>  | <b>(\$9,435,001)</b>                     |
| 167 Public Service Co. of Oklahoma - Distribution          | \$49,017,029                                  | \$3,709,829                   | \$60,427,840           | \$473,165           | \$2,239,859         | (\$3,956,100)             | (\$2,477,659)         | \$696,305           | (\$3,024,430)                            |
| 198 Public Service Co. of Oklahoma - Generation            | \$23,322,978                                  | \$1,605,694                   | \$28,752,399           | \$302,793           | \$1,073,111         | (\$1,882,367)             | (\$1,498,642)         | \$331,311           | (\$1,673,794)                            |
| 114 Public Service Co. of Oklahoma - Transmission          | \$5,720,671                                   | \$476,378                     | \$7,052,402            | \$63,397            | \$260,785           | (\$461,708)               | (\$313,349)           | \$81,264            | (\$369,611)                              |
| <b>Public Service Co. of Oklahoma</b>                      | <b>\$78,060,678</b>                           | <b>\$5,791,901</b>            | <b>\$96,232,641</b>    | <b>\$839,355</b>    | <b>\$3,573,755</b>  | <b>(\$6,300,175)</b>      | <b>(\$4,289,650)</b>  | <b>\$1,108,880</b>  | <b>(\$5,067,835)</b>                     |
| 159 Southwestern Electric Power Co. - Distribution         | \$33,352,261                                  | \$2,356,757                   | \$41,116,427           | \$366,001           | \$1,530,010         | (\$2,691,817)             | (\$1,794,965)         | \$473,781           | (\$2,116,990)                            |
| 168 Southwestern Electric Power Co. - Generation           | \$32,483,420                                  | \$2,204,904                   | \$40,045,325           | \$440,234           | \$1,496,191         | (\$2,621,694)             | (\$2,137,691)         | \$461,439           | (\$2,361,521)                            |
| 161 Southwestern Electric Power Co. - Texas - Distribution | \$15,805,678                                  | \$1,140,657                   | \$19,485,126           | \$158,283           | \$723,808           | (\$1,275,655)             | (\$942,674)           | \$224,525           | (\$1,111,713)                            |
| 111 Southwestern Electric Power Co. - Texas - Transmission | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                 | \$0                                      |
| 194 Southwestern Electric Power Co. - Transmission         | \$5,290,957                                   | \$407,667                     | \$6,522,654            | \$47,535            | \$241,439           | (\$427,026)               | (\$280,205)           | \$75,160            | (\$343,097)                              |
| <b>Southwestern Electric Power Co.</b>                     | <b>\$86,932,316</b>                           | <b>\$6,109,985</b>            | <b>\$107,169,532</b>   | <b>\$1,012,053</b>  | <b>\$3,991,448</b>  | <b>(\$7,016,192)</b>      | <b>(\$5,155,535)</b>  | <b>\$1,234,905</b>  | <b>(\$5,933,321)</b>                     |
| 119 AEP Texas North Company - Distribution                 | \$23,093,100                                  | \$1,676,795                   | \$28,469,007           | \$197,018           | \$1,055,683         | (\$1,863,814)             | (\$1,276,404)         | \$328,046           | (\$1,559,115)                            |
| 166 AEP Texas North Company - Generation                   | \$6,619,112                                   | \$614,112                     | \$8,159,993            | \$0                 | \$296,832           | (\$534,220)               | (\$67,677)            | \$94,027            | (\$211,038)                              |
| 192 AEP Texas North Company - Transmission                 | \$2,906,286                                   | \$177,266                     | \$3,582,849            | \$38,020            | \$134,264           | (\$234,563)               | (\$233,844)           | \$41,285            | (\$254,838)                              |
| <b>AEP Texas North Co.</b>                                 | <b>\$32,618,498</b>                           | <b>\$2,468,173</b>            | <b>\$40,211,849</b>    | <b>\$235,038</b>    | <b>\$1,486,779</b>  | <b>(\$2,632,597)</b>      | <b>(\$1,577,569)</b>  | <b>\$463,358</b>    | <b>(\$2,024,991)</b>                     |
| 230 Kingsport Power Co. - Distribution                     | \$4,589,372                                   | \$380,110                     | \$5,657,744            | \$38,726            | \$208,691           | (\$370,402)               | (\$177,403)           | \$65,194            | (\$235,194)                              |
| 260 Kingsport Power Co. - Transmission                     | \$565,307                                     | \$42,890                      | \$696,907              | \$2,365             | \$25,684            | (\$45,625)                | (\$20,419)            | \$8,030             | (\$49,965)                               |
| <b>Kingsport Power Co.</b>                                 | <b>\$5,154,679</b>                            | <b>\$423,000</b>              | <b>\$6,354,651</b>     | <b>\$41,091</b>     | <b>\$234,375</b>    | <b>(\$416,027)</b>        | <b>(\$147,822)</b>    | <b>\$73,224</b>     | <b>(\$285,159)</b>                       |
| 210 Wheeling Power Co. - Distribution                      | \$6,062,819                                   | \$527,131                     | \$7,474,200            | \$37,214            | \$274,456           | (\$489,322)               | (\$259,071)           | \$86,125            | (\$350,598)                              |
| 200 Wheeling Power Co. - Transmission                      | \$370,008                                     | \$47,132                      | \$456,143              | \$0                 | \$16,295            | (\$29,863)                | (\$2,613)             | \$5,256             | (\$10,925)                               |
| <b>Wheeling Power Co.</b>                                  | <b>\$6,432,827</b>                            | <b>\$574,263</b>              | <b>\$7,930,343</b>     | <b>\$37,214</b>     | <b>\$290,751</b>    | <b>(\$519,185)</b>        | <b>(\$261,684)</b>    | <b>\$91,381</b>     | <b>(\$361,523)</b>                       |
| 103 American Electric Power Service Corporation            | \$299,312,497                                 | \$20,190,069                  | \$368,990,290          | \$3,652,339         | \$13,770,331        | (\$24,157,117)            | (\$17,282,221)        | \$4,251,844         | (\$19,764,824)                           |
| <b>American Electric Power Service Corporation</b>         | <b>\$299,312,497</b>                          | <b>\$20,190,069</b>           | <b>\$368,990,290</b>   | <b>\$3,652,339</b>  | <b>\$13,770,331</b> | <b>(\$24,157,117)</b>     | <b>(\$17,282,221)</b> | <b>\$4,251,844</b>  | <b>(\$19,764,824)</b>                    |
| 143 AEP Pro Serv, Inc.                                     | \$145,010                                     | \$15,539                      | \$178,767              | \$0                 | \$6,454             | (\$11,704)                | (\$1,133)             | \$2,060             | (\$4,323)                                |
| 171 CSW Energy, Inc.                                       | \$932,330                                     | \$13,054                      | \$1,149,370            | \$49,139            | \$45,826            | (\$75,247)                | (\$47,052)            | \$13,244            | (\$14,090)                               |
| 293 Elmwood  | \$1,795,917                                   | \$76,131                      | \$2,213,994            | \$83,888            | \$86,582            | (\$144,946)               | (\$276,067)           | \$25,512            | (\$225,031)                              |
| 292 AEP River Operations LLC                               | \$9,465,286                                   | \$361,295                     | \$11,668,736           | \$641,437           | \$466,623           | (\$763,931)               | (\$1,245,634)         | \$134,458           | (\$767,047)                              |
| 189 Central Coal Company                                   | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                 | \$0                                      |
| <b>Miscellaneous</b>                                       | <b>\$12,338,543</b>                           | <b>\$466,018</b>              | <b>\$15,210,867</b>    | <b>\$774,464</b>    | <b>\$605,485</b>    | <b>(\$995,828)</b>        | <b>(\$1,569,886)</b>  | <b>\$175,274</b>    | <b>(\$1,010,491)</b>                     |
| 270 Cook Coal Terminal                                     | \$1,293,965                                   | \$79,393                      | \$1,595,190            | \$9,499             | \$59,418            | (\$104,434)               | (\$67,747)            | \$18,381            | (\$84,883)                               |
| <b>AEP Generating Company</b>                              | <b>\$1,293,965</b>                            | <b>\$79,393</b>               | <b>\$1,595,190</b>     | <b>\$9,499</b>      | <b>\$59,418</b>     | <b>(\$104,434)</b>        | <b>(\$67,747)</b>     | <b>\$18,381</b>     | <b>(\$84,883)</b>                        |
| 104 Cardinal Operating Company                             | \$22,103,467                                  | \$1,698,577                   | \$27,248,994           | \$222,482           | \$1,009,861         | (\$1,783,942)             | (\$1,116,823)         | \$313,988           | (\$1,354,434)                            |
| 181 Ohio Power Co. - Generation                            | \$108,456,596                                 | \$9,188,959                   | \$133,704,509          | \$483,610           | \$4,906,728         | (\$8,753,389)             | (\$4,359,566)         | \$1,540,666         | (\$6,181,951)                            |
| <b>AEP Generation Resources - FERC</b>                     | <b>\$130,560,063</b>                          | <b>\$10,887,536</b>           | <b>\$160,953,503</b>   | <b>\$706,092</b>    | <b>\$5,916,589</b>  | <b>(\$10,537,331)</b>     | <b>(\$5,476,389)</b>  | <b>\$1,854,654</b>  | <b>(\$7,536,385)</b>                     |
| 290 Conesville Coal Preparation Company                    | \$1,337,357                                   | \$127,251                     | \$1,648,683            | \$0                 | \$59,900            | (\$107,936)               | (\$51,555)            | \$18,998            | (\$80,593)                               |
| <b>AEP Generation Resources - SEC</b>                      | <b>\$131,897,419</b>                          | <b>\$11,014,787</b>           | <b>\$162,602,186</b>   | <b>\$706,092</b>    | <b>\$5,976,489</b>  | <b>(\$10,645,267)</b>     | <b>(\$5,527,944)</b>  | <b>\$1,873,652</b>  | <b>(\$7,616,978)</b>                     |
| <b>Total</b>   | <b>\$1,361,155,680</b>                        | <b>\$102,698,063</b>          | <b>\$1,678,022,909</b> | <b>\$12,916,313</b> | <b>\$62,195,689</b> | <b>(\$109,857,082)</b>    | <b>(\$69,056,806)</b> | <b>\$19,335,717</b> | <b>(\$84,466,169)</b>                    |

| Location   | Estimated Net Periodic Postretirement Benefit Cost |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|--|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|  | 2014   | 2015                  | 2016                  | 2017                  | 2018                  | 2019                  | 2020                  | 2021                  | 2022                  | 2023                  | 2024                  |
| 140 Appalachian Power Co. - Distribution                   | (\$6,831,734)                                      | (\$7,160,322)         | (\$6,953,083)         | (\$7,190,415)         | (\$7,432,114)         | (\$7,669,296)         | (\$7,848,932)         | (\$8,030,848)         | (\$8,211,434)         | (\$7,767,997)         | (\$4,231,158)         |
| 215 Appalachian Power Co. - Generation                     | (\$5,560,936)                                      | (\$5,835,157)         | (\$5,668,397)         | (\$5,871,744)         | (\$6,079,187)         | (\$6,279,243)         | (\$6,435,165)         | (\$6,597,326)         | (\$6,767,883)         | (\$6,392,552)         | (\$3,572,131)         |
| 150 Appalachian Power Co. - Transmission                   | (\$1,023,167)                                      | (\$1,055,564)         | (\$1,034,159)         | (\$1,064,634)         | (\$1,097,510)         | (\$1,128,312)         | (\$1,155,781)         | (\$1,185,639)         | (\$1,216,833)         | (\$1,150,830)         | (\$611,977)           |
| <b>Appalachian Power Co. - FERC</b>                        | <b>(\$13,415,837)</b>                              | <b>(\$14,051,043)</b> | <b>(\$13,655,639)</b> | <b>(\$14,126,793)</b> | <b>(\$14,608,811)</b> | <b>(\$15,076,851)</b> | <b>(\$15,439,878)</b> | <b>(\$15,813,813)</b> | <b>(\$16,196,156)</b> | <b>(\$15,311,379)</b> | <b>(\$8,415,266)</b>  |
| 225 Cedar Coal Co  | (\$30,160)   | (\$31,210)            | (\$28,136)            | (\$28,136)            | (\$28,229)            | (\$28,131)            | (\$27,538)            | (\$26,916)            | (\$26,220)            | (\$22,030)            | (\$16,567)            |
| <b>Appalachian Power Co. - SEC</b>                         | <b>(\$13,445,997)</b>                              | <b>(\$14,082,253)</b> | <b>(\$13,683,775)</b> | <b>(\$14,154,929)</b> | <b>(\$14,637,040)</b> | <b>(\$15,104,982)</b> | <b>(\$15,467,416)</b> | <b>(\$15,840,729)</b> | <b>(\$16,222,370)</b> | <b>(\$15,333,409)</b> | <b>(\$8,431,833)</b>  |
| 211 AEP Texas Central Company - Distribution               | (\$4,982,625)                                      | (\$5,228,212)         | (\$5,093,336)         | (\$5,274,070)         | (\$5,457,580)         | (\$5,647,779)         | (\$5,792,251)         | (\$5,944,741)         | (\$6,097,907)         | (\$5,778,047)         | (\$3,100,098)         |
| 147 AEP Texas Central Company - Generation                 | (\$15,337)   | (\$15,337)            | (\$15,337)            | (\$15,337)            | (\$15,337)            | (\$15,337)            | (\$15,337)            | (\$15,337)            | (\$15,337)            | (\$9,150)             | (\$170)               |
| 169 AEP Texas Central Company - Transmission               | (\$474,618)  | (\$498,386)           | (\$487,673)           | (\$506,032)           | (\$523,750)           | (\$542,771)           | (\$557,516)           | (\$572,128)           | (\$587,853)           | (\$558,223)           | (\$288,842)           |
| <b>AEP Texas Central Co.</b>                               | <b>(\$5,472,580)</b>                               | <b>(\$5,741,935)</b>  | <b>(\$5,596,346)</b>  | <b>(\$5,795,439)</b>  | <b>(\$5,996,667)</b>  | <b>(\$6,205,887)</b>  | <b>(\$6,365,104)</b>  | <b>(\$6,532,206)</b>  | <b>(\$6,701,097)</b>  | <b>(\$6,345,420)</b>  | <b>(\$3,389,110)</b>  |
| 170 Indiana Michigan Power Co. - Distribution              | (\$3,428,479)                                      | (\$3,589,382)         | (\$3,479,937)         | (\$3,587,004)         | (\$3,697,375)         | (\$3,807,400)         | (\$3,882,688)         | (\$3,961,492)         | (\$4,041,957)         | (\$3,783,332)         | (\$1,985,592)         |
| 132 Indiana Michigan Power Co. - Generation                | (\$2,229,986)                                      | (\$2,335,093)         | (\$2,288,120)         | (\$2,363,197)         | (\$2,438,320)         | (\$2,512,936)         | (\$2,570,357)         | (\$2,629,080)         | (\$2,681,774)         | (\$2,528,167)         | (\$1,227,430)         |
| 190 Indiana Michigan Power Co. - Nuclear                   | (\$3,641,050)                                      | (\$3,845,383)         | (\$3,803,964)         | (\$3,945,536)         | (\$4,088,628)         | (\$4,242,654)         | (\$4,364,482)         | (\$4,493,129)         | (\$4,626,121)         | (\$4,385,758)         | (\$1,926,367)         |
| 120 Indiana Michigan Power Co. - Transmission              | (\$757,637)  | (\$792,547)           | (\$774,766)           | (\$802,662)           | (\$830,822)           | (\$859,301)           | (\$882,587)           | (\$907,331)           | (\$933,795)           | (\$881,797)           | (\$476,476)           |
| 280 Ind Mich River Transp Lakin                            | (\$865,099)  | (\$914,729)           | (\$902,875)           | (\$936,606)           | (\$972,356)           | (\$1,009,688)         | (\$1,038,228)         | (\$1,067,344)         | (\$1,098,892)         | (\$1,048,275)         | (\$485,525)           |
| <b>Indiana Michigan Power Co. - FERC</b>                   | <b>(\$10,922,251)</b>                              | <b>(\$11,477,134)</b> | <b>(\$11,249,662)</b> | <b>(\$11,635,005)</b> | <b>(\$12,027,501)</b> | <b>(\$12,431,979)</b> | <b>(\$12,738,342)</b> | <b>(\$13,058,376)</b> | <b>(\$13,382,539)</b> | <b>(\$12,627,329)</b> | <b>(\$6,101,390)</b>  |
| 202 Price River Coal                                       | \$0  | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   |
| <b>Indiana Michigan Power Co. - SEC</b>                    | <b>(\$10,922,251)</b>                              | <b>(\$11,477,134)</b> | <b>(\$11,249,662)</b> | <b>(\$11,635,005)</b> | <b>(\$12,027,501)</b> | <b>(\$12,431,979)</b> | <b>(\$12,738,342)</b> | <b>(\$13,058,376)</b> | <b>(\$13,382,539)</b> | <b>(\$12,627,329)</b> | <b>(\$6,101,390)</b>  |
| 110 Kentucky Power Co. - Distribution                      | (\$1,495,454)                                      | (\$1,560,559)         | (\$1,528,050)         | (\$1,577,818)         | (\$1,623,909)         | (\$1,672,146)         | (\$1,710,749)         | (\$1,747,079)         | (\$1,782,346)         | (\$1,689,905)         | (\$838,175)           |
| 117 Kentucky Power Co. - Generation                        | (\$856,233)  | (\$895,961)           | (\$872,834)           | (\$902,981)           | (\$935,236)           | (\$966,790)           | (\$992,499)           | (\$1,020,047)         | (\$1,045,891)         | (\$996,394)           | (\$579,041)           |
| 180 Kentucky Power Co. - Transmission                      | (\$218,985)  | (\$225,887)           | (\$222,753)           | (\$228,501)           | (\$233,954)           | (\$239,452)           | (\$244,674)           | (\$249,351)           | (\$255,714)           | (\$243,606)           | (\$102,604)           |
| 600 Kentucky Power Co. - Kammer Actives                    | (\$24,378)   | (\$31,705)            | (\$32,843)            | (\$38,110)            | (\$43,267)            | (\$47,797)            | (\$51,881)            | (\$55,013)            | (\$57,386)            | (\$60,453)            | (\$33,303)            |
| 701 Kentucky Power Co. - Mitchell Actives                  | (\$63,417)   | (\$99,395)            | (\$106,097)           | (\$132,501)           | (\$160,289)           | (\$187,282)           | (\$206,264)           | (\$227,263)           | (\$246,529)           | (\$263,186)           | (\$184,775)           |
| 702 Kentucky Power Co. - Mitchell Inactives                | (\$381,868)  | (\$395,969)           | (\$375,128)           | (\$384,402)           | (\$393,921)           | (\$407,186)           | (\$417,356)           | (\$429,896)           | (\$441,688)           | (\$454,381)           | (\$375,259)           |
| <b>Kentucky Power Co.</b>                                  | <b>(\$3,040,335)</b>                               | <b>(\$3,209,476)</b>  | <b>(\$3,137,705)</b>  | <b>(\$3,264,313)</b>  | <b>(\$3,390,415)</b>  | <b>(\$3,520,653)</b>  | <b>(\$3,623,423)</b>  | <b>(\$3,728,649)</b>  | <b>(\$3,829,581)</b>  | <b>(\$3,707,925)</b>  | <b>(\$2,113,157)</b>  |
| 250 Ohio Power Co. - Distribution                          | (\$8,015,896)                                      | (\$8,432,549)         | (\$8,177,533)         | (\$8,481,462)         | (\$8,795,246)         | (\$9,107,607)         | (\$9,336,647)         | (\$9,574,931)         | (\$9,818,776)         | (\$9,287,682)         | (\$5,259,750)         |
| 160 Ohio Power Co. - Transmission                          | (\$1,419,105)                                      | (\$1,459,569)         | (\$1,419,173)         | (\$1,453,206)         | (\$1,490,742)         | (\$1,529,789)         | (\$1,558,533)         | (\$1,589,149)         | (\$1,622,856)         | (\$1,518,645)         | (\$804,201)           |
| <b>Ohio Power Co.</b>                                      | <b>(\$9,435,001)</b>                               | <b>(\$9,892,118)</b>  | <b>(\$9,596,706)</b>  | <b>(\$9,934,668)</b>  | <b>(\$10,285,988)</b> | <b>(\$10,637,396)</b> | <b>(\$10,895,180)</b> | <b>(\$11,164,080)</b> | <b>(\$11,441,632)</b> | <b>(\$10,806,327)</b> | <b>(\$6,063,951)</b>  |
| 167 Public Service Co. of Oklahoma - Distribution          | (\$3,024,430)                                      | (\$3,179,013)         | (\$3,104,714)         | (\$3,216,027)         | (\$3,330,544)         | (\$3,452,636)         | (\$3,544,894)         | (\$3,636,660)         | (\$3,737,027)         | (\$3,543,426)         | (\$1,833,386)         |
| 198 Public Service Co. of Oklahoma - Generation            | (\$1,673,794)                                      | (\$1,757,315)         | (\$1,728,951)         | (\$1,785,952)         | (\$1,846,974)         | (\$1,909,828)         | (\$1,958,125)         | (\$2,004,773)         | (\$2,056,202)         | (\$1,954,335)         | (\$896,813)           |
| 114 Public Service Co. of Oklahoma - Transmission          | (\$369,611)  | (\$386,253)           | (\$378,009)           | (\$390,489)           | (\$404,298)           | (\$417,752)           | (\$429,312)           | (\$440,477)           | (\$452,426)           | (\$428,918)           | (\$212,342)           |
| <b>Public Service Co. of Oklahoma</b>                      | <b>(\$5,067,835)</b>                               | <b>(\$5,322,581)</b>  | <b>(\$5,211,674)</b>  | <b>(\$5,392,468)</b>  | <b>(\$5,581,816)</b>  | <b>(\$5,780,216)</b>  | <b>(\$5,932,331)</b>  | <b>(\$6,081,910)</b>  | <b>(\$6,245,655)</b>  | <b>(\$5,926,679)</b>  | <b>(\$2,942,541)</b>  |
| 159 Southwestern Electric Power Co. - Distribution         | (\$2,116,990)                                      | (\$2,228,303)         | (\$2,183,265)         | (\$2,267,710)         | (\$2,354,364)         | (\$2,444,717)         | (\$2,514,856)         | (\$2,589,494)         | (\$2,663,055)         | (\$2,656,243)         | (\$1,353,319)         |
| 168 Southwestern Electric Power Co. - Generation           | (\$2,361,521)                                      | (\$2,478,927)         | (\$2,442,168)         | (\$2,525,554)         | (\$2,611,107)         | (\$2,694,808)         | (\$2,764,517)         | (\$2,836,778)         | (\$2,905,414)         | (\$2,765,618)         | (\$1,259,574)         |
| 161 Southwestern Electric Power Co. - Texas - Distribution | (\$1,111,713)                                      | (\$1,163,084)         | (\$1,141,245)         | (\$1,178,133)         | (\$1,218,314)         | (\$1,257,304)         | (\$1,290,155)         | (\$1,323,053)         | (\$1,360,088)         | (\$1,297,503)         | (\$638,009)           |
| 111 Southwestern Electric Power Co. - Texas - Transmission | \$0  | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   |
| 194 Southwestern Electric Power Co. - Transmission         | (\$343,097)  | (\$358,542)           | (\$351,136)           | (\$363,886)           | (\$376,205)           | (\$389,598)           | (\$401,206)           | (\$412,997)           | (\$425,878)           | (\$405,253)           | (\$214,765)           |
| <b>Southwestern Electric Power Co.</b>                     | <b>(\$5,933,321)</b>                               | <b>(\$6,228,856)</b>  | <b>(\$6,117,814)</b>  | <b>(\$6,335,283)</b>  | <b>(\$6,559,990)</b>  | <b>(\$6,786,427)</b>  | <b>(\$6,970,734)</b>  | <b>(\$7,162,322)</b>  | <b>(\$7,354,435)</b>  | <b>(\$7,124,617)</b>  | <b>(\$3,465,667)</b>  |
| 119 AEP Texas North Company - Distribution                 | (\$1,559,115)                                      | (\$1,631,883)         | (\$1,598,573)         | (\$1,653,792)         | (\$1,704,697)         | (\$1,758,334)         | (\$1,799,313)         | (\$1,840,259)         | (\$1,882,874)         | (\$1,784,135)         | (\$885,815)           |
| 166 AEP Texas North Company - Generation                   | (\$211,038)  | (\$223,978)           | (\$210,184)           | (\$220,869)           | (\$231,467)           | (\$241,887)           | (\$248,347)           | (\$255,143)           | (\$261,114)           | (\$237,308)           | (\$202,248)           |
| 192 AEP Texas North Company - Transmission                 | (\$254,838)  | (\$265,809)           | (\$263,047)           | (\$270,990)           | (\$278,478)           | (\$286,374)           | (\$292,207)           | (\$297,918)           | (\$303,721)           | (\$286,017)           | (\$118,526)           |
| <b>AEP Texas North Co.</b>                                 | <b>(\$2,024,991)</b>                               | <b>(\$2,121,670)</b>  | <b>(\$2,071,804)</b>  | <b>(\$2,145,651)</b>  | <b>(\$2,214,642)</b>  | <b>(\$2,286,595)</b>  | <b>(\$2,339,867)</b>  | <b>(\$2,393,320)</b>  | <b>(\$2,447,709)</b>  | <b>(\$2,307,460)</b>  | <b>(\$1,206,589)</b>  |
| 230 Kingsport Power Co. - Distribution                     | (\$235,194)  | (\$248,030)           | (\$240,693)           | (\$250,493)           | (\$260,647)           | (\$270,064)           | (\$278,464)           | (\$287,240)           | (\$295,981)           | (\$281,518)           | (\$163,022)           |
| 260 Kingsport Power Co. - Transmission                     | (\$49,965)   | (\$51,420)            | (\$50,696)            | (\$51,894)            | (\$52,828)            | (\$54,352)            | (\$55,504)            | (\$56,830)            | (\$58,186)            | (\$54,010)            | (\$26,084)            |
| <b>Kingsport Power Co.</b>                                 | <b>(\$285,159)</b>                                 | <b>(\$299,450)</b>    | <b>(\$291,389)</b>    | <b>(\$302,387)</b>    | <b>(\$313,475)</b>    | <b>(\$324,416)</b>    | <b>(\$333,968)</b>    | <b>(\$344,070)</b>    | <b>(\$354,167)</b>    | <b>(\$335,528)</b>    | <b>(\$189,106)</b>    |
| 210 Wheeling Power Co. - Distribution                      | (\$350,598)  | (\$366,189)           | (\$354,923)           | (\$366,659)           | (\$378,751)           | (\$392,161)           | (\$401,427)           | (\$410,488)           | (\$419,647)           | (\$395,371)           | (\$214,093)           |
| 200 Wheeling Power Co. - Transmission                      | (\$10,925)   | (\$11,408)            | (\$10,303)            | (\$10,468)            | (\$10,511)            | (\$10,467)            | (\$10,192)            | (\$9,848)             | (\$9,440)             | (\$7,861)             | (\$5,857)             |
| <b>Wheeling Power Co.</b>                                  | <b>(\$361,523)</b>                                 | <b>(\$377,597)</b>    | <b>(\$365,226)</b>    | <b>(\$377,127)</b>    | <b>(\$389,262)</b>    | <b>(\$402,628)</b>    | <b>(\$411,619)</b>    | <b>(\$420,336)</b>    | <b>(\$429,087)</b>    | <b>(\$403,232)</b>    | <b>(\$219,950)</b>    |
| 103 American Electric Power Service Corporation            | (\$19,764,824)                                     | (\$20,824,114)        | (\$20,458,333)        | (\$21,224,455)        | (\$22,008,776)        | (\$22,817,462)        | (\$23,473,074)        | (\$24,159,739)        | (\$24,899,804)        | (\$23,504,059)        | (\$11,856,560)        |
| <b>American Electric Power Service Corporation</b>         | <b>(\$19,764,824)</b>                              | <b>(\$20,824,114)</b> | <b>(\$20,458,333)</b> | <b>(\$21,224,455)</b> | <b>(\$22,008,776)</b> | <b>(\$22,817,462)</b> | <b>(\$23,473,074)</b> | <b>(\$24,159,739)</b> | <b>(\$24,899,804)</b> | <b>(\$23,504,059)</b> | <b>(\$11,856,560)</b> |
| 143 AEP Pro Serv, Inc.                                     | (\$4,323)  | (\$4,662)             | (\$4,252)             | (\$4,320)             | (\$4,057)             | (\$4,170)             | (\$3,920)             | (\$4,218)             | (\$4,544)             | (\$4,420)             | (\$4,125)             |
| 171 CSW Energy, Inc.                                       | (\$14,090)   | (\$20,980)            | (\$22,419)            | (\$27,411)            | (\$33,215)            | (\$39,774)            | (\$45,558)            | (\$52,526)            | (\$60,390)            | (\$64,066)            | (\$39,051)            |
| 293 Elmwood  | (\$225,031)  | (\$236,767)           | (\$237,950)           | (\$245,336)           | (\$253,277)           | (\$261,821)           | (\$269,313)           | (\$277,263)           | (\$285,637)           | (\$276,620)           | (\$76,973)            |
| 292 AEP River Operations LLC                               | (\$767,047)  | (\$843,039)           | (\$857,206)           | (\$901,928)           | (\$955,278)           | (\$1,013,658)         | (\$1,066,830)         | (\$1,127,338)         | (\$1,193,450)         | (\$1,173,653)         | (\$322,118)           |
| 189 Central Coal Company                                   | \$0  | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   | \$0                   |
| <b>Miscellaneous</b>                                       | <b>(\$1,010,491)</b>                               | <b>(\$1,105,448)</b>  | <b>(\$1,121,827)</b>  | <b>(\$1,178,995)</b>  | <b>(\$1,245,827)</b>  | <b>(\$1,319,423)</b>  | <b>(\$1,385,621)</b>  | <b>(\$1,461,345)</b>  | <b>(\$1,544,021)</b>  | <b>(\$1,518,759)</b>  | <b>(\$442,267)</b>    |
| 270 Cook Coal Terminal                                     | (\$84,883)   | (\$89,379)            | (\$87,831)            | (\$90,821)            | (\$93,985)            | (\$96,617)            | (\$98,284)            | (\$99,896)            | (\$101,546)           | (\$96,066)            | (\$48,894)            |
| <b>AEP Generating Company</b>                              | <b>(\$84,883)</b>                                  | <b>(\$89,379)</b>     | <b>(\$87,831)</b>     | <b>(\$90,821)</b>     | <b>(\$93,985)</b>     | <b>(\$96,617)</b>     | <b>(\$98,284)</b>     | <b>(\$99,896)</b>     | <b>(\$101,546)</b>    | <b>(\$96,066)</b>     | <b>(\$48,894)</b>     |
| 104 Cardinal Operating Company                             | (\$1,354,434)                                      | (\$1,422,724)         | (\$1,391,834)         | (\$1,440,665)         | (\$1,493,705)         | (\$1,546,794)         | (\$1,590,262)         | (\$1,634,731)         | (\$1,679,120)         | (\$1,590,868)         | (\$824,772)           |
| 181 Ohio Power Co. - Generation                            | (\$6,181,951)                                      | (\$6,463,199)         | (\$6,256,801)         | (\$6,451,291)         | (\$6,659,187)         | (\$6,863,303)         | (\$7,012,450)         | (\$7,174,269)         | (\$7,344,163)         | (\$6,847,135)         | (\$3,809,345)         |
| <b>AEP Generation Resources - FERC</b>                     | <b>(\$7,536,385)</b>                               | <b>(\$7,885,923)</b>  | <b>(\$7,648,635)</b>  | <b>(\$7,891,956)</b>  | <b>(\$8,152,892)</b>  | <b>(\$8,410,097)</b>  | <b>(\$8,602,712)</b>  | <b>(\$8,809,000)</b>  | <b>(\$9,023,283)</b>  | <b>(\$8,438,003)</b>  | <b>(\$4,634,117)</b>  |
| 290 Conesville Coal Preparation Company                    | (\$80,593)   | (\$83,489)            | (\$79,996)            | (\$81,902)            | (\$84,141)            | (\$85,892)            | (\$86,665)            | (\$87,542)            | (\$87,519)            | (\$81,284)            | (\$                   |

**AMERICAN ELECTRIC POWER  
NON-UMWA POSTRETIREMENT WELFARE PLAN  
ESTIMATED 2015 NET PERIODIC POSTRETIREMENT BENEFIT COST**

| Location   | Accumulated Postretirement Benefit Obligation | Expected Net Benefit Payments | Fair Value of Assets   | Service Cost        | Interest Cost       | Expected Return on Assets | Amortizations         |                     | Net Periodic Postretirement Benefit Cost |
|--|---|-------------------------------|------------------------|---------------------|---------------------|---------------------------|-----------------------|---------------------|--|
|  |   |                               |                        |                     |                     |                           | PSC                   | (G)/L               |  |
| 140 Appalachian Power Co. - Distribution                   | \$110,617,122                                 | \$9,853,462                   | \$145,857,646          | \$723,413           | \$5,643,303         | (\$9,542,264)             | (\$5,097,397)         | \$1,112,623         | (\$7,160,322)                            |
| 215 Appalachian Power Co. - Generation                     | \$91,313,780                                  | \$7,962,119                   | \$120,404,624          | \$622,021           | \$4,664,325         | (\$7,877,082)             | (\$4,162,884)         | \$918,463           | (\$5,835,157)                            |
| 150 Appalachian Power Co. - Transmission                   | \$12,310,346                                  | \$928,473                     | \$16,232,190           | \$34,121            | \$629,970           | (\$1,061,938)             | (\$781,538)           | \$123,821           | (\$1,055,564)                            |
| <b>Appalachian Power Co. - FERC</b>                        | <b>\$214,241,248</b>                          | <b>\$18,744,054</b>           | <b>\$282,494,460</b>   | <b>\$1,379,555</b>  | <b>\$10,937,598</b> | <b>(\$18,481,284)</b>     | <b>(\$10,041,819)</b> | <b>\$2,154,907</b>  | <b>(\$14,051,043)</b>                    |
| 225 Cedar Coal Co  | \$848,950                                     | \$126,428                     | \$1,119,409            | \$0                 | \$41,687            | (\$73,234)                | (\$8,202)             | \$8,539             | (\$31,210)                               |
| <b>Appalachian Power Co. - SEC</b>                         | <b>\$215,090,198</b>                          | <b>\$18,870,482</b>           | <b>\$283,613,869</b>   | <b>\$1,379,555</b>  | <b>\$10,979,285</b> | <b>(\$18,554,518)</b>     | <b>(\$10,050,021)</b> | <b>\$2,163,446</b>  | <b>(\$14,082,253)</b>                    |
| 211 AEP Texas Central Company - Distribution               | \$78,331,205                                  | \$6,646,444                   | \$103,286,046          | \$611,978           | \$4,010,132         | (\$6,757,155)             | (\$3,881,048)         | \$787,881           | (\$5,228,212)                            |
| 147 AEP Texas Central Company - Generation                 | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | (\$15,337)            | \$0                 | (\$15,337)                               |
| 169 AEP Texas Central Company - Transmission               | \$7,139,895                                   | \$567,986                     | \$9,414,531            | \$70,349            | \$367,286           | (\$615,915)               | (\$391,921)           | \$71,815            | (\$498,386)                              |
| <b>AEP Texas Central Co.</b>                               | <b>\$85,471,100</b>                           | <b>\$7,214,430</b>            | <b>\$112,700,577</b>   | <b>\$682,327</b>    | <b>\$4,377,418</b>  | <b>(\$7,373,070)</b>      | <b>(\$4,288,306)</b>  | <b>\$859,696</b>    | <b>(\$5,741,935)</b>                     |
| 170 Indiana Michigan Power Co. - Distribution              | \$54,870,835                                  | \$5,229,767                   | \$72,351,646           | \$400,916           | \$2,792,603         | (\$4,733,372)             | (\$2,601,438)         | \$551,909           | (\$3,589,382)                            |
| 132 Indiana Michigan Power Co. - Generation                | \$31,196,199                                  | \$2,543,957                   | \$41,134,718           | \$290,059           | \$1,602,227         | (\$2,691,106)             | (\$1,850,054)         | \$313,781           | (\$2,335,093)                            |
| 190 Indiana Michigan Power Co. - Nuclear                   | \$48,870,680                                  | \$3,487,742                   | \$64,439,955           | \$894,255           | \$2,546,310         | (\$4,215,775)             | (\$3,561,730)         | \$491,557           | (\$3,845,383)                            |
| 120 Indiana Michigan Power Co. - Transmission              | \$11,127,233                                  | \$875,796                     | \$14,672,159           | \$81,093            | \$571,132           | (\$959,878)               | (\$596,815)           | \$111,921           | (\$792,547)                              |
| 280 Ind Mich River Transp Lakin                            | \$12,082,469                                  | \$867,433                     | \$15,931,715           | \$189,573           | \$627,728           | (\$1,042,281)             | (\$811,278)           | \$121,529           | (\$914,729)                              |
| <b>Indiana Michigan Power Co. - FERC</b>                   | <b>\$158,147,416</b>                          | <b>\$13,004,695</b>           | <b>\$208,530,193</b>   | <b>\$1,855,896</b>  | <b>\$8,140,000</b>  | <b>(\$13,642,412)</b>     | <b>(\$9,421,315)</b>  | <b>\$1,590,697</b>  | <b>(\$11,477,134)</b>                    |
| 202 Price River Coal                                       | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                 | \$0                                      |
| <b>Indiana Michigan Power Co. - SEC</b>                    | <b>\$158,147,416</b>                          | <b>\$13,004,695</b>           | <b>\$208,530,193</b>   | <b>\$1,855,896</b>  | <b>\$8,140,000</b>  | <b>(\$13,642,412)</b>     | <b>(\$9,421,315)</b>  | <b>\$1,590,697</b>  | <b>(\$11,477,134)</b>                    |
| 110 Kentucky Power Co. - Distribution                      | \$20,208,086                                  | \$1,644,944                   | \$26,646,000           | \$153,834           | \$1,036,154         | (\$1,743,228)             | (\$1,210,578)         | \$203,259           | (\$1,560,559)                            |
| 117 Kentucky Power Co. - Generation                        | \$13,536,148                                  | \$1,092,363                   | \$17,848,509           | \$55,608            | \$691,789           | (\$1,167,681)             | (\$611,828)           | \$136,151           | (\$895,961)                              |
| 180 Kentucky Power Co. - Transmission                      | \$1,934,788                                   | \$148,030                     | \$2,551,175            | \$19,974            | \$99,730            | (\$166,902)               | (\$198,150)           | \$19,461            | (\$225,887)                              |
| 600 Kentucky Power Co. - Kammer Actives                    | \$1,142,816                                   | \$32,958                      | \$1,506,896            | \$36,284            | \$61,630            | (\$98,584)                | (\$42,530)            | \$11,495            | (\$31,705)                               |
| 701 Kentucky Power Co. - Mitchell Actives                  | \$5,598,307                                   | \$122,328                     | \$7,381,822            | \$184,695           | \$303,299           | (\$482,932)               | (\$160,767)           | \$56,310            | (\$99,395)                               |
| 702 Kentucky Power Co. - Mitchell Inactives                | \$7,476,446                                   | \$830,781                     | \$9,858,300            | \$0                 | \$374,520           | (\$644,947)               | (\$200,743)           | \$75,201            | (\$395,969)                              |
| <b>Kentucky Power Co.</b>                                  | <b>\$49,896,591</b>                           | <b>\$3,871,404</b>            | <b>\$65,792,702</b>    | <b>\$450,395</b>    | <b>\$2,567,122</b>  | <b>(\$4,304,274)</b>      | <b>(\$2,424,596)</b>  | <b>\$501,877</b>    | <b>(\$3,209,476)</b>                     |
| 250 Ohio Power Co. - Distribution                          | \$139,704,206                                 | \$12,284,607                  | \$184,211,326          | \$970,245           | \$7,134,407         | (\$12,051,429)            | (\$5,890,962)         | \$1,405,190         | (\$8,432,549)                            |
| 160 Ohio Power Co. - Transmission                          | \$17,016,730                                  | \$1,562,641                   | \$22,437,939           | \$7,347             | \$861,401           | (\$1,467,929)             | (\$1,031,548)         | \$171,160           | (\$1,459,569)                            |
| <b>Ohio Power Co.</b>                                      | <b>\$156,720,936</b>                          | <b>\$13,847,248</b>           | <b>\$206,649,265</b>   | <b>\$977,592</b>    | <b>\$7,995,808</b>  | <b>(\$13,519,358)</b>     | <b>(\$6,922,510)</b>  | <b>\$1,576,350</b>  | <b>(\$9,892,118)</b>                     |
| 167 Public Service Co. of Oklahoma - Distribution          | \$46,346,738                                  | \$3,849,561                   | \$61,111,933           | \$450,945           | \$2,379,581         | (\$3,998,050)             | (\$2,477,659)         | \$466,170           | (\$3,179,013)                            |
| 198 Public Service Co. of Oklahoma - Generation            | \$22,288,399                                  | \$1,732,820                   | \$29,389,062           | \$288,574           | \$1,151,253         | (\$1,922,684)             | (\$1,498,642)         | \$224,184           | (\$1,757,315)                            |
| 114 Public Service Co. of Oklahoma - Transmission          | \$5,374,416                                   | \$451,500                     | \$7,086,603            | \$60,420            | \$276,236           | (\$463,618)               | (\$313,349)           | \$54,058            | (\$386,253)                              |
| <b>Public Service Co. of Oklahoma</b>                      | <b>\$74,009,553</b>                           | <b>\$6,033,881</b>            | <b>\$97,587,598</b>    | <b>\$799,939</b>    | <b>\$3,807,070</b>  | <b>(\$6,384,352)</b>      | <b>(\$4,289,650)</b>  | <b>\$744,412</b>    | <b>(\$5,322,581)</b>                     |
| 159 Southwestern Electric Power Co. - Distribution         | \$31,745,259                                  | \$2,445,600                   | \$41,858,699           | \$348,814           | \$1,637,014         | (\$2,738,470)             | (\$1,794,965)         | \$319,304           | (\$2,228,303)                            |
| 168 Southwestern Electric Power Co. - Generation           | \$31,092,263                                  | \$2,351,859                   | \$40,997,670           | \$419,561           | \$1,608,607         | (\$2,682,140)             | (\$2,137,691)         | \$312,736           | (\$2,478,927)                            |
| 161 Southwestern Electric Power Co. - Texas - Distribution | \$15,005,301                                  | \$1,186,934                   | \$19,785,706           | \$150,850           | \$772,228           | (\$1,294,416)             | (\$942,674)           | \$150,928           | (\$1,163,084)                            |
| 111 Southwestern Electric Power Co. - Texas - Transmission | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                 | \$0                                      |
| 194 Southwestern Electric Power Co. - Transmission         | \$4,992,012                                   | \$389,895                     | \$6,582,373            | \$45,303            | \$256,779           | (\$430,630)               | (\$280,205)           | \$50,211            | (\$358,542)                              |
| <b>Southwestern Electric Power Co.</b>                     | <b>\$82,834,835</b>                           | <b>\$6,374,288</b>            | <b>\$109,224,448</b>   | <b>\$964,528</b>    | <b>\$4,274,628</b>  | <b>(\$7,145,656)</b>      | <b>(\$5,155,535)</b>  | <b>\$833,179</b>    | <b>(\$6,228,856)</b>                     |
| 119 AEP Texas North Company - Distribution                 | \$21,879,000                                  | \$1,752,359                   | \$28,849,236           | \$187,766           | \$1,123,701         | (\$1,887,368)             | (\$1,276,048)         | \$220,066           | (\$1,631,883)                            |
| 166 AEP Texas North Company - Generation                   | \$6,082,216                                   | \$579,551                     | \$8,019,895            | \$0                 | \$307,198           | (\$524,676)               | (\$67,677)            | \$61,177            | (\$223,978)                              |
| 192 AEP Texas North Company - Transmission                 | \$2,800,194                                   | \$196,483                     | \$3,692,283            | \$36,235            | \$145,191           | (\$241,556)               | (\$233,844)           | \$28,165            | (\$265,809)                              |
| <b>AEP Texas North Co.</b>                                 | <b>\$30,761,410</b>                           | <b>\$2,528,393</b>            | <b>\$40,561,414</b>    | <b>\$224,001</b>    | <b>\$1,576,090</b>  | <b>(\$2,653,600)</b>      | <b>(\$1,577,569)</b>  | <b>\$309,408</b>    | <b>(\$2,121,670)</b>                     |
| 230 Kingsport Power Co. - Distribution                     | \$4,301,366                                   | \$369,851                     | \$5,671,700            | \$36,907            | \$220,254           | (\$371,053)               | (\$177,403)           | \$43,265            | (\$248,030)                              |
| 260 Kingsport Power Co. - Transmission                     | \$531,282                                     | \$40,011                      | \$700,538              | \$2,254             | \$27,231            | (\$45,830)                | (\$40,419)            | \$5,344             | (\$51,420)                               |
| <b>Kingsport Power Co.</b>                                 | <b>\$4,832,648</b>                            | <b>\$409,862</b>              | <b>\$6,372,238</b>     | <b>\$39,161</b>     | <b>\$247,485</b>    | <b>(\$416,883)</b>        | <b>(\$217,822)</b>    | <b>\$48,609</b>     | <b>(\$299,450)</b>                       |
| 210 Wheeling Power Co. - Distribution                      | \$5,643,580                                   | \$516,137                     | \$7,441,518            | \$35,466            | \$287,488           | (\$486,837)               | (\$259,071)           | \$56,765            | (\$366,189)                              |
| 200 Wheeling Power Co. - Transmission                      | \$327,351                                     | \$45,815                      | \$431,639              | \$0                 | \$16,151            | (\$28,239)                | (\$2,613)             | \$3,293             | (\$11,408)                               |
| <b>Wheeling Power Co.</b>                                  | <b>\$5,970,931</b>                            | <b>\$561,952</b>              | <b>\$7,873,157</b>     | <b>\$35,466</b>     | <b>\$303,639</b>    | <b>(\$515,076)</b>        | <b>(\$261,684)</b>    | <b>\$60,058</b>     | <b>(\$377,597)</b>                       |
| 103 American Electric Power Service Corporation            | \$286,210,613                                 | \$21,619,572                  | \$377,391,904          | \$3,480,829         | \$14,788,122        | (\$24,689,642)            | (\$17,282,221)        | \$2,878,798         | (\$20,824,114)                           |
| <b>American Electric Power Service Corporation</b>         | <b>\$286,210,613</b>                          | <b>\$21,619,572</b>           | <b>\$377,391,904</b>   | <b>\$3,480,829</b>  | <b>\$14,788,122</b> | <b>(\$24,689,642)</b>     | <b>(\$17,282,221)</b> | <b>\$2,878,798</b>  | <b>(\$20,824,114)</b>                    |
| 143 AEP Pro Serv, Inc.                                     | \$131,188                                     | \$18,558                      | \$172,982              | \$0                 | \$6,468             | (\$11,317)                | (\$1,133)             | \$1,320             | (\$4,662)                                |
| 171 CSW Energy, Inc.                                       | \$978,895                                     | \$20,075                      | \$1,290,752            | \$46,831            | \$53,838            | (\$84,443)                | (\$47,052)            | \$9,846             | (\$20,980)                               |
| 293 Elmwood  | \$1,824,382                                   | \$97,524                      | \$2,405,596            | \$79,949            | \$98,379            | (\$157,378)               | (\$276,067)           | \$18,350            | (\$236,767)                              |
| 292 AEP River Operations LLC                               | \$9,856,165                                   | \$474,094                     | \$12,996,153           | \$611,315           | \$542,375           | (\$850,231)               | (\$1,245,634)         | \$99,136            | (\$843,039)                              |
| 189 Central Coal Company                                   | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                 | \$0                                      |
| <b>Miscellaneous</b>                                       | <b>\$12,790,630</b>                           | <b>\$610,251</b>              | <b>\$16,865,483</b>    | <b>\$738,095</b>    | <b>\$701,060</b>    | <b>(\$1,103,369)</b>      | <b>(\$1,569,886)</b>  | <b>\$128,652</b>    | <b>(\$1,105,448)</b>                     |
| 270 Cook Coal Terminal                                     | \$1,238,760                                   | \$92,487                      | \$1,633,406            | \$9,053             | \$63,715            | (\$106,860)               | (\$67,747)            | \$12,460            | (\$89,379)                               |
| <b>AEP Generating Company</b>                              | <b>\$1,238,760</b>                            | <b>\$92,487</b>               | <b>\$1,633,406</b>     | <b>\$9,053</b>      | <b>\$63,715</b>     | <b>(\$106,860)</b>        | <b>(\$67,747)</b>     | <b>\$12,460</b>     | <b>(\$89,379)</b>                        |
| 104 Cardinal Operating Company                             | \$20,883,184                                  | \$1,703,746                   | \$27,536,172           | \$212,034           | \$1,073,480         | (\$1,801,465)             | (\$1,116,826)         | \$210,050           | (\$1,422,724)                            |
| 181 Ohio Power Co. - Generation                            | \$101,010,685                                 | \$9,364,299                   | \$133,190,780          | \$460,900           | \$5,133,044         | (\$8,713,575)             | (\$4,359,566)         | \$1,015,998         | (\$6,463,199)                            |
| <b>AEP Generation Resources - FERC</b>                     | <b>\$121,893,869</b>                          | <b>\$11,068,045</b>           | <b>\$160,726,952</b>   | <b>\$672,934</b>    | <b>\$6,206,524</b>  | <b>(\$10,515,040)</b>     | <b>(\$5,476,389)</b>  | <b>\$1,226,048</b>  | <b>(\$7,885,923)</b>                     |
| 290 Conesville Coal Preparation Company                    | \$1,225,747                                   | \$133,387                     | \$1,616,247            | \$0                 | \$61,475            | (\$105,738)               | (\$51,555)            | \$12,329            | (\$83,489)                               |
| <b>AEP Generation Resources - SEC</b>                      | <b>\$123,119,616</b>                          | <b>\$11,201,432</b>           | <b>\$162,343,199</b>   | <b>\$672,934</b>    | <b>\$6,267,999</b>  | <b>(\$10,620,778)</b>     | <b>(\$5,527,944)</b>  | <b>\$1,238,377</b>  | <b>(\$7,969,412)</b>                     |
| <b>Total</b>   | <b>\$1,287,095,237</b>                        | <b>\$106,240,377</b>          | <b>\$1,697,139,453</b> | <b>\$12,309,771</b> | <b>\$66,089,441</b> | <b>(\$111,029,848)</b>    | <b>(\$69,056,866)</b> | <b>\$12,946,019</b> | <b>(\$88,741,423)</b>                    |

AMERICAN ELECTRIC POWER  
NON-UMWA POSTRETIREMENT WELFARE PLAN  
ESTIMATED 2016 NET PERIODIC POSTRETIREMENT BENEFIT COST

| Location   | Accumulated Postretirement Benefit Obligation | Expected Net Benefit Payments | Fair Value of Assets   | Service Cost        | Interest Cost       | Expected Return on Assets | Amortizations         |                     | Net Periodic Postretirement Benefit Cost |
|--|---|-------------------------------|------------------------|---------------------|---------------------|---------------------------|-----------------------|---------------------|--|
|  |   |                               |                        |                     |                     |                           | PSC                   | (G/L)               |  |
| 140 Appalachian Power Co. - Distribution                   | \$108,559,870                                 | \$9,861,383                   | \$144,790,705          | \$708,970           | \$5,742,228         | (\$9,468,358)             | (\$5,097,397)         | \$1,161,474         | (\$6,953,083)                            |
| 215 Appalachian Power Co. - Generation                     | \$89,820,748                                  | \$7,953,644                   | \$119,797,577          | \$609,602           | \$4,757,872         | (\$7,833,972)             | (\$4,162,884)         | \$960,985           | (\$5,668,397)                            |
| 150 Appalachian Power Co. - Transmission                   | \$12,206,699                                  | \$929,744                     | \$16,280,570           | \$33,440            | \$647,982           | (\$1,064,642)             | (\$781,538)           | \$130,599           | (\$1,034,159)                            |
| <b>Appalachian Power Co. - FERC</b>                        | <b>\$210,587,317</b>                          | <b>\$18,744,771</b>           | <b>\$280,868,852</b>   | <b>\$1,352,012</b>  | <b>\$11,148,082</b> | <b>(\$18,366,972)</b>     | <b>(\$10,041,819)</b> | <b>\$2,253,058</b>  | <b>(\$13,655,639)</b>                    |
| 225 Cedar Coal Co  | \$774,406                                     | \$120,512                     | \$1,032,857            | \$0                 | \$39,323            | (\$67,542)                | (\$8,202)             | \$8,285             | (\$28,136)                               |
| <b>Appalachian Power Co. - SEC</b>                         | <b>\$211,361,723</b>                          | <b>\$18,865,283</b>           | <b>\$281,901,709</b>   | <b>\$1,352,012</b>  | <b>\$11,187,405</b> | <b>(\$18,434,514)</b>     | <b>(\$10,050,021)</b> | <b>\$2,261,343</b>  | <b>(\$13,683,775)</b>                    |
| 211 AEP Texas Central Company - Distribution               | \$77,325,072                                  | \$6,674,148                   | \$103,131,587          | \$599,760           | \$4,104,783         | (\$6,744,126)             | (\$3,881,048)         | \$827,295           | (\$5,093,336)                            |
| 147 AEP Texas Central Company - Generation                 | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | (\$15,337)            | \$0                 | (\$15,337)                               |
| 169 AEP Texas Central Company - Transmission               | \$7,103,076                                   | \$576,321                     | \$9,473,661            | \$68,944            | \$378,824           | (\$619,515)               | (\$391,921)           | \$75,995            | (\$487,673)                              |
| <b>AEP Texas Central Co.</b>                               | <b>\$84,428,148</b>                           | <b>\$7,250,469</b>            | <b>\$112,605,248</b>   | <b>\$668,704</b>    | <b>\$4,483,607</b>  | <b>(\$7,363,641)</b>      | <b>(\$4,288,306)</b>  | <b>\$903,290</b>    | <b>(\$5,596,346)</b>                     |
| 170 Indiana Michigan Power Co. - Distribution              | \$53,539,585                                  | \$5,193,425                   | \$71,407,918           | \$392,912           | \$2,825,380         | (\$4,669,607)             | (\$2,601,436)         | \$572,816           | (\$3,479,937)                            |
| 132 Indiana Michigan Power Co. - Generation                | \$30,952,099                                  | \$2,650,515                   | \$41,282,071           | \$284,268           | \$1,646,087         | (\$2,699,575)             | (\$1,850,054)         | \$331,154           | (\$2,288,120)                            |
| 190 Indiana Michigan Power Co. - Nuclear                   | \$49,474,980                                  | \$3,766,355                   | \$65,986,789           | \$876,401           | \$2,667,137         | (\$4,315,101)             | (\$3,561,730)         | \$529,329           | (\$3,803,966)                            |
| 120 Indiana Michigan Power Co. - Transmission              | \$11,049,155                                  | \$885,702                     | \$14,736,706           | \$79,474            | \$588,044           | (\$863,683)               | (\$596,815)           | \$118,214           | (\$774,764)                              |
| 280 Ind Mich River Transp Lakin                            | \$12,192,891                                  | \$929,721                     | \$16,262,154           | \$185,788           | \$655,602           | (\$1,063,438)             | (\$811,278)           | \$130,451           | (\$902,875)                              |
| <b>Indiana Michigan Power Co. - FERC</b>                   | <b>\$157,208,710</b>                          | <b>\$13,425,718</b>           | <b>\$209,675,638</b>   | <b>\$1,818,843</b>  | <b>\$8,382,250</b>  | <b>(\$13,711,404)</b>     | <b>(\$9,421,315)</b>  | <b>\$1,681,964</b>  | <b>(\$11,249,662)</b>                    |
| 202 Price River Coal                                       | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                 | \$0                                      |
| <b>Indiana Michigan Power Co. - SEC</b>                    | <b>\$157,208,710</b>                          | <b>\$13,425,718</b>           | <b>\$209,675,638</b>   | <b>\$1,818,843</b>  | <b>\$8,382,250</b>  | <b>(\$13,711,404)</b>     | <b>(\$9,421,315)</b>  | <b>\$1,681,964</b>  | <b>(\$11,249,662)</b>                    |
| 110 Kentucky Power Co. - Distribution                      | \$20,016,706                                  | \$1,687,631                   | \$26,697,093           | \$150,763           | \$1,063,422         | (\$1,745,814)             | (\$1,210,578)         | \$214,157           | (\$1,528,050)                            |
| 117 Kentucky Power Co. - Generation                        | \$13,367,199                                  | \$1,137,181                   | \$17,828,376           | \$54,498            | \$707,339           | (\$1,165,858)             | (\$611,828)           | \$143,015           | (\$872,834)                              |
| 180 Kentucky Power Co. - Transmission                      | \$1,931,901                                   | \$135,711                     | \$2,576,655            | \$103,649           | \$193,575           | (\$168,496)               | (\$198,150)           | \$20,669            | (\$222,753)                              |
| 600 Kentucky Power Co. - Kammer Actives                    | \$1,223,888                                   | \$54,992                      | \$1,632,349            | \$35,560            | \$67,778            | (\$106,745)               | (\$42,530)            | \$13,094            | (\$32,843)                               |
| 701 Kentucky Power Co. - Mitchell Actives                  | \$6,043,553                                   | \$230,079                     | \$8,060,532            | \$181,008           | \$336,108           | (\$527,106)               | (\$160,767)           | \$64,660            | (\$106,097)                              |
| 702 Kentucky Power Co. - Mitchell Inactives                | \$7,113,859                                   | \$785,172                     | \$9,488,042            | \$0                 | \$369,959           | (\$620,455)               | (\$200,743)           | \$76,111            | (\$375,128)                              |
| <b>Kentucky Power Co.</b>                                  | <b>\$49,697,106</b>                           | <b>\$4,030,766</b>            | <b>\$66,283,047</b>    | <b>\$441,404</b>    | <b>\$2,648,255</b>  | <b>(\$4,334,474)</b>      | <b>(\$2,424,596)</b>  | <b>\$531,706</b>    | <b>(\$3,137,705)</b>                     |
| 250 Ohio Power Co. - Distribution                          | \$137,332,619                                 | \$12,328,388                  | \$183,166,088          | \$950,874           | \$7,271,099         | (\$11,977,855)            | (\$5,890,962)         | \$1,469,311         | (\$8,177,533)                            |
| 160 Ohio Power Co. - Transmission                          | \$16,540,641                                  | \$1,447,885                   | \$22,060,924           | \$7,200             | \$870,847           | (\$1,442,639)             | (\$1,031,548)         | \$176,967           | (\$1,419,173)                            |
| <b>Ohio Power Co.</b>                                      | <b>\$153,873,260</b>                          | <b>\$13,776,273</b>           | <b>\$205,227,012</b>   | <b>\$958,074</b>    | <b>\$8,141,946</b>  | <b>(\$13,420,494)</b>     | <b>(\$6,922,510)</b>  | <b>\$1,646,278</b>  | <b>(\$9,596,706)</b>                     |
| 167 Public Service Co. of Oklahoma - Distribution          | \$45,932,533                                  | \$3,865,742                   | \$61,262,084           | \$441,942           | \$2,445,711         | (\$4,006,137)             | (\$2,477,659)         | \$491,429           | (\$3,104,714)                            |
| 198 Public Service Co. of Oklahoma - Generation            | \$22,288,902                                  | \$1,807,587                   | \$29,727,613           | \$282,813           | \$1,192,401         | (\$1,943,990)             | (\$1,498,642)         | \$238,467           | (\$1,728,951)                            |
| 114 Public Service Co. of Oklahoma - Transmission          | \$5,329,753                                   | \$458,519                     | \$7,108,508            | \$59,214            | \$283,953           | (\$464,850)               | (\$313,349)           | \$57,023            | (\$378,009)                              |
| <b>Public Service Co. of Oklahoma</b>                      | <b>\$73,551,188</b>                           | <b>\$6,131,848</b>            | <b>\$98,098,205</b>    | <b>\$783,969</b>    | <b>\$3,922,065</b>  | <b>(\$6,414,977)</b>      | <b>(\$4,289,650)</b>  | <b>\$786,919</b>    | <b>(\$5,211,674)</b>                     |
| 159 Southwestern Electric Power Co. - Distribution         | \$31,702,945                                  | \$2,459,743                   | \$42,283,505           | \$341,850           | \$1,695,726         | (\$2,765,063)             | (\$1,794,965)         | \$339,187           | (\$2,183,265)                            |
| 168 Southwestern Electric Power Co. - Generation           | \$31,179,133                                  | \$2,481,738                   | \$41,584,875           | \$411,184           | \$1,670,133         | (\$2,719,377)             | (\$2,137,691)         | \$333,583           | (\$2,442,168)                            |
| 161 Southwestern Electric Power Co. - Texas - Distribution | \$14,938,148                                  | \$1,219,506                   | \$19,923,614           | \$147,838           | \$796,642           | (\$1,302,873)             | (\$942,674)           | \$159,822           | (\$1,141,245)                            |
| 111 Southwestern Electric Power Co. - Texas - Transmission | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                 | \$0                                      |
| 194 Southwestern Electric Power Co. - Transmission         | \$4,969,638                                   | \$399,189                     | \$6,628,208            | \$44,399            | \$264,941           | (\$433,441)               | (\$280,205)           | \$53,170            | (\$351,136)                              |
| <b>Southwestern Electric Power Co.</b>                     | <b>\$82,789,864</b>                           | <b>\$6,560,176</b>            | <b>\$110,420,202</b>   | <b>\$945,271</b>    | <b>\$4,427,442</b>  | <b>(\$7,220,754)</b>      | <b>(\$5,155,535)</b>  | <b>\$885,762</b>    | <b>(\$6,117,814)</b>                     |
| 119 AEP Texas North Company - Distribution                 | \$21,724,167                                  | \$1,812,715                   | \$28,974,403           | \$184,017           | \$1,155,768         | (\$1,894,735)             | (\$1,276,048)         | \$232,425           | (\$1,598,573)                            |
| 166 AEP Texas North Company - Generation                   | \$5,887,387                                   | \$582,992                     | \$7,852,247            | \$0                 | \$307,989           | (\$513,485)               | (\$67,677)            | \$62,989            | (\$210,184)                              |
| 192 AEP Texas North Company - Transmission                 | \$2,822,300                                   | \$218,754                     | \$3,764,216            | \$35,512            | \$151,244           | (\$246,155)               | (\$233,844)           | \$30,196            | (\$263,047)                              |
| <b>AEP Texas North Co.</b>                                 | <b>\$30,433,854</b>                           | <b>\$2,614,461</b>            | <b>\$40,590,866</b>    | <b>\$219,529</b>    | <b>\$1,615,001</b>  | <b>(\$2,654,375)</b>      | <b>(\$1,577,569)</b>  | <b>\$325,610</b>    | <b>(\$2,071,804)</b>                     |
| 230 Kingsport Power Co. - Distribution                     | \$4,244,568                                   | \$372,642                     | \$5,661,153            | \$36,170            | \$225,330           | (\$370,202)               | (\$177,403)           | \$45,412            | (\$240,693)                              |
| 260 Kingsport Power Co. - Transmission                     | \$527,705                                     | \$46,153                      | \$703,822              | \$2,209             | \$27,893            | (\$46,025)                | (\$20,419)            | \$5,646             | (\$50,696)                               |
| <b>Kingsport Power Co.</b>                                 | <b>\$4,772,273</b>                            | <b>\$418,795</b>              | <b>\$6,364,975</b>     | <b>\$38,379</b>     | <b>\$253,223</b>    | <b>(\$416,227)</b>        | <b>(\$217,822)</b>    | <b>\$51,058</b>     | <b>(\$291,389)</b>                       |
| 210 Wheeling Power Co. - Distribution                      | \$5,523,124                                   | \$503,800                     | \$7,366,415            | \$34,758            | \$292,014           | (\$481,715)               | (\$259,071)           | \$59,091            | (\$354,923)                              |
| 200 Wheeling Power Co. - Transmission                      | \$301,659                                     | \$44,160                      | \$402,335              | \$0                 | \$15,393            | (\$26,310)                | (\$2,613)             | \$3,227             | (\$10,303)                               |
| <b>Wheeling Power Co.</b>                                  | <b>\$5,824,783</b>                            | <b>\$547,960</b>              | <b>\$7,768,750</b>     | <b>\$34,758</b>     | <b>\$307,407</b>    | <b>(\$508,025)</b>        | <b>(\$261,684)</b>    | <b>\$62,318</b>     | <b>(\$365,226)</b>                       |
| 103 American Electric Power Service Corporation            | \$286,634,336                                 | \$22,372,343                  | \$382,295,848          | \$3,411,334         | \$15,345,507        | (\$24,999,629)            | (\$17,282,221)        | \$3,066,676         | (\$20,458,333)                           |
| <b>American Electric Power Service Corporation</b>         | <b>\$286,634,336</b>                          | <b>\$22,372,343</b>           | <b>\$382,295,848</b>   | <b>\$3,411,334</b>  | <b>\$15,345,507</b> | <b>(\$24,999,629)</b>     | <b>(\$17,282,221)</b> | <b>\$3,066,676</b>  | <b>(\$20,458,333)</b>                    |
| 143 AEP Pro Serv, Inc.                                     | \$120,687                                     | \$19,215                      | \$160,965              | \$0                 | \$6,116             | (\$10,526)                | (\$1,133)             | \$1,291             | (\$4,252)                                |
| 171 CSW Energy, Inc.                                       | \$1,073,626                                   | \$25,252                      | \$1,431,939            | \$45,896            | \$60,889            | (\$93,639)                | (\$47,052)            | \$11,487            | (\$22,419)                               |
| 293 Elmwood  | \$1,930,608                                   | \$110,594                     | \$2,574,930            | \$78,353            | \$107,492           | (\$168,383)               | (\$276,067)           | \$20,655            | (\$237,950)                              |
| 292 AEP River Operations LLC                               | \$10,676,345                                  | \$511,923                     | \$14,239,475           | \$599,110           | \$606,261           | (\$931,168)               | (\$1,245,634)         | \$114,225           | (\$857,206)                              |
| 189 Central Coal Company                                   | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                 | \$0                                      |
| <b>Miscellaneous</b>                                       | <b>\$13,801,266</b>                           | <b>\$666,984</b>              | <b>\$18,407,309</b>    | <b>\$723,359</b>    | <b>\$780,758</b>    | <b>(\$1,203,716)</b>      | <b>(\$1,569,886)</b>  | <b>\$147,658</b>    | <b>(\$1,121,827)</b>                     |
| 270 Cook Coal Terminal                                     | \$1,235,307                                   | \$105,460                     | \$1,647,579            | \$8,872             | \$65,569            | (\$107,741)               | (\$67,747)            | \$13,216            | (\$87,831)                               |
| <b>AEP Generating Company</b>                              | <b>\$1,235,307</b>                            | <b>\$105,460</b>              | <b>\$1,647,579</b>     | <b>\$8,872</b>      | <b>\$65,569</b>     | <b>(\$107,741)</b>        | <b>(\$67,747)</b>     | <b>\$13,216</b>     | <b>(\$87,831)</b>                        |
| 104 Cardinal Operating Company                             | \$20,738,026                                  | \$1,768,448                   | \$27,659,147           | \$207,801           | \$1,104,039         | (\$1,808,726)             | (\$1,116,823)         | \$221,875           | (\$1,391,834)                            |
| 181 Ohio Power Co. - Generation                            | \$98,537,857                                  | \$9,337,649                   | \$131,423,939          | \$451,698           | \$5,191,077         | (\$8,594,259)             | (\$4,359,566)         | \$1,054,249         | (\$6,256,801)                            |
| <b>AEP Generation Resources - FERC</b>                     | <b>\$119,275,883</b>                          | <b>\$11,106,097</b>           | <b>\$159,083,086</b>   | <b>\$659,499</b>    | <b>\$6,295,116</b>  | <b>(\$10,402,985)</b>     | <b>(\$5,476,389)</b>  | <b>\$1,276,124</b>  | <b>(\$7,648,635)</b>                     |
| 290 Conesville Coal Preparation Company                    | \$1,169,231                                   | \$120,908                     | \$1,559,451            | \$0                 | \$61,027            | (\$101,978)               | (\$51,555)            | \$12,510            | (\$79,996)                               |
| <b>AEP Generation Resources - SEC</b>                      | <b>\$120,445,114</b>                          | <b>\$11,227,005</b>           | <b>\$160,642,537</b>   | <b>\$659,499</b>    | <b>\$6,356,143</b>  | <b>(\$10,504,963)</b>     | <b>(\$5,527,944)</b>  | <b>\$1,288,634</b>  | <b>(\$7,728,631)</b>                     |
| <b>Total</b>   | <b>\$1,276,056,932</b>                        | <b>\$107,993,541</b>          | <b>\$1,701,928,925</b> | <b>\$12,064,007</b> | <b>\$67,916,578</b> | <b>(\$111,294,934)</b>    | <b>(\$69,056,806)</b> | <b>\$13,652,432</b> | <b>(\$86,718,723)</b>                    |

**AMERICAN ELECTRIC POWER  
NON-UMWA POSTRETIREMENT WELFARE PLAN  
ESTIMATED 2017 NET PERIODIC POSTRETIREMENT BENEFIT COST**

| Location   | Accumulated Postretirement Benefit Obligation | Expected Net Benefit Payments | Fair Value of Assets   | Service Cost        | Interest Cost       | Expected Return on Assets | Amortizations         |                     | Net Periodic Postretirement Benefit Cost |
|--|---|-------------------------------|------------------------|---------------------|---------------------|---------------------------|-----------------------|---------------------|--|
|  |   |                               |                        |                     |                     |                           | PSC                   | (G)/L               |  |
| 140 Appalachian Power Co. - Distribution                   | \$104,185,460                                 | \$9,711,708                   | \$143,668,361          | \$714,839           | \$5,606,193         | (\$9,396,317)             | (\$5,097,397)         | \$982,267           | (\$7,190,415)                            |
| 215 Appalachian Power Co. - Generation                     | \$86,434,635                                  | \$7,885,258                   | \$119,190,550          | \$614,648           | \$4,656,980         | (\$7,795,399)             | (\$4,162,884)         | \$814,911           | (\$5,871,744)                            |
| 150 Appalachian Power Co. - Transmission                   | \$11,848,718                                  | \$916,867                     | \$16,338,997           | \$33,717            | \$640,094           | (\$1,068,617)             | (\$781,538)           | \$111,710           | (\$1,064,634)                            |
| <b>Appalachian Power Co. - FERC</b>                        | <b>\$202,468,813</b>                          | <b>\$18,513,833</b>           | <b>\$279,197,908</b>   | <b>\$1,363,204</b>  | <b>\$10,903,267</b> | <b>(\$18,260,333)</b>     | <b>(\$10,041,819)</b> | <b>\$1,908,888</b>  | <b>(\$14,126,793)</b>                    |
| 225 Cedar Coal Co  | \$686,860                                     | \$105,985                     | \$947,158              | \$0                 | \$35,537            | (\$61,947)                | (\$8,202)             | \$6,476             | (\$28,136)                               |
| <b>Appalachian Power Co. - SEC</b>                         | <b>\$203,155,673</b>                          | <b>\$18,619,818</b>           | <b>\$280,145,066</b>   | <b>\$1,363,204</b>  | <b>\$10,938,804</b> | <b>(\$18,322,280)</b>     | <b>(\$10,050,021)</b> | <b>\$1,915,364</b>  | <b>(\$14,154,929)</b>                    |
| 211 AEP Texas Central Company - Distribution               | \$74,664,455                                  | \$6,622,214                   | \$102,959,855          | \$604,725           | \$4,032,178         | (\$6,733,866)             | (\$3,881,048)         | \$703,941           | (\$5,274,070)                            |
| 147 AEP Texas Central Company - Generation                 | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | (\$15,337)            | \$0                 | (\$15,337)                               |
| 169 AEP Texas Central Company - Transmission               | \$6,910,566                                   | \$594,169                     | \$9,529,446            | \$69,515            | \$374,474           | (\$623,253)               | (\$391,921)           | \$65,153            | (\$506,032)                              |
| <b>AEP Texas Central Co.</b>                               | <b>\$81,575,021</b>                           | <b>\$7,216,383</b>            | <b>\$112,489,301</b>   | <b>\$674,240</b>    | <b>\$4,406,652</b>  | <b>(\$7,357,119)</b>      | <b>(\$4,288,306)</b>  | <b>\$769,094</b>    | <b>(\$5,795,439)</b>                     |
| 170 Indiana Michigan Power Co. - Distribution              | \$51,091,605                                  | \$5,028,179                   | \$70,453,662           | \$396,164           | \$2,744,444         | (\$4,607,869)             | (\$2,601,438)         | \$481,695           | (\$3,587,004)                            |
| 132 Indiana Michigan Power Co. - Generation                | \$29,954,711                                  | \$2,683,922                   | \$41,306,572           | \$286,621           | \$1,619,388         | (\$2,701,567)             | (\$1,850,054)         | \$282,415           | (\$2,363,197)                            |
| 190 Indiana Michigan Power Co. - Nuclear                   | \$48,800,519                                  | \$3,933,242                   | \$67,294,328           | \$883,656           | \$2,673,683         | (\$4,401,239)             | (\$3,561,730)         | \$460,094           | (\$3,945,536)                            |
| 120 Indiana Michigan Power Co. - Transmission              | \$10,731,651                                  | \$896,068                     | \$14,798,598           | \$80,132            | \$580,712           | (\$967,870)               | (\$596,815)           | \$101,179           | (\$802,662)                              |
| 280 Ind Mich River Transp Lakin                            | \$11,993,561                                  | \$947,900                     | \$16,538,731           | \$187,326           | \$655,950           | (\$1,081,680)             | (\$811,278)           | \$113,076           | (\$936,606)                              |
| <b>Indiana Michigan Power Co. - FERC</b>                   | <b>\$152,572,047</b>                          | <b>\$13,489,311</b>           | <b>\$210,391,891</b>   | <b>\$1,833,899</b>  | <b>\$8,274,177</b>  | <b>(\$13,760,225)</b>     | <b>(\$9,421,315)</b>  | <b>\$1,438,459</b>  | <b>(\$11,635,005)</b>                    |
| 202 Price River Coal                                       | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                 | \$0                                      |
| <b>Indiana Michigan Power Co. - SEC</b>                    | <b>\$152,572,047</b>                          | <b>\$13,489,311</b>           | <b>\$210,391,891</b>   | <b>\$1,833,899</b>  | <b>\$8,274,177</b>  | <b>(\$13,760,225)</b>     | <b>(\$9,421,315)</b>  | <b>\$1,438,459</b>  | <b>(\$11,635,005)</b>                    |
| 110 Kentucky Power Co. - Distribution                      | \$19,364,048                                  | \$1,748,951                   | \$26,702,392           | \$152,011           | \$1,044,596         | (\$1,746,412)             | (\$1,210,578)         | \$182,565           | (\$1,577,818)                            |
| 117 Kentucky Power Co. - Generation                        | \$12,872,719                                  | \$1,102,396                   | \$17,751,061           | \$54,949            | \$693,503           | (\$1,160,970)             | (\$611,828)           | \$121,365           | (\$902,981)                              |
| 180 Kentucky Power Co. - Transmission                      | \$1,901,813                                   | \$148,582                     | \$2,622,538            | \$19,737            | \$103,503           | (\$171,521)               | (\$198,150)           | \$17,930            | (\$228,501)                              |
| 600 Kentucky Power Co. - Kammer Actives                    | \$1,260,568                                   | \$80,716                      | \$1,738,282            | \$35,854            | \$70,370            | (\$113,689)               | (\$42,530)            | \$11,885            | (\$38,110)                               |
| 701 Kentucky Power Co. - Mitchell Actives                  | \$6,272,538                                   | \$331,303                     | \$8,649,626            | \$182,506           | \$352,332           | (\$565,710)               | (\$160,767)           | \$59,138            | (\$132,501)                              |
| 702 Kentucky Power Co. - Mitchell Inactives                | \$6,637,219                                   | \$699,503                     | \$9,152,509            | \$0                 | \$563,265           | (\$598,600)               | (\$800,743)           | \$62,576            | (\$384,402)                              |
| <b>Kentucky Power Co.</b>                                  | <b>\$48,308,905</b>                           | <b>\$4,111,451</b>            | <b>\$66,616,408</b>    | <b>\$445,057</b>    | <b>\$2,616,669</b>  | <b>(\$4,356,902)</b>      | <b>(\$2,424,596)</b>  | <b>\$455,459</b>    | <b>(\$3,264,313)</b>                     |
| 250 Ohio Power Co. - Distribution                          | \$132,004,516                                 | \$12,109,969                  | \$182,029,934          | \$958,745           | \$7,111,482         | (\$11,905,273)            | (\$5,890,962)         | \$1,244,546         | (\$8,481,462)                            |
| 160 Ohio Power Co. - Transmission                          | \$15,824,350                                  | \$1,358,100                   | \$21,821,264           | \$7,260             | \$849,061           | (\$1,427,172)             | (\$1,031,548)         | \$149,193           | (\$1,453,206)                            |
| <b>Ohio Power Co.</b>                                      | <b>\$147,828,866</b>                          | <b>\$13,468,069</b>           | <b>\$203,851,198</b>   | <b>\$966,005</b>    | <b>\$7,960,543</b>  | <b>(\$13,332,445)</b>     | <b>(\$6,922,510)</b>  | <b>\$1,393,739</b>  | <b>(\$9,934,668)</b>                     |
| 167 Public Service Co. of Oklahoma - Distribution          | \$44,542,211                                  | \$3,839,529                   | \$61,422,260           | \$445,600           | \$2,413,275         | (\$4,017,190)             | (\$2,477,659)         | \$419,947           | (\$3,216,027)                            |
| 198 Public Service Co. of Oklahoma - Generation            | \$21,755,187                                  | \$1,801,935                   | \$29,999,695           | \$285,154           | \$1,184,492         | (\$1,962,065)             | (\$1,498,642)         | \$205,109           | (\$1,785,952)                            |
| 114 Public Service Co. of Oklahoma - Transmission          | \$5,166,585                                   | \$443,940                     | \$7,124,553            | \$59,704            | \$280,411           | (\$465,966)               | (\$313,349)           | \$48,711            | (\$390,489)                              |
| <b>Public Service Co. of Oklahoma</b>                      | <b>\$71,463,983</b>                           | <b>\$6,085,404</b>            | <b>\$98,546,508</b>    | <b>\$790,458</b>    | <b>\$3,878,178</b>  | <b>(\$6,445,221)</b>      | <b>(\$4,289,650)</b>  | <b>\$673,767</b>    | <b>(\$5,392,468)</b>                     |
| 159 Southwestern Electric Power Co. - Distribution         | \$30,993,932                                  | \$2,509,477                   | \$42,739,624           | \$344,680           | \$1,685,654         | (\$2,795,292)             | (\$1,794,965)         | \$292,213           | (\$2,267,710)                            |
| 168 Southwestern Electric Power Co. - Generation           | \$30,496,470                                  | \$2,554,983                   | \$42,053,640           | \$414,588           | \$1,660,454         | (\$2,750,427)             | (\$2,137,691)         | \$287,522           | (\$2,525,554)                            |
| 161 Southwestern Electric Power Co. - Texas - Distribution | \$14,528,661                                  | \$1,199,710                   | \$20,034,551           | \$149,062           | \$788,818           | (\$1,310,316)             | (\$942,674)           | \$136,977           | (\$1,178,133)                            |
| 111 Southwestern Electric Power Co. - Texas - Transmission | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                 | \$0                                      |
| 194 Southwestern Electric Power Co. - Transmission         | \$4,835,041                                   | \$406,924                     | \$6,667,364            | \$44,767            | \$262,031           | (\$436,064)               | (\$280,205)           | \$45,585            | (\$363,886)                              |
| <b>Southwestern Electric Power Co.</b>                     | <b>\$80,854,104</b>                           | <b>\$6,671,094</b>            | <b>\$111,495,179</b>   | <b>\$953,097</b>    | <b>\$4,396,957</b>  | <b>(\$7,292,039)</b>      | <b>(\$5,155,535)</b>  | <b>\$762,297</b>    | <b>(\$6,335,282)</b>                     |
| 119 AEP Texas North Company - Distribution                 | \$21,056,363                                  | \$1,894,113                   | \$29,036,040           | \$185,540           | \$1,137,234         | (\$1,899,039)             | (\$1,276,048)         | \$198,521           | (\$1,653,793)                            |
| 166 AEP Texas North Company - Generation                   | \$5,560,918                                   | \$661,288                     | \$7,668,325            | \$0                 | \$295,909           | (\$501,530)               | (\$67,677)            | \$52,429            | (\$220,869)                              |
| 192 AEP Texas North Company - Transmission                 | \$2,764,715                                   | \$235,440                     | \$3,812,452            | \$35,806            | \$150,327           | (\$249,345)               | (\$233,844)           | \$26,066            | (\$270,990)                              |
| <b>AEP Texas North Co.</b>                                 | <b>\$29,381,996</b>                           | <b>\$2,690,841</b>            | <b>\$40,516,817</b>    | <b>\$221,346</b>    | <b>\$1,583,470</b>  | <b>(\$2,649,918)</b>      | <b>(\$1,577,569)</b>  | <b>\$277,016</b>    | <b>(\$2,145,651)</b>                     |
| 230 Kingsport Power Co. - Distribution                     | \$4,095,522                                   | \$369,164                     | \$5,647,592            | \$36,469            | \$221,196           | (\$369,368)               | (\$177,403)           | \$38,613            | (\$250,493)                              |
| 260 Kingsport Power Co. - Transmission                     | \$506,962                                     | \$46,132                      | \$699,084              | \$2,227             | \$27,240            | (\$45,722)                | (\$40,419)            | \$4,780             | (\$51,894)                               |
| <b>Kingsport Power Co.</b>                                 | <b>\$4,602,484</b>                            | <b>\$415,296</b>              | <b>\$6,346,676</b>     | <b>\$38,696</b>     | <b>\$248,436</b>    | <b>(\$415,090)</b>        | <b>(\$217,822)</b>    | <b>\$43,393</b>     | <b>(\$302,387)</b>                       |
| 210 Wheeling Power Co. - Distribution                      | \$5,297,072                                   | \$486,611                     | \$7,304,490            | \$35,046            | \$285,159           | (\$477,734)               | (\$259,071)           | \$49,941            | (\$366,659)                              |
| 200 Wheeling Power Co. - Transmission                      | \$270,390                                     | \$41,992                      | \$372,859              | \$0                 | \$13,982            | (\$24,386)                | (\$2,613)             | \$2,549             | (\$10,468)                               |
| <b>Wheeling Power Co.</b>                                  | <b>\$5,567,462</b>                            | <b>\$528,603</b>              | <b>\$7,677,349</b>     | <b>\$35,046</b>     | <b>\$299,141</b>    | <b>(\$502,120)</b>        | <b>(\$261,684)</b>    | <b>\$52,490</b>     | <b>(\$377,127)</b>                       |
| 103 American Electric Power Service Corporation            | \$280,423,541                                 | \$22,848,712                  | \$386,694,943          | \$3,439,573         | \$15,265,289        | (\$25,290,945)            | (\$17,282,221)        | \$2,643,849         | (\$21,224,455)                           |
| <b>American Electric Power Service Corporation</b>         | <b>\$280,423,541</b>                          | <b>\$22,848,712</b>           | <b>\$386,694,943</b>   | <b>\$3,439,573</b>  | <b>\$15,265,289</b> | <b>(\$25,290,945)</b>     | <b>(\$17,282,221)</b> | <b>\$2,643,849</b>  | <b>(\$21,224,455)</b>                    |
| 143 AEP Pro Serv, Inc.                                     | \$106,601                                     | \$19,829                      | \$146,999              | \$0                 | \$5,422             | (\$9,614)                 | (\$1,133)             | \$1,005             | (\$4,320)                                |
| 171 CSW Energy, Inc.                                       | \$1,144,566                                   | \$32,069                      | \$1,578,319            | \$46,276            | \$65,801            | (\$103,227)               | (\$47,052)            | \$10,791            | (\$27,411)                               |
| 293 Elmwood  | \$1,987,465                                   | \$126,196                     | \$2,740,650            | \$79,002            | \$112,237           | (\$179,246)               | (\$276,067)           | \$18,738            | (\$245,336)                              |
| 292 AEP River Operations LLC                               | \$11,265,532                                  | \$552,272                     | \$15,534,802           | \$604,069           | \$649,445           | (\$1,016,020)             | (\$1,245,634)         | \$106,212           | (\$901,928)                              |
| 189 Central Coal Company                                   | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                 | \$0                                      |
| <b>Miscellaneous</b>                                       | <b>\$14,504,164</b>                           | <b>\$730,366</b>              | <b>\$20,000,770</b>    | <b>\$729,347</b>    | <b>\$832,905</b>    | <b>(\$1,308,107)</b>      | <b>(\$1,569,886)</b>  | <b>\$136,746</b>    | <b>(\$1,178,995)</b>                     |
| 270 Cook Coal Terminal                                     | \$1,193,245                                   | \$107,702                     | \$1,645,446            | \$8,945             | \$64,348            | (\$107,617)               | (\$67,747)            | \$11,250            | (\$90,821)                               |
| <b>AEP Generating Company</b>                              | <b>\$1,193,245</b>                            | <b>\$107,702</b>              | <b>\$1,645,446</b>     | <b>\$8,945</b>      | <b>\$64,348</b>     | <b>(\$107,617)</b>        | <b>(\$67,747)</b>     | <b>\$11,250</b>     | <b>(\$90,821)</b>                        |
| 104 Cardinal Operating Company                             | \$20,095,437                                  | \$1,720,822                   | \$27,710,954           | \$209,521           | \$1,089,551         | (\$1,812,375)             | (\$1,116,823)         | \$189,461           | (\$1,440,665)                            |
| 181 Ohio Power Co. - Generation                            | \$93,973,270                                  | \$8,901,888                   | \$129,586,083          | \$455,437           | \$5,042,150         | (\$8,475,297)             | (\$4,359,566)         | \$885,985           | (\$6,451,291)                            |
| <b>AEP Generation Resources - FERC</b>                     | <b>\$114,068,707</b>                          | <b>\$10,622,710</b>           | <b>\$157,297,037</b>   | <b>\$664,958</b>    | <b>\$6,131,701</b>  | <b>(\$10,287,672)</b>     | <b>(\$5,476,389)</b>  | <b>\$1,075,446</b>  | <b>(\$7,891,956)</b>                     |
| 290 Conesville Coal Preparation Company                    | \$1,099,177                                   | \$113,376                     | \$1,515,729            | \$0                 | \$58,423            | (\$99,133)                | (\$51,555)            | \$10,363            | (\$81,902)                               |
| <b>AEP Generation Resources - SEC</b>                      | <b>\$115,167,884</b>                          | <b>\$10,736,086</b>           | <b>\$158,812,766</b>   | <b>\$664,958</b>    | <b>\$6,190,124</b>  | <b>(\$10,386,805)</b>     | <b>(\$5,527,944)</b>  | <b>\$1,085,809</b>  | <b>(\$7,973,858)</b>                     |
| <b>Total</b>   | <b>\$1,236,599,375</b>                        | <b>\$107,719,136</b>          | <b>\$1,705,230,318</b> | <b>\$12,163,871</b> | <b>\$66,955,693</b> | <b>(\$111,526,889)</b>    | <b>(\$69,056,806)</b> | <b>\$11,658,732</b> | <b>(\$89,805,399)</b>                    |

AMERICAN ELECTRIC POWER  
NON-UMWA POSTRETIREMENT WELFARE PLAN  
ESTIMATED 2018 NET PERIODIC POSTRETIREMENT BENEFIT COST

| Location   | Accumulated Postretirement Benefit Obligation | Expected Net Benefit Payments | Fair Value of Assets   | Service Cost        | Interest Cost       | Expected Return on Assets | Amortizations         |                    | Net Periodic Postretirement Benefit Cost |
|--|---|-------------------------------|------------------------|---------------------|---------------------|---------------------------|-----------------------|--------------------|--|
|  |   |                               |                        |                     |                     |                           | PSC                   | (G)/L              |  |
| 140 Appalachian Power Co. - Distribution                   | \$99,870,493                                  | \$9,594,833                   | \$142,601,118          | \$720,756           | \$5,464,038         | (\$9,328,937)             | (\$5,097,397)         | \$809,426          | (\$7,432,114)                            |
| 215 Appalachian Power Co. - Generation                     | \$83,052,364                                  | \$7,846,191                   | \$118,587,178          | \$619,736           | \$4,548,792         | (\$7,757,950)             | (\$4,162,884)         | \$673,119          | (\$6,079,187)                            |
| 150 Appalachian Power Co. - Transmission                   | \$11,499,238                                  | \$939,799                     | \$16,419,306           | \$33,996            | \$630,981           | (\$1,074,148)             | (\$781,538)           | \$93,199           | (\$1,097,510)                            |
| <b>Appalachian Power Co. - FERC</b>                        | <b>\$194,422,095</b>                          | <b>\$18,380,823</b>           | <b>\$277,607,602</b>   | <b>\$1,374,488</b>  | <b>\$10,643,811</b> | <b>(\$18,161,035)</b>     | <b>(\$10,041,819)</b> | <b>\$1,575,744</b> | <b>(\$14,608,811)</b>                    |
| 225 Cedar Coal Co  | \$610,759                                     | \$97,468                      | \$872,079              | \$0                 | \$32,074            | (\$57,051)                | (\$8,202)             | \$4,950            | (\$28,229)                               |
| <b>Appalachian Power Co. - SEC</b>                         | <b>\$195,032,854</b>                          | <b>\$18,478,291</b>           | <b>\$278,479,681</b>   | <b>\$1,374,488</b>  | <b>\$10,675,885</b> | <b>(\$18,218,086)</b>     | <b>(\$10,050,021)</b> | <b>\$1,580,694</b> | <b>(\$14,637,040)</b>                    |
| 211 AEP Texas Central Company - Distribution               | \$72,012,674                                  | \$6,499,057                   | \$102,824,043          | \$609,731           | \$3,956,821         | (\$6,726,729)             | (\$3,881,048)         | \$583,645          | (\$5,457,580)                            |
| 147 AEP Texas Central Company - Generation                 | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | (\$15,337)            | \$0                | (\$15,337)                               |
| 169 AEP Texas Central Company - Transmission               | \$6,698,393                                   | \$580,417                     | \$9,564,370            | \$70,090            | \$369,491           | (\$625,699)               | (\$391,921)           | \$54,289           | (\$523,750)                              |
| <b>AEP Texas Central Co.</b>                               | <b>\$78,711,067</b>                           | <b>\$7,079,474</b>            | <b>\$112,388,413</b>   | <b>\$679,821</b>    | <b>\$4,326,312</b>  | <b>(\$7,352,428)</b>      | <b>(\$4,288,306)</b>  | <b>\$637,934</b>   | <b>(\$5,996,667)</b>                     |
| 170 Indiana Michigan Power Co. - Distribution              | \$48,752,832                                  | \$4,916,231                   | \$69,612,236           | \$399,443           | \$2,663,509         | (\$4,554,019)             | (\$2,601,438)         | \$395,130          | (\$3,697,375)                            |
| 132 Indiana Michigan Power Co. - Generation                | \$28,909,246                                  | \$2,684,157                   | \$41,278,366           | \$288,994           | \$1,588,861         | (\$2,700,423)             | (\$1,850,054)         | \$234,302          | (\$2,438,320)                            |
| 190 Indiana Michigan Power Co. - Nuclear                   | \$47,980,561                                  | \$3,932,976                   | \$68,509,541           | \$890,971           | \$2,675,141         | (\$4,481,881)             | (\$3,561,730)         | \$388,871          | (\$4,088,628)                            |
| 120 Indiana Michigan Power Co. - Transmission              | \$10,400,174                                  | \$890,374                     | \$14,849,996           | \$80,795            | \$572,391           | (\$971,484)               | (\$596,815)           | \$84,291           | (\$830,822)                              |
| 280 Ind Mich River Transp Lakin                            | \$11,779,915                                  | \$970,770                     | \$16,820,074           | \$188,877           | \$654,938           | (\$1,100,366)             | (\$811,278)           | \$95,473           | (\$972,356)                              |
| <b>Indiana Michigan Power Co. - FERC</b>                   | <b>\$147,822,728</b>                          | <b>\$13,394,508</b>           | <b>\$211,070,213</b>   | <b>\$1,849,080</b>  | <b>\$8,154,840</b>  | <b>(\$13,808,173)</b>     | <b>(\$9,421,315)</b>  | <b>\$1,198,067</b> | <b>(\$12,027,501)</b>                    |
| 202 Price River Coal                                       | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| <b>Indiana Michigan Power Co. - SEC</b>                    | <b>\$147,822,728</b>                          | <b>\$13,394,508</b>           | <b>\$211,070,213</b>   | <b>\$1,849,080</b>  | <b>\$8,154,840</b>  | <b>(\$13,808,173)</b>     | <b>(\$9,421,315)</b>  | <b>\$1,198,067</b> | <b>(\$12,027,501)</b>                    |
| 110 Kentucky Power Co. - Distribution                      | \$18,639,200                                  | \$1,698,708                   | \$26,614,175           | \$153,269           | \$1,023,428         | (\$1,741,094)             | (\$1,210,578)         | \$151,066          | (\$1,623,909)                            |
| 117 Kentucky Power Co. - Generation                        | \$12,403,978                                  | \$1,098,290                   | \$17,711,149           | \$55,404            | \$679,317           | (\$1,158,660)             | (\$611,828)           | \$100,531          | (\$935,236)                              |
| 180 Kentucky Power Co. - Transmission                      | \$1,859,264                                   | \$144,127                     | \$2,654,769            | \$19,900            | \$103,062           | (\$173,674)               | (\$188,150)           | \$15,069           | (\$233,793)                              |
| 600 Kentucky Power Co. - Kammer Actives                    | \$1,274,283                                   | \$102,464                     | \$1,819,498            | \$36,151            | \$71,815            | (\$119,031)               | (\$42,530)            | \$10,328           | (\$43,267)                               |
| 701 Kentucky Power Co. - Mitchell Actives                  | \$6,416,867                                   | \$441,190                     | \$9,162,133            | \$184,017           | \$363,840           | (\$599,385)               | (\$160,767)           | \$52,006           | (\$160,289)                              |
| 702 Kentucky Power Co. - Mitchell Inactives                | \$6,232,401                                   | \$596,531                     | \$8,898,998            | \$0                 | \$338,481           | (\$582,171)               | (\$200,743)           | \$50,512           | (\$393,921)                              |
| <b>Kentucky Power Co.</b>                                  | <b>\$46,825,813</b>                           | <b>\$4,081,310</b>            | <b>\$66,860,722</b>    | <b>\$448,741</b>    | <b>\$2,579,943</b>  | <b>(\$4,374,015)</b>      | <b>(\$2,424,596)</b>  | <b>\$379,512</b>   | <b>(\$3,390,415)</b>                     |
| 250 Ohio Power Co. - Distribution                          | \$126,791,334                                 | \$11,996,531                  | \$181,040,320          | \$966,681           | \$6,945,044         | (\$11,843,622)            | (\$5,890,962)         | \$1,027,613        | (\$8,795,246)                            |
| 160 Ohio Power Co. - Transmission                          | \$15,182,063                                  | \$1,323,372                   | \$21,677,866           | \$7,320             | \$828,601           | (\$1,418,162)             | (\$1,031,548)         | \$123,047          | (\$1,490,742)                            |
| <b>Ohio Power Co.</b>                                      | <b>\$141,973,397</b>                          | <b>\$13,319,903</b>           | <b>\$202,718,186</b>   | <b>\$974,001</b>    | <b>\$7,773,645</b>  | <b>(\$13,261,784)</b>     | <b>(\$6,922,510)</b>  | <b>\$1,150,660</b> | <b>(\$10,285,988)</b>                    |
| 167 Public Service Co. of Oklahoma - Distribution          | \$43,162,096                                  | \$3,773,519                   | \$61,629,446           | \$449,289           | \$2,379,794         | (\$4,031,786)             | (\$2,477,659)         | \$349,818          | (\$3,330,544)                            |
| 198 Public Service Co. of Oklahoma - Generation            | \$21,226,449                                  | \$1,829,081                   | \$30,308,405           | \$287,514           | \$1,174,889         | (\$1,982,770)             | (\$1,498,642)         | \$172,035          | (\$1,846,974)                            |
| 114 Public Service Co. of Oklahoma - Transmission          | \$5,016,334                                   | \$447,888                     | \$7,162,624            | \$60,198            | \$276,774           | (\$468,577)               | (\$313,349)           | \$40,656           | (\$404,298)                              |
| <b>Public Service Co. of Oklahoma</b>                      | <b>\$69,404,879</b>                           | <b>\$6,050,488</b>            | <b>\$99,100,475</b>    | <b>\$797,001</b>    | <b>\$3,831,457</b>  | <b>(\$6,483,133)</b>      | <b>(\$4,289,650)</b>  | <b>\$562,509</b>   | <b>(\$5,581,816)</b>                     |
| 159 Southwestern Electric Power Co. - Distribution         | \$30,234,968                                  | \$2,523,465                   | \$43,171,312           | \$347,533           | \$1,672,280         | (\$2,824,259)             | (\$1,794,965)         | \$245,047          | (\$2,354,364)                            |
| 168 Southwestern Electric Power Co. - Generation           | \$29,741,277                                  | \$2,612,311                   | \$42,466,391           | \$418,020           | \$1,645,661         | (\$2,778,143)             | (\$2,137,691)         | \$241,046          | (\$2,611,107)                            |
| 161 Southwestern Electric Power Co. - Texas - Distribution | \$14,136,004                                  | \$1,223,082                   | \$20,184,240           | \$150,296           | \$779,944           | (\$1,320,449)             | (\$942,674)           | \$114,569          | (\$1,218,314)                            |
| 111 Southwestern Electric Power Co. - Texas - Transmission | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| 194 Southwestern Electric Power Co. - Transmission         | \$4,691,496                                   | \$388,383                     | \$6,698,801            | \$45,138            | \$259,073           | (\$438,234)               | (\$280,205)           | \$38,023           | (\$376,205)                              |
| <b>Southwestern Electric Power Co.</b>                     | <b>\$78,803,745</b>                           | <b>\$6,747,241</b>            | <b>\$112,520,744</b>   | <b>\$960,987</b>    | <b>\$4,356,958</b>  | <b>(\$7,361,085)</b>      | <b>(\$5,155,535)</b>  | <b>\$638,685</b>   | <b>(\$6,559,990)</b>                     |
| 119 AEP Texas North Company - Distribution                 | \$20,297,176                                  | \$1,845,426                   | \$28,981,533           | \$187,076           | \$1,115,737         | (\$1,895,966)             | (\$1,276,048)         | \$164,504          | (\$1,704,697)                            |
| 166 AEP Texas North Company - Generation                   | \$5,246,979                                   | \$543,352                     | \$7,491,953            | \$0                 | \$283,807           | (\$490,122)               | (\$67,677)            | \$42,525           | (\$231,467)                              |
| 192 AEP Texas North Company - Transmission                 | \$2,690,508                                   | \$236,187                     | \$3,841,670            | \$36,102            | \$148,779           | (\$251,321)               | (\$233,844)           | \$21,806           | (\$278,478)                              |
| <b>AEP Texas North Co.</b>                                 | <b>\$28,234,663</b>                           | <b>\$2,624,965</b>            | <b>\$40,315,156</b>    | <b>\$223,178</b>    | <b>\$1,548,323</b>  | <b>(\$2,637,409)</b>      | <b>(\$1,577,569)</b>  | <b>\$228,835</b>   | <b>(\$2,214,642)</b>                     |
| 230 Kingsport Power Co. - Distribution                     | \$3,947,489                                   | \$369,132                     | \$5,636,463            | \$36,771            | \$216,728           | (\$368,736)               | (\$177,403)           | \$31,993           | (\$260,647)                              |
| 260 Kingsport Power Co. - Transmission                     | \$485,801                                     | \$36,671                      | \$693,656              | \$2,245             | \$26,788            | (\$45,379)                | (\$40,419)            | \$3,937            | (\$52,828)                               |
| <b>Kingsport Power Co.</b>                                 | <b>\$4,433,290</b>                            | <b>\$405,803</b>              | <b>\$6,330,119</b>     | <b>\$39,016</b>     | <b>\$243,516</b>    | <b>(\$414,115)</b>        | <b>(\$217,822)</b>    | <b>\$35,930</b>    | <b>(\$313,475)</b>                       |
| 210 Wheeling Power Co. - Distribution                      | \$5,083,618                                   | \$467,321                     | \$7,258,697            | \$35,336            | \$278,646           | (\$474,863)               | (\$259,071)           | \$41,201           | (\$378,751)                              |
| 200 Wheeling Power Co. - Transmission                      | \$240,157                                     | \$39,144                      | \$342,911              | \$0                 | \$12,589            | (\$22,433)                | (\$2,613)             | \$1,946            | (\$10,511)                               |
| <b>Wheeling Power Co.</b>                                  | <b>\$5,323,775</b>                            | <b>\$506,465</b>              | <b>\$7,601,608</b>     | <b>\$35,336</b>     | <b>\$291,235</b>    | <b>(\$497,296)</b>        | <b>(\$261,684)</b>    | <b>\$43,147</b>    | <b>(\$389,262)</b>                       |
| 103 American Electric Power Service Corporation            | \$273,746,199                                 | \$22,904,612                  | \$390,871,347          | \$3,468,043         | \$15,157,479        | (\$25,570,725)            | (\$17,282,221)        | \$2,218,648        | (\$22,008,776)                           |
| <b>American Electric Power Service Corporation</b>         | <b>\$273,746,199</b>                          | <b>\$22,904,612</b>           | <b>\$390,871,347</b>   | <b>\$3,468,043</b>  | <b>\$15,157,479</b> | <b>(\$25,570,725)</b>     | <b>(\$17,282,221)</b> | <b>\$2,218,648</b> | <b>(\$22,008,776)</b>                    |
| 143 AEP Pro Serv, Inc.                                     | \$91,349                                      | \$12,020                      | \$130,434              | \$0                 | \$4,869             | (\$8,533)                 | (\$1,133)             | \$740              | (\$4,057)                                |
| 171 CSW Energy, Inc.                                       | \$1,213,345                                   | \$40,448                      | \$1,732,487            | \$46,659            | \$70,683            | (\$113,339)               | (\$47,052)            | \$9,834            | (\$33,215)                               |
| 293 Elmwood  | \$2,033,686                                   | \$136,704                     | \$2,903,820            | \$79,656            | \$116,618           | (\$189,967)               | (\$276,067)           | \$16,483           | (\$253,277)                              |
| 292 AEP River Operations LLC                               | \$11,857,038                                  | \$633,649                     | \$16,930,195           | \$609,069           | \$692,759           | (\$1,107,570)             | (\$1,245,634)         | \$96,098           | (\$955,278)                              |
| 189 Central Coal Company                                   | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| <b>Miscellaneous</b>                                       | <b>\$15,195,418</b>                           | <b>\$822,821</b>              | <b>\$21,696,936</b>    | <b>\$735,384</b>    | <b>\$884,929</b>    | <b>(\$1,419,409)</b>      | <b>(\$1,569,886)</b>  | <b>\$123,155</b>   | <b>(\$1,245,827)</b>                     |
| 270 Cook Coal Terminal                                     | \$1,148,209                                   | \$116,355                     | \$1,639,482            | \$9,019             | \$62,692            | (\$107,255)               | (\$67,747)            | \$9,306            | (\$93,985)                               |
| <b>AEP Generating Company</b>                              | <b>\$1,148,209</b>                            | <b>\$116,355</b>              | <b>\$1,639,482</b>     | <b>\$9,019</b>      | <b>\$62,692</b>     | <b>(\$107,255)</b>        | <b>(\$67,747)</b>     | <b>\$9,306</b>     | <b>(\$93,985)</b>                        |
| 104 Cardinal Operating Company                             | \$19,493,279                                  | \$1,722,458                   | \$27,833,680           | \$211,255           | \$1,074,749         | (\$1,820,874)             | (\$1,116,823)         | \$157,988          | (\$1,493,705)                            |
| 181 Ohio Power Co. - Generation                            | \$89,738,449                                  | \$8,713,851                   | \$128,133,974          | \$459,207           | \$4,896,363         | (\$8,382,499)             | (\$4,359,566)         | \$727,308          | (\$6,659,187)                            |
| <b>AEP Generation Resources - FERC</b>                     | <b>\$109,231,728</b>                          | <b>\$10,436,309</b>           | <b>\$155,967,654</b>   | <b>\$670,462</b>    | <b>\$5,971,112</b>  | <b>(\$10,203,373)</b>     | <b>(\$5,476,389)</b>  | <b>\$885,296</b>   | <b>(\$8,152,892)</b>                     |
| 290 Conesville Coal Preparation Company                    | \$1,034,648                                   | \$117,405                     | \$1,477,333            | \$0                 | \$55,675            | (\$96,647)                | (\$51,555)            | \$8,386            | (\$84,141)                               |
| <b>AEP Generation Resources - SEC</b>                      | <b>\$110,266,376</b>                          | <b>\$10,553,714</b>           | <b>\$157,444,987</b>   | <b>\$670,462</b>    | <b>\$6,026,787</b>  | <b>(\$10,300,020)</b>     | <b>(\$5,527,944)</b>  | <b>\$893,682</b>   | <b>(\$8,237,033)</b>                     |
| <b>Total</b>   | <b>\$1,196,922,413</b>                        | <b>\$107,085,950</b>          | <b>\$1,709,038,069</b> | <b>\$12,264,557</b> | <b>\$65,914,001</b> | <b>(\$111,804,933)</b>    | <b>(\$69,056,806)</b> | <b>\$9,700,764</b> | <b>(\$92,982,417)</b>                    |

**AMERICAN ELECTRIC POWER  
NON-UMWA POSTRETIREMENT WELFARE PLAN  
ESTIMATED 2019 NET PERIODIC POSTRETIREMENT BENEFIT COST**

| Location   | Accumulated Postretirement Benefit Obligation | Expected Net Benefit Payments | Fair Value of Assets   | Service Cost        | Interest Cost       | Expected Return on Assets | Amortizations         |                    | Net Periodic Postretirement Benefit Cost |
|--|---|-------------------------------|------------------------|---------------------|---------------------|---------------------------|-----------------------|--------------------|--|
|  |   |                               |                        |                     |                     |                           | PSC                   | (G)/L              |  |
| 140 Appalachian Power Co. - Distribution                   | \$95,575,909                                  | \$9,255,802                   | \$141,530,529          | \$726,722           | \$5,320,917         | (\$9,266,680)             | (\$5,097,397)         | \$647,142          | (\$7,669,296)                            |
| 215 Appalachian Power Co. - Generation                     | \$79,637,663                                  | \$7,495,628                   | \$117,928,887          | \$624,866           | \$4,440,917         | (\$7,721,367)             | (\$4,162,884)         | \$539,225          | (\$6,279,243)                            |
| 150 Appalachian Power Co. - Transmission                   | \$11,121,488                                  | \$877,554                     | \$16,468,900           | \$34,277            | \$621,944           | (\$1,078,298)             | (\$781,538)           | \$75,303           | (\$1,128,312)                            |
| <b>Appalachian Power Co. - FERC</b>                        | <b>\$186,335,060</b>                          | <b>\$17,628,984</b>           | <b>\$275,928,316</b>   | <b>\$1,385,865</b>  | <b>\$10,383,778</b> | <b>(\$18,066,345)</b>     | <b>(\$10,041,819)</b> | <b>\$1,261,670</b> | <b>(\$15,076,851)</b>                    |
| 225 Cedar Coal Co  | \$540,364                                     | \$88,720                      | \$800,181              | \$0                 | \$28,804            | (\$52,392)                | (\$8,202)             | \$3,659            | (\$28,131)                               |
| <b>Appalachian Power Co. - SEC</b>                         | <b>\$186,875,424</b>                          | <b>\$17,717,704</b>           | <b>\$276,728,497</b>   | <b>\$1,385,865</b>  | <b>\$10,412,582</b> | <b>(\$18,118,737)</b>     | <b>(\$10,050,021)</b> | <b>\$1,265,329</b> | <b>(\$15,104,982)</b>                    |
| 211 AEP Texas Central Company - Distribution               | \$69,437,532                                  | \$6,376,144                   | \$102,824,349          | \$614,778           | \$3,880,732         | (\$6,732,401)             | (\$3,881,048)         | \$470,160          | (\$5,647,779)                            |
| 147 AEP Texas Central Company - Generation                 | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | (\$15,337)            | \$0                | (\$15,337)                               |
| 169 AEP Texas Central Company - Transmission               | \$6,497,424                                   | \$577,021                     | \$9,621,503            | \$70,670            | \$364,452           | (\$629,966)               | (\$391,921)           | \$43,994           | (\$542,771)                              |
| <b>AEP Texas Central Co.</b>                               | <b>\$75,934,956</b>                           | <b>\$6,953,165</b>            | <b>\$112,445,852</b>   | <b>\$685,448</b>    | <b>\$4,245,184</b>  | <b>(\$7,362,367)</b>      | <b>(\$4,288,306)</b>  | <b>\$514,154</b>   | <b>(\$6,205,887)</b>                     |
| 170 Indiana Michigan Power Co. - Distribution              | \$46,469,483                                  | \$4,772,026                   | \$68,812,848           | \$402,749           | \$2,582,151         | (\$4,505,506)             | (\$2,601,438)         | \$314,644          | (\$3,807,400)                            |
| 132 Indiana Michigan Power Co. - Generation                | \$27,845,239                                  | \$2,621,868                   | \$41,233,732           | \$291,386           | \$1,556,962         | (\$2,699,769)             | (\$1,850,054)         | \$188,539          | (\$2,512,936)                            |
| 190 Indiana Michigan Power Co. - Nuclear                   | \$47,177,078                                  | \$3,951,108                   | \$69,860,667           | \$898,346           | \$2,675,407         | (\$4,574,112)             | (\$3,561,730)         | \$319,435          | (\$4,242,654)                            |
| 120 Indiana Michigan Power Co. - Transmission              | \$10,069,791                                  | \$859,548                     | \$14,911,528           | \$81,464            | \$564,197           | (\$976,329)               | (\$596,815)           | \$68,182           | (\$859,301)                              |
| 280 Ind Mich River Transp Lakin                            | \$11,546,102                                  | \$989,132                     | \$17,097,676           | \$190,440           | \$652,439           | (\$1,119,467)             | (\$811,278)           | \$78,178           | (\$1,009,688)                            |
| <b>Indiana Michigan Power Co. - FERC</b>                   | <b>\$143,107,693</b>                          | <b>\$13,193,682</b>           | <b>\$211,916,451</b>   | <b>\$1,864,385</b>  | <b>\$8,031,156</b>  | <b>(\$13,875,183)</b>     | <b>(\$9,421,315)</b>  | <b>\$968,978</b>   | <b>(\$12,431,979)</b>                    |
| 202 Price River Coal                                       | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| <b>Indiana Michigan Power Co. - SEC</b>                    | <b>\$143,107,693</b>                          | <b>\$13,193,682</b>           | <b>\$211,916,451</b>   | <b>\$1,864,385</b>  | <b>\$8,031,156</b>  | <b>(\$13,875,183)</b>     | <b>(\$9,421,315)</b>  | <b>\$968,978</b>   | <b>(\$12,431,979)</b>                    |
| 110 Kentucky Power Co. - Distribution                      | \$17,951,054                                  | \$1,654,727                   | \$26,582,244           | \$154,538           | \$1,002,814         | (\$1,740,466)             | (\$1,210,578)         | \$121,546          | (\$1,672,146)                            |
| 117 Kentucky Power Co. - Generation                        | \$11,929,998                                  | \$1,052,591                   | \$17,666,156           | \$55,863            | \$665,085           | (\$1,156,688)             | (\$611,828)           | \$80,778           | (\$966,790)                              |
| 180 Kentucky Power Co. - Transmission                      | \$1,821,244                                   | \$136,906                     | \$2,696,931            | \$20,065            | \$102,882           | (\$176,581)               | (\$198,150)           | \$12,332           | (\$239,452)                              |
| 600 Kentucky Power Co. - Kammer Actives                    | \$1,268,049                                   | \$105,599                     | \$1,877,750            | \$36,450            | \$72,642            | (\$122,945)               | (\$42,530)            | \$8,586            | (\$47,797)                               |
| 701 Kentucky Power Co. - Mitchell Actives                  | \$6,463,535                                   | \$517,123                     | \$9,571,319            | \$185,540           | \$370,861           | (\$626,680)               | (\$160,767)           | \$43,764           | (\$187,282)                              |
| 702 Kentucky Power Co. - Mitchell Inactives                | \$5,919,566                                   | \$556,813                     | \$8,765,800            | \$0                 | \$327,415           | (\$573,939)               | (\$200,743)           | \$40,081           | (\$407,186)                              |
| <b>Kentucky Power Co.</b>                                  | <b>\$45,353,446</b>                           | <b>\$4,023,759</b>            | <b>\$67,160,200</b>    | <b>\$452,456</b>    | <b>\$2,541,699</b>  | <b>(\$4,397,299)</b>      | <b>(\$2,424,596)</b>  | <b>\$307,087</b>   | <b>(\$3,520,653)</b>                     |
| 250 Ohio Power Co. - Distribution                          | \$121,581,306                                 | \$11,707,587                  | \$180,039,789          | \$974,683           | \$6,773,513         | (\$11,788,065)            | (\$5,890,962)         | \$823,224          | (\$9,107,607)                            |
| 160 Ohio Power Co. - Transmission                          | \$14,559,862                                  | \$1,309,373                   | \$21,560,506           | \$7,381             | \$807,463           | (\$1,411,669)             | (\$1,031,548)         | \$98,584           | (\$1,529,789)                            |
| <b>Ohio Power Co.</b>                                      | <b>\$136,141,168</b>                          | <b>\$13,016,960</b>           | <b>\$201,600,295</b>   | <b>\$982,064</b>    | <b>\$7,580,976</b>  | <b>(\$13,199,734)</b>     | <b>(\$6,922,510)</b>  | <b>\$921,808</b>   | <b>(\$10,637,396)</b>                    |
| 167 Public Service Co. of Oklahoma - Distribution          | \$41,830,523                                  | \$3,775,033                   | \$61,943,392           | \$453,008           | \$2,344,512         | (\$4,055,730)             | (\$2,477,659)         | \$283,233          | (\$3,452,636)                            |
| 198 Public Service Co. of Oklahoma - Generation            | \$20,668,486                                  | \$1,842,296                   | \$30,606,267           | \$289,894           | \$1,162,912         | (\$2,003,938)             | (\$1,498,642)         | \$139,946          | (\$1,909,828)                            |
| 114 Public Service Co. of Oklahoma - Transmission          | \$4,860,435                                   | \$426,192                     | \$7,197,420            | \$60,696            | \$273,240           | (\$471,249)               | (\$313,349)           | \$32,910           | (\$417,752)                              |
| <b>Public Service Co. of Oklahoma</b>                      | <b>\$67,359,444</b>                           | <b>\$6,043,521</b>            | <b>\$99,747,079</b>    | <b>\$803,598</b>    | <b>\$3,780,664</b>  | <b>(\$6,530,917)</b>      | <b>(\$4,289,650)</b>  | <b>\$456,089</b>   | <b>(\$5,700,216)</b>                     |
| 159 Southwestern Electric Power Co. - Distribution         | \$29,458,679                                  | \$2,530,528                   | \$43,622,943           | \$350,410           | \$1,656,576         | (\$2,856,202)             | (\$1,794,965)         | \$199,464          | (\$2,444,717)                            |
| 168 Southwestern Electric Power Co. - Generation           | \$28,924,950                                  | \$2,521,253                   | \$42,832,587           | \$421,480           | \$1,630,007         | (\$2,804,454)             | (\$2,137,691)         | \$195,850          | (\$2,694,808)                            |
| 161 Southwestern Electric Power Co. - Texas - Distribution | \$13,716,220                                  | \$1,171,658                   | \$20,311,226           | \$151,540           | \$770,831           | (\$1,329,873)             | (\$942,674)           | \$92,872           | (\$1,257,304)                            |
| 111 Southwestern Electric Power Co. - Texas - Transmission | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| 194 Southwestern Electric Power Co. - Transmission         | \$4,565,075                                   | \$371,349                     | \$6,760,045            | \$45,512            | \$256,797           | (\$442,612)               | (\$280,205)           | \$30,910           | (\$389,598)                              |
| <b>Southwestern Electric Power Co.</b>                     | <b>\$76,664,924</b>                           | <b>\$6,594,788</b>            | <b>\$113,526,801</b>   | <b>\$968,942</b>    | <b>\$4,314,211</b>  | <b>(\$7,433,141)</b>      | <b>(\$5,155,535)</b>  | <b>\$519,096</b>   | <b>(\$6,786,427)</b>                     |
| 119 AEP Texas North Company - Distribution                 | \$19,573,413                                  | \$1,814,405                   | \$28,984,663           | \$188,625           | \$1,094,322         | (\$1,897,764)             | (\$1,276,048)         | \$132,531          | (\$1,758,334)                            |
| 166 AEP Texas North Company - Generation                   | \$4,941,699                                   | \$530,260                     | \$7,317,757            | \$0                 | \$271,458           | (\$479,128)               | (\$67,677)            | \$33,460           | (\$241,887)                              |
| 192 AEP Texas North Company - Transmission                 | \$2,615,000                                   | \$240,537                     | \$3,872,339            | \$36,401            | \$146,904           | (\$253,541)               | (\$233,844)           | \$17,706           | (\$286,374)                              |
| <b>AEP Texas North Co.</b>                                 | <b>\$27,130,112</b>                           | <b>\$2,585,202</b>            | <b>\$40,174,759</b>    | <b>\$225,026</b>    | <b>\$1,512,684</b>  | <b>(\$2,630,433)</b>      | <b>(\$1,577,569)</b>  | <b>\$183,697</b>   | <b>(\$2,286,595)</b>                     |
| 230 Kingsport Power Co. - Distribution                     | \$3,796,718                                   | \$338,858                     | \$5,622,248            | \$37,075            | \$212,672           | (\$368,115)               | (\$177,403)           | \$25,707           | (\$270,064)                              |
| 260 Kingsport Power Co. - Transmission                     | \$473,778                                     | \$37,771                      | \$701,579              | \$2,264             | \$26,531            | (\$45,936)                | (\$40,419)            | \$3,208            | (\$54,352)                               |
| <b>Kingsport Power Co.</b>                                 | <b>\$4,270,496</b>                            | <b>\$376,629</b>              | <b>\$6,323,827</b>     | <b>\$39,339</b>     | <b>\$239,203</b>    | <b>(\$414,051)</b>        | <b>(\$217,822)</b>    | <b>\$28,915</b>    | <b>(\$324,416)</b>                       |
| 210 Wheeling Power Co. - Distribution                      | \$4,885,068                                   | \$474,169                     | \$7,233,897            | \$35,628            | \$271,843           | (\$473,638)               | (\$259,071)           | \$33,077           | (\$392,161)                              |
| 200 Wheeling Power Co. - Transmission                      | \$211,643                                     | \$36,450                      | \$313,405              | \$0                 | \$11,233            | (\$20,520)                | (\$2,613)             | \$1,433            | (\$10,467)                               |
| <b>Wheeling Power Co.</b>                                  | <b>\$5,096,711</b>                            | <b>\$510,619</b>              | <b>\$7,547,302</b>     | <b>\$35,628</b>     | <b>\$283,076</b>    | <b>(\$494,158)</b>        | <b>(\$261,684)</b>    | <b>\$34,510</b>    | <b>(\$402,628)</b>                       |
| 103 American Electric Power Service Corporation            | \$266,996,088                                 | \$22,435,670                  | \$395,372,621          | \$3,496,750         | \$15,047,122        | (\$25,886,933)            | (\$17,282,221)        | \$1,807,820        | (\$22,817,462)                           |
| <b>American Electric Power Service Corporation</b>         | <b>\$266,996,088</b>                          | <b>\$22,435,670</b>           | <b>\$395,372,621</b>   | <b>\$3,496,750</b>  | <b>\$15,047,122</b> | <b>(\$25,886,933)</b>     | <b>(\$17,282,221)</b> | <b>\$1,807,820</b> | <b>(\$22,817,462)</b>                    |
| 143 AEP Pro Serv, Inc.                                     | \$83,426                                      | \$12,313                      | \$123,539              | \$0                 | \$4,487             | (\$8,089)                 | (\$1,133)             | \$565              | (\$4,170)                                |
| 171 CSW Energy, Inc.                                       | \$1,278,407                                   | \$47,173                      | \$1,893,088            | \$47,045            | \$75,527            | (\$123,950)               | (\$47,052)            | \$8,656            | (\$39,774)                               |
| 293 Elmwood  | \$2,074,061                                   | \$138,960                     | \$3,071,307            | \$80,315            | \$120,981           | (\$201,093)               | (\$276,067)           | \$14,043           | (\$261,821)                              |
| 292 AEP River Operations LLC                               | \$12,410,360                                  | \$640,830                     | \$18,377,485           | \$614,111           | \$737,097           | (\$1,203,262)             | (\$1,245,634)         | \$84,030           | (\$1,013,658)                            |
| 189 Central Coal Company                                   | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| <b>Miscellaneous</b>                                       | <b>\$15,846,254</b>                           | <b>\$839,276</b>              | <b>\$23,465,419</b>    | <b>\$741,471</b>    | <b>\$938,092</b>    | <b>(\$1,536,394)</b>      | <b>(\$1,569,886)</b>  | <b>\$107,294</b>   | <b>(\$1,319,423)</b>                     |
| 270 Cook Coal Terminal                                     | \$1,093,445                                   | \$115,400                     | \$1,619,193            | \$9,094             | \$60,648            | (\$106,016)               | (\$67,747)            | \$7,404            | (\$96,617)                               |
| <b>AEP Generating Company</b>                              | <b>\$1,093,445</b>                            | <b>\$115,400</b>              | <b>\$1,619,193</b>     | <b>\$9,094</b>      | <b>\$60,648</b>     | <b>(\$106,016)</b>        | <b>(\$67,747)</b>     | <b>\$7,404</b>     | <b>(\$96,617)</b>                        |
| 104 Cardinal Operating Company                             | \$18,882,073                                  | \$1,664,987                   | \$27,960,914           | \$213,004           | \$1,059,910         | (\$1,830,735)             | (\$1,116,823)         | \$127,850          | (\$1,546,794)                            |
| 181 Ohio Power Co. - Generation                            | \$85,588,060                                  | \$8,356,651                   | \$126,740,342          | \$463,008           | \$4,752,035         | (\$8,298,295)             | (\$4,359,566)         | \$579,515          | (\$6,863,303)                            |
| <b>AEP Generation Resources - FERC</b>                     | <b>\$104,470,133</b>                          | <b>\$10,021,638</b>           | <b>\$154,701,256</b>   | <b>\$676,012</b>    | <b>\$5,811,945</b>  | <b>(\$10,129,030)</b>     | <b>(\$5,476,389)</b>  | <b>\$707,365</b>   | <b>(\$8,410,097)</b>                     |
| 290 Conesville Coal Preparation Company                    | \$963,996                                     | \$115,807                     | \$1,427,503            | \$0                 | \$52,601            | (\$93,465)                | (\$51,555)            | \$6,527            | (\$85,892)                               |
| <b>AEP Generation Resources - SEC</b>                      | <b>\$105,434,129</b>                          | <b>\$10,137,445</b>           | <b>\$156,128,759</b>   | <b>\$676,012</b>    | <b>\$5,864,546</b>  | <b>(\$10,222,495)</b>     | <b>(\$5,527,944)</b>  | <b>\$713,892</b>   | <b>(\$8,495,989)</b>                     |
| <b>Total</b>   | <b>\$1,157,304,290</b>                        | <b>\$104,543,820</b>          | <b>\$1,713,757,055</b> | <b>\$12,366,078</b> | <b>\$64,851,843</b> | <b>(\$112,207,858)</b>    | <b>(\$69,056,806)</b> | <b>\$7,836,073</b> | <b>(\$96,210,670)</b>                    |



**AMERICAN ELECTRIC POWER  
NON-UMWA POSTRETIREMENT WELFARE PLAN  
ESTIMATED 2020 NET PERIODIC POSTRETIREMENT BENEFIT COST**

| Location   | Accumulated Postretirement Benefit Obligation | Expected Net Benefit Payments | Fair Value of Assets   | Service Cost        | Interest Cost       | Expected Return on Assets | Amortizations         |                    | Net Periodic Postretirement Benefit Cost |
|--|---|-------------------------------|------------------------|---------------------|---------------------|---------------------------|-----------------------|--------------------|--|
|  |   |                               |                        |                     |                     |                           | PSC                   | (G)/L              |  |
| 140 Appalachian Power Co. - Distribution                   | \$92,367,746                                  | \$9,066,380                   | \$140,714,006          | \$743,982           | \$5,141,261         | (\$9,218,901)             | (\$5,097,397)         | \$582,123          | (\$7,848,932)                            |
| 215 Appalachian Power Co. - Generation                     | \$77,207,818                                  | \$7,270,916                   | \$117,619,210          | \$639,707           | \$4,307,272         | (\$7,705,842)             | (\$4,162,884)         | \$486,582          | (\$6,435,165)                            |
| 150 Appalachian Power Co. - Transmission                   | \$10,900,155                                  | \$852,271                     | \$16,605,412           | \$35,091            | \$609,877           | (\$1,087,906)             | (\$781,538)           | \$68,695           | (\$1,155,781)                            |
| <b>Appalachian Power Co. - FERC</b>                        | <b>\$180,475,719</b>                          | <b>\$17,189,567</b>           | <b>\$274,938,628</b>   | <b>\$1,418,780</b>  | <b>\$10,058,410</b> | <b>(\$18,012,649)</b>     | <b>(\$10,041,819)</b> | <b>\$1,137,400</b> | <b>(\$15,439,878)</b>                    |
| 225 Cedar Coal Co  | \$480,448                                     | \$79,688                      | \$731,920              | \$0                 | \$25,588            | (\$47,952)                | (\$8,202)             | \$3,028            | (\$27,538)                               |
| <b>Appalachian Power Co. - SEC</b>                         | <b>\$180,956,167</b>                          | <b>\$17,269,255</b>           | <b>\$275,670,548</b>   | <b>\$1,418,780</b>  | <b>\$10,083,998</b> | <b>(\$18,060,601)</b>     | <b>(\$10,050,021)</b> | <b>\$1,140,428</b> | <b>(\$15,467,416)</b>                    |
| 211 AEP Texas Central Company - Distribution               | \$67,556,898                                  | \$6,244,142                   | \$102,916,896          | \$629,379           | \$3,776,276         | (\$6,742,617)             | (\$3,881,048)         | \$425,759          | (\$5,792,251)                            |
| 147 AEP Texas Central Company - Generation                 | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | (\$15,337)            | \$0                | (\$15,337)                               |
| 169 AEP Texas Central Company - Transmission               | \$6,355,525                                   | \$576,781                     | \$9,682,074            | \$72,348            | \$356,326           | (\$634,323)               | (\$391,921)           | \$40,054           | (\$557,516)                              |
| <b>AEP Texas Central Co.</b>                               | <b>\$73,912,423</b>                           | <b>\$6,820,923</b>            | <b>\$112,598,970</b>   | <b>\$701,727</b>    | <b>\$4,132,602</b>  | <b>(\$7,376,940)</b>      | <b>(\$4,288,306)</b>  | <b>\$465,813</b>   | <b>(\$6,365,104)</b>                     |
| 170 Indiana Michigan Power Co. - Distribution              | \$44,682,357                                  | \$4,584,069                   | \$68,069,578           | \$412,314           | \$2,484,427         | (\$4,459,590)             | (\$2,601,438)         | \$281,599          | (\$3,882,688)                            |
| 132 Indiana Michigan Power Co. - Generation                | \$27,071,719                                  | \$2,614,398                   | \$41,241,344           | \$298,306           | \$1,512,712         | (\$2,701,933)             | (\$1,850,054)         | \$170,612          | (\$2,570,357)                            |
| 190 Indiana Michigan Power Co. - Nuclear                   | \$46,799,723                                  | \$3,993,750                   | \$71,295,195           | \$919,682           | \$2,653,539         | (\$4,670,916)             | (\$3,561,730)         | \$294,943          | (\$4,364,482)                            |
| 120 Indiana Michigan Power Co. - Transmission              | \$9,855,904                                   | \$842,268                     | \$15,014,589           | \$83,399            | \$552,398           | (\$983,683)               | (\$596,815)           | \$62,114           | (\$882,587)                              |
| 280 Ind Mich River Transp Lakin                            | \$11,399,849                                  | \$996,047                     | \$17,366,651           | \$194,963           | \$644,021           | (\$1,137,779)             | (\$811,278)           | \$71,845           | (\$1,038,228)                            |
| <b>Indiana Michigan Power Co. - FERC</b>                   | <b>\$139,809,552</b>                          | <b>\$13,030,532</b>           | <b>\$212,987,357</b>   | <b>\$1,908,664</b>  | <b>\$7,847,097</b>  | <b>(\$13,953,901)</b>     | <b>(\$9,421,315)</b>  | <b>\$881,113</b>   | <b>(\$12,738,342)</b>                    |
| 202 Price River Coal                                       | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| <b>Indiana Michigan Power Co. - SEC</b>                    | <b>\$139,809,552</b>                          | <b>\$13,030,532</b>           | <b>\$212,987,357</b>   | <b>\$1,908,664</b>  | <b>\$7,847,097</b>  | <b>(\$13,953,901)</b>     | <b>(\$9,421,315)</b>  | <b>\$881,113</b>   | <b>(\$12,738,342)</b>                    |
| 110 Kentucky Power Co. - Distribution                      | \$17,453,679                                  | \$1,674,438                   | \$26,589,120           | \$158,208           | \$973,615           | (\$1,741,991)             | (\$1,210,578)         | \$109,997          | (\$1,710,749)                            |
| 117 Kentucky Power Co. - Generation                        | \$11,598,355                                  | \$1,027,853                   | \$17,669,057           | \$57,190            | \$646,634           | (\$1,157,591)             | (\$611,828)           | \$73,096           | (\$992,499)                              |
| 180 Kentucky Power Co. - Transmission                      | \$1,807,285                                   | \$143,085                     | \$2,753,237            | \$20,542            | \$101,923           | (\$180,379)               | (\$198,150)           | \$11,390           | (\$244,674)                              |
| 600 Kentucky Power Co. - Kammer Actives                    | \$1,271,542                                   | \$128,956                     | \$1,937,081            | \$37,316            | \$72,227            | (\$126,908)               | (\$42,530)            | \$8,014            | (\$51,881)                               |
| 701 Kentucky Power Co. - Mitchell Actives                  | \$6,502,813                                   | \$545,040                     | \$9,906,454            | \$189,947           | \$372,597           | (\$649,023)               | (\$160,767)           | \$40,982           | (\$206,264)                              |
| 702 Kentucky Power Co. - Mitchell Inactives                | \$5,690,168                                   | \$510,203                     | \$8,668,462            | \$0                 | \$315,442           | (\$567,916)               | (\$200,743)           | \$35,861           | (\$417,356)                              |
| <b>Kentucky Power Co.</b>                                  | <b>\$44,323,842</b>                           | <b>\$4,029,575</b>            | <b>\$67,523,411</b>    | <b>\$463,203</b>    | <b>\$2,482,438</b>  | <b>(\$4,423,808)</b>      | <b>(\$2,424,596)</b>  | <b>\$279,340</b>   | <b>(\$3,623,423)</b>                     |
| 250 Ohio Power Co. - Distribution                          | \$117,621,915                                 | \$11,378,042                  | \$179,186,475          | \$997,832           | \$6,554,633         | (\$11,739,431)            | (\$5,890,962)         | \$741,281          | (\$9,336,647)                            |
| 160 Ohio Power Co. - Transmission                          | \$14,065,333                                  | \$1,245,120                   | \$21,427,278           | \$7,556             | \$780,628           | (\$1,403,812)             | (\$1,031,548)         | \$88,643           | (\$1,558,530)                            |
| <b>Ohio Power Co.</b>                                      | <b>\$131,687,248</b>                          | <b>\$12,623,162</b>           | <b>\$200,613,753</b>   | <b>\$1,005,388</b>  | <b>\$7,335,261</b>  | <b>(\$13,143,243)</b>     | <b>(\$6,922,510)</b>  | <b>\$829,924</b>   | <b>(\$10,895,183)</b>                    |
| 167 Public Service Co. of Oklahoma - Distribution          | \$40,853,010                                  | \$3,757,927                   | \$62,235,910           | \$463,767           | \$2,288,929         | (\$4,077,396)             | (\$2,477,659)         | \$257,465          | (\$3,544,894)                            |
| 198 Public Service Co. of Oklahoma - Generation            | \$20,278,996                                  | \$1,870,651                   | \$30,893,238           | \$296,779           | \$1,139,911         | (\$2,023,976)             | (\$1,498,642)         | \$127,803          | (\$1,958,125)                            |
| 114 Public Service Co. of Oklahoma - Transmission          | \$4,768,179                                   | \$434,213                     | \$7,263,895            | \$62,138            | \$267,744           | (\$475,895)               | (\$313,349)           | \$30,050           | (\$429,312)                              |
| <b>Public Service Co. of Oklahoma</b>                      | <b>\$65,900,185</b>                           | <b>\$6,062,791</b>            | <b>\$100,393,043</b>   | <b>\$822,684</b>    | <b>\$3,696,584</b>  | <b>(\$6,577,267)</b>      | <b>(\$4,289,560)</b>  | <b>\$415,318</b>   | <b>(\$5,932,312)</b>                     |
| 159 Southwestern Electric Power Co. - Distribution         | \$28,935,137                                  | \$2,522,049                   | \$44,080,095           | \$358,732           | \$1,626,936         | (\$2,887,915)             | (\$1,794,965)         | \$182,356          | (\$2,514,856)                            |
| 168 Southwestern Electric Power Co. - Generation           | \$28,455,184                                  | \$2,555,399                   | \$43,348,930           | \$431,490           | \$1,602,365         | (\$2,840,012)             | (\$2,137,691)         | \$179,331          | (\$2,764,517)                            |
| 161 Southwestern Electric Power Co. - Texas - Distribution | \$13,466,933                                  | \$1,171,173                   | \$20,515,669           | \$155,139           | \$756,595           | (\$1,344,087)             | (\$942,674)           | \$84,872           | (\$1,290,155)                            |
| 111 Southwestern Electric Power Co. - Texas - Transmission | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| 194 Southwestern Electric Power Co. - Transmission         | \$4,496,035                                   | \$373,094                     | \$6,849,308            | \$46,593            | \$252,805           | (\$448,734)               | (\$280,205)           | \$28,335           | (\$401,206)                              |
| <b>Southwestern Electric Power Co.</b>                     | <b>\$75,353,289</b>                           | <b>\$6,621,715</b>            | <b>\$114,794,002</b>   | <b>\$991,954</b>    | <b>\$4,238,701</b>  | <b>(\$7,520,748)</b>      | <b>(\$5,155,535)</b>  | <b>\$474,894</b>   | <b>(\$6,970,734)</b>                     |
| 119 AEP Texas North Company - Distribution                 | \$19,041,955                                  | \$1,801,218                   | \$29,008,717           | \$193,105           | \$1,064,134         | (\$1,900,511)             | (\$1,276,048)         | \$120,007          | (\$1,799,313)                            |
| 166 AEP Texas North Company - Generation                   | \$4,682,897                                   | \$503,906                     | \$7,133,975            | \$0                 | \$257,201           | (\$467,384)               | (\$67,677)            | \$29,513           | (\$248,347)                              |
| 192 AEP Texas North Company - Transmission                 | \$2,557,768                                   | \$244,087                     | \$3,896,531            | \$37,266            | \$143,533           | (\$255,282)               | (\$233,844)           | \$16,120           | (\$292,207)                              |
| <b>AEP Texas North Co.</b>                                 | <b>\$26,282,620</b>                           | <b>\$2,549,211</b>            | <b>\$40,039,223</b>    | <b>\$230,371</b>    | <b>\$1,464,868</b>  | <b>(\$2,623,177)</b>      | <b>(\$1,577,569)</b>  | <b>\$165,640</b>   | <b>(\$2,339,867)</b>                     |
| 230 Kingsport Power Co. - Distribution                     | \$3,707,607                                   | \$335,170                     | \$5,648,208            | \$37,956            | \$207,660           | (\$370,043)               | (\$177,403)           | \$23,366           | (\$278,464)                              |
| 260 Kingsport Power Co. - Transmission                     | \$464,802                                     | \$36,192                      | \$708,084              | \$2,318             | \$26,058            | (\$46,390)                | (\$40,419)            | \$2,929            | (\$55,504)                               |
| <b>Kingsport Power Co.</b>                                 | <b>\$4,172,409</b>                            | <b>\$371,362</b>              | <b>\$6,356,292</b>     | <b>\$40,274</b>     | <b>\$233,718</b>    | <b>(\$416,433)</b>        | <b>(\$217,822)</b>    | <b>\$26,295</b>    | <b>(\$333,968)</b>                       |
| 210 Wheeling Power Co. - Distribution                      | \$4,718,370                                   | \$469,462                     | \$7,188,015            | \$36,474            | \$262,358           | (\$470,924)               | (\$259,071)           | \$29,736           | (\$401,427)                              |
| 200 Wheeling Power Co. - Transmission                      | \$186,426                                     | \$33,573                      | \$284,003              | \$0                 | \$9,853             | (\$18,607)                | (\$2,613)             | \$1,175            | (\$10,192)                               |
| <b>Wheeling Power Co.</b>                                  | <b>\$4,904,796</b>                            | <b>\$503,035</b>              | <b>\$7,472,018</b>     | <b>\$36,474</b>     | <b>\$272,211</b>    | <b>(\$489,531)</b>        | <b>(\$261,684)</b>    | <b>\$30,911</b>    | <b>(\$411,619)</b>                       |
| 103 American Electric Power Service Corporation            | \$263,104,290                                 | \$22,278,129                  | \$400,815,873          | \$3,579,800         | \$14,830,718        | (\$26,259,516)            | (\$17,282,221)        | \$1,658,145        | (\$23,473,074)                           |
| <b>American Electric Power Service Corporation</b>         | <b>\$263,104,290</b>                          | <b>\$22,278,129</b>           | <b>\$400,815,873</b>   | <b>\$3,579,800</b>  | <b>\$14,830,718</b> | <b>(\$26,259,516)</b>     | <b>(\$17,282,221)</b> | <b>\$1,658,145</b> | <b>(\$23,473,074)</b>                    |
| 143 AEP Pro Serv, Inc.                                     | \$75,600                                      | \$3,598                       | \$115,170              | \$0                 | \$4,282             | (\$7,545)                 | (\$1,133)             | \$476              | (\$3,920)                                |
| 171 CSW Energy, Inc.                                       | \$1,353,806                                   | \$48,811                      | \$2,062,402            | \$48,162            | \$79,919            | (\$135,119)               | (\$47,052)            | \$8,532            | (\$45,558)                               |
| 293 Elmwood  | \$2,136,397                                   | \$153,408                     | \$3,254,610            | \$82,222            | \$124,294           | (\$213,226)               | (\$276,067)           | \$13,464           | (\$269,313)                              |
| 292 AEP River Operations LLC                               | \$13,120,738                                  | \$717,509                     | \$19,988,272           | \$628,696           | \$776,953           | (\$1,309,535)             | (\$1,245,634)         | \$82,690           | (\$1,066,830)                            |
| 189 Central Coal Company                                   | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| <b>Miscellaneous</b>                                       | <b>\$16,686,541</b>                           | <b>\$923,326</b>              | <b>\$25,420,454</b>    | <b>\$759,080</b>    | <b>\$985,448</b>    | <b>(\$1,665,425)</b>      | <b>(\$1,569,886)</b>  | <b>\$105,162</b>   | <b>(\$1,385,621)</b>                     |
| 270 Cook Coal Terminal                                     | \$1,047,787                                   | \$111,433                     | \$1,596,210            | \$9,310             | \$58,126            | (\$104,576)               | (\$67,747)            | \$6,603            | (\$98,284)                               |
| <b>AEP Generating Company</b>                              | <b>\$1,047,787</b>                            | <b>\$111,433</b>              | <b>\$1,596,210</b>     | <b>\$9,310</b>      | <b>\$58,126</b>     | <b>(\$104,576)</b>        | <b>(\$67,747)</b>     | <b>\$6,603</b>     | <b>(\$98,284)</b>                        |
| 104 Cardinal Operating Company                             | \$18,490,000                                  | \$1,667,496                   | \$28,167,863           | \$218,063           | \$1,037,392         | (\$1,845,422)             | (\$1,116,823)         | \$116,528          | (\$1,590,262)                            |
| 181 Ohio Power Co. - Generation                            | \$82,446,452                                  | \$7,945,778                   | \$125,599,801          | \$474,004           | \$4,582,207         | (\$8,228,692)             | (\$4,359,566)         | \$519,597          | (\$7,012,450)                            |
| <b>AEP Generation Resources - FERC</b>                     | <b>\$100,936,452</b>                          | <b>\$9,613,274</b>            | <b>\$153,767,664</b>   | <b>\$692,067</b>    | <b>\$5,619,599</b>  | <b>(\$10,074,114)</b>     | <b>(\$5,476,389)</b>  | <b>\$636,125</b>   | <b>(\$8,602,712)</b>                     |
| 290 Conesville Coal Preparation Company                    | \$900,790                                     | \$109,397                     | \$1,372,273            | \$0                 | \$49,118            | (\$89,905)                | (\$51,555)            | \$5,677            | (\$86,665)                               |
| <b>AEP Generation Resources - SEC</b>                      | <b>\$101,837,242</b>                          | <b>\$9,722,671</b>            | <b>\$155,139,937</b>   | <b>\$692,067</b>    | <b>\$5,668,717</b>  | <b>(\$10,164,019)</b>     | <b>(\$5,527,944)</b>  | <b>\$641,802</b>   | <b>(\$8,689,377)</b>                     |
| <b>Total</b>   | <b>\$1,129,978,391</b>                        | <b>\$102,917,120</b>          | <b>\$1,721,421,091</b> | <b>\$12,659,776</b> | <b>\$63,330,487</b> | <b>(\$112,779,185)</b>    | <b>(\$69,056,806)</b> | <b>\$7,121,388</b> | <b>(\$98,724,340)</b>                    |

**AMERICAN ELECTRIC POWER  
NON-UMWA POSTRETIREMENT WELFARE PLAN  
ESTIMATED 2021 NET PERIODIC POSTRETIREMENT BENEFIT COST**

| Location   | Accumulated Postretirement Benefit Obligation | Expected Net Benefit Payments | Fair Value of Assets   | Service Cost        | Interest Cost       | Expected Return on Assets | Amortizations         |                    | Net Periodic Postretirement Benefit Cost |
|--|---|-------------------------------|------------------------|---------------------|---------------------|---------------------------|-----------------------|--------------------|--|
|  |   |                               |                        |                     |                     |                           | PSC                   | (G)/L              |  |
| 140 Appalachian Power Co. - Distribution                   | \$89,186,609                                  | \$8,932,583                   | \$139,981,922          | \$761,652           | \$4,961,605         | (\$9,175,528)             | (\$5,097,397)         | \$518,820          | (\$8,030,848)                            |
| 215 Appalachian Power Co. - Generation                     | \$74,883,881                                  | \$7,070,254                   | \$117,533,223          | \$654,900           | \$4,179,102         | (\$7,704,062)             | (\$4,162,884)         | \$435,618          | (\$6,597,326)                            |
| 150 Appalachian Power Co. - Transmission                   | \$10,692,852                                  | \$853,935                     | \$16,782,856           | \$35,924            | \$597,854           | (\$1,100,082)             | (\$781,538)           | \$62,203           | (\$1,185,639)                            |
| <b>Appalachian Power Co. - FERC</b>                        | <b>\$174,763,342</b>                          | <b>\$16,856,772</b>           | <b>\$274,298,001</b>   | <b>\$1,452,476</b>  | <b>\$9,738,561</b>  | <b>(\$17,979,672)</b>     | <b>(\$10,041,819)</b> | <b>\$1,016,641</b> | <b>(\$15,813,813)</b>                    |
| 225 Cedar Coal Co  | \$426,348                                     | \$72,031                      | \$669,170              | \$0                 | \$22,669            | (\$43,863)                | (\$8,202)             | \$2,480            | (\$26,916)                               |
| <b>Appalachian Power Co. - SEC</b>                         | <b>\$175,189,690</b>                          | <b>\$16,928,803</b>           | <b>\$274,967,171</b>   | <b>\$1,452,476</b>  | <b>\$9,761,230</b>  | <b>(\$18,023,535)</b>     | <b>(\$10,050,021)</b> | <b>\$1,019,121</b> | <b>(\$15,840,729)</b>                    |
| 211 AEP Texas Central Company - Distribution               | \$65,718,411                                  | \$6,234,144                   | \$103,147,654          | \$644,327           | \$3,670,797         | (\$6,761,117)             | (\$3,881,048)         | \$382,300          | (\$5,944,741)                            |
| 147 AEP Texas Central Company - Generation                 | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | (\$15,337)            | \$0                | (\$15,337)                               |
| 169 AEP Texas Central Company - Transmission               | \$6,207,418                                   | \$562,727                     | \$9,742,789            | \$74,066            | \$348,237           | (\$638,620)               | (\$391,921)           | \$36,110           | (\$572,128)                              |
| <b>AEP Texas Central Co.</b>                               | <b>\$71,925,829</b>                           | <b>\$6,796,871</b>            | <b>\$112,890,443</b>   | <b>\$718,393</b>    | <b>\$4,019,034</b>  | <b>(\$7,399,737)</b>      | <b>(\$4,288,306)</b>  | <b>\$418,410</b>   | <b>(\$6,532,206)</b>                     |
| 170 Indiana Michigan Power Co. - Distribution              | \$42,995,029                                  | \$4,446,602                   | \$67,482,404           | \$422,106           | \$2,391,060         | (\$4,423,333)             | (\$2,601,438)         | \$250,113          | (\$3,961,492)                            |
| 132 Indiana Michigan Power Co. - Generation                | \$26,268,339                                  | \$2,658,575                   | \$41,229,201           | \$305,391           | \$1,465,264         | (\$2,702,490)             | (\$1,850,054)         | \$152,809          | (\$2,629,080)                            |
| 190 Indiana Michigan Power Co. - Nuclear                   | \$46,379,194                                  | \$4,051,131                   | \$72,793,986           | \$941,524           | \$2,628,775         | (\$4,771,497)             | (\$3,561,730)         | \$269,799          | (\$4,493,129)                            |
| 120 Indiana Michigan Power Co. - Transmission              | \$9,649,433                                   | \$836,380                     | \$15,145,168           | \$85,380            | \$540,706           | (\$992,735)               | (\$596,815)           | \$56,133           | (\$907,331)                              |
| 280 Ind Mich River Transp Lakin                            | \$11,242,786                                  | \$981,416                     | \$17,645,999           | \$199,593           | \$635,598           | (\$1,156,659)             | (\$811,278)           | \$65,402           | (\$1,067,344)                            |
| <b>Indiana Michigan Power Co. - FERC</b>                   | <b>\$136,534,781</b>                          | <b>\$12,974,104</b>           | <b>\$214,296,758</b>   | <b>\$1,953,994</b>  | <b>\$7,661,403</b>  | <b>(\$14,046,714)</b>     | <b>(\$9,421,315)</b>  | <b>\$794,256</b>   | <b>(\$13,058,376)</b>                    |
| 202 Price River Coal                                       | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| <b>Indiana Michigan Power Co. - SEC</b>                    | <b>\$136,534,781</b>                          | <b>\$12,974,104</b>           | <b>\$214,296,758</b>   | <b>\$1,953,994</b>  | <b>\$7,661,403</b>  | <b>(\$14,046,714)</b>     | <b>(\$9,421,315)</b>  | <b>\$794,256</b>   | <b>(\$13,058,376)</b>                    |
| 110 Kentucky Power Co. - Distribution                      | \$16,911,064                                  | \$1,653,152                   | \$26,542,586           | \$161,965           | \$942,970           | (\$1,739,812)             | (\$1,210,578)         | \$98,376           | (\$1,747,079)                            |
| 117 Kentucky Power Co. - Generation                        | \$11,274,326                                  | \$1,040,687                   | \$17,695,502           | \$58,548            | \$627,552           | (\$1,159,904)             | (\$611,828)           | \$65,585           | (\$1,020,047)                            |
| 180 Kentucky Power Co. - Transmission                      | \$1,786,665                                   | \$127,938                     | \$2,804,242            | \$21,030            | \$101,188           | (\$183,812)               | (\$198,150)           | \$10,393           | (\$249,351)                              |
| 600 Kentucky Power Co. - Kammer Actives                    | \$1,252,129                                   | \$139,518                     | \$1,965,266            | \$38,202            | \$70,850            | (\$128,819)               | (\$42,530)            | \$7,284            | (\$55,013)                               |
| 701 Kentucky Power Co. - Mitchell Actives                  | \$6,520,317                                   | \$613,139                     | \$10,233,896           | \$194,458           | \$371,927           | (\$670,811)               | (\$160,767)           | \$37,930           | (\$227,263)                              |
| 702 Kentucky Power Co. - Mitchell Inactives                | \$5,495,407                                   | \$506,678                     | \$8,625,259            | \$5,450             | \$304,247           | (\$565,368)               | (\$200,743)           | \$31,968           | (\$429,896)                              |
| <b>Kentucky Power Co.</b>                                  | <b>\$43,239,908</b>                           | <b>\$4,081,112</b>            | <b>\$67,866,751</b>    | <b>\$474,203</b>    | <b>\$2,418,734</b>  | <b>(\$4,448,526)</b>      | <b>(\$2,424,596)</b>  | <b>\$251,536</b>   | <b>(\$3,728,649)</b>                     |
| 250 Ohio Power Co. - Distribution                          | \$113,796,338                                 | \$11,176,052                  | \$178,607,868          | \$1,021,531         | \$6,339,899         | (\$1,707,380)             | (\$5,890,962)         | \$661,981          | (\$9,574,931)                            |
| 160 Ohio Power Co. - Transmission                          | \$13,608,397                                  | \$1,196,214                   | \$21,358,919           | \$7,735             | \$755,534           | (\$1,400,033)             | (\$1,031,548)         | \$79,163           | (\$1,589,149)                            |
| <b>Ohio Power Co.</b>                                      | <b>\$127,404,735</b>                          | <b>\$12,372,266</b>           | <b>\$199,966,787</b>   | <b>\$1,029,266</b>  | <b>\$7,095,433</b>  | <b>(\$13,107,413)</b>     | <b>(\$6,922,510)</b>  | <b>\$741,144</b>   | <b>(\$11,164,080)</b>                    |
| 167 Public Service Co. of Oklahoma - Distribution          | \$39,847,779                                  | \$3,663,711                   | \$62,542,670           | \$474,781           | \$2,233,958         | (\$4,099,544)             | (\$2,477,659)         | \$231,804          | (\$3,636,660)                            |
| 198 Public Service Co. of Oklahoma - Generation            | \$19,845,035                                  | \$1,831,940                   | \$31,147,570           | \$303,828           | \$1,116,257         | (\$2,041,659)             | (\$1,498,642)         | \$115,443          | (\$2,004,773)                            |
| 114 Public Service Co. of Oklahoma - Transmission          | \$4,663,848                                   | \$428,401                     | \$7,320,095            | \$63,614            | \$261,944           | (\$479,817)               | (\$313,349)           | \$27,131           | (\$440,477)                              |
| <b>Public Service Co. of Oklahoma</b>                      | <b>\$64,356,662</b>                           | <b>\$5,924,052</b>            | <b>\$101,010,335</b>   | <b>\$842,223</b>    | <b>\$3,612,159</b>  | <b>(\$6,621,020)</b>      | <b>(\$4,289,650)</b>  | <b>\$374,378</b>   | <b>(\$6,081,910)</b>                     |
| 159 Southwestern Electric Power Co. - Distribution         | \$28,398,756                                  | \$2,579,272                   | \$44,572,975           | \$367,252           | \$1,594,684         | (\$2,921,667)             | (\$1,794,965)         | \$165,202          | (\$2,589,494)                            |
| 168 Southwestern Electric Power Co. - Generation           | \$27,933,640                                  | \$2,632,907                   | \$43,842,957           | \$441,738           | \$1,570,494         | (\$2,873,816)             | (\$2,137,691)         | \$162,497          | (\$2,836,778)                            |
| 161 Southwestern Electric Power Co. - Texas - Distribution | \$13,207,494                                  | \$1,136,448                   | \$20,729,686           | \$158,824           | \$742,754           | (\$1,358,788)             | (\$942,674)           | \$76,831           | (\$1,323,053)                            |
| 111 Southwestern Electric Power Co. - Texas - Transmission | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| 194 Southwestern Electric Power Co. - Transmission         | \$4,422,339                                   | \$367,565                     | \$6,941,037            | \$47,700            | \$248,753           | (\$454,971)               | (\$280,205)           | \$25,726           | (\$412,997)                              |
| <b>Southwestern Electric Power Co.</b>                     | <b>\$73,962,229</b>                           | <b>\$6,716,192</b>            | <b>\$116,086,655</b>   | <b>\$1,015,514</b>  | <b>\$4,156,685</b>  | <b>(\$7,609,242)</b>      | <b>(\$5,155,535)</b>  | <b>\$430,256</b>   | <b>(\$7,162,322)</b>                     |
| 119 AEP Texas North Company - Distribution                 | \$18,497,976                                  | \$1,776,179                   | \$29,033,307           | \$197,691           | \$1,033,565         | (\$1,903,074)             | (\$1,276,048)         | \$107,607          | (\$1,840,259)                            |
| 166 AEP Texas North Company - Generation                   | \$4,436,192                                   | \$495,795                     | \$6,962,779            | \$0                 | \$243,124           | (\$466,396)               | (\$67,677)            | \$25,806           | (\$255,143)                              |
| 192 AEP Texas North Company - Transmission                 | \$2,494,480                                   | \$244,719                     | \$3,915,185            | \$38,151            | \$139,896           | (\$256,632)               | (\$233,844)           | \$14,511           | (\$297,918)                              |
| <b>AEP Texas North Co.</b>                                 | <b>\$25,428,648</b>                           | <b>\$2,516,693</b>            | <b>\$39,911,271</b>    | <b>\$235,842</b>    | <b>\$1,416,585</b>  | <b>(\$2,616,126)</b>      | <b>(\$1,577,569)</b>  | <b>\$147,924</b>   | <b>(\$2,393,320)</b>                     |
| 230 Kingsport Power Co. - Distribution                     | \$3,618,053                                   | \$336,311                     | \$5,678,678            | \$38,857            | \$202,485           | (\$372,226)               | (\$177,403)           | \$21,047           | (\$287,240)                              |
| 260 Kingsport Power Co. - Transmission                     | \$456,986                                     | \$37,405                      | \$717,258              | \$2,373             | \$25,573            | (\$47,015)                | (\$40,419)            | \$2,658            | (\$56,830)                               |
| <b>Kingsport Power Co.</b>                                 | <b>\$4,075,039</b>                            | <b>\$373,716</b>              | <b>\$6,395,936</b>     | <b>\$41,230</b>     | <b>\$228,058</b>    | <b>(\$419,241)</b>        | <b>(\$217,822)</b>    | <b>\$23,705</b>    | <b>(\$344,070)</b>                       |
| 210 Wheeling Power Co. - Distribution                      | \$4,547,740                                   | \$464,282                     | \$7,137,858            | \$37,340            | \$252,660           | (\$467,872)               | (\$259,071)           | \$26,455           | (\$410,488)                              |
| 200 Wheeling Power Co. - Transmission                      | \$162,706                                     | \$30,766                      | \$255,374              | \$0                 | \$8,557             | (\$16,739)                | (\$2,613)             | \$947              | (\$9,848)                                |
| <b>Wheeling Power Co.</b>                                  | <b>\$4,710,446</b>                            | <b>\$495,048</b>              | <b>\$7,393,232</b>     | <b>\$37,340</b>     | <b>\$261,217</b>    | <b>(\$484,611)</b>        | <b>(\$261,684)</b>    | <b>\$27,402</b>    | <b>(\$420,336)</b>                       |
| 103 American Electric Power Service Corporation            | \$259,236,679                                 | \$21,977,717                  | \$406,882,254          | \$3,664,819         | \$14,619,916        | (\$26,670,296)            | (\$17,282,221)        | \$1,508,043        | (\$24,159,739)                           |
| <b>American Electric Power Service Corporation</b>         | <b>\$259,236,679</b>                          | <b>\$21,977,717</b>           | <b>\$406,882,254</b>   | <b>\$3,664,819</b>  | <b>\$14,619,916</b> | <b>(\$26,670,296)</b>     | <b>(\$17,282,221)</b> | <b>\$1,508,043</b> | <b>(\$24,159,739)</b>                    |
| 143 AEP Pro Serv, Inc.                                     | \$76,284                                      | \$3,683                       | \$119,731              | \$0                 | \$4,319             | (\$7,848)                 | (\$1,133)             | \$444              | (\$4,218)                                |
| 171 CSW Energy, Inc.                                       | \$1,433,076                                   | \$58,071                      | \$2,249,270            | \$49,306            | \$84,318            | (\$147,435)               | (\$47,052)            | \$8,337            | (\$52,526)                               |
| 293 Elmwood  | \$2,189,505                                   | \$165,227                     | \$3,436,515            | \$84,175            | \$127,149           | (\$225,257)               | (\$276,067)           | \$12,737           | (\$277,263)                              |
| 292 AEP River Operations LLC                               | \$13,808,878                                  | \$813,112                     | \$21,673,582           | \$643,628           | \$814,997           | (\$1,420,659)             | (\$1,245,634)         | \$80,330           | (\$1,127,338)                            |
| 189 Central Coal Company                                   | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| <b>Miscellaneous</b>                                       | <b>\$17,507,743</b>                           | <b>\$1,040,093</b>            | <b>\$27,479,098</b>    | <b>\$777,109</b>    | <b>\$1,030,783</b>  | <b>(\$1,801,199)</b>      | <b>(\$1,569,886)</b>  | <b>\$101,848</b>   | <b>(\$1,461,345)</b>                     |
| 270 Cook Coal Terminal                                     | \$1,003,790                                   | \$105,683                     | \$1,575,488            | \$9,531             | \$55,751            | (\$103,270)               | (\$67,747)            | \$5,839            | (\$99,896)                               |
| <b>AEP Generating Company</b>                              | <b>\$1,003,790</b>                            | <b>\$105,683</b>              | <b>\$1,575,488</b>     | <b>\$9,531</b>      | <b>\$55,751</b>     | <b>(\$103,270)</b>        | <b>(\$67,747)</b>     | <b>\$5,839</b>     | <b>(\$99,896)</b>                        |
| 104 Cardinal Operating Company                             | \$18,077,959                                  | \$1,676,079                   | \$28,374,074           | \$223,242           | \$1,013,548         | (\$1,859,862)             | (\$1,116,823)         | \$105,164          | (\$1,634,731)                            |
| 181 Ohio Power Co. - Generation                            | \$79,556,885                                  | \$7,708,310                   | \$124,867,688          | \$485,262           | \$4,422,054         | (\$8,184,821)             | (\$4,359,566)         | \$462,802          | (\$7,174,269)                            |
| <b>AEP Generation Resources - FERC</b>                     | <b>\$97,634,844</b>                           | <b>\$9,384,389</b>            | <b>\$153,241,762</b>   | <b>\$708,504</b>    | <b>\$5,435,602</b>  | <b>(\$10,044,683)</b>     | <b>(\$5,476,389)</b>  | <b>\$567,966</b>   | <b>(\$8,809,000)</b>                     |
| 290 Conesville Coal Preparation Company                    | \$840,511                                     | \$110,302                     | \$1,319,215            | \$0                 | \$45,596            | (\$86,472)                | (\$51,555)            | \$4,889            | (\$87,542)                               |
| <b>AEP Generation Resources - SEC</b>                      | <b>\$98,475,355</b>                           | <b>\$9,494,691</b>            | <b>\$154,560,977</b>   | <b>\$708,504</b>    | <b>\$5,481,198</b>  | <b>(\$10,131,155)</b>     | <b>(\$5,527,944)</b>  | <b>\$572,855</b>   | <b>(\$8,896,542)</b>                     |
| <b>Total</b>   | <b>\$1,103,051,534</b>                        | <b>\$101,797,041</b>          | <b>\$1,731,283,156</b> | <b>\$12,960,444</b> | <b>\$61,818,186</b> | <b>(\$113,482,061)</b>    | <b>(\$69,056,806)</b> | <b>\$6,416,717</b> | <b>(\$101,343,520)</b>                   |

AMERICAN ELECTRIC POWER  
NON-UMWA POSTRETIREMENT WELFARE PLAN  
ESTIMATED 2022 NET PERIODIC POSTRETIREMENT BENEFIT COST

| Location   | Accumulated<br>Postretirement<br>Benefit Obligation | Expected Net<br>Benefit<br>Payments | Fair Value<br>of Assets | Service<br>Cost     | Interest<br>Cost    | Expected<br>Return on<br>Assets | Amortizations         |                    | Net Periodic<br>Postretirement<br>Benefit Cost |
|--|---|-------------------------------------|-------------------------|---------------------|---------------------|---------------------------------|-----------------------|--------------------|--|
|  |   |                                     |                         |                     |                     |                                 | PSC                   | (G)/L              |  |
| 140 Appalachian Power Co. - Distribution                   | \$85,977,283  | \$8,665,229                         | \$139,266,780           | \$779,741           | \$4,784,157         | (\$9,136,250)                   | (\$5,097,397)         | \$458,315          | (\$8,211,434)                                  |
| 215 Appalachian Power Co. - Generation                     | \$72,647,629  | \$6,833,119                         | \$117,675,286           | \$670,454           | \$4,057,081         | (\$7,719,793)                   | (\$4,162,884)         | \$387,259          | (\$6,767,883)                                  |
| 150 Appalachian Power Co. - Transmission                   | \$10,472,695  | \$859,972                           | \$16,963,766            | \$36,777            | \$584,962           | (\$1,112,866)                   | (\$781,538)           | \$55,826           | (\$1,216,839)                                  |
| <b>Appalachian Power Co. - FERC</b>                        | <b>\$169,097,607</b>                                | <b>\$16,358,320</b>                 | <b>\$273,905,832</b>    | <b>\$1,486,972</b>  | <b>\$9,426,200</b>  | <b>(\$17,968,909)</b>           | <b>(\$10,041,819)</b> | <b>\$901,400</b>   | <b>(\$16,196,156)</b>                          |
| 225 Cedar Coal Co  | \$376,986   | \$64,107                            | \$610,645               | \$0                 | \$20,032            | (\$40,060)                      | (\$8,202)             | \$2,010            | (\$26,220)                                     |
| <b>Appalachian Power Co. - SEC</b>                         | <b>\$169,474,593</b>                                | <b>\$16,422,427</b>                 | <b>\$274,516,477</b>    | <b>\$1,486,972</b>  | <b>\$9,446,232</b>  | <b>(\$18,008,969)</b>           | <b>(\$10,050,021)</b> | <b>\$903,410</b>   | <b>(\$16,222,376)</b>                          |
| 211 AEP Texas Central Company - Distribution               | \$63,799,391  | \$6,143,740                         | \$103,342,830           | \$659,630           | \$3,562,966         | (\$6,779,548)                   | (\$3,881,048)         | \$340,093          | (\$6,097,907)                                  |
| 147 AEP Texas Central Company - Generation                 | \$0   | \$0                                 | \$0                     | \$0                 | \$0                 | \$0                             | (\$15,337)            | \$0                | (\$15,337)                                     |
| 169 AEP Texas Central Company - Transmission               | \$6,066,994   | \$548,479                           | \$9,827,372             | \$75,825            | \$340,602           | (\$644,700)                     | (\$391,921)           | \$32,341           | (\$587,853)                                    |
| <b>AEP Texas Central Co.</b>                               | <b>\$69,866,385</b>                                 | <b>\$6,692,219</b>                  | <b>\$113,170,202</b>    | <b>\$735,455</b>    | <b>\$3,903,568</b>  | <b>(\$7,424,248)</b>            | <b>(\$4,288,306)</b>  | <b>\$372,434</b>   | <b>(\$6,701,097)</b>                           |
| 170 Indiana Michigan Power Co. - Distribution              | \$41,361,593  | \$4,264,965                         | \$66,997,882            | \$432,131           | \$2,302,095         | (\$4,395,229)                   | (\$2,601,438)         | \$220,484          | (\$4,041,957)                                  |
| 132 Indiana Michigan Power Co. - Generation                | \$25,380,419  | \$2,547,736                         | \$41,111,432            | \$312,644           | \$1,417,355         | (\$2,697,013)                   | (\$1,850,054)         | \$135,294          | (\$2,681,774)                                  |
| 190 Indiana Michigan Power Co. - Nuclear                   | \$45,898,362  | \$3,974,362                         | \$74,346,582            | \$963,885           | \$2,604,378         | (\$4,877,322)                   | (\$3,561,730)         | \$244,668          | (\$4,626,121)                                  |
| 120 Indiana Michigan Power Co. - Transmission              | \$9,439,139   | \$846,708                           | \$15,289,603            | \$87,408            | \$528,331           | (\$1,003,036)                   | (\$596,815)           | \$50,317           | (\$933,795)                                    |
| 280 Ind Mich River Transp Lakin                            | \$11,096,561  | \$958,021                           | \$17,974,310            | \$204,333           | \$628,061           | (\$1,179,160)                   | (\$811,278)           | \$59,152           | (\$1,098,892)                                  |
| <b>Indiana Michigan Power Co. - FERC</b>                   | <b>\$133,176,074</b>                                | <b>\$12,591,792</b>                 | <b>\$215,719,809</b>    | <b>\$2,000,401</b>  | <b>\$7,480,220</b>  | <b>(\$14,151,760)</b>           | <b>(\$9,421,315)</b>  | <b>\$709,915</b>   | <b>(\$13,382,539)</b>                          |
| 202 Price River Coal                                       | \$0   | \$0                                 | \$0                     | \$0                 | \$0                 | \$0                             | \$0                   | \$0                | \$0  |
| <b>Indiana Michigan Power Co. - SEC</b>                    | <b>\$133,176,074</b>                                | <b>\$12,591,792</b>                 | <b>\$215,719,809</b>    | <b>\$2,000,401</b>  | <b>\$7,480,220</b>  | <b>(\$14,151,760)</b>           | <b>(\$9,421,315)</b>  | <b>\$709,915</b>   | <b>(\$13,382,539)</b>                          |
| 110 Kentucky Power Co. - Distribution                      | \$16,362,847  | \$1,563,164                         | \$26,504,687            | \$165,812           | \$913,969           | (\$1,738,774)                   | (\$1,210,578)         | \$87,225           | (\$1,782,346)                                  |
| 117 Kentucky Power Co. - Generation                        | \$10,919,739  | \$1,002,474                         | \$17,687,892            | \$59,939            | \$608,159           | (\$1,160,370)                   | (\$611,828)           | \$58,209           | (\$1,045,891)                                  |
| 180 Kentucky Power Co. - Transmission                      | \$1,780,945   | \$136,676                           | \$2,884,791             | \$21,529            | \$100,636           | (\$189,250)                     | (\$198,150)           | \$9,494            | (\$255,741)                                    |
| 600 Kentucky Power Co. - Kammer Actives                    | \$1,221,663   | \$132,341                           | \$1,978,861             | \$39,109            | \$69,341            | (\$129,818)                     | (\$42,530)            | \$6,512            | (\$57,386)                                     |
| 701 Kentucky Power Co. - Mitchell Actives                  | \$6,473,563   | \$445,463                           | \$10,485,936            | \$199,076           | \$368,558           | (\$687,904)                     | (\$160,767)           | \$34,508           | (\$246,529)                                    |
| 702 Kentucky Power Co. - Mitchell Inactives                | \$5,292,976   | \$479,272                           | \$8,573,610             | \$0                 | \$293,290           | (\$562,450)                     | (\$200,743)           | \$28,215           | (\$441,688)                                    |
| <b>Kentucky Power Co.</b>                                  | <b>\$42,051,733</b>                                 | <b>\$3,959,390</b>                  | <b>\$68,115,777</b>     | <b>\$485,465</b>    | <b>\$2,353,953</b>  | <b>(\$4,468,566)</b>            | <b>(\$2,424,596)</b>  | <b>\$224,163</b>   | <b>(\$3,829,581)</b>                           |
| 250 Ohio Power Co. - Distribution                          | \$109,981,716                                       | \$10,927,506                        | \$178,149,378           | \$1,045,792         | \$6,127,164         | (\$11,687,045)                  | (\$5,890,962)         | \$586,275          | (\$9,818,776)                                  |
| 160 Ohio Power Co. - Transmission                          | \$13,175,452  | \$1,190,117                         | \$21,341,716            | \$7,919             | \$730,609           | (\$1,400,070)                   | (\$1,031,548)         | \$70,234           | (\$1,622,856)                                  |
| <b>Ohio Power Co.</b>                                      | <b>\$123,157,168</b>                                | <b>\$12,117,623</b>                 | <b>\$199,491,094</b>    | <b>\$1,053,711</b>  | <b>\$6,857,773</b>  | <b>(\$13,087,115)</b>           | <b>(\$6,922,510)</b>  | <b>\$656,509</b>   | <b>(\$11,441,632)</b>                          |
| 167 Public Service Co. of Oklahoma - Distribution          | \$38,892,807  | \$3,631,737                         | \$62,998,920            | \$486,057           | \$2,180,138         | (\$4,132,887)                   | (\$2,477,659)         | \$207,324          | (\$3,737,027)                                  |
| 198 Public Service Co. of Oklahoma - Generation            | \$19,433,180  | \$1,830,021                         | \$31,478,041            | \$311,044           | \$1,092,842         | (\$2,065,038)                   | (\$1,498,642)         | \$103,592          | (\$2,056,202)                                  |
| 114 Public Service Co. of Oklahoma - Transmission          | \$4,561,005   | \$425,385                           | \$7,387,957             | \$65,125            | \$256,153           | (\$484,668)                     | (\$313,349)           | \$24,313           | (\$452,426)                                    |
| <b>Public Service Co. of Oklahoma</b>                      | <b>\$62,886,992</b>                                 | <b>\$5,887,143</b>                  | <b>\$101,864,918</b>    | <b>\$862,226</b>    | <b>\$3,529,133</b>  | <b>(\$6,682,593)</b>            | <b>(\$4,289,650)</b>  | <b>\$335,229</b>   | <b>(\$6,245,655)</b>                           |
| 159 Southwestern Electric Power Co. - Distribution         | \$27,781,420  | \$2,557,925                         | \$45,000,595            | \$375,974           | \$1,559,995         | (\$2,952,152)                   | (\$1,794,965)         | \$148,093          | (\$2,663,055)                                  |
| 168 Southwestern Electric Power Co. - Generation           | \$27,312,965  | \$2,572,705                         | \$44,241,788            | \$452,229           | \$1,536,824         | (\$2,902,372)                   | (\$2,137,691)         | \$145,596          | (\$2,905,414)                                  |
| 161 Southwestern Electric Power Co. - Texas - Distribution | \$12,972,624  | \$1,136,309                         | \$21,013,174            | \$162,596           | \$729,354           | (\$1,378,517)                   | (\$942,674)           | \$69,153           | (\$1,360,088)                                  |
| 111 Southwestern Electric Power Co. - Texas - Transmission | \$0   | \$0                                 | \$0                     | \$0                 | \$0                 | \$0                             | \$0                   | \$0                | \$0  |
| 194 Southwestern Electric Power Co. - Transmission         | \$4,351,227   | \$368,189                           | \$7,048,157             | \$48,833            | \$244,676           | (\$462,377)                     | (\$280,205)           | \$23,195           | (\$425,878)                                    |
| <b>Southwestern Electric Power Co.</b>                     | <b>\$72,418,236</b>                                 | <b>\$6,635,128</b>                  | <b>\$117,303,714</b>    | <b>\$1,039,632</b>  | <b>\$4,070,849</b>  | <b>(\$7,695,418)</b>            | <b>(\$5,155,535)</b>  | <b>\$386,037</b>   | <b>(\$7,354,435)</b>                           |
| 119 AEP Texas North Company - Distribution                 | \$17,953,053  | \$1,754,898                         | \$29,080,518            | \$202,386           | \$1,002,841         | (\$1,907,755)                   | (\$1,276,048)         | \$95,702           | (\$1,882,874)                                  |
| 166 AEP Texas North Company - Generation                   | \$4,183,521   | \$483,576                           | \$6,776,505             | \$0                 | \$228,818           | (\$444,556)                     | (\$67,677)            | \$22,301           | (\$261,114)                                    |
| 192 AEP Texas North Company - Transmission                 | \$2,427,808   | \$243,669                           | \$3,932,585             | \$39,057            | \$136,111           | (\$257,987)                     | (\$233,844)           | \$12,942           | (\$303,721)                                    |
| <b>AEP Texas North Co.</b>                                 | <b>\$24,564,382</b>                                 | <b>\$2,482,143</b>                  | <b>\$39,789,608</b>     | <b>\$241,443</b>    | <b>\$1,367,770</b>  | <b>(\$2,610,298)</b>            | <b>(\$1,577,569)</b>  | <b>\$130,945</b>   | <b>(\$2,447,709)</b>                           |
| 230 Kingsport Power Co. - Distribution                     | \$3,523,084   | \$329,088                           | \$5,706,723             | \$39,780            | \$197,237           | (\$374,375)                     | (\$177,403)           | \$18,780           | (\$295,981)                                    |
| 260 Kingsport Power Co. - Transmission                     | \$447,527   | \$39,288                            | \$724,908               | \$2,429             | \$24,974            | (\$47,556)                      | (\$40,419)            | \$2,386            | (\$58,186)                                     |
| <b>Kingsport Power Co.</b>                                 | <b>\$3,970,611</b>                                  | <b>\$368,376</b>                    | <b>\$6,431,631</b>      | <b>\$42,209</b>     | <b>\$222,211</b>    | <b>(\$421,931)</b>              | <b>(\$217,822)</b>    | <b>\$21,166</b>    | <b>(\$354,167)</b>                             |
| 210 Wheeling Power Co. - Distribution                      | \$4,373,458   | \$463,597                           | \$7,084,167             | \$38,227            | \$242,623           | (\$464,739)                     | (\$259,071)           | \$23,313           | (\$419,647)                                    |
| 200 Wheeling Power Co. - Transmission                      | \$140,497   | \$27,783                            | \$227,578               | \$0                 | \$7,354             | (\$14,930)                      | (\$2,613)             | \$749              | (\$9,440)                                      |
| <b>Wheeling Power Co.</b>                                  | <b>\$4,513,955</b>                                  | <b>\$491,380</b>                    | <b>\$7,311,745</b>      | <b>\$38,227</b>     | <b>\$249,977</b>    | <b>(\$479,669)</b>              | <b>(\$261,684)</b>    | <b>\$24,062</b>    | <b>(\$429,087)</b>                             |
| 103 American Electric Power Service Corporation            | \$255,543,697                                       | \$21,539,102                        | \$413,931,988           | \$3,751,860         | \$14,423,312        | (\$27,154,972)                  | (\$17,282,221)        | \$1,362,217        | (\$24,899,804)                                 |
| <b>American Electric Power Service Corporation</b>         | <b>\$255,543,697</b>                                | <b>\$21,539,102</b>                 | <b>\$413,931,988</b>    | <b>\$3,751,860</b>  | <b>\$14,423,312</b> | <b>(\$27,154,972)</b>           | <b>(\$17,282,221)</b> | <b>\$1,362,217</b> | <b>(\$24,899,804)</b>                          |
| 143 AEP Pro Serv, Inc.                                     | \$76,920  | \$3,777                             | \$124,596               | \$0                 | \$4,353             | (\$8,174)                       | (\$1,133)             | \$410              | (\$4,544)                                      |
| 171 CSW Energy, Inc.                                       | \$1,508,629   | \$68,995                            | \$2,443,691             | \$50,477            | \$88,455            | (\$160,312)                     | (\$47,052)            | \$8,042            | (\$60,390)                                     |
| 293 Elmwood  | \$2,235,602   | \$166,507                           | \$3,621,248             | \$86,174            | \$129,902           | (\$237,563)                     | (\$276,067)           | \$11,917           | (\$285,637)                                    |
| 292 AEP River Operations LLC                               | \$14,454,391  | \$852,623                           | \$23,413,353            | \$658,914           | \$852,194           | (\$1,535,975)                   | (\$1,245,634)         | \$77,051           | (\$1,193,450)                                  |
| 189 Central Coal Company                                   | \$0   | \$0                                 | \$0                     | \$0                 | \$0                 | \$0                             | \$0                   | \$0                | \$0  |
| <b>Miscellaneous</b>                                       | <b>\$18,275,542</b>                                 | <b>\$1,091,902</b>                  | <b>\$29,602,888</b>     | <b>\$795,565</b>    | <b>\$1,074,904</b>  | <b>(\$1,942,024)</b>            | <b>(\$1,569,886)</b>  | <b>\$97,420</b>    | <b>(\$1,544,021)</b>                           |
| 270 Cook Coal Terminal                                     | \$963,389   | \$96,532                            | \$1,560,506             | \$9,757             | \$53,682            | (\$102,373)                     | (\$67,747)            | \$5,135            | (\$101,546)                                    |
| <b>AEP Generating Company</b>                              | <b>\$963,389</b>                                    | <b>\$96,532</b>                     | <b>\$1,560,506</b>      | <b>\$9,757</b>      | <b>\$53,682</b>     | <b>(\$102,373)</b>              | <b>(\$67,747)</b>     | <b>\$5,135</b>     | <b>(\$101,546)</b>                             |
| 104 Cardinal Operating Company                             | \$17,638,670  | \$1,637,510                         | \$28,571,277            | \$228,544           | \$989,480           | (\$1,874,347)                   | (\$1,116,823)         | \$94,026           | (\$1,679,120)                                  |
| 181 Ohio Power Co. - Generation                            | \$76,755,891  | \$7,514,390                         | \$124,329,886           | \$496,787           | \$4,265,809         | (\$8,156,352)                   | (\$4,359,566)         | \$409,159          | (\$7,344,163)                                  |
| <b>AEP Generation Resources - FERC</b>                     | <b>\$94,394,561</b>                                 | <b>\$9,151,900</b>                  | <b>\$152,901,163</b>    | <b>\$725,331</b>    | <b>\$5,255,289</b>  | <b>(\$10,030,699)</b>           | <b>(\$5,476,389)</b>  | <b>\$503,185</b>   | <b>(\$9,023,283)</b>                           |
| 290 Conesville Coal Preparation Company                    | \$775,805   | \$92,909                            | \$1,256,656             | \$0                 | \$42,340            | (\$82,440)                      | (\$51,555)            | \$4,136            | (\$87,519)                                     |
| <b>AEP Generation Resources - SEC</b>                      | <b>\$95,170,366</b>                                 | <b>\$9,244,809</b>                  | <b>\$154,157,819</b>    | <b>\$725,331</b>    | <b>\$5,297,629</b>  | <b>(\$10,113,139)</b>           | <b>(\$5,527,944)</b>  | <b>\$507,321</b>   | <b>(\$9,110,802)</b>                           |
| <b>Total</b>   | <b>\$1,076,033,123</b>                              | <b>\$99,619,966</b>                 | <b>\$1,742,968,176</b>  | <b>\$13,268,254</b> | <b>\$60,331,213</b> | <b>(\$114,343,075)</b>          | <b>(\$69,056,806)</b> | <b>\$5,735,963</b> | <b>(\$104,064,451)</b>                         |

**AMERICAN ELECTRIC POWER  
NON-UMWA POSTRETIREMENT WELFARE PLAN  
ESTIMATED 2023 NET PERIODIC POSTRETIREMENT BENEFIT COST**

| Location   | Accumulated Postretirement Benefit Obligation | Expected Net Benefit Payments | Fair Value of Assets   | Service Cost        | Interest Cost       | Expected Return on Assets | Amortizations         |                    | Net Periodic Postretirement Benefit Cost |
|--|---|-------------------------------|------------------------|---------------------|---------------------|---------------------------|-----------------------|--------------------|--|
|  |   |                               |                        |                     |                     |                           | PSC                   | (G)/L              |  |
| 140 Appalachian Power Co. - Distribution                   | \$82,875,952                                  | \$8,390,768                   | \$138,731,988          | \$798,260           | \$4,613,202         | (\$9,110,139)             | (\$4,467,940)         | \$398,620          | (\$7,767,997)                            |
| 215 Appalachian Power Co. - Generation                     | \$70,542,045                                  | \$6,507,329                   | \$118,085,378          | \$686,377           | \$3,945,196         | (\$7,754,335)             | (\$3,609,086)         | \$339,296          | (\$6,392,552)                            |
| 150 Appalachian Power Co. - Transmission                   | \$10,234,462                                  | \$894,967                     | \$17,132,199           | \$37,650            | \$570,194           | (\$1,125,023)             | (\$682,877)           | \$49,226           | (\$1,150,830)                            |
| <b>Appalachian Power Co. - FERC</b>                        | <b>\$163,652,459</b>                          | <b>\$15,793,064</b>           | <b>\$273,949,565</b>   | <b>\$1,522,287</b>  | <b>\$9,128,592</b>  | <b>(\$17,989,497)</b>     | <b>(\$8,759,903)</b>  | <b>\$787,142</b>   | <b>(\$15,311,379)</b>                    |
| 225 Cedar Coal Co  | \$332,911                                     | \$57,385                      | \$557,284              | \$0                 | \$17,668            | (\$36,595)                | (\$4,704)             | \$1,601            | (\$22,030)                               |
| <b>Appalachian Power Co. - SEC</b>                         | <b>\$163,985,370</b>                          | <b>\$15,850,449</b>           | <b>\$274,506,849</b>   | <b>\$1,522,287</b>  | <b>\$9,146,260</b>  | <b>(\$18,026,092)</b>     | <b>(\$8,764,607)</b>  | <b>\$788,743</b>   | <b>(\$15,333,409)</b>                    |
| 211 AEP Texas Central Company - Distribution               | \$61,878,247                                  | \$5,983,853                   | \$103,582,427          | \$675,296           | \$3,457,020         | (\$6,801,967)             | (\$3,406,020)         | \$297,624          | (\$5,778,047)                            |
| 147 AEP Texas Central Company - Generation                 | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | (\$9,150)             | \$0                | (\$9,150)                                |
| 169 AEP Texas Central Company - Transmission               | \$5,934,942                                   | \$538,524                     | \$9,934,924            | \$77,626            | \$333,332           | (\$652,399)               | (\$345,328)           | \$28,546           | (\$558,223)                              |
| <b>AEP Texas Central Co.</b>                               | <b>\$67,813,189</b>                           | <b>\$6,522,377</b>            | <b>\$113,517,351</b>   | <b>\$752,922</b>    | <b>\$3,790,352</b>  | <b>(\$7,454,366)</b>      | <b>(\$3,760,498)</b>  | <b>\$326,170</b>   | <b>(\$6,345,420)</b>                     |
| 170 Indiana Michigan Power Co. - Distribution              | \$39,830,854                                  | \$4,070,668                   | \$66,675,718           | \$442,394           | \$2,219,463         | (\$4,378,407)             | (\$2,258,362)         | \$191,580          | (\$3,783,332)                            |
| 132 Indiana Michigan Power Co. - Generation                | \$24,562,682                                  | \$2,504,152                   | \$41,117,232           | \$320,069           | \$1,371,603         | (\$2,700,053)             | (\$1,637,929)         | \$118,143          | (\$2,528,167)                            |
| 190 Indiana Michigan Power Co. - Nuclear                   | \$45,492,263                                  | \$3,946,852                   | \$76,152,755           | \$986,777           | \$2,582,939         | (\$5,000,737)             | (\$3,173,548)         | \$218,811          | (\$4,385,758)                            |
| 120 Indiana Michigan Power Co. - Transmission              | \$9,208,170                                   | \$819,673                     | \$15,414,215           | \$89,484            | \$515,828           | (\$1,012,208)             | (\$519,191)           | \$44,290           | (\$881,797)                              |
| 280 Ind Mich River Transp Lakin                            | \$10,970,934                                  | \$928,351                     | \$18,365,032           | \$209,186           | \$621,904           | (\$1,205,980)             | (\$726,153)           | \$52,768           | (\$1,048,275)                            |
| <b>Indiana Michigan Power Co. - FERC</b>                   | <b>\$130,064,903</b>                          | <b>\$12,269,696</b>           | <b>\$217,724,952</b>   | <b>\$2,047,910</b>  | <b>\$7,311,737</b>  | <b>(\$14,297,385)</b>     | <b>(\$8,315,183)</b>  | <b>\$625,592</b>   | <b>(\$12,627,329)</b>                    |
| 202 Price River Coal                                       | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| <b>Indiana Michigan Power Co. - SEC</b>                    | <b>\$130,064,903</b>                          | <b>\$12,269,696</b>           | <b>\$217,724,952</b>   | <b>\$2,047,910</b>  | <b>\$7,311,737</b>  | <b>(\$14,297,385)</b>     | <b>(\$8,315,183)</b>  | <b>\$625,592</b>   | <b>(\$12,627,329)</b>                    |
| 110 Kentucky Power Co. - Distribution                      | \$15,879,464                                  | \$1,524,458                   | \$26,581,771           | \$169,750           | \$887,268           | (\$1,745,550)             | (\$1,077,751)         | \$76,378           | (\$1,689,905)                            |
| 117 Kentucky Power Co. - Generation                        | \$10,585,363                                  | \$973,232                     | \$17,719,597           | \$61,363            | \$589,684           | (\$1,163,596)             | (\$534,759)           | \$50,914           | (\$996,394)                              |
| 180 Kentucky Power Co. - Transmission                      | \$1,766,434                                   | \$136,300                     | \$2,956,960            | \$22,040            | \$99,835            | (\$194,175)               | (\$179,802)           | \$8,496            | (\$243,606)                              |
| 600 Kentucky Power Co. - Kammer Actives                    | \$1,197,772                                   | \$135,036                     | \$2,005,036            | \$40,038            | \$67,932            | (\$131,665)               | (\$42,519)            | \$5,761            | (\$60,453)                               |
| 701 Kentucky Power Co. - Mitchell Actives                  | \$6,395,734                                   | \$584,652                     | \$10,706,277           | \$203,804           | \$366,057           | (\$703,051)               | (\$160,758)           | \$30,762           | (\$263,186)                              |
| 702 Kentucky Power Co. - Mitchell Inactives                | \$5,106,994                                   | \$455,467                     | \$8,548,963            | \$0                 | \$283,183           | (\$561,386)               | (\$200,742)           | \$24,564           | (\$454,381)                              |
| <b>Kentucky Power Co.</b>                                  | <b>\$40,931,761</b>                           | <b>\$3,809,145</b>            | <b>\$68,518,604</b>    | <b>\$496,995</b>    | <b>\$2,293,959</b>  | <b>(\$4,499,423)</b>      | <b>(\$2,196,331)</b>  | <b>\$196,875</b>   | <b>(\$3,707,925)</b>                     |
| 250 Ohio Power Co. - Distribution                          | \$106,227,166                                 | \$10,579,677                  | \$177,821,257          | \$1,070,630         | \$5,920,786         | (\$11,677,022)            | (\$5,113,012)         | \$510,936          | (\$9,287,682)                            |
| 160 Ohio Power Co. - Transmission                          | \$12,723,863                                  | \$1,168,924                   | \$21,299,385           | \$8,107             | \$705,033           | (\$1,398,671)             | (\$894,314)           | \$61,200           | (\$1,518,645)                            |
| <b>Ohio Power Co.</b>                                      | <b>\$118,951,029</b>                          | <b>\$11,748,601</b>           | <b>\$199,120,642</b>   | <b>\$1,078,737</b>  | <b>\$6,625,819</b>  | <b>(\$13,075,693)</b>     | <b>(\$6,007,326)</b>  | <b>\$572,136</b>   | <b>(\$10,806,327)</b>                    |
| 167 Public Service Co. of Oklahoma - Distribution          | \$37,927,265                                  | \$3,605,025                   | \$63,489,164           | \$497,601           | \$2,125,570         | (\$4,169,155)             | (\$2,179,866)         | \$182,424          | (\$3,543,426)                            |
| 198 Public Service Co. of Oklahoma - Generation            | \$19,007,045                                  | \$1,842,995                   | \$31,817,253           | \$318,431           | \$1,068,184         | (\$2,089,349)             | (\$1,343,022)         | \$91,421           | (\$1,954,335)                            |
| 114 Public Service Co. of Oklahoma - Transmission          | \$4,456,898                                   | \$402,028                     | \$7,460,721            | \$66,672            | \$250,873           | (\$489,925)               | (\$277,975)           | \$21,437           | (\$428,918)                              |
| <b>Public Service Co. of Oklahoma</b>                      | <b>\$61,391,208</b>                           | <b>\$5,850,048</b>            | <b>\$102,767,138</b>   | <b>\$882,704</b>    | <b>\$3,444,627</b>  | <b>(\$6,748,429)</b>      | <b>(\$3,800,863)</b>  | <b>\$295,282</b>   | <b>(\$5,926,679)</b>                     |
| 159 Southwestern Electric Power Co. - Distribution         | \$27,159,464                                  | \$2,497,908                   | \$45,464,171           | \$384,903           | \$1,526,155         | (\$2,985,504)             | (\$1,712,430)         | \$130,633          | (\$2,656,243)                            |
| 168 Southwestern Electric Power Co. - Generation           | \$26,729,313                                  | \$2,494,676                   | \$44,744,110           | \$462,969           | \$1,505,826         | (\$2,938,220)             | (\$1,924,757)         | \$128,564          | (\$2,765,618)                            |
| 161 Southwestern Electric Power Co. - Texas - Distribution | \$12,728,265                                  | \$1,175,342                   | \$21,306,754           | \$166,458           | \$714,289           | (\$1,399,155)             | (\$840,316)           | \$61,221           | (\$1,297,503)                            |
| 111 Southwestern Electric Power Co. - Texas - Transmission | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| 194 Southwestern Electric Power Co. - Transmission         | \$4,276,547                                   | \$368,116                     | \$7,158,818            | \$49,993            | \$240,414           | (\$470,099)               | (\$246,131)           | \$20,570           | (\$405,253)                              |
| <b>Southwestern Electric Power Co.</b>                     | <b>\$70,893,589</b>                           | <b>\$6,536,042</b>            | <b>\$118,673,853</b>   | <b>\$1,064,323</b>  | <b>\$3,986,684</b>  | <b>(\$7,792,978)</b>      | <b>(\$4,723,634)</b>  | <b>\$340,988</b>   | <b>(\$7,124,617)</b>                     |
| 119 AEP Texas North Company - Distribution                 | \$17,403,382                                  | \$1,730,432                   | \$29,132,767           | \$207,193           | \$971,938           | (\$1,913,067)             | (\$1,133,906)         | \$83,707           | (\$1,784,135)                            |
| 166 AEP Texas North Company - Generation                   | \$3,928,763                                   | \$468,087                     | \$6,576,638            | \$0                 | \$214,485           | (\$431,869)               | (\$38,821)            | \$18,897           | (\$237,308)                              |
| 192 AEP Texas North Company - Transmission                 | \$2,359,307                                   | \$233,797                     | \$3,949,413            | \$39,985            | \$132,474           | (\$259,347)               | (\$210,477)           | \$11,348           | (\$286,017)                              |
| <b>AEP Texas North Co.</b>                                 | <b>\$23,691,452</b>                           | <b>\$2,432,316</b>            | <b>\$39,658,818</b>    | <b>\$247,178</b>    | <b>\$1,318,897</b>  | <b>(\$2,604,283)</b>      | <b>(\$1,383,204)</b>  | <b>\$113,952</b>   | <b>(\$2,307,460)</b>                     |
| 230 Kingsport Power Co. - Distribution                     | \$3,431,013                                   | \$308,750                     | \$5,743,418            | \$40,725            | \$192,533           | (\$377,154)               | (\$154,125)           | \$16,503           | (\$281,518)                              |
| 260 Kingsport Power Co. - Transmission                     | \$435,642                                     | \$40,007                      | \$729,252              | \$2,487             | \$24,268            | (\$47,888)                | (\$34,972)            | \$2,095            | (\$54,010)                               |
| <b>Kingsport Power Co.</b>                                 | <b>\$3,866,655</b>                            | <b>\$348,757</b>              | <b>\$6,472,670</b>     | <b>\$43,212</b>     | <b>\$216,801</b>    | <b>(\$425,042)</b>        | <b>(\$189,097)</b>    | <b>\$18,598</b>    | <b>(\$335,528)</b>                       |
| 210 Wheeling Power Co. - Distribution                      | \$4,190,711                                   | \$449,489                     | \$7,015,131            | \$39,135            | \$232,480           | (\$460,664)               | (\$226,479)           | \$20,157           | (\$395,371)                              |
| 200 Wheeling Power Co. - Transmission                      | \$120,068                                     | \$24,633                      | \$200,990              | \$0                 | \$6,260             | (\$13,198)                | (\$1,501)             | \$578              | (\$7,861)                                |
| <b>Wheeling Power Co.</b>                                  | <b>\$4,310,779</b>                            | <b>\$474,122</b>              | <b>\$7,216,121</b>     | <b>\$39,135</b>     | <b>\$238,740</b>    | <b>(\$473,862)</b>        | <b>(\$227,980)</b>    | <b>\$20,735</b>    | <b>(\$403,232)</b>                       |
| 103 American Electric Power Service Corporation            | \$252,179,767                                 | \$21,074,578                  | \$422,141,760          | \$3,840,967         | \$14,246,650        | (\$27,720,861)            | (\$15,083,759)        | \$1,212,944        | (\$23,504,059)                           |
| <b>American Electric Power Service Corporation</b>         | <b>\$252,179,767</b>                          | <b>\$21,074,578</b>           | <b>\$422,141,760</b>   | <b>\$3,840,967</b>  | <b>\$14,246,650</b> | <b>(\$27,720,861)</b>     | <b>(\$15,083,759)</b> | <b>\$1,212,944</b> | <b>(\$23,504,059)</b>                    |
| 143 AEP Pro Serv, Inc.                                     | \$77,496                                      | \$4,145                       | \$129,726              | \$0                 | \$4,376             | (\$8,519)                 | (\$650)               | \$373              | (\$4,420)                                |
| 171 CSW Energy, Inc.                                       | \$1,578,566                                   | \$68,894                      | \$2,642,475            | \$51,676            | \$92,584            | (\$173,524)               | (\$42,395)            | \$7,593            | (\$64,066)                               |
| 293 Elmwood  | \$2,285,171                                   | \$173,558                     | \$3,825,311            | \$88,221            | \$132,694           | (\$251,197)               | (\$257,329)           | \$10,991           | (\$276,620)                              |
| 292 AEP River Operations LLC                               | \$15,112,876                                  | \$887,302                     | \$25,298,525           | \$674,563           | \$890,302           | (\$1,661,283)             | (\$1,149,926)         | \$72,691           | (\$1,173,653)                            |
| 189 Central Coal Company                                   | \$0   | \$0                           | \$0                    | \$0                 | \$0                 | \$0                       | \$0                   | \$0                | \$0                                      |
| <b>Miscellaneous</b>                                       | <b>\$19,054,109</b>                           | <b>\$1,133,899</b>            | <b>\$31,896,037</b>    | <b>\$814,460</b>    | <b>\$1,119,956</b>  | <b>(\$2,094,523)</b>      | <b>(\$1,450,300)</b>  | <b>\$91,648</b>    | <b>(\$1,518,759)</b>                     |
| 270 Cook Coal Terminal                                     | \$930,296                                     | \$81,805                      | \$1,557,289            | \$9,989             | \$52,198            | (\$102,263)               | (\$60,465)            | \$4,475            | (\$96,066)                               |
| <b>AEP Generating Company</b>                              | <b>\$930,296</b>                              | <b>\$81,805</b>               | <b>\$1,557,289</b>     | <b>\$9,989</b>      | <b>\$52,198</b>     | <b>(\$102,263)</b>        | <b>(\$60,465)</b>     | <b>\$4,475</b>     | <b>(\$96,066)</b>                        |
| 104 Cardinal Operating Company                             | \$17,219,184                                  | \$1,576,550                   | \$28,824,425           | \$233,972           | \$967,207           | (\$1,892,819)             | (\$982,050)           | \$82,822           | (\$1,590,868)                            |
| 181 Ohio Power Co. - Generation                            | \$74,004,097                                  | \$7,246,858                   | \$123,880,755          | \$508,586           | \$4,114,539         | (\$8,134,901)             | (\$3,691,307)         | \$355,948          | (\$6,847,135)                            |
| <b>AEP Generation Resources - FERC</b>                     | <b>\$91,223,281</b>                           | <b>\$8,823,408</b>            | <b>\$152,705,180</b>   | <b>\$742,558</b>    | <b>\$5,081,746</b>  | <b>(\$10,027,720)</b>     | <b>(\$4,673,357)</b>  | <b>\$438,770</b>   | <b>(\$8,438,003)</b>                     |
| 290 Conesville Coal Preparation Company                    | \$725,236                                     | \$81,658                      | \$1,214,024            | \$0                 | \$39,729            | (\$79,722)                | (\$44,779)            | \$3,488            | (\$81,284)                               |
| <b>AEP Generation Resources - SEC</b>                      | <b>\$91,948,517</b>                           | <b>\$8,905,066</b>            | <b>\$153,919,204</b>   | <b>\$742,558</b>    | <b>\$5,121,475</b>  | <b>(\$10,107,442)</b>     | <b>(\$4,718,136)</b>  | <b>\$442,258</b>   | <b>(\$8,519,287)</b>                     |
| <b>Total</b>   | <b>\$1,050,012,624</b>                        | <b>\$97,036,901</b>           | <b>\$1,757,691,288</b> | <b>\$13,583,377</b> | <b>\$58,914,155</b> | <b>(\$115,422,642)</b>    | <b>(\$60,681,383)</b> | <b>\$5,050,396</b> | <b>(\$98,556,097)</b>                    |

AMERICAN ELECTRIC POWER  
NON-UMWA POSTRETIREMENT WELFARE PLAN  
ESTIMATED 2024 NET PERIODIC POSTRETIREMENT BENEFIT COST

| Location   | Accumulated<br>Postretirement<br>Benefit Obligation | Expected Net<br>Benefit<br>Payments | Fair Value<br>of Assets | Service<br>Cost     | Interest<br>Cost    | Expected<br>Return on<br>Assets | Amortizations         |                    | Net Periodic<br>Postretirement<br>Benefit Cost |
|--|---|-------------------------------------|-------------------------|---------------------|---------------------|---------------------------------|-----------------------|--------------------|--|
|  |   |                                     |                         |                     |                     |                                 | PSC                   | (G)/L              |  |
| 140 Appalachian Power Co. - Distribution                   | \$79,896,646  | \$8,018,076                         | \$138,377,668           | \$817,219           | \$4,452,157         | (\$9,097,423)                   | (\$750,141)           | \$347,030          | (\$4,231,158)                                  |
| 215 Appalachian Power Co. - Generation                     | \$68,666,289  | \$6,337,002                         | \$118,927,157           | \$702,678           | \$3,842,217         | (\$7,818,679)                   | (\$596,598)           | \$298,251          | (\$3,572,131)                                  |
| 150 Appalachian Power Co. - Transmission                   | \$9,947,339   | \$890,041                           | \$17,228,377            | \$38,544            | \$553,734           | (\$1,132,653)                   | (\$114,808)           | \$43,206           | (\$611,977)                                    |
| <b>Appalachian Power Co. - FERC</b>                        | <b>\$158,510,274</b>                                | <b>\$15,245,119</b>                 | <b>\$274,533,202</b>    | <b>\$1,558,441</b>  | <b>\$8,848,108</b>  | <b>(\$18,048,755)</b>           | <b>(\$1,461,547)</b>  | <b>\$688,487</b>   | <b>(\$8,415,266)</b>                           |
| 225 Cedar Coal Co  | \$293,194   | \$51,066                            | \$507,800               | \$0                 | \$15,545            | (\$33,385)                      | \$0                   | \$1,273            | (\$16,567)                                     |
| <b>Appalachian Power Co. - SEC</b>                         | <b>\$158,803,468</b>                                | <b>\$15,296,185</b>                 | <b>\$275,041,002</b>    | <b>\$1,558,441</b>  | <b>\$8,863,653</b>  | <b>(\$18,082,140)</b>           | <b>(\$1,461,547)</b>  | <b>\$689,760</b>   | <b>(\$8,431,833)</b>                           |
| 211 AEP Texas Central Company - Distribution               | \$60,026,710  | \$5,811,799                         | \$103,963,765           | \$691,334           | \$3,355,480         | (\$6,834,935)                   | (\$572,702)           | \$260,725          | (\$3,100,098)                                  |
| 147 AEP Texas Central Company - Generation                 | \$0   | \$0                                 | \$0                     | \$0                 | \$0                 | \$0                             | (\$170)               | \$0                | (\$170)  |
| 169 AEP Texas Central Company - Transmission               | \$5,807,376   | \$525,893                           | \$10,058,134            | \$79,470            | \$326,401           | (\$661,256)                     | (\$58,681)            | \$25,224           | (\$288,842)                                    |
| <b>AEP Texas Central Co.</b>                               | <b>\$65,834,086</b>                                 | <b>\$6,337,692</b>                  | <b>\$114,021,899</b>    | <b>\$770,804</b>    | <b>\$3,681,881</b>  | <b>(\$7,496,191)</b>            | <b>(\$631,553)</b>    | <b>\$285,949</b>   | <b>(\$3,389,110)</b>                           |
| 170 Indiana Michigan Power Co. - Distribution              | \$38,422,043  | \$3,856,057                         | \$66,545,381            | \$452,901           | \$2,144,497         | (\$4,374,922)                   | (\$374,954)           | \$166,886          | (\$1,985,592)                                  |
| 132 Indiana Michigan Power Co. - Generation                | \$23,750,202  | \$2,371,427                         | \$41,134,362            | \$327,671           | \$1,328,715         | (\$2,704,314)                   | (\$282,661)           | \$103,159          | (\$1,227,430)                                  |
| 190 Indiana Michigan Power Co. - Nuclear                   | \$45,115,127  | \$3,857,975                         | \$78,137,524            | \$1,010,213         | \$2,564,965         | (\$5,137,029)                   | (\$560,473)           | \$195,957          | (\$1,926,367)                                  |
| 120 Indiana Michigan Power Co. - Transmission              | \$8,993,809   | \$820,972                           | \$15,576,903            | \$91,609            | \$503,482           | (\$1,024,079)                   | (\$86,552)            | \$39,064           | (\$476,476)                                    |
| 280 Ind Mich River Transp Lakin                            | \$10,873,673  | \$888,770                           | \$18,832,749            | \$214,154           | \$617,683           | (\$1,238,130)                   | (\$126,462)           | \$47,230           | (\$485,525)                                    |
| <b>Indiana Michigan Power Co. - FERC</b>                   | <b>\$127,154,854</b>                                | <b>\$11,795,201</b>                 | <b>\$220,226,919</b>    | <b>\$2,096,548</b>  | <b>\$7,159,342</b>  | <b>(\$14,478,474)</b>           | <b>(\$1,431,102)</b>  | <b>\$552,296</b>   | <b>(\$6,101,390)</b>                           |
| 202 Price River Coal                                       | \$0   | \$0                                 | \$0                     | \$0                 | \$0                 | \$0                             | \$0                   | \$0                | \$0  |
| <b>Indiana Michigan Power Co. - SEC</b>                    | <b>\$127,154,854</b>                                | <b>\$11,795,201</b>                 | <b>\$220,226,919</b>    | <b>\$2,096,548</b>  | <b>\$7,159,342</b>  | <b>(\$14,478,474)</b>           | <b>(\$1,431,102)</b>  | <b>\$552,296</b>   | <b>(\$6,101,390)</b>                           |
| 110 Kentucky Power Co. - Distribution                      | \$15,412,024  | \$1,456,837                         | \$26,692,985            | \$173,782           | \$862,324           | (\$1,754,888)                   | (\$186,335)           | \$66,942           | (\$838,175)                                    |
| 117 Kentucky Power Co. - Generation                        | \$10,263,178  | \$947,994                           | \$17,775,397            | \$62,820            | \$571,804           | (\$1,168,616)                   | (\$89,627)            | \$44,578           | (\$579,041)                                    |
| 180 Kentucky Power Co. - Transmission                      | \$1,752,009   | \$137,044                           | \$3,034,407             | \$22,563            | \$99,007            | (\$199,492)                     | (\$32,292)            | \$7,610            | (\$102,604)                                    |
| 600 Kentucky Power Co. - Kammer Actives                    | \$1,170,706   | \$127,258                           | \$2,027,614             | \$40,989            | \$66,640            | (\$133,302)                     | (\$12,715)            | \$5,085            | (\$33,303)                                     |
| 701 Kentucky Power Co. - Mitchell Actives                  | \$6,380,943   | \$575,727                           | \$11,051,528            | \$208,644           | \$365,735           | (\$726,565)                     | (\$60,305)            | \$27,716           | (\$184,775)                                    |
| 702 Kentucky Power Co. - Mitchell Inactives                | \$4,934,710   | \$451,697                           | \$8,546,712             | \$0                 | \$273,299           | (\$561,890)                     | (\$108,102)           | \$21,434           | (\$375,259)                                    |
| <b>Kentucky Power Co.</b>                                  | <b>\$39,913,570</b>                                 | <b>\$3,696,557</b>                  | <b>\$69,128,643</b>     | <b>\$508,798</b>    | <b>\$2,238,809</b>  | <b>(\$4,544,753)</b>            | <b>(\$489,376)</b>    | <b>\$173,365</b>   | <b>(\$2,113,157)</b>                           |
| 250 Ohio Power Co. - Distribution                          | \$102,638,905                                       | \$10,119,543                        | \$177,766,315           | \$1,096,057         | \$5,727,297         | (\$11,686,967)                  | (\$841,947)           | \$445,810          | (\$5,259,750)                                  |
| 160 Ohio Power Co. - Transmission                          | \$12,268,079  | \$1,158,876                         | \$21,247,803            | \$8,300             | \$678,896           | (\$1,396,903)                   | (\$147,780)           | \$53,286           | (\$804,201)                                    |
| <b>Ohio Power Co.</b>                                      | <b>\$114,906,984</b>                                | <b>\$11,278,419</b>                 | <b>\$199,014,118</b>    | <b>\$1,104,357</b>  | <b>\$6,406,193</b>  | <b>(\$13,083,870)</b>           | <b>(\$989,727)</b>    | <b>\$499,096</b>   | <b>(\$6,063,951)</b>                           |
| 167 Public Service Co. of Oklahoma - Distribution          | \$36,945,411  | \$3,490,866                         | \$63,987,915            | \$509,419           | \$2,072,572         | (\$4,206,785)                   | (\$369,064)           | \$160,472          | (\$1,833,386)                                  |
| 198 Public Service Co. of Oklahoma - Generation            | \$18,550,665  | \$1,753,216                         | \$32,128,980            | \$325,994           | \$1,044,720         | (\$2,112,269)                   | (\$235,833)           | \$80,575           | (\$896,813)                                    |
| 114 Public Service Co. of Oklahoma - Transmission          | \$4,372,415   | \$396,267                           | \$7,572,841             | \$68,255            | \$246,229           | (\$497,865)                     | (\$47,953)            | \$18,992           | (\$212,342)                                    |
| <b>Public Service Co. of Oklahoma</b>                      | <b>\$59,868,491</b>                                 | <b>\$5,640,349</b>                  | <b>\$103,689,736</b>    | <b>\$903,668</b>    | <b>\$3,363,521</b>  | <b>(\$6,816,919)</b>            | <b>(\$652,850)</b>    | <b>\$260,039</b>   | <b>(\$2,942,541)</b>                           |
| 159 Southwestern Electric Power Co. - Distribution         | \$26,572,614  | \$2,433,963                         | \$46,022,662            | \$394,044           | \$1,494,476         | (\$3,025,688)                   | (\$331,569)           | \$115,418          | (\$1,353,319)                                  |
| 168 Southwestern Electric Power Co. - Generation           | \$26,203,432  | \$2,492,229                         | \$45,383,254            | \$473,965           | \$1,476,033         | (\$2,983,651)                   | (\$339,735)           | \$113,814          | (\$1,259,574)                                  |
| 161 Southwestern Electric Power Co. - Texas - Distribution | \$12,433,670  | \$1,122,075                         | \$21,534,599            | \$170,411           | \$698,955           | (\$1,415,758)                   | (\$145,622)           | \$54,005           | (\$638,009)                                    |
| 111 Southwestern Electric Power Co. - Texas - Transmission | \$0   | \$0                                 | \$0                     | \$0                 | \$0                 | \$0                             | \$0                   | \$0                | \$0  |
| 194 Southwestern Electric Power Co. - Transmission         | \$4,198,838   | \$380,391                           | \$7,272,213             | \$51,180            | \$235,625           | (\$478,100)                     | (\$41,708)            | \$18,238           | (\$214,765)                                    |
| <b>Southwestern Electric Power Co.</b>                     | <b>\$69,408,554</b>                                 | <b>\$6,428,658</b>                  | <b>\$120,212,728</b>    | <b>\$1,089,600</b>  | <b>\$3,905,089</b>  | <b>(\$7,903,197)</b>            | <b>(\$858,634)</b>    | <b>\$301,475</b>   | <b>(\$3,465,667)</b>                           |
| 119 AEP Texas North Company - Distribution                 | \$16,852,081  | \$1,651,126                         | \$29,187,103            | \$212,114           | \$942,516           | (\$1,918,860)                   | (\$194,782)           | \$73,197           | (\$885,815)                                    |
| 166 AEP Texas North Company - Generation                   | \$3,675,161   | \$451,112                           | \$6,365,226             | \$0                 | \$200,261           | (\$418,472)                     | \$0                   | \$15,963           | (\$202,248)                                    |
| 192 AEP Texas North Company - Transmission                 | \$2,297,969   | \$218,899                           | \$3,979,987             | \$40,935            | \$129,398           | (\$261,658)                     | (\$37,182)            | \$9,981            | (\$118,526)                                    |
| <b>AEP Texas North Co.</b>                                 | <b>\$22,825,211</b>                                 | <b>\$2,321,137</b>                  | <b>\$39,532,316</b>     | <b>\$253,049</b>    | <b>\$1,272,175</b>  | <b>(\$2,598,990)</b>            | <b>(\$231,964)</b>    | <b>\$99,141</b>    | <b>(\$1,206,589)</b>                           |
| 230 Kingsport Power Co. - Distribution                     | \$3,355,521   | \$309,571                           | \$5,811,623             | \$41,692            | \$188,187           | (\$382,076)                     | (\$25,400)            | \$14,575           | (\$163,022)                                    |
| 260 Kingsport Power Co. - Transmission                     | \$422,390   | \$41,024                            | \$731,562               | \$2,546             | \$23,473            | (\$48,095)                      | (\$5,843)             | \$1,835            | (\$26,084)                                     |
| <b>Kingsport Power Co.</b>                                 | <b>\$3,777,911</b>                                  | <b>\$350,595</b>                    | <b>\$6,543,185</b>      | <b>\$44,238</b>     | <b>\$211,660</b>    | <b>(\$430,171)</b>              | <b>(\$31,243)</b>     | <b>\$16,410</b>    | <b>(\$189,106)</b>                             |
| 210 Wheeling Power Co. - Distribution                      | \$4,012,837   | \$424,989                           | \$6,950,067             | \$40,064            | \$222,917           | (\$456,921)                     | (\$37,583)            | \$17,430           | (\$214,093)                                    |
| 200 Wheeling Power Co. - Transmission                      | \$101,695   | \$21,574                            | \$176,132               | \$0                 | \$5,281             | (\$11,580)                      | \$0                   | \$442              | (\$5,857)                                      |
| <b>Wheeling Power Co.</b>                                  | <b>\$4,114,532</b>                                  | <b>\$446,563</b>                    | <b>\$7,126,199</b>      | <b>\$40,064</b>     | <b>\$228,198</b>    | <b>(\$468,501)</b>              | <b>(\$37,583)</b>     | <b>\$17,872</b>    | <b>(\$219,950)</b>                             |
| 103 American Electric Power Service Corporation            | \$249,192,806                                       | \$20,592,671                        | \$431,591,576           | \$3,932,189         | \$14,092,479        | (\$28,374,311)                  | (\$2,589,281)         | \$1,082,364        | (\$11,856,560)                                 |
| <b>American Electric Power Service Corporation</b>         | <b>\$249,192,806</b>                                | <b>\$20,592,671</b>                 | <b>\$431,591,576</b>    | <b>\$3,932,189</b>  | <b>\$14,092,479</b> | <b>(\$28,374,311)</b>           | <b>(\$2,589,281)</b>  | <b>\$1,082,364</b> | <b>(\$11,856,560)</b>                          |
| 143 AEP Pro Serv, Inc.                                     | \$77,727  | \$4,242                             | \$134,620               | \$0                 | \$4,387             | (\$8,850)                       | \$0                   | \$338              | (\$4,125)                                      |
| 171 CSW Energy, Inc.                                       | \$1,653,932   | \$75,790                            | \$2,864,541             | \$52,903            | \$96,829            | (\$188,325)                     | (\$7,642)             | \$7,184            | (\$39,051)                                     |
| 293 Elmwood  | \$2,332,528   | \$180,377                           | \$4,039,841             | \$90,316            | \$135,368           | (\$265,593)                     | (\$47,195)            | \$10,131           | (\$76,973)                                     |
| 292 AEP River Operations LLC                               | \$15,790,439  | \$932,382                           | \$27,348,384            | \$690,584           | \$929,241           | (\$1,797,977)                   | (\$212,552)           | \$68,586           | (\$322,118)                                    |
| 189 Central Coal Company                                   | \$0   | \$0                                 | \$0                     | \$0                 | \$0                 | \$0                             | \$0                   | \$0                | \$0  |
| <b>Miscellaneous</b>                                       | <b>\$19,854,626</b>                                 | <b>\$1,192,791</b>                  | <b>\$34,387,386</b>     | <b>\$833,803</b>    | <b>\$1,165,825</b>  | <b>(\$2,260,745)</b>            | <b>(\$267,389)</b>    | <b>\$86,239</b>    | <b>(\$442,267)</b>                             |
| 270 Cook Coal Terminal                                     | \$910,678   | \$76,055                            | \$1,577,256             | \$10,226            | \$51,238            | (\$103,694)                     | (\$10,620)            | \$3,956            | (\$48,894)                                     |
| <b>AEP Generating Company</b>                              | <b>\$910,678</b>                                    | <b>\$76,055</b>                     | <b>\$1,577,256</b>      | <b>\$10,226</b>     | <b>\$51,238</b>     | <b>(\$103,694)</b>              | <b>(\$10,620)</b>     | <b>\$3,956</b>     | <b>(\$48,894)</b>                              |
| 104 Cardinal Operating Company                             | \$16,843,813  | \$1,545,505                         | \$29,172,784            | \$239,529           | \$946,646           | (\$1,917,919)                   | (\$166,189)           | \$73,161           | (\$824,772)                                    |
| 181 Ohio Power Co. - Generation                            | \$71,380,364  | \$6,912,773                         | \$123,627,822           | \$520,665           | \$3,972,615         | (\$8,127,717)                   | (\$484,947)           | \$310,039          | (\$3,809,345)                                  |
| <b>AEP Generation Resources - FERC</b>                     | <b>\$88,224,177</b>                                 | <b>\$8,458,278</b>                  | <b>\$152,800,606</b>    | <b>\$760,194</b>    | <b>\$4,919,261</b>  | <b>(\$10,045,636)</b>           | <b>(\$651,136)</b>    | <b>\$383,200</b>   | <b>(\$4,634,117)</b>                           |
| 290 Conesville Coal Preparation Company                    | \$683,307   | \$61,883                            | \$1,183,459             | \$0                 | \$37,862            | (\$7,805)                       | (\$7,443)             | \$2,968            | (\$44,418)                                     |
| <b>AEP Generation Resources - SEC</b>                      | <b>\$88,907,484</b>                                 | <b>\$8,520,161</b>                  | <b>\$153,984,065</b>    | <b>\$760,194</b>    | <b>\$4,957,123</b>  | <b>(\$10,123,441)</b>           | <b>(\$658,579)</b>    | <b>\$386,168</b>   | <b>(\$4,678,535)</b>                           |
| <b>Total</b>   | <b>\$1,025,473,255</b>                              | <b>\$93,973,034</b>                 | <b>\$1,776,077,028</b>  | <b>\$13,905,979</b> | <b>\$57,597,186</b> | <b>(\$116,765,397)</b>          | <b>(\$10,341,448)</b> | <b>\$4,454,130</b> | <b>(\$51,149,550)</b>                          |

Effect of Additional Pension Contributions Recorded As Prepaid Pension Asset in Reducing Pension Cost  
Kentucky Power Company

|  | Plan<br>Contribution | Less Qualified<br>FAS 87 Cost | Additional<br>Contribution | Investment Return |                  | Balance of<br>Plan Assets |
|--|----------------------|-------------------------------|----------------------------|-------------------|------------------|---------------------------|
|  |                      |                               |                            | Rate              | Amount           |                           |
| <b>FAS 87<br/>Savings</b>                      |                      |                               |                            |                   |                  |                           |
| 2002 Contributions                             | -                    | (2,471,778)                   | 2,471,778                  |                   |                  |                           |
| 2003 Contributions                             | 2,497,386            | (1,058,869)                   | 3,556,255                  |                   |                  |                           |
| 2004 Contributions                             | 551,238              | 671,532                       | (120,294)                  |                   |                  |                           |
| 2005 Contributions                             | 29,430,947           | 2,135,256                     | 27,295,691                 |                   |                  | 27,295,691                |
| 2006 Return on 2005 Balance                    |                      |                               |                            | 8.50%             | <b>2,320,134</b> | 29,615,825                |
| 2006 Contributions                             | -                    | 1,928,538                     | (1,928,538)                |                   |                  | 27,687,287                |
| 2007 Return on 2006 Balance                    |                      |                               |                            | 8.50%             | <b>2,517,345</b> | 30,204,632                |
| 2007 Contributions                             | -                    | 1,268,242                     | (1,268,242)                |                   |                  | 28,936,390                |
| 2008 Return on 2007 Balance                    |                      |                               |                            | 8.00%             | <b>2,416,371</b> | 31,352,760                |
| 2008 Contributions                             | -                    | 1,243,528                     | (1,243,528)                |                   |                  | 30,109,232                |
| 2009 Return on 2008 Balance                    |                      |                               |                            | 8.00%             | <b>2,508,221</b> | 32,617,453                |
| 2009 Contributions                             | -                    | 3,172,307                     | (3,172,307)                |                   |                  | 29,445,146                |
| 2010 Return on 2009 Balance                    |                      |                               |                            | 8.00%             | <b>2,609,396</b> | 32,054,542                |
| 2010 Contributions                             | 13,012,606           | 4,704,090                     | 8,308,516                  |                   |                  | 40,363,058                |
| 2011 Return on 2010 Balance                    |                      |                               |                            | 7.75%             | <b>3,128,137</b> | 43,491,196                |
| 2011 Contributions                             | 22,146,267           | 4,103,290                     | 18,042,977                 |                   |                  | 61,534,173                |
| 2012 Return on 2011 Balance                    |                      |                               |                            | 7.25%             | <b>4,461,228</b> | 65,995,400                |
| 2012 Contributions                             | 8,482,245            | 4,179,727                     | 4,302,518                  |                   |                  | 70,297,918                |
| 2013 Return on 2012 Balance                    |                      |                               |                            | 6.50%             | <b>4,569,365</b> | 74,867,283                |
| 2013 Contributions                             | -                    | 5,607,308                     | (5,607,308)                |                   |                  | 69,259,975                |
| 2014 Return on 2013 Balance                    |                      |                               |                            | 6.00%             | <b>4,155,598</b> | 73,415,573                |
| 2014 Contributions Through September 30        | 1,923,000            | 3,892,737                     | (1,969,737)                |                   |                  | 71,445,836                |
| Total Additional Contributions Above           | <u>78,043,689</u>    | <u>29,375,908</u>             | 48,667,781                 |                   |                  |                           |
| Cumulative Prior Years                         |                      |                               | <u>5,042,187</u>           |                   |                  |                           |
| Prepaid Pension Balance at September 2014      |                      |                               | <u>53,709,968</u>          |                   |                  |                           |
|  |                      |                               |                            |                   | Calendar Year    |                           |
|  |                      |                               |                            |                   | 2014             |                           |
| Actual Total Pension Cost (Qualified and SERP) |                      |                               |                            |                   | <u>4,311,543</u> |                           |
| Prepaid Contribution Savings Above             |                      |                               |                            |                   | <u>4,155,598</u> |                           |
| Pension Cost Without Contribution Savings      |                      |                               |                            |                   | <u>8,467,141</u> |                           |

Effect of Additional Pension Contributions Recorded As Prepaid Pension Asset in Reducing Pension Cost  
Kentucky Power Company Through December 2013 - Without Mitchell Plant

|  | Plan<br>Contribution | Less Qualified<br>FAS 87 Cost | Additional<br>Contribution | Investment Return |                  | Balance of<br>Plan Assets |
|--|----------------------|-------------------------------|----------------------------|-------------------|------------------|---------------------------|
|  |                      |                               |                            | Rate              | Amount           |                           |
| <b><u>FAS 87 Savings</u></b>             |                      |                               |                            |                   |                  |                           |
| 2002 Contributions                       | -                    | (1,405,859)                   | 1,405,859                  |                   |                  |                           |
| 2003 Contributions                       | 1,613,800            | (582,318)                     | 2,196,118                  |                   |                  |                           |
| 2004 Contributions                       | 451,453              | 554,622                       | (103,169)                  |                   |                  |                           |
| 2005 Contributions                       | 15,775,528           | 1,486,940                     | 14,288,588                 |                   |                  | 14,288,588                |
| 2006 Return on 2005 Balance              |                      |                               |                            | 8.50%             | <b>1,214,530</b> | 15,503,118                |
| 2006 Contributions                       | -                    | 1,427,413                     | (1,427,413)                |                   |                  | 14,075,705                |
| 2007 Return on 2006 Balance              |                      |                               |                            | 8.50%             | <b>1,317,765</b> | 15,393,470                |
| 2007 Contributions                       | -                    | 1,014,052                     | (1,014,052)                |                   |                  | 14,379,418                |
| 2008 Return on 2007 Balance              |                      |                               |                            | 8.00%             | <b>1,231,478</b> | 15,610,896                |
| 2008 Contributions                       | -                    | 990,244                       | (990,244)                  |                   |                  | 14,620,652                |
| 2009 Return on 2008 Balance              |                      |                               |                            | 8.00%             | <b>1,248,872</b> | 15,869,523                |
| 2009 Contributions                       | -                    | 2,215,416                     | (2,215,416)                |                   |                  | 13,654,107                |
| 2010 Return on 2009 Balance              |                      |                               |                            | 8.00%             | <b>1,269,562</b> | 14,923,669                |
| 2010 Contributions                       | 6,183,898            | 2,995,603                     | 3,188,295                  |                   |                  | 18,111,964                |
| 2011 Return on 2010 Balance              |                      |                               |                            | 7.75%             | <b>1,403,677</b> | 19,515,641                |
| 2011 Contributions                       | 10,535,000           | 2,894,613                     | 7,640,387                  |                   |                  | 27,156,028                |
| 2012 Return on 2011 Balance              |                      |                               |                            | 7.25%             | <b>1,968,812</b> | 29,124,840                |
| 2012 Contributions                       | 4,902,000            | 3,244,941                     | 1,657,059                  |                   |                  | 30,781,899                |
| 2013 Return on 2012 Balance              |                      |                               |                            | 6.50%             | <b>2,000,823</b> | 32,782,723                |
| 2013 Contributions                       | -                    | 4,057,917                     | (4,057,917)                |                   |                  | 28,724,806                |
| 2014 Return on 2013 Balance              |                      |                               |                            | 6.00%             | <b>1,723,488</b> | 30,448,294                |
| Total Additional Contributions Above     | <u>39,461,679</u>    | <u>18,893,584</u>             | 20,568,095                 |                   |                  |                           |
| Cumulative Prior Years                   |                      |                               | <u>2,696,523</u>           |                   |                  |                           |
| Prepaid Pension Balance at December 2013 |                      |                               | <u>23,264,618</u>          |                   |                  |                           |

Effect of Additional Pension Contributions Recorded As Prepaid Pension Asset in Reducing Pension Cost  
Kentucky Power Company Through December 2013 - Mitchell Plant

|  | Plan<br>Contribution | Less Qualified<br>FAS 87 Cost | Additional<br>Contribution | Investment Return |                  | Balance of<br>Plan Assets        |
|--|----------------------|-------------------------------|----------------------------|-------------------|------------------|----------------------------------|
|  |                      |                               |                            | Rate              | Amount           |                                  |
|  |                      |                               |                            |                   |                  | <b><u>FAS 87<br/>Savings</u></b> |
| 2002 Contributions                       | -                    | (1,065,919)                   | 1,065,919                  |                   |                  |                                  |
| 2003 Contributions                       | 883,586              | (476,551)                     | 1,360,137                  |                   |                  |                                  |
| 2004 Contributions                       | 99,785               | 116,910                       | (17,125)                   |                   |                  |                                  |
| 2005 Contributions                       | 13,655,419           | 648,316                       | 13,007,103                 |                   |                  | 13,007,103                       |
| 2006 Return on 2005 Balance              |                      |                               |                            | 8.50%             | <b>1,105,604</b> | 14,112,707                       |
| 2006 Contributions                       | -                    | 501,125                       | (501,125)                  |                   |                  | 13,611,582                       |
| 2007 Return on 2006 Balance              |                      |                               |                            | 8.50%             | <b>1,199,580</b> | 14,811,162                       |
| 2007 Contributions                       | -                    | 254,190                       | (254,190)                  |                   |                  | 14,556,972                       |
| 2008 Return on 2007 Balance              |                      |                               |                            | 8.00%             | <b>1,184,893</b> | 15,741,865                       |
| 2008 Contributions                       | -                    | 253,284                       | (253,284)                  |                   |                  | 15,488,581                       |
| 2009 Return on 2008 Balance              |                      |                               |                            | 8.00%             | <b>1,259,349</b> | 16,747,930                       |
| 2009 Contributions                       | -                    | 956,891                       | (956,891)                  |                   |                  | 15,791,039                       |
| 2010 Return on 2009 Balance              |                      |                               |                            | 8.00%             | <b>1,339,834</b> | 17,130,873                       |
| 2010 Contributions                       | 6,828,708            | 1,708,487                     | 5,120,221                  |                   |                  | 22,251,094                       |
| 2011 Return on 2010 Balance              |                      |                               |                            | 7.75%             | <b>1,724,460</b> | 23,975,554                       |
| 2011 Contributions                       | 11,611,267           | 1,208,677                     | 10,402,590                 |                   |                  | 34,378,144                       |
| 2012 Return on 2011 Balance              |                      |                               |                            | 7.25%             | <b>2,492,415</b> | 36,870,560                       |
| 2012 Contributions                       | 3,580,245            | 934,786                       | 2,645,459                  |                   |                  | 39,516,019                       |
| 2013 Return on 2012 Balance              |                      |                               |                            | 6.50%             | <b>2,568,541</b> | 42,084,560                       |
| 2013 Contributions                       | -                    | 1,549,391                     | (1,549,391)                |                   |                  | 40,535,169                       |
| 2014 Return on 2013 Balance              |                      |                               |                            | 6.00%             | <b>2,432,110</b> | 42,967,279                       |
| <br>                                     |                      |                               |                            |                   |                  |                                  |
| Total Additional Contributions Above     | <u>36,659,010</u>    | <u>6,589,587</u>              | 30,069,423                 |                   |                  |                                  |
| Cumulative Prior Years                   |                      |                               | <u>2,345,664</u>           |                   |                  |                                  |
| Prepaid Pension Balance at December 2013 |                      |                               | <u>32,415,087</u>          |                   |                  |                                  |



**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For     )**  
**A General Adjustment Of Its Rates For Electric     )**  
**Service; (2) An Order Approving Its 2014             )**  
**Environmental Compliance Plan; (3) An Order     ) Case No. 2014-00396**  
**Approving Its Tariffs And Riders; And (4) An     )**  
**Order Granting All Other Required Approvals     )**  
**And Relief   )**

**DIRECT TESTIMONY OF**  
**JOHN M. MCMANUS**  
**ON BEHALF OF KENTUCKY POWER COMPANY**



**DIRECT TESTIMONY OF  
JOHN M. MCMANUS, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
JOHN M. MCMANUS, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1   **Q.   PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

2   A.   My name is John M. McManus. I am employed by American Electric Power  
3       Service Corporation as Vice President - Environmental Services. American  
4       Electric Power Service Corporation (“AEPSC”) is a wholly owned subsidiary of  
5       American Electric Power Company, Inc. (“AEP”), the parent of Kentucky Power  
6       Company (“Kentucky Power” or the “Company”). My business address is 1  
7       Riverside Plaza, Columbus, Ohio 43215.

**II. BACKGROUND**

8   **Q.   PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**  
9       **BUSINESS EXPERIENCE.**

10  A.   I earned a Bachelor of Science Degree in Environmental Engineering from  
11       Rensselaer Polytechnic Institute in 1976 and undertook graduate studies there  
12       from 1976-77. I joined AEPSC’s Environmental Engineering Division in  
13       September 1977. After holding various positions in the environmental division  
14       over the years, I was appointed as Manager, Environmental Services in December  
15       2002 and remained in that position until April 2003. I was appointed to my  
16       current position as Vice President - Environmental Services in April 2003. I am  
17       also a registered professional engineer in the State of Ohio.

1 **Q. WHAT ARE YOUR RESPONSIBILITIES AS VICE PRESIDENT-**  
2 **ENVIRONMENTAL SERVICES?**

3 A. I am responsible for oversight of environmental support for all generation and  
4 energy delivery facilities owned by AEP operating companies. Environmental  
5 Services provides permitting and compliance support, guidance, procedures,  
6 recommendations and training for AEP's operating companies in order to  
7 maintain and improve their environmental programs and enhance compliance  
8 with environmental laws, regulations, and policies. As part of this effort,  
9 Environmental Services is also involved in the development process for  
10 environmental regulations, coordinating with operating company staffs to support  
11 AEP's corporate strategies and values concerning the environment.

12 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

13 A. Yes. I have testified before the Kentucky Public Service Commission  
14 ("Commission") on a number of occasions. In addition, I have testified before the  
15 Virginia State Corporation Commission, Indiana Utility Regulatory Commission,  
16 Public Service Commission of West Virginia, Public Utilities Commission of  
17 Ohio, and I have submitted testimony before the Public Utility Commission of  
18 Texas.

### **III. PURPOSE OF TESTIMONY**

19 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**  
20 **PROCEEDING?**

21 A. The purpose of my testimony is to describe the applicable environmental rules  
22 that affect the generating units owned by Kentucky Power. In addition, my

1 testimony addresses anticipated rules that will require further environmental  
2 projects to be performed at Kentucky Power’s Big Sandy and Mitchell Plants as  
3 well as the Rockport Plant in Indiana. Kentucky Power purchases 393 megawatts  
4 (“MW”) of the output of the Rockport Plant, which is operated by Indiana  
5 Michigan Power (“I&M”). Similar to Kentucky Power, I&M is a subsidiary of  
6 AEP. Finally, as part of my testimony I address the environmental regulatory  
7 requirements which necessitate the projects identified in the Environmental  
8 Compliance Plan, as presented by Company Witness Elliott.

9 **Q. ARE YOU SPONSORING ANY EXHIBITS?**

10 A. Yes. I am sponsoring Exhibits No. JMM-1 and JMM-2. Exhibit JMM-1 is a copy  
11 of AEP’s New Source Review (NSR) Consent Decree (the “Consent Decree”), a  
12 document entered into between AEP, the United States Department of Justice  
13 (“DOJ”), various states in the northeastern United States, and other involved  
14 parties. Exhibit JMM-2 is a copy of the Third Joint Modification to the Consent  
15 Decree (“Modified Consent Decree”).

#### **IV. CURRENT EPA ENVIRONMENTAL REGULATIONS**

16 **Q. PLEASE DESCRIBE THE REGULATORY PROGRAMS THAT DRIVE**  
17 **THE NEED FOR THE ENVIRONMENTAL CONTROLS CURRENTLY**  
18 **INSTALLED AT THE BIG SANDY, MITCHELL, AND ROCKPORT**  
19 **PLANTS.**

20 A. The following major known, existing federal rulemakings, and previously-  
21 established requirements, create the need for the environmental controls currently  
22 installed on the Big Sandy, Mitchell, and Rockport generating plants:

1           1. **Clean Air Interstate Rule (“CAIR”)** - The United States  
2           Environmental Protection Agency (“EPA”) promulgated the CAIR in  
3           order to significantly reduce emissions of sulfur dioxide (SO<sub>2</sub>) and  
4           nitrogen oxides (NO<sub>x</sub>) primarily from the power generation sector in  
5           two phases, with compliance deadlines in 2009/2010 and 2015. These  
6           emissions reductions are implemented through an interstate cap and  
7           trade program. The cap and trade program provides emission  
8           allowances for SO<sub>2</sub> and NO<sub>x</sub> for sources and for states. Electric  
9           generating units’ compliance with the annual NO<sub>x</sub> reduction  
10          requirements began January 1, 2009. The ozone season (summer) NO<sub>x</sub>  
11          reduction requirements began May 1, 2009. Electric generating units’  
12          compliance with the annual SO<sub>2</sub> reduction requirements began January  
13          1, 2010. As of these dates, operators of electric generating units were  
14          required to hold enough CAIR allowances in their respective accounts  
15          to cover every ton of NO<sub>x</sub> or SO<sub>2</sub> emitted.

16          In 2008 the D.C. Circuit Court of Appeals remanded the CAIR back to  
17          the EPA for rewriting. This remand was ordered without vacating the  
18          rule, so that CAIR would remain in place while a replacement was  
19          created.

20          2. **Cross-State Air Pollution Rule (“CSAPR”)** – The CSAPR was  
21          created to serve as the replacement for the CAIR, and was initially  
22          proposed by the EPA in August 2010 as the Clean Air Transport Rule.  
23          The CSAPR addresses National Ambient Air Quality Standards  
24          (“NAAQS”) for ozone and particulate matter, and is focused on the  
25          reduction of emissions of SO<sub>2</sub> and NO<sub>x</sub> from electric generating units  
26          in 28 eastern, southern and mid-western states—including Kentucky,  
27          Indiana and West Virginia.<sup>1</sup> Along with other requirements, the final  
28          CSAPR established state-specific annual emission “budgets” for SO<sub>2</sub>  
29          and annual and seasonal budgets for NO<sub>x</sub>. Based on this budget, each

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<sup>1</sup> Final CSAPR issued by the USEPA on July 6, 2011 and published in the Federal Register on August 8, 2011.

1 emitting unit within affected states was allocated a specified number of  
2 NO<sub>x</sub> and SO<sub>2</sub> allowances for the applicable compliance period, whether  
3 annual or ozone season. Allowance trading within and between states  
4 is allowed on a regional basis.

5 The CSAPR was stayed on December 30, 2011 by the D.C. Circuit  
6 Court of Appeals, and was subsequently vacated by the same Court.  
7 EPA and DOJ appealed the ruling to the Supreme Court. On April 29,  
8 2014, the Supreme Court issued its decision reversing the decision of  
9 the lower court, and remanded the case to the DC Circuit Court for  
10 additional proceedings. The CAIR remained in effect throughout this  
11 process. On June 26, 2014, EPA filed a motion to lift the stay of  
12 CSAPR which the D.C Circuit Court granted on October 23, 2014.  
13 While legal challenges associated with the final outcome of this rule are  
14 still pending, the Court's decision to lift the stay will result in the  
15 application of CSAPR Phase 1 emission budgets starting in 2015. The  
16 CSAPR Phase 2 emission budgets will be applicable beginning in 2017.

- 17 3. **Clean Water Act 316(b) Rule** – A final rule under Section 316(b) of  
18 the Clean Water Act was issued by EPA on August 15, 2014, with an  
19 effective date of October 14, 2014 affecting all existing power plants  
20 withdrawing more than two million gallons of cooling water per day.  
21 The rule offers seven technology options to comply with a standard that  
22 addresses impingement of aquatic organisms on cooling water intake  
23 screens and requires site-specific studies to determine appropriate  
24 compliance measures to address entrainment of organisms in cooling  
25 water systems for those facilities withdrawing more than 125 million  
26 gallons per day. The overall goal of the rule is to decrease impacts on  
27 fish and other aquatic organisms from operation of cooling water  
28 systems. Additional requirements may be imposed as a result of  
29 consultation with other federal agencies to protect threatened and  
30 endangered species and their habitats. Facilities with existing closed  
31 cycle recirculating cooling systems, such as Big Sandy, Mitchell, and



1 Rockport units, may not be required to make any technology changes.  
2 This determination would be made by the applicable state  
3 environmental agency during the plants' next National Pollutant  
4 Discharge Elimination System ("NPDES") permit renewal cycle.

- 5 4. **Mercury and Air Toxics Standard ("MATS")** - The Mercury and Air  
6 Toxics Standard Rule creates additional environmental requirements at  
7 coal- and oil-fired electric generating units for emissions of hazardous  
8 air pollutants ("HAPs"). This rule replaces the former Clean Air  
9 Mercury Rule that was vacated in 2008 by the D.C. Circuit Court of  
10 Appeals. The final MATS Rule became effective on April 16, 2012,  
11 with compliance required within three years of that date (with the  
12 possibility of a compliance extension in certain circumstances). The  
13 emission parameters regulated by this rule are: 1) mercury; 2) several  
14 non-mercury metals such as arsenic, lead, cadmium and selenium; 3)  
15 various acid gases including hydrochloric acid (HCl); and 4) many  
16 organic HAPs. The rule includes stringent emission rate limits for  
17 these parameters. In addition, the rule contains alternative stringent  
18 emission rate limits for surrogates representing two classes of HAPs,  
19 acid gases and non-mercury particulate metal HAPs. The surrogates for  
20 the non-mercury particulate metal and acid gas HAPs are filterable  
21 particulate matter (PM) and HCl respectively. The rule regulates  
22 organic HAPs through work practice standards. Recently, on  
23 November 25, 2014, the US Supreme Court indicated that it will review  
24 whether EPA should have considered the cost of complying with  
25 MATS in developing the rule. While MATS is being reviewed by the  
26 US Supreme Court the rule will remain in effect.
- 27 5. **NSR Consent Decree** - In December 2007, AEP, Kentucky Power and  
28 its affiliated eastern Operating Companies entered into a Consent  
29 Decree that settled outstanding litigation with the DOJ, EPA, numerous  
30 states, and other litigants that stemmed from differences in  
31 interpretation of various New Source Review requirements associated

1 with coal unit maintenance practices. The AEP Companies admitted no  
 2 violations of law and the claims against them were released. There  
 3 have been three modifications to the initial Consent Decree, but only  
 4 the third modification is relevant to Kentucky Power. For the Big  
 5 Sandy, Mitchell, and Rockport plants, the Consent Decree, as modified,  
 6 called for the following schedule of NO<sub>x</sub> and SO<sub>2</sub> controls:

- 7 • Big Sandy Unit 2: The initial requirement to install a flue gas  
 8 desulfurization system (“FGD”) for SO<sub>2</sub> emission reduction by  
 9 December 31, 2015 was revised to Retrofit, Retire, Re-Power or  
 10 Refuel by the same date in the Third Modification to the Consent  
 11 Decree
- 12 • Big Sandy Unit 2: Continuously operate the existing selective  
 13 catalytic reduction (“SCR”) system to minimize NO<sub>x</sub> emissions  
 14 starting January 1, 2009
- 15 • Big Sandy Unit 1: Install Low-NO<sub>x</sub> Burner technology *and* limit  
 16 the sulfur content of its coal to no greater than 1.75 lb. per million  
 17 British thermal units (MMBtu), on an annual average basis, by the  
 18 effective date of the Consent Decree.
- 19 • Mitchell Units 1 and 2: install and continuously operate SCR  
 20 systems by January 1, 2009.
- 21 • Mitchell Units 1 and 2: install and continuously operate FGD  
 22 systems by December 31, 2007.
- 23 • Rockport Units 1 and 2: install and continuously operate Dry  
 24 Sorbent Injection (“DSI”) by April 16, 2015<sup>2</sup>
- 25 • Rockport Units 1 and 2: install and continuously operate SCR  
 26 systems on the generating units by December 31, 2017 and  
 27 December 31, 2019, respectively
- 28 • Rockport Units 1 and 2: Retrofit, Retire, Re-Power, or Refuel by  
 29 December 31, 2025 and December 31, 2028, respectively.

30 **Q. WHAT ARE THE IMPLICATIONS OF THE MATS RULE FOR THE BIG**  
 31 **SANDY, MITCHELL, AND ROCKPORT PLANTS?**

32 A. The MATS Rule establishes stringent unit-specific emission limits that are  
 33 applicable to all three plants. To comply with the MATS limits, the Big Sandy  
 34 units are required to install additional emission controls, switch fuels, or be

---

<sup>2</sup> The Third Joint Modification to the Consent Decree was filed by AEP, the Department of Justice, the EPA and other parties on February 22, 2013 in United States District Court for the Southern District of Ohio, Eastern Division. The Third Joint Modification was entered on May 14, 2013.

1 retired. Kentucky Power elected to retire Big Sandy Unit 2 and to refuel Big  
2 Sandy Unit 1 with natural gas. The Commission approved the Company's  
3 decisions in Case Nos. 2012-00578 and 2013-00430, respectively. The Mitchell  
4 units are expected to be able to achieve the MATS limits without any significant  
5 upgrades to existing emission control equipment, or installations of new emission  
6 control equipment. The Rockport units are installing DSI control technology and  
7 upgrading the activated carbon injection systems on both units to ensure  
8 compliance with the MATS limits.

9 **Q. WHAT IS THE COMPLIANCE TIMELINE FOR THE MATS RULE?**

10 A. The initial MATS compliance date is April 16, 2015, three years after the  
11 effective date of the rule. However, a one-year administrative extension of the  
12 initial compliance date (a fourth year) can be granted by a state's Department of  
13 Environmental Protection for units undertaking major retrofit or replacement  
14 projects, or for units that will retire but are required for reliability purposes. An  
15 additional one year extension (a fifth year) may also be available for units  
16 identified as "critical for reliability purposes" via an Enforcement Order from  
17 EPA. Kentucky Power requested and was granted a one year extension at Big  
18 Sandy Unit 1 to complete the project to refuel the unit to natural gas and an  
19 extension until June 1, 2015 at Big Sandy Unit 2 to ensure consistency with the  
20 PJM capacity planning year. No extensions were necessary for the Mitchell and  
21 Rockport Plants as these units are expected to meet the compliance timeline for  
22 the MATS Rule.

23

1 **Q. WHAT ARE THE IMPLICATIONS FOR KENTUCKY POWER OF THE**  
2 **DC CIRCUIT COURT’S DECISION TO GRANT EPA’S MOTION TO**  
3 **LIFT THE STAY OF CSAPR?**

4 A. The DC Circuit Court granted the EPA’s motion to lift the stay of CSAPR and  
5 implement the rule’s Phase 1 emission budgets beginning in 2015, with the Phase  
6 2 emission budgets beginning in 2017. Similar to Kentucky Power’s compliance  
7 with the Title IV and CAIR allowance programs, to comply with CSAPR it will  
8 need to surrender a sufficient number of allowances relative to its generating  
9 facilities’ emissions. Dependent upon Kentucky Power’s actual generation this  
10 may require the purchase of allowances in addition to those already held.

11 **Q. DO AEP AND ITS SUBSIDIARIES HAVE PLANS IN PLACE TO**  
12 **FULFILL THE REQUIREMENTS OF THE 2007 AEP NSR CONSENT**  
13 **DECREE AND SUBSEQUENT MODIFICATIONS?**

14 A. Yes. The planned retirement of Big Sandy Unit 2 and the fuel-conversion to  
15 natural gas at Big Sandy Unit 1 will meet the requirements of the Consent Decree.  
16 With respect to the Mitchell Plant, the existing environmental controls in place  
17 meet the requirements of the Consent Decree, included in Exhibit JMM-1 to my  
18 testimony, and no additional environmental controls are necessary. Finally, the  
19 Rockport Plant’s retrofit with DSI technology is consistent with the Third Joint  
20 Modification to the Consent Decree, included as Exhibit JJM-2 to my testimony.  
21 In addition to the current DSI installation, the Consent Decree as modified  
22 requires the installation of SCR technology and provides the option to retire, re-

1 power, refuel, or retrofit with FGD technology in future years for both of the  
2 Rockport Units.

#### **V. FUTURE EPA ENVIRONMENTAL REGULATIONS**

3 **Q. PLEASE DISCUSS OTHER PROPOSED AND EMERGING**  
4 **ENVIRONMENTAL REGULATIONS THAT MAY CREATE THE NEED**  
5 **FOR ADDITIONAL ENVIRONMENTAL CONTROL RETROFITS AT**  
6 **KENTUCKY POWER’S GENERATING PLANTS.**

7 A. The following proposed and anticipated environmental regulations have the  
8 potential to establish more stringent requirements and the subsequent need for  
9 upgrades to and/or new installation of environmental control systems at the Big  
10 Sandy, Mitchell, and Rockport generating plants:

- 11 1. **New 1-hour SO<sub>2</sub> NAAQS** – In 2010, the EPA revised the NAAQS for  
12 SO<sub>2</sub>, establishing a new 1-hour standard, which is more stringent than the  
13 prior standards. In April 2014, EPA proposed a Data Requirements Rule  
14 that provided guidance on the schedule for final designations from EPA  
15 for areas that have not been designated as non-attainment based on  
16 monitoring data. According to this proposal, the designation process will  
17 not be completed until the end of 2017 at the earliest and may extend to  
18 2020 for those states utilizing air quality monitoring as the basis for their  
19 designations. Given that State Implementation Plans (“SIPs”) would then  
20 have to be developed and approved, the timing and extent of any potential  
21 emission reductions at Kentucky Power’s plants from the revised SO<sub>2</sub>  
22 NAAQS rule is uncertain and, based on the proposed Data Requirements  
23 Rule, would not be expected until late this decade at the earliest.
- 24 2. **Interstate Transport Rule for the 2008 Ozone NAAQS** – EPA has  
25 indicated it will propose regulations to address ozone nonattainment areas  
26 based on the 2008 ozone NAAQS but the schedule is uncertain.  
27 Regulation of NO<sub>x</sub> emissions, which are a precursor to ozone formation,

1 will be a component of this proposal.

- 2 3. **Revision to the 2008 Ozone NAAQS** – On November 26, 2014, EPA  
3 announced its intent to propose a revision to the 2008 ozone NAAQS with  
4 a final rule anticipated by October 1, 2015.
- 5 4. **Section 176(A) Petition** – On December 13, 2013, eight Northeast and  
6 Mid-Atlantic states filed a petition with USEPA asking the agency to add  
7 nine upwind states to the Ozone Transport Region (OTR). Kentucky,  
8 Indiana, and West Virginia were included in this list of nine states. If  
9 added to the OTR, these states would be required to take additional steps  
10 to reduce their air pollution, including NO<sub>x</sub> emissions, that has been found  
11 to significantly affect downwind states. EPA has 18 months to issue a  
12 decision on this petition.
- 13 5. **Revisions to the NAAQS for particulate matter with a diameter less**  
14 **than 2.5 microns (PM<sub>2.5</sub>)** – EPA lowered the PM<sub>2.5</sub> NAAQS in 2013.  
15 While implementation of this revised standard is just underway, there is  
16 the potential for future SO<sub>2</sub> and NO<sub>x</sub> reduction requirements associated  
17 with this revised NAAQS.
- 18 6. **Steam Electric Effluent Limitations Guidelines (“ELG”)** – EPA  
19 proposed an update to the ELG (40 CFR 423) for the steam electric power  
20 generating category on June 7, 2013. The proposed ELG would require  
21 more stringent controls on certain discharges from certain electric  
22 generating units, and will set technology-based limits for waste water  
23 discharges from power plants with a main focus on process and  
24 wastewater from FGD, fly ash sluice water, bottom ash sluice water and  
25 landfill/pond leachate. Kentucky Power anticipates that wastewater  
26 treatment projects will be necessary at the Mitchell and Rockport Plants in  
27 response to this rulemaking. The expected date for a final ELG rule is  
28 September 30, 2015.
- 29 7. **Coal Combustion Residuals (“CCR”) Rule** – EPA proposed the CCR  
30 Rule in June 2010 to address the disposal of coal combustion byproducts  
31 (coal ash, etc.). The proposed rule includes specific design and

1 monitoring standards for new and existing landfills and surface  
2 impoundments, as well as measures to ensure and maintain the structural  
3 integrity of surface impoundment/ponds. The proposed CCR rulemaking  
4 would require the conversion of most “wet” ash impoundments to “dry”  
5 ash landfills, the relining or closing of any remaining ash impoundment  
6 ponds, and the construction of additional waste water treatment facilities  
7 by approximately the first half of 2020. Kentucky Power anticipates that  
8 the CCR Rule—based on the preliminary assumption that these residual  
9 materials will be categorized as “Subtitle D,” or non-hazardous  
10 materials—would require plant modifications and capital expenditures to  
11 address these requirements by approximately 2019. At the time of this  
12 writing, the final rule is scheduled to be complete by December 19, 2014.

- 13 8. **Greenhouse Gas (“GHG”) Regulations** – EPA has been working on a  
14 regulatory program for greenhouse gas emissions from existing power  
15 plants since December 2010. On March 27, 2012, EPA proposed New  
16 Source Performance Standards (“NSPS”) for new fossil fuel power plants  
17 with a carbon dioxide (CO<sub>2</sub>) emission limit of 1,000 lb/MWh, which is  
18 equivalent to the rate EPA assumes for a new natural gas combined cycle  
19 unit. More recently, on June 25, 2013, President Obama announced a  
20 climate action plan to address GHG emissions from all fossil-fired power  
21 plants which included a specific schedule for EPA to propose, finalize and  
22 implement greenhouse gas regulations. Under President Obama’s  
23 direction, the EPA issued a revised proposal for the GHG NSPS for new  
24 sources on January 8, 2014, and must finalize it in a “timely fashion.”  
25 EPA issued proposed GHG NSPS guidelines, referred to as the Clean  
26 Power Plan for existing sources on June 2, 2014 and plans to finalize these  
27 guidelines by June 1, 2015. States would develop and submit a plan to  
28 EPA for implementing the existing source guidelines by June 30, 2016,  
29 however a one year extension to this deadline is available for states  
30 submitting an individual plan, and a two year extension is available for  
31 states combining to submit a multi-state implementation plan.

1 **Q. PLEASE DESCRIBE THE MAJOR PROVISIONS OF THE PROPOSED**  
2 **CLEAN POWER PLAN.**

3 A. The proposed Clean Power Plan is built upon four “building blocks,” which the  
4 EPA uses to calculate a proposed CO<sub>2</sub> emission rate target for each state. These  
5 four building blocks, and their basic assumptions in the proposed Clean Power  
6 Plan, are as follows:

7 1. Coal plant heat rate improvement - The EPA assumed that all coal  
8 generators can improve operating efficiency by 6%, resulting in lower  
9 CO<sub>2</sub> emission rates for those generating units;

10 2. Redispatch of natural gas generation – The EPA assumed that existing and  
11 new natural gas combined cycle (NGCC) generating units could increase  
12 their capacity factor to 70%, with the resulting increase in NGCC  
13 generation displacing more CO<sub>2</sub>-intensive, coal and oil/gas steam  
14 generation;

15 3. Renewable Energy and Nuclear Energy – The EPA assumes that states  
16 will implement what in effect is a 13% national renewable portfolio  
17 standard by 2030, that no unplanned nuclear plant retirements occur, and  
18 that nuclear units currently under construction are completed;

19 4. End-use Energy Efficiency programs – The EPA assumes that states can  
20 eventually achieve annual incremental end-use energy efficiency levels  
21 equivalent to 1.5% of sales, up to approximately 10% cumulative energy  
22 savings by 2030.

23 Relying on various technical and economic assumptions for each of these  
24 building blocks, some generic and some state-specific, the EPA calculated what it



1 believes to be an achievable CO<sub>2</sub> emission rate for each state, starting with 2012  
2 fossil unit operations and emissions as a baseline. The proposed Kentucky target  
3 is 1,844 lbs of CO<sub>2</sub>/MWh on an average basis from 2020 through 2029, and is  
4 reduced to 1,763 lbs of CO<sub>2</sub>/MWh for 2030 and beyond. The yearly targets from  
5 2020 – 2029 can be met as an average over that 10 year period. For Kentucky  
6 these targets result in proposed reductions of the state-wide CO<sub>2</sub> emission rate of  
7 15% on average during 2020 – 2029, and 18% by 2030, based on 2012 operation  
8 and emissions. Similarly, the Indiana target is 1,607 lb. CO<sub>2</sub>/MWh on an average  
9 basis from 2020 through 2029, and is reduced to 1,531 lb. CO<sub>2</sub>/MWh for 2030  
10 and beyond. These targets result in proposed reductions of the state-wide CO<sub>2</sub>  
11 emission rate in Indiana of 16% on average during 2020 through 2029, and 20%  
12 by 2030, based on 2012 operation and emissions. Lastly, the West Virginia target  
13 is 1,748 lb. CO<sub>2</sub>/MWh on an average basis from 2020 through 2029, and is  
14 reduced to 1,620 lb. CO<sub>2</sub>/MWh for 2030 and beyond. These targets result in  
15 proposed reductions of the state-wide CO<sub>2</sub> emission rate in West Virginia of 13%  
16 on average during 2020 through 2029, and 20% by 2030, based on 2012

17 **Q. PLEASE GENERALLY DESCRIBE AEP'S INITIAL ASSESSMENT OF**  
18 **THE PROPOSED CLEAN POWER PLAN.**

19 A. It is important to keep in mind that the emission rate targets proposed by the EPA  
20 vary widely by state. The proposed rule could result in significant costs to  
21 customers based on the overly aggressive goals proposed in each of the building  
22 blocks.

23 The timeline for regulatory development is very aggressive. State  
24 implementation plans likely won't be finalized and approved until 2018, and

1 possibly beyond 2019. This tight timeframe limits the actions that can be taken to  
2 achieve the 2020 target.

3 The proposal provides little credit for the significant carbon dioxide  
4 emission reductions that have already been made by the electricity sector and that  
5 will continue to be made through the remainder of this decade with the retirement  
6 of coal-fired generation in response to environmental regulations and other  
7 factors. Across its eleven-state footprint, AEP's carbon dioxide emissions have  
8 been reduced by more than 21 percent since 2005, and will be even lower after  
9 AEP retires more than one-fourth of its existing coal-fueled power plant fleet by  
10 2016 to comply with other EPA regulations such as MATS. The coal-fired plants  
11 that will remain, like the Mitchell and Rockport Plants, are the most efficient in  
12 the AEP fleet and are equipped with emission controls that were recently installed  
13 to meet other EPA requirements.

14 AEP views the targets included in each building block as aggressive,  
15 making overall compliance very difficult to achieve under the proposal as it  
16 currently exists.

#### **VI. BIG SANDY PLANT ENVIRONMENTAL COMPLIANCE**

17 **Q. PLEASE DISCUSS THE CURRENT STATUS OF ENVIRONMENTAL**  
18 **CONTROLS AT BIG SANDY UNITS 1 AND 2.**

19 A. Big Sandy Unit 2 currently operates with SCR and low NO<sub>x</sub> burner ("LNB")  
20 systems for NO<sub>x</sub> control, and an electrostatic precipitator ("ESP") for particulate  
21 matter control. Big Sandy Unit 1 currently operates with LNBS with over-fire air  
22 ("OFA") for NO<sub>x</sub> control, and an ESP for particulate matter control. These

1 controls allow the Big Sandy units to operate in compliance with existing  
2 requirements, including the CAIR NO<sub>x</sub> program. Solid wastes, including fly ash  
3 and bottom ash, are handled through pond systems which allow for the treatment  
4 of ash sluice water and storage of the waste. The plant's wastewater is also  
5 treated through these pond systems in compliance with the plant's approved  
6 NPDES permit.

7 **Q. FOR HOW LONG WILL KENTUCKY POWER CONTINUE**  
8 **CONSUMING COAL AT THE BIG SANDY PLANT?**

9 A. Kentucky Power has announced that Big Sandy Unit 2 will retire the unit by June  
10 1, 2015, and Big Sandy Unit 1 will be converted to burn natural gas during 2016.  
11 After the retirement of Unit 2, coal operations will continue for Unit 1 until the  
12 point at which that unit shuts down for the gas conversion outage. Beyond that  
13 date no coal will be consumed at the Big Sandy Plant. While the effective date  
14 for the MATS Rule is April 16, 2015, the MATS Rule allows for an extension of  
15 the Rule's effective date under certain circumstances. For Big Sandy Unit 2, an  
16 extension was granted from the Kentucky Department of Environmental  
17 Protection ("KDEP") to be consistent with the PJM capacity planning year. For  
18 Big Sandy Unit 1, an extension of one calendar year was granted by the KDEP to  
19 accommodate the schedule for the conversion to natural gas.

20 **Q. WILL THERE BE ANY ENVIRONMENTAL REQUIREMENTS**  
21 **ASSOCIATED WITH THE RETIREMENT OF BIG SANDY UNIT 2 AND**  
22 **THE CONVERSION TO NATURAL GAS OF BIG SANDY UNIT 1?**

23 A. Upon the retirement of Big Sandy Unit 2 and the conversion to natural gas at Big  
24 Sandy Unit 1, the closure of the fly ash pond will take place because it will no

1 longer be needed. Currently that project is in the permitting stage. A closure  
2 design and application have been developed and submitted to the KYDEP for  
3 approval. Kentucky Power will be closing the ash pond consistent with the  
4 Kentucky solid waste requirements including dewatering the pond, regrading the  
5 ash to achieve appropriate drainage, installing a flexible membrane liner (FML) to  
6 prevent the infiltration of rainwater, placing 2 feet of soil cover to sustain  
7 vegetation and protect the FML, mitigating any impacted streams associated with  
8 borrow sites for the soil cover, and installing a groundwater monitoring system to  
9 ensure the adequate detection of any contamination. Construction associated  
10 with this project is slated to commence in 2016 and is expected to be a multi-year,  
11 phased project. The Company plans to file for a certificate of public convenience  
12 and necessity for the work in 2015.

#### **VII. MITCHELL PLANT ENVIRONMENTAL COMPLIANCE**

13 **Q. PLEASE DISCUSS THE CURRENT STATUS OF ENVIRONMENTAL**  
14 **EMISSIONS CONTROLS AT THE MITCHELL PLANT.**

15 A. Each Mitchell unit currently operates with an FGD system, an SCR system,  
16 LNBs, ESP, and trona injection to mitigate SO<sub>3</sub> emissions. Additionally, the  
17 majority of gypsum produced in the plant's FGD process is beneficially reused as  
18 a raw ingredient at the neighboring wallboard plant. Any excess or off-spec  
19 gypsum, along with the plant's fly ash and any bottom ash that cannot be  
20 beneficially reused, is disposed of in the Mitchell Plant's on-site landfill.  
21 Wastewater from the FGD system is treated in a treatment plant prior to  
22 discharge. Other plant wastewater discharges, such as cooling tower blowdown  
23 and bottom ash sluice water, are treated through the plant's pond system.

1 **Q. DESCRIBE THE REGULATORY PROGRAMS THAT DROVE THE**  
2 **NEED FOR THE INITIAL INSTALLATION OF THESE CONTROLS AT**  
3 **MITCHELL PLANT.**

4 A. The primary federal statute that drove the initial installation of electrostatic  
5 precipitators was the Clean Air Act, as implemented in the West Virginia SIP.  
6 Installation of LNBs and SCRs at Mitchell Plant was driven by the Clean Air Act  
7 Title IV and CAIR NO<sub>x</sub> programs while the FGD system was installed to also  
8 comply with the Clean Air Act Title IV program and the CAIR SO<sub>2</sub> program.

9 **Q. WILL THE EXISTING ENVIRONMENTAL CONTROLS AT THE**  
10 **MITCHELL PLANT MEET THE COMPLIANCE NEEDS OF THE MATS**  
11 **RULE?**

12 A. Yes. The existing controls are expected to allow the plant to meet the  
13 requirements of the MATS Rule. A mercury monitoring system was installed and  
14 began service in December of 2014 to comply with the monitoring requirements  
15 of this rule.

16 **Q. HAVE ANY MAJOR ENVIRONMENTAL PROJECTS ALREADY**  
17 **BEGUN AT THE MITCHELL PLANT TO MEET PROPOSED AND**  
18 **ANTICIPATED REGULATORY COMPLIANCE NEEDS?**

19 A. Yes. As described in the Case No. 2012-00578 before this Commission, both  
20 Units 1 and 2 at the Mitchell Plant recently underwent a conversion to a dry fly  
21 ash handling system for the purpose of meeting more stringent limits in the  
22 facilities' NPDES permit. As necessitated by the dry fly ash conversion, a new  
23 landfill and haul road have been constructed to dispose of fly ash in dry form.

1 The appropriate disposal of solid waste is a requirement of West Virginia's solid  
2 waste regulations. It should be noted that these projects were planned and  
3 approved for funding prior to the transfer of Mitchell Plant to Kentucky Power.  
4 In addition to currently satisfying the plant's NPDES permit in meeting stringent  
5 wastewater discharge limits, these projects are also expected to help satisfy the  
6 anticipated requirements of the CCR Rule, although there may be a need to re-line  
7 the bottom ash pond for compliance with the final CCR Rule as well. Finally,  
8 additional waste water treatment technology may be needed at Mitchell Units 1  
9 and 2 for compliance with the emerging ELG Rule.

10 **Q. DOES THE COMPANY'S FOURTH AMENDED ENVIRONMENTAL**  
11 **COMPLIANCE PLAN ("2014 ENVIRONMETNAL COMPLIANCE**  
12 **PLAN") INCLUDE ANY NORMAL AND ON-GOING CAPITAL WORK**  
13 **NOT COVERED IN THE DESCRIPTIONS ABOVE?**

14 A. Yes, the 2014 Environmental Compliance Plan includes periodic modifications  
15 and upgrades to Mitchell Plant's ESPs. This work is necessary to ensure this  
16 equipment can continuously meet the 10% opacity limit and particulate matter  
17 mass emissions limit contained in the Plant's Title V Air Permit. Similarly, the  
18 2014 Environmental Compliance Plan also includes periodic modifications and  
19 upgrades to Mitchell Plant's ash (Bottom and Fly) handling systems. This work is  
20 necessary to ensure that these wastes are managed in conformance with West  
21 Virginia's solid waste regulations.

**VIII. ROCKPORT PLANT ENVIRONMENTAL COMPLIANCE**

1 **Q. PLEASE DISCUSS THE CURRENT STATUS OF ENVIRONMENTAL**  
2 **CONTROLS AT THE ROCKPORT PLANT.**

3 A. Both units at the Rockport Plant currently operate with LNBS and OFA for NO<sub>x</sub>  
4 reduction, ESPs for particulate control, and activated carbon injection (“ACI”) to  
5 achieve mercury reduction. The units consume a high percentage of low-sulfur  
6 coal from the Powder River Basin to minimize SO<sub>2</sub> emissions. In addition to  
7 these air emission controls, the plant operates a landfill for the disposal of fly ash  
8 and any bottom ash which is not beneficially reused. Wastewater is treated  
9 through the plant’s pond system in accordance with the approved NPDES permit.

10 **Q. DESCRIBE THE REGULATORY PROGRAMS THAT DROVE THE**  
11 **NEED FOR THE INITIAL INSTALLATION OF THESE CONTROLS AT**  
12 **THE ROCKPORT PLANT.**

13 A. The primary federal statute that drove the initial installation of electrostatic  
14 precipitators was the Clean Air Act, as implemented in the Indiana SIP.  
15 Installation of LNBS and OFA at Rockport Plant was driven by the Clean Air Act  
16 Title IV and CAIR NO<sub>x</sub> programs. Prior to its vactur, the Clean Air Mercury  
17 Rule (“CAMR”) drove Rockport Plant’s installation of the ACI system.  
18 Currently, the ACI system is undergoing minor upgrades and a switch to  
19 brominated activated carbon which is being driven by the mercury emission rate  
20 limit under the MATS Rule.

21 **Q. WHAT PROJECTS ARE PLANNED AT THE ROCKPORT PLANT TO**  
22 **COMPLY WITH FUTURE REGULATIONS?**

1 A. Currently both units at the Rockport Plant are in the process of being retrofitted  
2 with DSI systems. These systems will be operational prior to the April 16, 2015  
3 effective date of the MATS Rule. In conjunction with the upgraded ACI system,  
4 the DSI systems will reduce acid gas emissions in a manner sufficient to comply  
5 with the Rule. The impact of the DSI systems on the Rockport Plant's fly ash  
6 waste stream requires an upgrade to the coal combustion waste landfill.

7 In addition to the DSI systems, I&M has requested permission from the  
8 Indiana Utility Regulatory Commission to retrofit Rockport Unit 1 with an SCR  
9 system by December 31, 2017.

10 Also, similar to the Mitchell Plant, I&M may be required to re-line the  
11 bottom ash pond for compliance with the final CCR Rule.

12 **Q. ARE THE PROJECTS LISTED IN KENTUCKY POWER'S 2014**  
13 **ENVIRONMENTAL COMPLIANCE PLAN REQUIRED TO COMPLY**  
14 **WITH THE ENVIRONMENTAL STATUTES AND REGULATIONS**  
15 **IDENTIFIED IN THIS PROCEEDING?**

16 A. Yes. The projects listed are required to comply with the Federal Clean Air Act  
17 and those federal, state, or local environmental requirements which apply to coal  
18 combustion wastes and by-products from facilities utilized for the production of  
19 energy from coal.

## **VII. CONCLUSION**

20 **Q. PLEASE SUMMARIZE THE ENVIRONMENTAL REQUIREMENTS**  
21 **FOR THE BIG SANDY, MITCHELL, AND ROCKPORT PLANTS.**

22 A. The environmental regulations facing Kentucky Power are stringent and will



1 require reductions in the emissions of several air pollutants. The compliance  
2 requirements contained in the MATS Rule as well as the promise of potential  
3 future regulation of solid wastes and more stringent waste water standards will  
4 require the reduction of multiple emissions from Kentucky Power's generating  
5 plants. These emission reductions will be achieved through existing, planned, and  
6 anticipated environmental retrofits at the Mitchell and Rockport Plants, the  
7 retirement of Big Sandy Unit 2, and the refueling of Big Sandy Unit 1.

8 **Q. WHY ARE THE PROJECTS LISTED IN KENTUCKY POWER**  
9 **COMPANY'S 2014 ENVIRONMENTAL COMPLIANCE PLAN**  
10 **NECESSARY FOR CONTINUED OPERATION OF KENTUCKY**  
11 **POWER'S GENERATING PLANTS?**

12 A. The projects listed in the 2014 Environmental Compliance Plan allow Big Sandy,  
13 Mitchell, and Rockport Plants the ability to operate in compliance with the  
14 requirements of federal statutes which include the Clean Air Act, the Resource  
15 Conservation and Recovery Act, and the Clean Water Act. Without the  
16 implementation of these projects the Big Sandy, Mitchell, and Rockport Plants  
17 would not be able to legally operate. The placement in-service of these projects  
18 allows Kentucky Power to remain in compliance with environmental regulations  
19 so that these Plants can continue to provide Kentucky Power's customers with  
20 reliable generation.

21 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

22 A. Yes.



OHIO CITIZEN ACTION, ET AL.,

Plaintiffs,

v.

AMERICAN ELECTRIC POWER SERVICE  
CORP., ET AL.,

Defendants.

JUDGE GREGORY L. FROST  
Magistrate Judge Norah McCann King

Civil Action No. C2-04-1098

CONSENT DECREE

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Appendix A: Environmental Mitigation Projects

Appendix B: Reporting Requirements

Appendix C: Monitoring Strategy and Calculation of 30-Day Rolling Average  
Removal Efficiency for Conesville Units 5 and 6

WHEREAS, the following complaints have been filed against American Electric Power Service Corporation, Indiana Michigan Power Company, Ohio Power Company, Appalachian Power Company, Cardinal Operating Company, and Columbus Southern Power Company in the above-captioned cases, *United States, et al. v. American Electric Power Service Corp., et al.*, Civil Action Nos. C2-99-1182 and C2-99-1250 ("*AEP I*") and *United States, et al. v. American Electric Power Service Corp., et al.*, Civil Action Nos. C2-04-1098 and C2-05-360 ("*AEP II*");

(a) the United States of America ("United States"), on behalf of the United States Environmental Protection Agency ("EPA"), filed initial complaints on November 3, 1999 and April 8, 2005, and filed amended complaints on March 3, 2000 and September 17, 2004, pursuant to Sections 113(b), 165, and 167 of the Clean Air Act (the "Act"), 42 U.S.C. §§ 7413, 7475, and 7477;

(b) the States of New York, Connecticut, New Jersey, Vermont, New Hampshire, Maryland, and Rhode Island, and the Commonwealth of Massachusetts, after their motion to intervene was granted, filed initial complaints on December 14, 1999 and November 18, 2004, and filed amended complaints on April 5, 2000, September 24, 2002, and September 17, 2004, pursuant to Section 304 of the Act, 42 U.S.C. § 7604; and

(c) Ohio Citizen Action, Citizens Action Coalition of Indiana, Hoosier Environmental Council, Valley Watch, Inc., Ohio Valley Environmental Coalition, West Virginia Environmental Council, Clean Air Council, Izaak Walton League of America, United States Public Interest Research Group, National Wildlife Federation, Indiana Wildlife Federation, League of Ohio Sportsmen, Sierra Club, and Natural Resources Defense Council,

Inc. filed an initial complaint on November 19, 1999, and filed amended complaints on January 1, 2000 and September 16, 2004, pursuant to Section 304 of the Act, 42 U.S.C. § 7604;

WHEREAS, the complaints filed against Defendants in *AEP I* and *AEP II* sought injunctive relief and the assessment of civil penalties for alleged violations of, *inter alia*, the:

- (a) Prevention of Significant Deterioration and Nonattainment New Source Review provisions in Part C and D of Subchapter I of the Act, 42 U.S.C. §§ 7470-7492, 7501-7515; and
- (b) federally-enforceable state implementation plans developed by Indiana, Ohio, Virginia, and West Virginia;

WHEREAS, EPA issued notices of violation (“NOVs”) to Defendants with respect to such allegations on November 2, 1999, November 22, 1999, and June 18, 2004;

WHEREAS, EPA provided Defendants and the States of Indiana, Ohio, and West Virginia, and the Commonwealth of Virginia, with actual notice pertaining to Defendants’ alleged violations, in accordance with Section 113(a)(1) and (b) of the Act, 42 U.S.C. § 7413(a)(1) and (b);

WHEREAS, in their complaints, the United States, the States, and Citizen Plaintiffs (collectively, the “Plaintiffs”) alleged, *inter alia*, that Defendants made major modifications to major emitting facilities, and failed to obtain the necessary permits and install the controls necessary under the Act to reduce sulfur dioxide, nitrogen oxides, and/or particulate matter emissions, and further alleged that such emissions damage human health and the environment;

WHEREAS, the Plaintiffs' complaints state claims upon which relief can be granted against Defendants under Sections 113, 165, and 167 of the Act, 42 U.S.C. §§ 7413, 7475, and 7477, and 28 U.S.C. § 1355;

WHEREAS, Defendants have denied and continue to deny the violations alleged in the complaints and NOVs, maintain that they have been and remain in compliance with the Act and are not liable for civil penalties or injunctive relief, and state that they are agreeing to the obligations imposed by this Consent Decree solely to avoid the costs and uncertainties of litigation and to improve the environment;

WHEREAS, Defendants have installed and operated SCR technology on several Units in the AEP Eastern System, as those terms are defined herein, during the five (5) month ozone season to achieve emission reductions in compliance with the NO<sub>x</sub> SIP Call;

WHEREAS, the Plaintiffs and Defendants anticipate that this Consent Decree, including the installation and operation of pollution control technology and other measures adopted pursuant to this Consent Decree, will achieve significant reductions of emissions from the AEP Eastern System and thereby significantly improve air quality;

WHEREAS, the liability phase of *AEP I* was tried on July 6-7, 2005, and July 11-12, 2005, and no decision has been rendered;

WHEREAS, the Parties have agreed, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated in good faith and at arm's length; that this settlement is fair, reasonable, and in the public interest, and consistent with the goals of the Act; and that entry of this Consent Decree without further litigation is the most appropriate means of resolving this matter;



NOW, THEREFORE, without any admission by Defendants, and without adjudication of the violations alleged in the complaints or the NOV's, it is hereby ORDERED, ADJUDGED, AND DECREED as follows:

**I. JURISDICTION AND VENUE**

1. This Court has jurisdiction over this action, the subject matter herein, and the Parties consenting hereto, pursuant to 28 U.S.C. §§ 1331, 1345, 1355, and 1367, Sections 113, 167, and 304 of the Act, 42 U.S.C. §§ 7413, 7477, and 7604. Solely for the purposes of this Consent Decree, venue is proper under Section 113(b) of the Act, 42 U.S.C. § 7413(b), and under 28 U.S.C. § 1391(b) and (c). Solely for the purposes of this Consent Decree and the underlying complaints, and for no other purpose, Defendants waive all objections and defenses that they may have to the Court's jurisdiction over this action, to the Court's jurisdiction over Defendants, and to venue in this District. Defendants shall not challenge the terms of this Consent Decree or this Court's jurisdiction to enter and enforce this Consent Decree. Solely for the purposes of the complaints filed by the Plaintiffs in this matter and resolved by the Consent Decree, for the purposes of entry and enforcement of this Consent Decree, and for no other purpose, Defendants waive any defense or objection based on standing. Except as expressly provided for herein, this Consent Decree shall not create any rights in or obligations of any party other than the Plaintiffs and Defendants. Except as provided in Section XXV (Public Comment) of this Consent Decree, the Parties consent to entry of this Consent Decree without further notice. To facilitate entry of this Consent Decree, upon the Date of Lodging of this Consent Decree the Parties shall file a Joint Motion to Consolidate *AEP I* and *AEP II* so that *AEP II* is consolidated into *AEP I*.

## II. APPLICABILITY

2. Upon entry, the provisions of the Consent Decree shall apply to and be binding upon and inure to the benefit of Plaintiffs and Defendants, and their respective successors and assigns, and upon their officers, employees, and agents, solely in their capacities as such.

3. Defendants shall be responsible for providing a copy of this Consent Decree to all vendors, suppliers, consultants, contractors, agents, and any other company or other organization retained to perform any of the work required by this Consent Decree. Notwithstanding any retention of contractors, subcontractors, or agents to perform any work required under this Consent Decree, Defendants shall be responsible for ensuring that all work is performed in accordance with the requirements of this Consent Decree. For this reason, in any action to enforce this Consent Decree, Defendants shall not assert as a defense the failure of their officers, directors, employees, servants, agents, or contractors to take actions necessary to comply with this Consent Decree, unless Defendants establish that such failure resulted from a Force Majeure Event, as defined in Paragraph 158 of this Consent Decree.

## III. DEFINITIONS

Every term expressly defined by this Consent Decree shall have the meaning given to that term by this Consent Decree and, except as otherwise provided in this Consent Decree, every other term used in this Consent Decree that is also a term under the Act or the regulations implementing the Act shall mean in this Consent Decree what such term means under the Act or those implementing regulations.

4. A "1-hour Average NO<sub>x</sub> Emission Rate" for a re-powered gas-fired, electric generating unit means, and shall be expressed as, the average concentration in parts per million

("ppm") by dry volume, corrected to 15% O<sub>2</sub>, as averaged over one (1) hour. In determining the 1-Hour Average NO<sub>x</sub> Emission Rate, Defendants shall use CEMS in accordance with applicable reference methods specified in 40 C.F.R. Part 60 to calculate the emissions for each 15-minute interval within each clock hour, except as provided in this Paragraph. Compliance with the 1-Hour Average NO<sub>x</sub> Emission Rate shall be shown by averaging all 15-minute CEMS interval readings within a clock hour, except that any 15-minute CEMS interval that contains any part of a startup or shutdown shall not be included in the calculation of that 1-Hour average. A minimum of two 15-minute CEMS interval readings within a clock hour, not including startup or shutdown intervals, is required to determine compliance with the 1-Hour average NO<sub>x</sub> Emission Rate. All emissions recorded by CEMS shall be reported in 1-Hour averages.

5. A "30-Day Rolling Average Emission Rate" for a Unit means, and shall be expressed as, a lb/mmBTU and calculated in accordance with the following procedure: first, sum the total pounds of the pollutant in question emitted from the Unit during an Operating Day and the previous twenty-nine (29) Operating Days; second, sum the total heat input to the Unit in mmBTU during the Operating Day and the previous twenty-nine (29) Operating Days; and third, divide the total number of pounds of the pollutant emitted during the thirty (30) Operating Days by the total heat input during the thirty (30) Operating Days. A new 30-Day Rolling Average Emission Rate shall be calculated for each new Operating Day. Each 30-Day Rolling Average Emission Rate shall include all emissions that occur during all periods of startup, shutdown, and Malfunction within an Operating Day, except as follows:

- a. Emissions and BTU inputs that occur during a period of Malfunction shall be excluded from the calculation of the 30-Day Rolling Average Emission

Rate if Defendants provide notice of the Malfunction to EPA in accordance with Paragraph 159 in Section XIV (Force Majeure) of this Consent Decree;

- b. Emissions of NO<sub>x</sub> and BTU inputs that occur during the fifth and subsequent Cold Start Up Period(s) that occur at a given Unit during any 30-day period shall be excluded from the calculation of the 30-Day Rolling Average Emission Rate if inclusion of such emissions would result in a violation of any applicable 30-Day Rolling Average Emission Rate and Defendants have installed, operated, and maintained the SCR in question in accordance with manufacturers' specifications and good engineering practices. A "Cold Start Up Period" occurs whenever there has been no fire in the boiler of a Unit (no combustion of any Fossil Fuel) for a period of six (6) hours or more. The NO<sub>x</sub> emissions to be excluded during the fifth and subsequent Cold Start Up Period(s) shall be the lesser of (i) those NO<sub>x</sub> emissions emitted during the eight (8) hour period commencing when the Unit is synchronized with a utility electric distribution system and concluding eight (8) hours later, or (ii) those NO<sub>x</sub> emissions emitted prior to the time that the flue gas has achieved the minimum SCR operational temperature specified by the catalyst manufacturer; and
- c. For SO<sub>2</sub>, shall include all emissions and BTUs commencing from the time the Unit is synchronized with a utility electric distribution system through

the time that the Unit ceases to combust fossil fuel and the fire is out in the boiler.

6. A "30-Day Rolling Average Removal Efficiency" means, for SO<sub>2</sub>, at a Unit other than Conesville Unit 5 and Conesville Unit 6, the percent reduction in the mass of SO<sub>2</sub> achieved by a Unit's FGD system over a 30-Operating Day period and shall be calculated as follows: step one, sum the total pounds of SO<sub>2</sub> emitted as measured at the outlet of the FGD system for the Unit during the current Operating Day and the previous twenty-nine (29) Operating Days as measured at the outlet of the FGD system for that Unit; step two, sum the total pounds of SO<sub>2</sub> delivered to the inlet of the FGD system for the Unit during the current Operating Day and the previous twenty-nine (29) Operating Days as measured at the inlet to the FGD system for that Unit; step three, subtract the outlet SO<sub>2</sub> emissions calculated in step one from the inlet SO<sub>2</sub> emissions calculated in step two; step four, divide the remainder calculated in step three by the inlet SO<sub>2</sub> emissions calculated in step two; and step five, multiply the quotient calculated in step four by 100 to express as a percentage of removal efficiency. A new 30-day Rolling Average Removal Efficiency shall be calculated for each new Operating Day, and shall include all emissions that occur during all periods within each Operating Day except that emissions that occur during a period of Malfunction may be excluded from the calculation if Defendants provide Notice of the Malfunction to Plaintiffs in accordance with Section XIV (Force Majeure) and it is determined to be a Force Majeure Event pursuant to that Section.

7. "AEP Eastern System" means, solely for purposes of this Consent Decree, the following coal-fired, electric steam generating Units (with the nominal nameplate net capacity of each Unit):

- a. Amos Unit 1 (800 MW), Amos Unit 2 (800 MW), and Amos Unit 3 (1300 MW) located in St. Albans, West Virginia;
- b. Big Sandy Unit 1 (260 MW) and Big Sandy Unit 2 (800 MW) located in Louisa, Kentucky;
- c. Cardinal Unit 1 (600 MW), Cardinal Unit 2 (600 MW), and Cardinal Unit 3 (630 MW) located in Brilliant, Ohio;
- d. Clinch River Unit 1 (235 MW), Clinch River Unit 2 (235 MW), and Clinch River Unit 3 (235 MW) located in Carbo, Virginia;
- e. Conesville Unit 1 (125 MW), Conesville Unit 2 (125 MW), Conesville Unit 3 (165 MW), Conesville Unit 4 (780 MW), Conesville Unit 5 (375 MW), and Conesville Unit 6 (375 MW) located in Conesville, Ohio;
- f. Gavin Unit 1 (1300 MW) and Gavin Unit 2 (1300 MW) located in Cheshire, Ohio;
- g. Glen Lyn Unit 5 (95 MW) and Glen Lyn Unit 6 (240 MW) located in Glen Lyn, Virginia;
- h. Kammer Unit 1 (210 MW), Kammer Unit 2 (210 MW), and Kammer Unit 3 (210 MW) located in Moundsville, West Virginia;
- i. Kanawha River Unit 1 (200 MW) and Kanawha River Unit 2 (200 MW) located in Glasgow, West Virginia;
- j. Mitchell Unit 1 (800 MW) and Mitchell Unit 2 (800 MW) located in Moundsville, West Virginia;
- k. Mountaineer Unit 1 (1300 MW) located in New Haven, West Virginia;

- l. Muskingum River Unit 1 (205 MW), Muskingum River Unit 2 (205 MW), Muskingum River Unit 3 (215 MW), Muskingum River Unit 4 (215 MW), and Muskingum River Unit 5 (585 MW) located in Beverly, Ohio;
- m. Picway Unit 9 (100 MW) located in Lockbourne, Ohio;
- n. Rockport Unit 1 (1300 MW) and Rockport Unit 2 (1300 MW) located in Rockport, Indiana;
- o. Sporn Unit 1 (150 MW), Sporn Unit 2 (150 MW), Sporn Unit 3 (150 MW), Sporn Unit 4 (150), and Sporn Unit 5 (450 MW) located in New Haven, West Virginia; and
- p. Tanners Creek Unit 1 (145 MW), Tanners Creek Unit 2 (145 MW), Tanners Creek Unit 3 (205 MW), and Tanners Creek Unit 4 (500 MW) located in Lawrenceburg, Indiana.

8. "Boiler Island" means: a Unit's (a) fuel combustion system (including bunker, coal pulverizers, crusher, stoker, and fuel burners); (b) combustion air system; (c) steam generating system (firebox, boiler tubes, and walls); and (d) draft system (excluding the stack), all as further described in "Interpretation of Reconstruction," by John B. Rasnic, U.S. EPA (November 25, 1986) and attachments thereto.

9. "CEMS" or "Continuous Emission Monitoring System" means, for obligations involving NO<sub>x</sub> and SO<sub>2</sub> under this Consent Decree, the devices defined in 40 C.F.R. § 72.2 and installed and maintained as required by 40 C.F.R. Part 75.

10. "Citizen Plaintiffs" means, collectively, Ohio Citizen Action, Citizens Action Coalition of Indiana, Hoosier Environmental Council, Ohio Valley Environmental Coalition,

West Virginia Environmental Council, Clean Air Council, Izaak Walton League of America, United States Public Interest Research Group, National Wildlife Federation, Indiana Wildlife Federation, League of Ohio Sportsmen, Sierra Club, and Natural Resources Defense Council, Inc.

11. "Clean Air Act" or "Act" means the federal Clean Air Act, 42 U.S.C. §§ 7401-7671q, and its implementing regulations.

12. "Clean Air Interstate Rule" or "CAIR" means the regulations promulgated by EPA on May 12, 2005, at 70 Fed. Reg. 25,161, which are entitled, "Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to NO<sub>x</sub> SIP Call; Final Rule," and any subsequent amendments to that regulation, and any applicable, federally-approved state implementation plan or the federal implementation plan to implement CAIR.

13. "Consent Decree" or "Decree" means this Consent Decree and the appendices attached hereto, which are incorporated into this Consent Decree.

14. "Continuously Operate" or "Continuous Operation" means that when an SCR, FGD, ESP, or Other NO<sub>x</sub> Pollution Controls are used at a Unit, except during a Malfunction, they shall be operated at all times such Unit is in operation, consistent with the technological limitations, manufacturers' specifications, and good engineering and maintenance practices for such equipment and the Unit so as to minimize emissions to the greatest extent practicable.

15. "Date of Entry" means the date this Consent Decree is approved or signed by the United States District Court Judge; provided, however, that if the Parties' Joint Motion to Consolidate, as specified in Paragraph 1, is denied or not decided, then the "Date of Entry"



means the date that the last of the two United States District Court Judges hearing these cases approves or signs this Consent Decree.

16. "Date of Lodging" means the date this Consent Decree is filed for lodging with the Clerk of the Court for the United States District Court for the Southern District of Ohio.

17. "Day" means, unless otherwise specified, calendar day.

18. "Defendants" or "AEP" means American Electric Power Service Corporation, Kentucky Power Company d/b/a American Electric Power, Indiana Michigan Power Company d/b/a American Electric Power, Ohio Power Company d/b/a American Electric Power, Cardinal Operating Company and its owners (Ohio Power and Buckeye Power, Inc.), Appalachian Power Company d/b/a American Electric Power, and Columbus Southern Power Company d/b/a American Electric Power.

19. "Eastern System-Wide Annual Tonnage Limitation" means the limitations, as specified in this Consent Decree, on the number of tons of the air pollutants that may be emitted from the AEP Eastern System during the relevant calendar year (i.e., January 1 through December 31), and shall include all emissions of the air pollutants emitted during all periods of startup, shutdown, and Malfunction, except that emissions that occur during a period of Malfunction may be excluded from the calculation if Defendants provide Notice of the Malfunction to Plaintiffs in accordance with Section XIV (Force Majeure) and it is determined to be a Force Majeure Event pursuant to that Section.

20. "Emission Rate" means the number of pounds of pollutant emitted per million BTU of heat input ("lb/mmBTU"), measured in accordance with this Consent Decree.

21. "EPA" means the United States Environmental Protection Agency.

22. "ESP" means electrostatic precipitator, a pollution control device for the reduction of PM.

23. "Environmental Mitigation Project" means a project funded or implemented by Defendants as a remedial measure to mitigate alleged damage to human health or the environment, including National Parks or Wilderness Areas, claimed to have been caused by the alleged violations described in the complaints or to compensate Plaintiffs for costs necessitated as a result of the alleged damages.

24. "Existing Unit" means a Unit that commenced operation prior to the Date of Lodging of this Consent Decree.

25. "Flue Gas Desulfurization System," or "FGD," means a pollution control device with one or more absorber vessels that employs flue gas desulfurization technology for the reduction of SO<sub>2</sub>.

26. "Fossil Fuel" means any hydrocarbon fuel, including coal, petroleum coke, petroleum oil, or natural gas.

27. An "Improved Unit" for NO<sub>x</sub> means an AEP Eastern System Unit equipped with an SCR or scheduled under this Consent Decree to be equipped with an SCR, or required to be Retired, Retrofitted, or Re-powered. A Unit may be an Improved Unit for one pollutant without being an Improved Unit for another. Any Other Unit in the AEP Eastern System can become an Improved Unit for NO<sub>x</sub> if it is equipped with an SCR and the requirement to Continuously Operate such SCR is incorporated into a federally-enforceable non-Title V permit or site-specific amendment to the state implementation plan and the Title V Permit applicable to that Unit.

28. An "Improved Unit" for SO<sub>2</sub> means an AEP Eastern System Unit equipped with an FGD or scheduled under this Consent Decree to be equipped with an FGD, or required to be Retired, Retrofitted, or Re-powered. A Unit may be an Improved Unit for one pollutant without being an Improved Unit for another. Any Other Unit in the AEP Eastern System can become an Improved Unit for SO<sub>2</sub> if it is equipped with an FGD and the requirement to Continuously Operate such FGD is incorporated into a federally-enforceable non-Title V permit or site-specific amendment to the state implementation plan and the Title V Permit applicable to that Unit.

29. "KW" means kilowatt or one thousand watts.

30. "lb/mmBTU" means one pound per million British thermal units.

31. "Malfunction" means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not Malfunctions.

32. "MW" means a megawatt or one million watts.

33. "NSR Permit" means a preconstruction permit issued by the permitting authority pursuant to Parts C or D of Subchapter I of the Clean Air Act.

34. "National Ambient Air Quality Standards" or "NAAQS" means national ambient air quality standards that are promulgated pursuant to Section 109 of the Act, 42 U.S.C. § 7409.

35. "New and Newly Permitted Unit" means a Unit that commenced operation after the Date of Lodging of this Consent Decree, and that has been issued a final NSR Permit for SO<sub>2</sub> and NO<sub>x</sub> that includes applicable Best Available Control Technology ("BACT") and/or Lowest

Achievable Emission Rate ("LAER") limitations, as those terms are respectively defined at 42 U.S.C. §§ 7479(3), 7501(3).

36. "Nonattainment NSR" means the nonattainment area New Source Review program within the meaning of Part D of Subchapter I of the Act, 42 U.S.C. §§ 7501-7515, and its regulations, 40 C.F.R. Part 51.

37. "NO<sub>x</sub>" means oxides of nitrogen, measured in accordance with the provisions of this Consent Decree.

38. "NO<sub>x</sub> Allowance" means an authorization to emit a specified amount of NO<sub>x</sub> that is allocated or issued under an emissions trading or marketable permit program of any kind that has been established under the Clean Air Act or a state implementation plan.

39. "NO<sub>x</sub> CAIR Allocations" means the number of NO<sub>x</sub> Allowances allocated to the AEP Eastern System Units pursuant to the Clean Air Interstate Rule, excluding any NO<sub>x</sub> Allowances awarded by Indiana, Kentucky, Ohio, West Virginia, and Virginia to an AEP Eastern System Unit from the "compliance supplement pool," as that phrase is defined at 40 C.F.R. § 96.143, in a federally-approved state implementation plan, or federal implementation plan to implement CAIR.

40. "Operating Day" means any day on which a Unit fires Fossil Fuel.

41. "Other NO<sub>x</sub> Pollution Controls" means the measures identified in the table in Paragraph 69 that will achieve reductions in NO<sub>x</sub> emissions at the Units specified therein.

42. "Other SO<sub>2</sub> Measures" means the measures identified in Paragraph 90 that will achieve reductions in SO<sub>2</sub> emissions at the Units specified therein.

43. "Other Unit" means any Unit of the AEP Eastern System that is not an Improved Unit for the pollutant in question.

44. "Operational or Ownership Interest" means part or all of Defendants' legal or equitable operational or ownership interests in any Unit in the AEP Eastern System.

45. "Parties" means the United States, the States, the Citizen Plaintiffs, and Defendants. "Party" means one of the Parties.

46. "Plaintiffs" means the United States, the States, and the Citizen Plaintiffs.

47. "Plant-Wide Annual Rolling Tonnage Limitation for SO<sub>2</sub> at Clinch River" means the sum of the tons of SO<sub>2</sub> emitted during all periods of operation from the Clinch River plant, including, without limitation, all SO<sub>2</sub> emitted during periods of startup, shutdown, and Malfunction, in the most recent month and the previous eleven (11) months. A new Annual Rolling Average Tonnage Limitation for years 2010 through 2014, and for 2015 and continuing thereafter, shall be calculated in accordance with Paragraph 88.

48. "Plant-Wide Annual Tonnage Limitation for SO<sub>2</sub> at Kammer" means the sum of the tons of SO<sub>2</sub> emitted during all periods of operation from the Kammer plant, including, without limitation, all SO<sub>2</sub> emitted during periods of startup, shutdown, and Malfunction, during the relevant calendar year (*i.e.*, January 1 through December 31). A new Plant-Wide Annual Tonnage Limitation shall be calculated for each new calendar year.

49. "PM" means particulate matter, as measured in accordance with the provisions of this Consent Decree.

50. "PM CEMS" or "PM Continuous Emission Monitoring System" means the equipment that samples, analyzes, measures, and provides, by readings taken at frequent intervals, an electronic or paper record of PM emissions.

51. "PM Emission Rate" means the number of pounds of PM emitted per million BTU of heat input (lb/mmBTU), as measured in annual stack tests in accordance with EPA Method 5, 5B, or 17, 40 C.F.R. Part 60, including Appendix A.

52. "Project Dollars" means Defendants' expenditures and payments incurred or made in carrying out the Environmental Mitigation Projects identified in Section VIII (Environmental Mitigation Projects) of this Consent Decree to the extent that such expenditures or payments both: (a) comply with the requirements set forth in Section VIII (Environmental Mitigation Projects) and Appendix A of this Consent Decree, and (b) constitute Defendants' direct payments for such projects, or Defendants' external costs for contractors, vendors, and equipment.

53. "PSD" means Prevention of Significant Deterioration within the meaning of Part C of Subchapter I of the Clean Air Act, 42 U.S.C. §§ 7470-7492, and its regulations, 40 C.F.R. Part 52.

54. "Re-power" means either (1) the replacement of an existing pulverized coal boiler through the construction of a new circulating fluidized bed ("CFB") boiler or other technology of equivalent environmental performance that at a minimum achieves and maintains a 30-Day Rolling Average Emission Rate not greater than 0.100 lb/mmBTU or a 30-Day Rolling Average Removal Efficiency of at least ninety-five percent (95%) for SO<sub>2</sub> and a 30-Day Rolling Average Emission Rate not greater than 0.070 lb/mmBTU for NO<sub>x</sub>; or (2) the modification of

such Unit, or removal and replacement of Unit components, such that the modified or replaced Unit generates electricity through the use of new combined cycle combustion turbine technology fueled by natural gas containing no more than 0.5 grains of sulfur per 100 standard cubic feet of natural gas, and at a minimum, achieves a 1-hour Average NO<sub>x</sub> Emission Rate not greater than 2.0 ppm.

55. "Retire" means that Defendants shall: (a) permanently shut down and cease to operate the Unit; and (b) comply with any state and/or federal requirements applicable to that Unit. Defendants shall amend any applicable permits so as to reflect the permanent shutdown status of such Unit.

56. "Retrofit" means that the Unit must install and Continuously Operate both an SCR and an FGD. For the 600 MW listed in the table in Paragraph 68 and 87, "Retrofit" means that the Unit must meet a federally-enforceable 30-Day Rolling Average Emission Rate of 0.100 lb/mmBTU for NO<sub>x</sub> and a 30-Day Rolling Average Emission Rate of 0.100 lb/mmBTU for SO<sub>2</sub>, measured in accordance with the requirements of this Consent Decree.

57. "Selective Catalytic Reduction System" or "SCR" means a pollution control device that employs selective catalytic reduction technology for the reduction of NO<sub>x</sub> emissions.

58. "Selective Non-Catalytic Reduction" means a pollution control device for the reduction of NO<sub>x</sub> emissions that utilizes ammonia or urea injection into the boiler.

59. "SO<sub>2</sub>" means sulfur dioxide, as measured in accordance with the provisions of this Consent Decree.

60. "SO<sub>2</sub> Allowance" means "allowance" as defined at 42 U.S.C. § 7651a(3): "an authorization, allocated to an affected unit by the Administrator of EPA under Subchapter IV of the Act, to emit, during or after a specified calendar year, one ton of sulfur dioxide."

61. "SO<sub>2</sub> Allocations" means the number of SO<sub>2</sub> Allowances allocated to the AEP Eastern System Units.

62. "Super-Compliant NO<sub>x</sub> Allowance" means an allowance attributable to reductions beyond the requirements of this Consent Decree as determined in accordance with Paragraph 80.

63. "Super-Compliant SO<sub>2</sub> Allowance" means an allowance attributable to reductions beyond the requirements of this Consent Decree as determined in accordance with Paragraph 98.

64. "States" means the States of Connecticut, Maryland, New Hampshire, New Jersey, New York, Rhode Island, and Vermont, and the Commonwealth of Massachusetts.

65. "Title V Permit" means the permit required for Defendants' major sources under Subchapter V of the Act, 42 U.S.C. §§ 7661-7661e.

66. "Unit" means collectively, the coal pulverizer, stationary equipment that feeds coal to the boiler, the boiler that produces steam for the steam turbine, the steam turbine, the generator, the equipment necessary to operate the generator, steam turbine, and boiler, and all ancillary equipment, including pollution control equipment. An electric steam generating station may comprise one or more Units.

#### IV. NO<sub>x</sub> EMISSION REDUCTIONS AND CONTROLS

##### A. Eastern System-Wide Annual Tonnage Limitations for NO<sub>x</sub>.

67. Notwithstanding any other provisions of this Consent Decree, except Section XIV (Force Majeure), during each calendar year specified in the table below, all Units in the AEP



Eastern System, collectively, shall not emit NO<sub>x</sub> in excess of the following Eastern System-Wide Annual Tonnage Limitations:

| Calendar Year                  | Eastern System-Wide Annual Tonnage Limitations for NO <sub>x</sub> |
|--------------------------------|--|
| 2009                           | 96,000 tons  |
| 2010                           | 92,500 tons  |
| 2011                           | 92,500 tons  |
| 2012                           | 85,000 tons  |
| 2013                           | 85,000 tons  |
| 2014                           | 85,000 tons  |
| 2015                           | 75,000 tons  |
| 2016, and each year thereafter | 72,000 tons  |

B. NO<sub>x</sub> Emission Limitations and Control Requirements.

68. No later than the dates set forth in the table below, Defendants shall install and Continuously Operate SCR on each Unit identified therein, or, if indicated in the table, Retire, Retrofit, or Re-power such Unit:

| Unit             | NO <sub>x</sub> Pollution Control | Date            |
|------------------|-----------------------------------|-----------------|
| Amos Unit 1      | SCR                               | January 1, 2008 |
| Amos Unit 2      | SCR                               | January 1, 2009 |
| Amos Unit 3      | SCR                               | January 1, 2008 |
| Big Sandy Unit 2 | SCR                               | January 1, 2009 |
| Cardinal Unit 1  | SCR                               | January 1, 2009 |
| Cardinal Unit 2  | SCR                               | January 1, 2009 |

| <b>Unit</b>  | <b>NO<sub>x</sub> Pollution Control</b> | <b>Date</b>                          |
|--|---|--------------------------------------|
| Cardinal Unit 3  | SCR                                     | January 1, 2009                      |
| Conesville Unit 1  | Retire, Retrofit, or Re-power           | Date of Entry of this Consent Decree |
| Conesville Unit 2  | Retire, Retrofit, or Re-power           | Date of Entry of this Consent Decree |
| Conesville Unit 3  | Retire, Retrofit, or Re-power           | December 31, 2012                    |
| Conesville Unit 4  | SCR                                     | December 31, 2010                    |
| Gavin Unit 1   | SCR                                     | January 1, 2009                      |
| Gavin Unit 2   | SCR                                     | January 1, 2009                      |
| Mitchell Unit 1  | SCR                                     | January 1, 2009                      |
| Mitchell Unit 2  | SCR                                     | January 1, 2009                      |
| Mountaineer Unit 1   | SCR                                     | January 1, 2008                      |
| Muskingum River Units 1-4  | Retire, Retrofit, or Re-power           | December 31, 2015                    |
| Muskingum River Unit 5   | SCR                                     | January 1, 2008                      |
| Rockport Unit 1  | SCR                                     | December 31, 2017                    |
| Rockport Unit 2  | SCR                                     | December 31, 2019                    |
| Sporn Unit 5   | Retire, Retrofit, or Re-power           | December 31, 2013                    |
| A total of at least 600 MW from the following list of Units: Sporn Units 1-4, Clinch River Units 1-3, Tanners Creek Units 1-3, and/or Kammer Units 1-3 | Retire, Retrofit, or Re-power           | December 31, 2018                    |

69. Other NO<sub>x</sub> Pollution Controls. No later than the dates set forth in the table below, Defendants shall Continuously Operate the Other NO<sub>x</sub> Pollution Controls on the Units identified therein:

| Unit                            | Other NO <sub>x</sub> Pollution Controls                           | Date  |
|---------------------------------|--|---|
| Big Sandy Unit 1                | Low NO <sub>x</sub> Burners  | Date of Entry   |
| Glen Lyn Units 5 and 6          | Low NO <sub>x</sub> Burners  | Date of Entry   |
| Clinch River Units 1, 2, and 3  | Low NO <sub>x</sub> Burners, and Selective Non-catalytic Reduction | For Low NO <sub>x</sub> Burners, Date of Entry, and, for Selective Non-Catalytic Reduction, December 31, 2009 |
| Conesville Units 5 and 6        | Low NO <sub>x</sub> Burners  | Date of Entry   |
| Kammer Units 1, 2, and 3        | Overfire Air   | Date of Entry   |
| Kanawha River Units 1 and 2     | Low NO <sub>x</sub> Burners  | Date of Entry   |
| Picway Unit 9                   | Low NO <sub>x</sub> Burners  | Date of Entry   |
| Tanners Creek Units 1, 2, and 3 | Low NO <sub>x</sub> Burners  | Date of Entry   |
| Tanners Creek Unit 4            | Overfire Air   | Date of Entry   |

C. General Provisions for Use and Surrender of NO<sub>x</sub> Allowances.

70. Except as may be necessary to comply with this Section and Section XIII (Stipulated Penalties), Defendants may not use NO<sub>x</sub> Allowances to comply with any requirement of this Consent Decree, including by claiming compliance with any emission limitation or Eastern System-Wide Annual Tonnage Limitation required by this Decree, by using, tendering,

or otherwise applying NO<sub>x</sub> Allowances to achieve compliance or offset any emissions above the limits specified in this Consent Decree.

71. As required by this Section IV of this Consent Decree, Defendants shall surrender NO<sub>x</sub> Allowances that would otherwise be available for sale, trade, or transfer as a result of actions taken by Defendants to comply with the requirements of this Consent Decree.

72. NO<sub>x</sub> Allowances allocated to the AEP Eastern System may be used by Defendants to meet their own federal and/or state Clean Air Act regulatory requirements for the Units included in the AEP Eastern System. Subject to Paragraph 70, nothing in this Consent Decree shall prevent Defendants from purchasing or otherwise obtaining NO<sub>x</sub> Allowances from another source for purposes of complying with their own federal and/or state Clean Air Act requirements to the extent otherwise allowed by law.

73. The requirements in this Consent Decree pertaining to Defendants' use and surrender of NO<sub>x</sub> Allowances are permanent injunctions not subject to any termination provision of this Consent Decree. These provisions shall survive any termination of this Consent Decree.

D. Use of Excess NO<sub>x</sub> Allowances.

74. Calculation of Unrestricted and Restricted NO<sub>x</sub> Allowances. On an annual basis, beginning in 2009, Defendants shall calculate the difference between the NO<sub>x</sub> CAIR Allocations for the Units in the AEP Eastern System for that year and the annual Eastern System-Wide Tonnage Limitations for NO<sub>x</sub> for that calendar year. This difference represents the total Excess NO<sub>x</sub> Allowances for that calendar year. For purposes of this Consent Decree, for each year commencing in 2009 and ending in 2015, forty-two percent (42%) of the Excess NO<sub>x</sub> Allowances shall be Unrestricted Excess NO<sub>x</sub> Allowances and fifty-eight percent (58%) shall be

Restricted Excess NO<sub>x</sub> Allowances. Commencing in 2016, and continuing thereafter, all Excess NO<sub>x</sub> Allowances shall be Restricted Excess NO<sub>x</sub> Allowances.

75. Use and Surrender of Unrestricted Excess NO<sub>x</sub> Allowances. For each calendar year commencing in 2009 and ending in 2015, Defendants may use Unrestricted Excess NO<sub>x</sub> Allowances in any manner authorized by law. No later than March 1, 2016, Defendants must surrender, or transfer to a non-profit third party selected by Defendants for surrender, all unused Unrestricted Excess NO<sub>x</sub> Allowances subject to surrender accumulated during the period from 2009 through 2015.

76. Use and Surrender of Restricted Excess NO<sub>x</sub> Allowances. Beginning in calendar year 2009, and for each calendar year thereafter, Defendants shall calculate the difference between the number of any Restricted Excess NO<sub>x</sub> Allowances and the number of NO<sub>x</sub> Allowances that is equal to the amount of actual NO<sub>x</sub> emissions from: (a) any New and Newly Permitted Unit as defined in this Consent Decree, and (b) the following five natural-gas plants but only up to a cumulative total of 1200 tons of NO<sub>x</sub> in any single year: Ceredo Generating Station located near Ceredo, West Virginia, with a nominal generating capacity of 505 megawatts; Waterford Energy Center located in southeastern Ohio, with a nominal generating capacity of 821 megawatts; Darby Electric Generating Station located near Columbus, Ohio, with a nominal generating capacity of 480 megawatts; Lawrenceburg Generating Station located in Lawrenceburg, Indiana, with a generating capacity of 1,096 megawatts; and a natural gas-fired power plant under construction near Dresden, Ohio, with a nominal generating capacity of 580 megawatts. This difference shall be the amount of Restricted Excess NO<sub>x</sub> Allowances

potentially subject to surrender in 2016. During calendar years 2009 through 2015, Defendants may accumulate Restricted Excess NO<sub>x</sub> Allowances potentially subject to surrender in 2016.

77. NO<sub>x</sub> Allowances from Renewable Energy. Beginning in calendar year 2009, and for each calendar year thereafter, Defendants may subtract from the number of Restricted Excess NO<sub>x</sub> Allowances potentially subject to surrender, a number of allowances calculated in accordance with this Paragraph. To calculate such number, Defendants shall use the following method: multiply 0.0002 by the sum of (a) the actual annual generation in MWH/year generated from solar or wind power projects first owned or operated by Defendants after the Date of Lodging of this Consent Decree, and (b) the actual annual generation in MWH/year purchased by Defendants from solar or wind power projects in any year after the Date of Lodging of this Consent Decree. Such figure so calculated shall be subtracted from the number of Restricted Excess NO<sub>x</sub> Allowances potentially subject to surrender each year. The remainder shall be the Restricted Excess NO<sub>x</sub> Allowances subject to surrender.

78. Defendants may, solely at their discretion, use Restricted Excess NO<sub>x</sub> Allowances at a New and Newly Permitted Unit for which Defendants have received a final NSR Permit from the permitting agency even if the NSR Permit has been appealed but not stayed during the permit appeal process. If Defendants use Restricted Excess NO<sub>x</sub> Allowances at such New and Newly Permitted Unit, and the emissions from such New and Newly Permitted Unit are greater than what such Unit is permitted to emit after final adjudication of the appeal process, Defendants shall, within thirty (30) days of such final adjudication, retire an amount of NO<sub>x</sub> Allowances equal to the number of tons of NO<sub>x</sub> actually emitted that exceeded the finally adjudicated permit limit.

79. No later than March 1, 2016, the total number of Restricted Excess NO<sub>x</sub> Allowances subject to surrender accumulated during 2009 through 2015 as calculated in accordance with Paragraphs 74, 76, and 77, shall be surrendered or transferred to a non-profit third party selected by Defendants for surrender, pursuant to Subsection F, below. Beginning in calendar year 2016, and for each calendar year thereafter, the total number of Restricted Excess NO<sub>x</sub> Allowances subject to surrender for that year calculated in accordance with Paragraph 74, 76 and 77, shall be surrendered, or transferred to a non-profit third party selected by Defendants for surrender, by March 1 of the following calendar year.

E. Super-Compliant NO<sub>x</sub> Allowances.

80. In each calendar year beginning in 2009, and continuing thereafter, Defendants may use in any manner authorized by law any NO<sub>x</sub> Allowances made available in that year as a result of maintaining actual NO<sub>x</sub> emissions from the AEP Eastern System below the Eastern System-Wide Annual Tonnage Limitations for NO<sub>x</sub> under this Consent Decree for each calendar year. Defendants shall timely report the generation of such Super-Compliant NO<sub>x</sub> Allowances in accordance with Section XI (Periodic Reporting) and Appendix B of this Consent Decree.

F. Method for Surrender of Excess NO<sub>x</sub> Allowances.

81. For purposes of this Consent Decree, the "surrender" of Excess Restricted or Unrestricted Excess NO<sub>x</sub> Allowances subject to surrender means permanently surrendering to EPA NO<sub>x</sub> Allowances from the accounts administered by EPA so that such NO<sub>x</sub> Allowances can never be used thereafter to meet any compliance requirement under the Clean Air Act, a state implementation plan, or this Consent Decree.

82. For all Restricted or Unrestricted Excess NO<sub>x</sub> Allowances subject to surrender required to be surrendered to EPA in Paragraphs 79 and 75, above, Defendants or the third party recipient(s) (as the case may be) shall first submit a NO<sub>x</sub> Allowance transfer request form to EPA's Office of Air and Radiation's Clean Air Markets Division directing the transfer of such NO<sub>x</sub> Allowances to the EPA Enforcement Surrender Account or to any other EPA account that EPA may direct in writing. As part of submitting these transfer requests, Defendants or the third party recipient(s) shall irrevocably authorize the transfer of these NO<sub>x</sub> Allowances and identify – by name of account and any applicable serial or other identification numbers or station names – the source and location of the NO<sub>x</sub> Allowances being surrendered.

83. If any NO<sub>x</sub> Allowances required to be surrendered under this Consent Decree are transferred directly to a non-profit third party, Defendants shall include a description of such transfer in the next report submitted to EPA as required by Section XI (Periodic Reporting) of this Consent Decree. Such report shall: (a) identify the non-profit third party recipient(s) of the NO<sub>x</sub> Allowances and list the serial numbers of the transferred NO<sub>x</sub> Allowances; and (b) include a certification by the third party recipient(s) stating that the recipient(s) will not sell, trade, or otherwise exchange any of the NO<sub>x</sub> Allowances and will not use any of the NO<sub>x</sub> Allowances to meet any obligation imposed by any environmental law. No later than the second periodic report due after the transfer of any NO<sub>x</sub> Allowances, Defendants shall include a statement that the third party recipient(s) surrendered the NO<sub>x</sub> Allowances for permanent surrender to EPA in accordance with the provisions of Paragraph 82 within one (1) year after Defendants transferred the NO<sub>x</sub> Allowances to them. Defendants shall not have complied with the NO<sub>x</sub> Allowance



surrender requirements of this Paragraph until all third party recipient(s) have actually surrendered the transferred NO<sub>x</sub> Allowances to EPA.

G. Reporting Requirements for NO<sub>x</sub> Allowances.

84. Defendants shall comply with the reporting requirements for NO<sub>x</sub> Allowances as described in Section XI (Periodic Reporting) and Appendix B.

H. General NO<sub>x</sub> Provisions.

85. To the extent a NO<sub>x</sub> Emission Rate is required under this Consent Decree, Defendants shall use CEMS in accordance with the reference methods specified in 40 C.F.R. Part 75 to determine such Emission Rate.

V. SO<sub>2</sub> EMISSION REDUCTIONS AND CONTROLS

A. Eastern System-Wide Annual Tonnage Limitations for SO<sub>2</sub>.

86. Notwithstanding any other provisions of this Consent Decree, except Section XIV (Force Majeure), during each calendar year specified in the table below, all Units in the AEP Eastern System, collectively, shall not emit SO<sub>2</sub> in excess of the following Eastern System-Wide Annual Tonnage Limitations:

| Calendar Year | Eastern System-Wide Annual Tonnage Limitations for SO <sub>2</sub> |
|---------------|--|
| 2010          | 450,000 tons   |
| 2011          | 450,000 tons   |
| 2012          | 420,000 tons   |
| 2013          | 350,000 tons   |
| 2014          | 340,000 tons   |

| <b>Calendar Year</b>           | <b>Eastern System-Wide Annual Tonnage Limitations for SO<sub>2</sub></b> |
|--------------------------------|--|
| 2015                           | 275,000 tons   |
| 2016                           | 260,000 tons   |
| 2017                           | 235,000 tons   |
| 2018                           | 184,000 tons   |
| 2019, and each year thereafter | 174,000 tons   |

B. SO<sub>2</sub> Emission Limitations and Control Requirements.

87. No later than the dates set forth in the table below, Defendants shall install and Continuously Operate an FGD on each Unit identified therein, or, if indicated in the table, Retire, Retrofit, or Re-power such Unit:

| <b>Unit</b>              | <b>SO<sub>2</sub> Pollution Control</b>                                       | <b>Date</b>       |
|--------------------------|---|-------------------|
| Amos Units 1 and 3       | FGD   | December 31, 2009 |
| Amos Unit 2              | FGD   | December 31, 2010 |
| Big Sandy Unit 2         | FGD   | December 31, 2015 |
| Cardinal Units 1 and 2   | FGD   | December 31, 2008 |
| Cardinal Unit 3          | FGD   | December 31, 2012 |
| Conesville Units 1 and 2 | Retire, Retrofit, or Re-power   | Date of Entry     |
| Conesville Unit 3        | Retire, Retrofit, or Re-power   | December 31, 2012 |
| Conesville Unit 4        | FGD   | December 31, 2010 |
| Conesville Unit 5        | Upgrade existing FGD and meet a 95% 30-day Rolling Average Removal Efficiency | December 31, 2009 |

| Unit   | SO <sub>2</sub> Pollution Control   | Date              |
|--|---|-------------------|
| Conesville Unit 6  | Upgrade existing FGD and meet a 95% 30-day Rolling Average Removal Efficiency | December 31, 2009 |
| Gavin Units 1 and 2  | FGD   | Date of Entry     |
| Mitchell Units 1 and 2   | FGD   | December 31, 2007 |
| Mountaineer Unit 1   | FGD   | December 31, 2007 |
| Muskingum River Units 1-4  | Retire, Retrofit, or Re-power   | December 31, 2015 |
| Muskingum River Unit 5   | FGD   | December 31, 2015 |
| Rockport Unit 1  | FGD   | December 31, 2017 |
| Rockport Unit 2  | FGD   | December 31, 2019 |
| Sporn Unit 5   | Retire, Retrofit, or Re-power   | December 31, 2013 |
| A total of at least 600 MW from the following list of Units: Sporn Units 1-4, Clinch River Units 1-3, Tanners Creek Units 1-3, and/or Kammer Units 1-3 | Retire, Retrofit, or Re-power   | December 31, 2018 |

88. Plant-Wide Annual Rolling Average Tonnage Limitation for SO<sub>2</sub> at Clinch River.

Beginning on January 1, 2010, and continuing through December 31, 2014, Defendants shall limit their total annual SO<sub>2</sub> emissions at the Clinch River plant to a Plant-Wide Annual Rolling Average Tonnage Limitation of 21,700 tons. Beginning on January 1, 2015, and continuing thereafter, Defendants shall limit their total annual SO<sub>2</sub> emissions at the Clinch River plant to a Plant-Wide Annual Rolling Average Tonnage Limitation of 16,300 tons. For purposes of calculating the Plant-Wide Annual Rolling Average Tonnage Limitation that begins in 2010, Defendants shall use the period beginning January 1, 2010 through December 31, 2010 to

establish the initial annual period that is subject to the Plant-Wide Annual Rolling Average Tonnage Limitation for 2010 through 2014. Defendants shall then calculate a new Plant-Wide Annual Rolling Average Tonnage Limitation each month thereafter through December 31, 2014, by averaging the most recent month with the previous eleven (11) months. For purposes of calculating the Plant-Wide Annual Rolling Average Tonnage Limitation that begins in 2015, Defendants shall use the period beginning January 1, 2015 through December 31, 2015 to establish the initial annual period that is subject to the Plant-Wide Annual Average Rolling Tonnage Limitation for 2015. Defendants shall then calculate a new Plant-Wide Annual Rolling Average Tonnage Limitation each month thereafter by averaging the most recent month with the previous eleven (11) months.

89. Plant-Wide Annual Tonnage Limitation for SO<sub>2</sub> at Kammer. Beginning on January 1, 2010, and continuing annually thereafter, Defendants shall limit their total annual SO<sub>2</sub> emissions at the Kammer plant to a Plant-Wide Annual Tonnage Limitation of 35,000 tons.

90. Other SO<sub>2</sub> Measures. No later than the dates set forth in the table below, Defendants shall comply with the limit on coal sulfur content for such Units, at all times that the Units are in operation:

| Unit                   | Other SO <sub>2</sub> Measures   | Date          |
|------------------------|--|---------------|
| Big Sandy Unit 1       | Units can only burn coal with a sulfur content no greater than 1.75 lb/mmBTU on an annual average basis  | Date of Entry |
| Glen Lyn Units 5 and 6 | Units can only burn coal with a sulfur content no greater than 1.75 lb/mmBTU on an annual average basis. | Date of Entry |

| Unit                            | Other SO <sub>2</sub> Measures  | Date          |
|---------------------------------|---|---------------|
| Kanawha River Units 1 and 2     | Units can only burn coal with a sulfur content no greater than 1.75 lb/mmBTU on an annual average basis | Date of Entry |
| Tanners Creek Units 1, 2, and 3 | Units can only burn coal with a sulfur content no greater than 1.2 lb/mmBTU on an annual average basis  | Date of Entry |
| Tanners Creek Unit 4            | Unit can only burn coal with a sulfur content no greater than 1.2 % on an annual average basis          | Date of Entry |

C. Use and Surrender of SO<sub>2</sub> Allowances.

91. Defendants may use SO<sub>2</sub> Allowances allocated to the AEP Eastern System by the Administrator of EPA under the Act, or by any state under its state implementation plan, to meet their own federal and/or state regulatory requirements for the Units included in the AEP Eastern System. Subject to Paragraph 92, nothing in this Consent Decree shall prevent Defendants from purchasing or otherwise obtaining SO<sub>2</sub> Allowances from another source for purposes of complying with their own federal and/or state Clean Air Act requirements to the extent otherwise allowed by law.

92. Except as may be necessary to comply with this Section and Section XIII (Stipulated Penalties), Defendants may not use any SO<sub>2</sub> Allowances to comply with any requirement of this Consent Decree, including by claiming compliance with any emission limitation, Eastern System-Wide Annual Tonnage Limitations, Plant-Wide Annual Rolling Average Tonnage Limitation for SO<sub>2</sub> at Clinch River, or Plant-Wide Annual Tonnage Limitation

for SO<sub>2</sub> at Kammer required by this Consent Decree by using, tendering, or otherwise applying SO<sub>2</sub> Allowances to achieve compliance or offset any emissions above the limits specified in this Consent Decree.

93. On an annual basis beginning in 2010, and continuing thereafter, Defendants shall calculate the number of Excess SO<sub>2</sub> Allowances by subtracting the number of SO<sub>2</sub> Allowances equal to the annual Eastern System-Wide Tonnage Limitations for SO<sub>2</sub> for each calendar year times the applicable allowance surrender ratio from the annual SO<sub>2</sub> Allocations for all Units within the AEP Eastern System for the same calendar year. Defendants shall surrender, or transfer to a non-profit third party selected by Defendants for surrender, all Excess SO<sub>2</sub> Allowances that have been allocated to the AEP Eastern System for the specified calendar year by the Administrator of EPA under the Act or by any state under its state implementation plan. Defendants shall make the surrender of SO<sub>2</sub> Allowances required by this Paragraph to EPA by March 1 of the immediately following calendar year.

D. Method for Surrender of Excess SO<sub>2</sub> Allowances.

94. For purposes of this Subsection, the "surrender" of Excess SO<sub>2</sub> Allowances means permanently surrendering allowances from the accounts administered by EPA so that such allowances can never be used thereafter to meet any compliance requirement under the Clean Air Act, a state implementation plan, or this Consent Decree.

95. If any SO<sub>2</sub> Allowances required to be surrendered under this Consent Decree are transferred directly to a non-profit third party, Defendants shall include a description of such transfer in the next report submitted to EPA pursuant to Section XI (Periodic Reporting) of this Consent Decree. Such report shall: (i) identify the non-profit third party recipient(s) of the SO<sub>2</sub>

Allowances and list the serial numbers of the transferred SO<sub>2</sub> Allowances; and (ii) include a certification by the third party recipient(s) stating that the recipient(s) will not sell, trade, or otherwise exchange any of the allowances and will not use any of the SO<sub>2</sub> Allowances to meet any obligation imposed by any environmental law. No later than the second periodic report due after the transfer of any SO<sub>2</sub> Allowances, Defendants shall include a statement that the third party recipient(s) surrendered the SO<sub>2</sub> Allowances for permanent surrender to EPA in accordance with the provisions of Paragraph 96 within one (1) year after Defendants transferred the SO<sub>2</sub> Allowances to them. Defendants shall not have complied with the SO<sub>2</sub> Allowance surrender requirements of this Paragraph until all third party recipient(s) have actually surrendered the transferred SO<sub>2</sub> Allowances to EPA.

96. For all SO<sub>2</sub> Allowances surrendered to EPA, Defendants or the third party recipient(s) (as the case may be) shall first submit an SO<sub>2</sub> Allowance transfer request form to EPA's Office of Air and Radiation's Clean Air Markets Division directing the transfer of such SO<sub>2</sub> Allowances to the EPA Enforcement Surrender Account or to any other EPA account that EPA may direct in writing. As part of submitting these transfer requests, Defendants or the third party recipient(s) shall irrevocably authorize the transfer of these SO<sub>2</sub> Allowances and identify – by name of account and any applicable serial or other identification numbers or station names – the source and location of the SO<sub>2</sub> Allowances being surrendered.

97. The requirements in this Consent Decree pertaining to Defendants' surrender of SO<sub>2</sub> Allowances are permanent injunctions not subject to any termination provision of this Decree. These provisions shall survive any termination of this Consent Decree in whole or in part.

E. Super-Compliant SO<sub>2</sub> Allowances.

98. In each calendar year beginning in 2010, and continuing thereafter, Defendants may use in any manner authorized by law any SO<sub>2</sub> Allowances made available in that year as a result of maintaining actual SO<sub>2</sub> emissions from the AEP Eastern System below the Eastern System-Wide Annual Tonnage Limitations for SO<sub>2</sub> under this Consent Decree for each calendar year. Defendants shall timely report the generation of such Super-Compliant SO<sub>2</sub> Allowances in accordance with Section XI (Periodic Reporting) and Appendix B of this Consent Decree.

F. Reporting Requirements for SO<sub>2</sub> Allowances.

99. Defendants shall comply with the reporting requirements for SO<sub>2</sub> Allowances as described in Section XI (Periodic Reporting) and Appendix B.

G. General SO<sub>2</sub> Provisions.

100. To the extent an Emission Rate or 30-Day Rolling Average Removal Efficiency for SO<sub>2</sub> is required under this Consent Decree, Defendants shall use CEMS in accordance with the reference methods specified in 40 C.F.R. Part 75 to determine such Emission Rate or Removal Efficiency.

101. Notwithstanding Paragraphs 6 and 100, the 30-Day Rolling Average Removal Efficiency for SO<sub>2</sub> at Conesville Unit 5 and Conesville Unit 6 shall be determined in accordance with Appendix C.

VI. PM EMISSION REDUCTIONS AND CONTROLS

A. Optimization of Existing ESPs.

102. Beginning thirty (30) days after the Date of Entry, and continuing thereafter, Defendants shall Continuously Operate each ESP on Cardinal Unit 1, Cardinal Unit 2, and Muskingum River Unit 5 to maximize PM emission reductions at all times when the Unit is in



operation, provided that such operation of the ESP is consistent with the technological limitations, manufacturers' specifications, and good engineering and maintenance practices for the ESP. Defendants shall, at a minimum, to the extent reasonably practicable: (a) fully energize each section of the ESP for each unit, and repair any failed ESP section at the next planned Unit outage (or unplanned outage of sufficient length); (b) operate automatic control systems on each ESP to maximize PM collection efficiency; (c) maintain power levels delivered to the ESPs, consistent with manufacturers' specifications, the operational design of the Unit, and good engineering practices; and (d) inspect for and repair during the next planned Unit outage (or unplanned outage of sufficient length) any openings in ESP casings, ductwork, and expansion joints to minimize air leakage.

B. PM Emission Rate and Testing.

103. No later than the dates specified in the table below, Defendants shall Continuously Operate each Unit specified therein to achieve and maintain a PM Emission Rate no greater than 0.030 lb/mmBTU:

| Unit                   | Date to Achieve and Maintain PM Emission Rate |
|------------------------|---|
| Cardinal Unit 1        | December 31, 2009                             |
| Cardinal Unit 2        | December 31, 2009                             |
| Muskingum River Unit 5 | December 31, 2012                             |

104. On or before the date established by this Consent Decree for Defendants to achieve and maintain 0.030 lb/mmBTU at Cardinal Unit 1, Cardinal Unit 2, and Muskingum River Unit 5, Defendants shall conduct a performance test for PM that demonstrates compliance with the PM Emission Rate required by this Consent Decree. Within forty-five (45) days of each such performance test, Defendants shall submit the results of the performance test to Plaintiffs pursuant to Section XVIII (Notices) of this Consent Decree.

C. PM Emissions Monitoring.

105. Beginning in calendar year 2010 for Cardinal Unit 1 and Cardinal Unit 2, and calendar year 2013 for Muskingum River Unit 5, and continuing in each calendar year thereafter, Defendants shall conduct a stack test for PM on each stack servicing Cardinal Unit 1, Cardinal Unit 2, and Muskingum River Unit 5. The annual stack test requirement imposed by this Paragraph may be satisfied by stack tests conducted by Defendants as required by their permits from the State of Ohio for any year that such stack tests are required under the permits.

106. The reference methods and procedures for determining compliance with PM Emission Rates shall be those specified in 40 C.F.R. Part 60, Appendix A, Method 5, 5B, or 17, or an alternative method that is promulgated by EPA, requested for use herein by Defendants, and approved for use herein by EPA. Use of any particular method shall conform to the EPA requirements specified in 40 C.F.R. Part 60, Appendix A and 40 C.F.R. § 60.48Da(b) and (c), or any federally-approved method contained in the Ohio State Implementation Plan. Defendants shall calculate the PM Emission Rates from the stack test results in accordance with 40 C.F.R. § 60.8(f). The results of each PM stack test shall be submitted to EPA within forty-five (45) days of completion of each test.

D. Installation and Operation of PM CEMS.

107. Defendants shall install, calibrate, operate, and maintain PM CEMS, as specified below. Each PM CEMS shall comprise a continuous particle mass monitor measuring particulate matter concentration, directly or indirectly, on an hourly average basis and a diluent monitor used to convert the concentration to units of lb/mmBTU. Defendants shall maintain, in an electronic database, the hourly average emission values produced by all PM CEMS in lb/mmBTU. Defendants shall use reasonable efforts to keep each PM CEMS running and producing data whenever any Unit served by the PM CEMS is operating.

108. No later than December 31, 2011, Defendants shall submit to EPA pursuant to Section XII (Review and Approval of Submittals) of this Consent Decree: (a) a plan for the installation and certification of each PM CEMS, and (b) a proposed Quality Assurance/Quality Control ("QA/QC") protocol that shall be followed in calibrating such PM CEMS. In developing both the plan for installation and certification of the PM CEMS and the QA/QC protocol, Defendants shall use the criteria set forth in 40 C.F.R. Part 60, Appendix B, Performance Specification 11, and Appendix F, Procedure 3. Following approval by EPA of the protocol, Defendants shall thereafter operate each PM CEMS in accordance with the approved protocol.

109. No later than the dates specified below, Defendants shall install, certify, and operate PM CEMS on the stacks or common stacks for Cardinal Unit 1, Cardinal Unit 2, and a third Unit, as further described in Paragraph 110:

| Stack   | Date to Commence Operation of PM CEMS |
|---|---------------------------------------|
| Cardinal Unit 1                                 | December 31, 2012                     |
| Cardinal Unit 2                                 | December 31, 2012                     |
| Unit to be identified pursuant to Paragraph 110 | December 31, 2012                     |

110. No later than December 31, 2011, Defendants shall identify, subject to Plaintiffs' approval, the third Unit required by Paragraph 109.

111. No later than ninety (90) days after Defendants begin operation of the PM CEMS, Defendants shall conduct tests of each PM CEMS to demonstrate compliance with the PM CEMS installation and certification plan submitted to and approved by EPA.

112. Demonstration that PM CEMS are Infeasible. Defendants shall operate the PM CEMS for at least two (2) years on each of the Units specified in Paragraphs 109 and 110. After two (2) years of operation, Defendants may attempt to demonstrate that it is infeasible to continue operating PM CEMS. As part of such demonstration, Defendants shall submit an alternative PM monitoring plan for review and approval by EPA. The plan shall explain the basis for stopping operation of the PM CEMS and propose an alternative PM monitoring plan. If the United States disapproves the alternative PM monitoring plan, or if the United States rejects Defendants' claim that it is infeasible to continue operating PM CEMS, such disagreement is subject to Section XV (Dispute Resolution).

113. "Infeasible to Continue Operating PM CEMS" Standard. Operation of a PM CEMS shall be considered no longer feasible if: (a) the PM CEMS cannot be kept in proper

condition for sufficient periods of time to produce reliable, adequate, or useful data consistent with the QA/QC protocol, or (b) Defendants demonstrate that recurring, chronic, or unusual equipment adjustment or servicing needs in relation to other types of continuous emission monitors cannot be resolved through reasonable expenditures of resources. If EPA determines that Defendants have demonstrated pursuant to this Paragraph that operation is no longer feasible, Defendants shall be entitled to discontinue operation of and remove the PM CEMS.

114. PM CEMS Operations Will Continue During Dispute Resolution or Proposals for Alternative Monitoring. Until EPA approves an alternative monitoring plan, or until the conclusion of any proceeding under Section XV (Dispute Resolution), Defendants shall continue to operate the PM CEMS. If EPA has not issued a decision regarding an alternative monitoring plan within 120 days, Defendants may initiate action under Section XV (Dispute Resolution).

E. PM Reporting.

115. Defendants shall comply with the reporting requirements for PM as described in Section XI (Periodic Reporting) and Appendix B.

F. General PM Provisions.

116. Although stack testing shall be used to determine compliance with the PM Emission Rate established by this Consent Decree, data from the PM CEMS shall be used, at a minimum, to monitor progress in reducing PM emissions.

VII. PROHIBITION ON NETTING CREDITS OR  
OFFSETS FROM REQUIRED CONTROLS

117. Emission reductions that result from actions required to be taken by Defendants after the Date of Entry of this Consent Decree to comply with the requirements of this Consent Decree shall not be considered as a creditable contemporaneous emission decrease for the purpose of obtaining a netting credit or offset under the Clean Air Act's Nonattainment NSR and PSD programs.

118. Nothing in this Consent Decree is intended to preclude the emission reductions generated under this Consent Decree from being considered by a State or EPA as creditable contemporaneous emission decreases for the purpose of attainment demonstrations submitted pursuant to § 110 of the Act, 42 U.S.C. § 7410, or in determining impacts on NAAQS, PSD increment, or air quality related values, including visibility, in a Class I area.

VIII. ENVIRONMENTAL MITIGATION PROJECTS

119. Defendants shall implement the Environmental Mitigation Projects ("Projects") described in Appendix A to this Consent Decree and fund the categories of Projects described in Subsection B, below, in compliance with the approved plans and schedules for such Projects and other terms of this Consent Decree. In funding and/or implementing all such Projects in Appendix A and Subsection B, Defendants shall expend moneys and/or implement Projects valued at no less than \$36 million for the Projects identified in Appendix A and \$24 million for the payments to the States to fund Projects within the categories set forth in Subsection B. Defendants shall fund and/or implement such Projects over a period of no later than five (5) years from the Date of Entry. Defendants may propose establishing one or more qualified settlement funds within the meaning of Treas. Reg. §1.468B-1 in conjunction with one or more

Mitigation Projects. Any such trust would be established pursuant to a trust agreement in a form to be mutually agreed upon by the affected Parties. Nothing in the foregoing is intended by the United States to be a determination or opinion regarding whether such trust would meet the requirements of Treas. Reg. §1.468B-1 or is otherwise appropriate.

A. Requirements for Projects Described in Appendix A (\$36 million).

120. Defendants shall maintain, and present to EPA upon request, all documents to substantiate the Project Dollars expended to implement the Projects described in Appendix A, and shall provide these documents to EPA within thirty (30) days of a request for the documents.

121. All plans and reports prepared by Defendants pursuant to the requirements of this Section of the Consent Decree and required to be submitted to EPA shall be publicly available from Defendants without charge.

122. Defendants shall certify, as part of each plan submitted to EPA for any Project, that Defendants are not otherwise required by law to perform the Project described in the plan, that Defendants are unaware of any other person who is required by law to perform the Project, and that Defendants will not use any Project, or portion thereof, to satisfy any obligations that it may have under other applicable requirements of law, including any applicable renewable portfolio standards.

123. Defendants shall use good faith efforts to secure as much benefit as possible for the Project Dollars expended, consistent with the applicable requirements and limits of this Consent Decree.

124. If Defendants elect (where such an election is allowed) to undertake a Project by contributing funds to another person or entity that will carry out the Project in lieu of Defendants, but not including Defendants' agents or contractors, that person or instrumentality

must, in writing: (a) identify its legal authority for accepting such funding; and (b) identify its legal authority to conduct the Project for which Defendants contribute the funds. Regardless of whether Defendants elect (where such election is allowed) to undertake a Project by itself or to do so by contributing funds to another person or instrumentality that will carry out the Project, Defendants acknowledge that they will receive credit for the expenditure of such funds as Project Dollars only if Defendants demonstrate that the funds have been actually spent by either Defendants or by the person or instrumentality receiving them, and that such expenditures met all requirements of this Consent Decree.

125. Defendants shall comply with the reporting requirements for Appendix A Projects as described in Section XI (Periodic Reporting) and Appendix B.

126. Within sixty (60) days following the completion of each Project required under this Consent Decree (including any applicable periods of demonstration or testing), Defendants shall submit to the United States a report that documents the date that the Project was completed, Defendants' results of implementing the Project, including the emission reductions or other environmental benefits achieved, and the Project Dollars expended by Defendants in implementing the Project.

B. Mitigation Projects to be Conducted by the States (\$24 million).

127. The States, by and through their respective Attorneys General, shall jointly submit to Defendants Projects within the categories identified in this Subsection B for funding in amounts not to exceed \$4.8 million per calendar year for no less than five (5) years following the Date of Entry of this Consent Decree beginning as early as calendar year 2008. The funds for these Projects will be apportioned by and among the States, and Defendants shall not have approval rights for the Projects or the apportionment. Defendants shall pay proceeds as



designated by the States in accordance with the Projects submitted for funding each year within seventy-five (75) days after being notified in writing by the States. Notwithstanding the \$4.8 million and 5-year limitation above, if the total costs of the projects submitted in any one or more years are less than \$4.8 million, the difference between that amount and \$4.8 million will be available for funding by Defendants of new or previously submitted projects in the following years, except that all amounts not designated by the States within ten (10) years after the Date of Entry of this Consent Decree shall expire.

128. Categories of Projects. The States agree to use money funded by Defendants to implement Projects that pertain to energy efficiency and/or pollution reduction. Such projects may include, but are not limited by, the following:

- a. Retrofitting land and marine vehicles (e.g., automobiles, off-road and on-road construction and other vehicles, trains, ferries) and transportation terminals and ports, with pollution control devices, such as particulate matter traps, computer chip reflashing, and battery hybrid technology;
- b. Truck-stop and marine port electrification;
- c. Purchase and installation of photo-voltaic cells on buildings;
- d. Projects to conserve energy use in new and existing buildings, including appliance efficiency improvement projects, weatherization projects, and projects intended to meet EPA's Green Building guidelines (see <http://www.epa.gov/greenbuilding/pubs/enviro-issues.htm>) and/or the Leadership in Energy and Environmental Design (LEED) Green Building Rating System (see <http://www.usgbc.org/DisplayPage.aspx?CategoryID=19>), and projects to

- collect information in rental markets to assist in design of efficiency and conservation programs;
- e. Construction associated with the production of energy from wind, solar, and biomass;
  - f. "Buy back" programs for dirty old motors (e.g., automobile, lawnmowers, landscape equipment);
  - g. Programs to remove and/or replace oil-fired home heating equipment to allow use of ultra-low sulfur oil, and outdoor wood-fired boilers;
  - h. Purchase and retirement of SO<sub>2</sub> and NO<sub>x</sub> allowances; and
  - i. Funding program to improve modeling of mobile source sector.

#### IX. CIVIL PENALTY

129. Within thirty (30) days after the Date of Entry, Defendants shall pay to the United States a civil penalty in the amount of \$15,000,000. The civil penalty shall be paid by Electronic Funds Transfer ("EFT") to the United States Department of Justice, in accordance with current EFT procedures, referencing USAO File Number 1999v01542 and DOJ Case Number 90-5-2-1-06893 and the civil action case name and consolidated case numbers of this action. The costs of such EFT shall be Defendants' responsibility. Payment shall be made in accordance with instructions provided to Defendants by the Financial Litigation Unit of the U.S. Attorney's Office for the Southern District of Ohio. Any funds received after 2:00 p.m. EDT shall be credited on the next business day. At the time of payment, Defendants shall provide notice of payment, referencing the USAO File Number, the DOJ Case Number, and the civil action case name and consolidated case numbers, to the Department of Justice and to EPA in accordance with Section XVIII (Notices) of this Consent Decree.

130. Failure to timely pay the civil penalty shall subject Defendants to interest accruing from the date payment is due until the date payment is made at the rate prescribed by 28 U.S.C. § 1961, and shall render Defendants liable for all charges, costs, fees, and penalties established by law for the benefit of a creditor or of the United States in securing payment.

131. Payment made pursuant to this Section is a penalty within the meaning of Section 162(f) of the Internal Revenue Code, 26 U.S.C. § 162(f), and is not a tax-deductible expenditure for purposes of federal law.

X. RESOLUTION OF CIVIL CLAIMS AGAINST DEFENDANTS

A. Resolution of the United States' Civil Claims.

132. Claims Based on Modifications Occurring Before the Date of Lodging of this Consent Decree. Entry of this Decree shall resolve all civil claims of the United States against Defendants that arose from any modifications commenced at any AEP Eastern System Unit prior to the Date of Lodging of this Consent Decree, including but not limited to, those modifications alleged in the Notices of Violation and complaints filed in *AEP I* and *AEP II*, under any or all of: (a) Parts C or D of Subchapter I of the Clean Air Act, 42 U.S.C. §§ 7470-7492, 7501-7515; (b) Section 111 of the Clean Air Act, 42 U.S.C. § 7411, and 40 C.F.R. § 60.14; (c) the federally-approved and enforceable Indiana State Implementation Plan, Kentucky State Implementation Plan, Ohio State Implementation Plan, Virginia State Implementation Plan, and West Virginia State Implementation Plan; or (d) Sections 502(a) and 504(a) of Title V of the Clean Air Act, 42 U.S.C §§ 7611(a) and 7611(c), but only to the extent that such claims are based on Defendants' failure to obtain an operating permit that reflects applicable requirements imposed under Parts C or D of Subchapter I, or Section 111 of the Clean Air Act.

133. Claims Based on Modifications after the Date of Lodging of This Consent

Decree. Entry of this Consent Decree also shall resolve all civil claims of the United States against Defendants that arise based on a modification commenced before December 31, 2018, or solely for Rockport Unit 2, before December 31, 2019, for all pollutants, except Particulate Matter, regulated under Parts C or D of Subchapter I of the Clean Air Act, and under regulations promulgated thereunder, as of the Date of Lodging of this Consent Decree, and:

- a. where such modification is commenced at any AEP Eastern System Unit after the Date of Lodging of this Consent Decree; or
- b. where such modification is one this Consent Decree expressly directs Defendants to undertake.

The term "modification" as used in this Paragraph shall have the meaning that term is given under the Clean Air Act and under the regulations in effect as of the Date of Lodging of this Consent Decree, as alleged in the complaints in *AEP I* and *AEP II*.

134. Reopener. The resolution of the United States' civil claims against Defendants, as provided by this Subsection A, is subject to the provisions of Subsection B of this Section.

B. Pursuit by the United States of Civil Claims Otherwise Resolved by Subsection

A.

135. Bases for Pursuing Resolved Claims for the AEP Eastern System. If Defendants violate: (a) the Eastern System-Wide Annual Tonnage Limitations for NO<sub>x</sub> required pursuant to Paragraph 67; (b) the Eastern System-Wide Annual Tonnage Limitations for SO<sub>2</sub> required pursuant to Paragraph 86; or (c) operate a Unit more than ninety (90) days past a date established in this Consent Decree without completing the required installation, upgrade, or commencing Continuous Operation of any emission control device required pursuant to Paragraphs 68, 69, 87, 102, and 103 then the United States may pursue any claim at any AEP Eastern System Unit that is otherwise resolved under Subsection A (Resolution of United States' Civil Claims), subject to (a) and (b) below.

- a. For any claims based on modifications undertaken at any Unit in the AEP Eastern System that is not an Improved Unit for the pollutant in question, claims may be pursued only where the modification(s) on which such claim is based was commenced within the five (5) years preceding the violation or failure specified in this Paragraph.
- b. For any claims based on modifications undertaken at an Improved Unit, claims may be pursued only where the modification(s) on which such claim is based was commenced: (1) after the Date of Lodging of this Consent Decree and (2) within the five (5) years preceding the violation or failure specified in this Paragraph.

136. Additional Bases for Pursuing Resolved Claims for Modifications at an Improved Unit. Solely with respect to an Improved Unit, the United States may also pursue claims arising

from a modification (or collection of modifications) at an Improved Unit that has otherwise been resolved under Subsection A (Resolution of the United States' Civil Claims) if the modification (or collection of modifications) at the Improved Unit on which such claim is based (a) was commenced after the Date of Lodging of this Consent Decree and (b) individually (or collectively) increased the maximum hourly emission rate of that Unit for NO<sub>x</sub> or SO<sub>2</sub> (as measured by 40 C.F.R. § 60.14 (b) and (h)) by more than ten percent (10%).

137. Any Other Unit can become an Improved Unit for NO<sub>x</sub> if (a) it is equipped with an SCR, and (b) the operation of such SCR is incorporated into a federally-enforceable non-Title V permit or site-specific amendment to the state implementation plan and incorporated into a Title V permit applicable to that Unit. Any Other Unit can become an Improved Unit for SO<sub>2</sub> if (a) it is equipped with an FGD, and (b) the operation of such FGD is incorporated into a federally-enforceable non-Title V permit or site-specific amendment to the state implementation plan and incorporated into a Title V permit applicable to that Unit.

138. Additional Bases for Pursuing Resolved Claims for Modifications at Other Units.

a. Solely with respect to Other Units, i.e., a Unit that is not an Improved Unit under the terms of this Consent Decree, the United States may also pursue claims arising from a modification (or collection of modifications) at an Other Unit that has otherwise been resolved under Subsection A (Resolution of the United States' Civil Claims), if the modification (or collection of modifications) at the Other Unit on which the claim is based was commenced within the five (5) years preceding any of the following events:

1. a modification (or collection of modifications) at such Other Unit commenced after the Date of Lodging of this Consent Decree increases the maximum hourly

emission rate for such Other Unit for the relevant pollutant (NO<sub>x</sub> or SO<sub>2</sub>) (as measured by 40 C.F.R. § 60.14(b) and (h));

2. the aggregate of all Capital Expenditures made at such Other Unit exceed \$125/KW on the Unit's Boiler Island (based on the generating capacities identified in Paragraph 7) during the period from the Date of Entry of this Consent Decree through December 31, 2015. (Capital Expenditures shall be measured in calendar year 2007 constant dollars, as adjusted by the McGraw-Hill Engineering News-Record Construction Cost Index); or

3. a modification (or collection of modifications) at such Other Unit commenced after the Date of Lodging of this Consent Decree results in an emissions increase of NO<sub>x</sub> and/or SO<sub>2</sub> at such Other Unit, and such increase: (i) presents, by itself, or in combination with other emissions or sources, "an imminent and substantial endangerment" within the meaning of Section 303 of the Act, 42 U.S.C. §7603; (ii) causes or contributes to violation of a NAAQS in any Air Quality Control Area that is in attainment with that NAAQS; (iii) causes or contributes to violation of a PSD increment; or (iv) causes or contributes to any adverse impact on any formally-recognized air quality and related values in any Class I area. The introduction of any new or changed NAAQS shall not, standing alone, provide the showing needed under Subparagraphs (3)(ii) or (3)(iii) of this Paragraph, to pursue any claim for a modification at an Other Unit resolved under Subparagraph A of this Section.

b. Solely with respect to Other Units at the plant listed below, the United States may also pursue claims arising from a modification (or collection of modifications) at such Other Units commenced after the Date of Lodging of this Consent Decree if such modification (or collection of modifications) results in an emissions increase of SO<sub>2</sub> at such Other Unit, and such increase causes the emissions at the plant at issue to exceed the Plant-Wide Annual Rolling

Average Tonnage Limitation for SO<sub>2</sub> at Clinch River listed in the table below for year 2010-2014 and/or 2015 and beyond:

| <u>Plant</u> | <u>Year</u>                   | <u>SO<sub>2</sub> Tons Limit</u> |
|--------------|-------------------------------|----------------------------------|
| Clinch River | 2010 - 2014                   | 21,700                           |
| Clinch River | 2015 and each year thereafter | 16,300                           |

C. Resolution of Past Claims of the States and Citizen Plaintiffs and Reservation of Rights.

139. The States and Citizen Plaintiffs agree that this Consent Decree resolves all civil claims that have been alleged in their respective complaints or could have been alleged against Defendants prior to the Date of Lodging of this Consent Decree for violations of: (a) Parts C or D of Subchapter I of the Clean Air Act, 42 U.S.C. §§ 7470-7492, 7501-7515, and (b) Section 111 of the Act, 42 U.S.C. § 7411, and 40 C.F.R § 60.14, at Units within the AEP Eastern System.

140. The States and Citizen Plaintiffs expressly do not join in giving the Defendants the covenant provided by the United States through Paragraph 133 of this Consent Decree, do not release any claims under the Clean Air Act and its implementing regulations arising after the Date of Lodging of this Consent Decree, and reserve their rights, if any, to bring any actions against the Defendants pursuant to 42 U.S.C. § 7604 for any claims arising after the Date of Lodging of this Consent Decree.

141. Notwithstanding Paragraph 140, the States and Citizen Plaintiffs release Defendants from any civil claim that may arise under the Clean Air Act for Defendants' performance of activities that this Consent Decree expressly directs Defendants to undertake,



except to the extent that such activities would cause a significant increase in the emission of a criteria pollutant other than SO<sub>2</sub>, NO<sub>x</sub>, or PM.

142. Retention of Authority Regarding NAAQS Exceedences. Nothing in this Consent Decree shall be construed to affect the authority of the United States or any state under applicable federal statutes or regulations and applicable state statutes or regulations to impose appropriate requirements or sanctions on any Unit in the AEP Eastern System, including, but not limited to, the Units at the Clinch River plant, if the United States or a state determines that emissions from any Unit in the AEP Eastern System result in violation of, or interfere with the attainment and maintenance of, any ambient air quality standard.

#### XI. PERIODIC REPORTING

143. Beginning on March 31, 2008, and continuing annually thereafter on March 31 until termination of this Consent Decree, and in addition to any other express reporting requirement in this Consent Decree, Defendants shall submit to the United States, the States, and the Citizen Plaintiffs a progress report in compliance with Appendix B of this Consent Decree.

144. In any periodic progress report submitted pursuant to this Section, Defendants may incorporate by reference information previously submitted under their Title V permitting requirements, provided that Defendants attach the Title V permit report, or the relevant portion thereof, and provide a specific reference to the provisions of the Title V permit report that are responsive to the information required in the periodic progress report.

145. In addition to the progress reports required pursuant to this Section, Defendants shall provide a written report to the United States, the States, and the Citizen Plaintiffs of any violation of the requirements of this Consent Decree within fifteen (15) days of when Defendants knew or should have known of any such violation. In this report, Defendants shall explain the

cause or causes of the violation and all measures taken or to be taken by Defendants to prevent such violations in the future.

146. Each report shall be signed by Defendants' Vice President of Environmental Services or his or her equivalent or designee of at least the rank of Vice President, and shall contain the following certification:

This information was prepared either by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my evaluation, or the direction and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, I hereby certify under penalty of law that, to the best of my knowledge and belief, this information is true, accurate, and complete. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States.

147. If any SO<sub>2</sub> or NO<sub>x</sub> Allowances are surrendered to any third party pursuant to this Consent Decree, the third party's certification pursuant to Paragraphs 83 and 95 shall be signed by a managing officer of the third party and shall contain the following language:

I certify under penalty of law that, \_\_\_\_\_ [name of third party] will not sell, trade, or otherwise exchange any of the allowances and will not use any of the allowances to meet any obligation imposed by any environmental law. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States.

XII. REVIEW AND APPROVAL OF SUBMITTALS

148. Defendants shall submit each plan, report, or other submission required by this Consent Decree to the Plaintiffs specified, whenever such a document is required to be submitted for review or approval pursuant to this Consent Decree. The Plaintiff(s) to whom the report is submitted, as required, may approve the submittal or decline to approve it and provide written comments explaining the bases for declining such approval as soon as reasonably practicable. Such Plaintiff(s) will endeavor to coordinate their comments into one document when explaining their bases for declining such approval. Within sixty (60) days of receiving written comments from any of the Plaintiff(s), Defendants shall either: (a) revise the submittal consistent with the written comments and provide the revised submittal to the Plaintiff(s); or (b) submit the matter for dispute resolution, including the period of informal negotiations, under Section XV (Dispute Resolution) of this Consent Decree.

149. Upon receipt of Plaintiffs' or Plaintiff's (as the case may be) final approval of the submittal, or upon completion of the submittal pursuant to dispute resolution, Defendants shall implement the approved submittal in accordance with the schedule specified therein.

**XIII. STIPULATED PENALTIES**

150. For any failure by Defendants to comply with the terms of this Consent Decree, and subject to the provisions of Sections XIV (Force Majeure) and XV (Dispute Resolution), Defendants shall pay, within thirty (30) days after receipt of written demand to Defendants by the United States, the following stipulated penalties to the United States:

| <b>Consent Decree Violation</b>   | <b>Stipulated Penalty (Per Day, Per Violation, Unless Otherwise Specified)</b> |
|---|--|
| a. Failure to pay the civil penalty as specified in Section IX (Civil Penalty) of this Consent Decree   | \$10,000 per day   |
| b. Failure to comply with any applicable 30-Day Rolling Average Emission Rate, 30-Day Rolling Average Removal Efficiency, Emission Rate for PM, or Other SO <sub>2</sub> Measures where the violation is less than 5% in excess of the limits set forth in this Consent Decree                                  | \$2,500 per day per violation  |
| c. Failure to comply with any applicable 30-Day Rolling Average Emission Rate, 30-Day Rolling Average Removal Efficiency, Emission Rate for PM, or Other SO <sub>2</sub> Measures where the violation is equal to or greater than 5% but less than 10% in excess of the limits set forth in this Consent Decree | \$5,000 per day per violation  |
| d. Failure to comply with any applicable 30-Day Rolling Average Emission Rate, 30-Day Rolling Average Removal Efficiency, Emission Rate for PM, or Other SO <sub>2</sub> Measures where the violation is equal to or greater than 10% in excess of the limits set forth in this Consent Decree                  | \$10,000 per day per violation   |

| <b>Consent Decree Violation</b>  | <b>Stipulated Penalty (Per Day, Per Violation, Unless Otherwise Specified)</b>   |
|--|--|
| e. Failure to comply with the Eastern System-Wide Annual Tonnage Limitation for SO <sub>2</sub>                                  | \$5,000 per ton for the first 1000 tons, and \$10,000 per ton for each additional ton above 1000 tons, plus the surrender, pursuant to the procedures set forth in Paragraphs 95 and 96, of SO <sub>2</sub> Allowances in an amount equal to two times the number of tons by which the limitation was exceeded |
| f. Failure to comply with the Plant-Wide Annual Rolling Tonnage Limitation for SO <sub>2</sub> at Clinch River                   | \$40,000 per ton, plus the surrender, pursuant to the procedures set forth in Paragraphs 95 and 96, of SO <sub>2</sub> Allowances in an amount equal to two times the number of tons by which the limitation was exceeded  |
| g. Failure to comply with the Eastern System-Wide Annual Tonnage Limitation for NO <sub>x</sub>                                  | \$5,000 per ton for the first 1000 tons, and \$10,000 per ton for each additional ton above 1000 tons, plus the surrender, pursuant to the procedures set forth in Paragraphs 82 and 83, of NO <sub>x</sub> Allowances in an amount equal to two times the number of tons by which the limitation was exceeded |
| h. Failure to install, commence operation, or Continuously Operate a pollution control device required under this Consent Decree | \$10,000 per day per violation during the first 30 days, \$32,500 per day per violation thereafter   |
| i. Failure to Retire, Retrofit, or Re-power a Unit by the date specified in this Consent Decree                                  | \$10,000 per day per violation during the first 30 days, \$32,500 per day per violation thereafter   |

| <b>Consent Decree Violation</b>   | <b>Stipulated Penalty (Per Day, Per Violation, Unless Otherwise Specified)</b>   |
|---|--|
| j. Failure to install or operate CEMS as required in this Consent Decree  | \$1,000 per day per violation  |
| k. Failure to conduct performance tests of PM emissions, as required in this Consent Decree   | \$1,000 per day per violation  |
| l. Failure to apply for any permit required by Section XVI (Permits)  | \$1,000 per day per violation  |
| m. Failure to timely submit, modify, or implement, as approved, the reports, plans, studies, analyses, protocols, or other submittals required in this Consent Decree                   | \$750 per day per violation during the first ten days, \$1,000 per day per violation thereafter  |
| n. Using NO <sub>x</sub> Allowances except as permitted by Paragraphs 75, 76, and 78  | The surrender of NO <sub>x</sub> Allowances in an amount equal to four times the number of NO <sub>x</sub> Allowances used in violation of this Consent Decree |
| o. Failure to surrender NO <sub>x</sub> Allowances as required by Paragraphs 75 and 79  | (a) \$32,500 per day plus (b) \$7,500 per NO <sub>x</sub> Allowance not surrendered  |
| p. Failure to surrender SO <sub>2</sub> Allowances as required by Paragraph 93  | (a) \$32,500 per day plus (b) \$1,000 per SO <sub>2</sub> Allowance not surrendered  |
| q. Failure to demonstrate the third party surrender of an SO <sub>2</sub> Allowance or NO <sub>x</sub> Allowance in accordance with Paragraphs 95-96 and 82-83.                         | \$2,500 per day per violation  |
| r. Failure to implement any of the Environmental Mitigation Projects described in Appendix A in compliance with Section VIII (Environmental Mitigation Projects) of this Consent Decree | The difference between the cost of the Project, as identified in Appendix A, and the dollars Defendants spent to implement the Project                         |

| <b>Consent Decree Violation</b>  | <b>Stipulated Penalty (Per Day, Per Violation, Unless Otherwise Specified)</b>   |
|--|--|
| s. Failure to fund an Environmental Mitigation Project, as submitted by the States, in compliance with Section VIII (Environmental Mitigation Projects) of this Consent Decree | \$1,000 per day per violation during the first 30 days, \$5,000 per day per violation thereafter   |
| t. Failure to Continuously Operate required Other NO <sub>x</sub> Pollution Controls required in Paragraph 69  | \$10,000 per day during the first 30 days, and \$32,500 each day thereafter  |
| u. Failure to comply with the Plant-Wide Annual Tonnage Limitation for SO <sub>2</sub> at Kammer   | \$40,000 per ton, plus the surrender, pursuant to the procedures set forth in Paragraphs 95 and 96 of SO <sub>2</sub> Allowances in an amount equal to two times the number of tons by which the limitation was exceeded |
| v. Any other violation of this Consent Decree  | \$1,000 per day per violation  |

151. Violation of an Emission Rate or 30-Day Rolling Average Removal Efficiency that is based on a 30-Day Rolling Average is a violation on every day on which the average is based. Where a violation of a 30-Day Rolling Average Emission Rate or 30-Day Rolling Average Removal Efficiency (for the same pollutant and from the same source) recurs within periods of less than thirty (30) days, Defendants shall not pay a daily stipulated penalty for any day of the recurrence for which a stipulated penalty has already been paid.

152. All stipulated penalties shall begin to accrue on the day after the performance is due or on the day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases, whichever is applicable. Nothing in this Consent Decree shall prevent the simultaneous accrual of separate stipulated penalties for separate violations of this Consent Decree.

153. Defendants shall pay all stipulated penalties to the United States within thirty (30) days of receipt of written demand to Defendants from the United States, and shall continue to make such payments every thirty (30) days thereafter until the violation(s) no longer continues, unless Defendants elect within twenty (20) days of receipt of written demand to Defendants from the United States to dispute the accrual of stipulated penalties in accordance with the provisions in Section XV (Dispute Resolution) of this Consent Decree.

154. Stipulated penalties shall continue to accrue as provided in accordance with Paragraph 152 during any dispute, with interest on accrued stipulated penalties payable and calculated at the rate established by the Secretary of the Treasury, pursuant to 28 U.S.C. § 1961, but need not be paid until the following:

- a. If the dispute is resolved by agreement, or by a decision of Plaintiffs pursuant to Section XV (Dispute Resolution) of this Consent Decree that is not appealed to the Court, accrued stipulated penalties agreed or determined to be owing, together with accrued interest, shall be paid within thirty (30) days of the effective date of the agreement or of the receipt of Plaintiffs' decision;
- b. If the dispute is appealed to the Court and Plaintiffs prevail in whole or in part, Defendants shall, within sixty (60) days of receipt of the Court's decision or order, pay all accrued stipulated penalties determined by the Court to be owing, together with interest accrued on such penalties determined by the Court to be owing, except as provided in Subparagraph c, below;



- c. If the Court's decision is appealed by any Party, Defendants shall, within fifteen (15) days of receipt of the final appellate court decision, pay all accrued stipulated penalties determined to be owing, together with interest accrued on such stipulated penalties determined to be owing by the appellate court.

Notwithstanding any other provision of this Consent Decree, the accrued stipulated penalties agreed by the Plaintiffs and Defendants, or determined by the Plaintiffs through Dispute Resolution, to be owing may be less than the stipulated penalty amounts set forth in Paragraph 150.

155. All stipulated penalties shall be paid in the manner set forth in Section IX (Civil Penalty) of this Consent Decree.

156. Should Defendants fail to pay stipulated penalties in compliance with the terms of this Consent Decree, the United States shall be entitled to collect interest on such penalties, as provided for in 28 U.S.C. § 1961.

157. The stipulated penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to Plaintiffs by reason of Defendants' failure to comply with any requirement of this Consent Decree or applicable law, except that for any violation of the Act for which this Consent Decree provides for payment of a stipulated penalty, Defendants shall be allowed a credit for stipulated penalties paid against any statutory penalties also imposed for such violation.

#### XIV. FORCE MAJEURE

158. For purposes of this Consent Decree, including, but not limited to, Paragraphs 67 and 86, a "Force Majeure Event" shall mean an event that has been or will be caused by circumstances beyond the control of Defendants or any entity controlled by Defendants that delays compliance with any provision of this Consent Decree or otherwise causes a violation of any provision of this Consent Decree despite Defendants' best efforts to fulfill the obligation. "Best efforts to fulfill the obligation" include using best efforts to anticipate any potential Force Majeure Event and to address the effects of any such event (a) as it is occurring and (b) after it has occurred, such that the delay or violation is minimized to the greatest extent possible.

159. Notice of Force Majeure Events. If any event occurs or has occurred that may delay compliance with or otherwise cause a violation of any obligation under this Consent Decree, as to which Defendants intend to assert a claim of Force Majeure, Defendants shall notify the Plaintiffs in writing as soon as practicable, but in no event later than twenty-one (21) business days following the date Defendants first knew, or by the exercise of due diligence should have known, that the event caused or may cause such delay or violation. In this notice, Defendants shall reference this Paragraph of this Consent Decree and describe the anticipated length of time that the delay or violation may persist, the cause or causes of the delay or violation, all measures taken or to be taken by Defendants to prevent or minimize the delay or violation, the schedule by which Defendants propose to implement those measures, and Defendants' rationale for attributing a delay or violation to a Force Majeure Event. Defendants shall adopt all reasonable measures to avoid or minimize such delays or violations. Defendants shall be deemed to know of any circumstance which Defendants or any entity controlled by Defendants knew or should have known.

160. Failure to Give Notice. If Defendants materially fail to comply with the notice requirements of this Section, the Plaintiffs may void Defendants' claim for Force Majeure as to the specific event for which Defendants have failed to comply with such notice requirement.

161. Plaintiffs' Response. The Plaintiffs shall notify Defendants in writing regarding Defendants' claim of Force Majeure as soon as reasonably practicable. If the Plaintiffs agree that a delay in performance has been or will be caused by a Force Majeure Event, the Parties shall stipulate to an extension of deadline(s) for performance of the affected compliance requirement(s) by a period equal to the delay actually caused by the event, or the extent to which Defendants may be relieved of stipulated penalties or other remedies provided under the terms of this Consent Decree. Such agreement shall be reduced to writing, and signed by all Parties. If the agreement results in a material change to the terms of this Consent Decree, an appropriate modification shall be made pursuant to Section XXII (Modification). If such change is not material, no modification of this Consent Decree shall be required.

162. Disagreement. If Plaintiffs do not accept Defendants' claim of Force Majeure, or if the Plaintiffs and Defendants cannot agree on the length of the delay actually caused by the Force Majeure Event, or the extent of relief required to address the delay actually caused by the Force Majeure Event, the matter shall be resolved in accordance with Section XV (Dispute Resolution) of this Consent Decree.

163. Burden of Proof. In any dispute regarding Force Majeure, Defendants shall bear the burden of proving that any delay in performance or any other violation of any requirement of this Consent Decree was caused by or will be caused by a Force Majeure Event. Defendants shall also bear the burden of proving that Defendants gave the notice required by this Section and the burden of proving the anticipated duration and extent of any delay(s) attributable to a

Force Majeure Event. An extension of one compliance date based on a particular event may, but will not necessarily, result in an extension of a subsequent compliance date.

164. Events Excluded. Unanticipated or increased costs or expenses associated with the performance of Defendants' obligations under this Consent Decree shall not constitute a Force Majeure Event.

165. Potential Force Majeure Events. The Parties agree that, depending upon the circumstances related to an event and Defendants' response to such circumstances, the kinds of events listed below are among those that could qualify as Force Majeure Events within the meaning of this Section: construction, labor, or equipment delays; Malfunction of a Unit or emission control device; unanticipated coal supply or pollution control reagent delivery interruptions; acts of God; acts of war or terrorism; and orders by a government official, government agency, other regulatory authority, or a regional transmission organization, acting under and authorized by applicable law, that directs Defendants to operate an AEP Eastern System Unit in response to a local or system-wide (state-wide or regional) emergency (which could include unanticipated required operation to avoid loss of load or unserved load). Depending upon the circumstances and Defendants' response to such circumstances, failure of a permitting authority to issue a necessary permit in a timely fashion may constitute a Force Majeure Event where the failure of the permitting authority to act is beyond the control of Defendants and Defendants have taken all steps available to it to obtain the necessary permit, including, but not limited to: submitting a complete permit application; responding to requests for additional information by the permitting authority in a timely fashion; and accepting lawful permit terms and conditions after expeditiously exhausting any legal rights to appeal terms and conditions imposed by the permitting authority.

166. As part of the resolution of any matter submitted to this Court under Section XV (Dispute Resolution) of this Consent Decree regarding a claim of Force Majeure, the Plaintiffs and Defendants by agreement, or this Court by order, may in appropriate circumstances extend or modify the schedule for completion of work under this Consent Decree to account for the delay in the work that occurred as a result of any delay agreed to by the Plaintiffs or approved by the Court. Defendants shall be liable for stipulated penalties for their failure thereafter to complete the work in accordance with the extended or modified schedule (provided that Defendants shall not be precluded from making a further claim of Force Majeure with regard to meeting any such extended or modified schedule).

#### XV. DISPUTE RESOLUTION

167. The dispute resolution procedure provided by this Section shall be available to resolve all disputes arising under this Consent Decree, provided that the Party invoking such procedure has first made a good faith attempt to resolve the matter with the other Parties.

168. The dispute resolution procedure required herein shall be invoked by one Party giving written notice to the other Parties advising of a dispute pursuant to this Section. The notice shall describe the nature of the dispute and shall state the noticing Party's position with regard to such dispute. The Parties receiving such a notice shall acknowledge receipt of the notice, and the Parties in dispute shall expeditiously schedule a meeting to discuss the dispute informally not later than fourteen (14) days following receipt of such notice.

169. Disputes submitted to dispute resolution under this Section shall, in the first instance, be the subject of informal negotiations among the disputing Parties. Such period of informal negotiations shall not extend beyond thirty (30) days from the date of the first meeting among the disputing Parties' representatives unless they agree in writing to shorten or extend

this period. During the informal negotiations period, the disputing Parties may also submit their dispute to a mutually agreed upon alternative dispute resolution (ADR) forum if the Parties agree that the ADR activities can be completed within the 30-day informal negotiations period (or such longer period as the Parties may agree to in writing).

170. If the disputing Parties are unable to reach agreement during the informal negotiation period, the Plaintiffs shall provide Defendants with a written summary of their position regarding the dispute. The written position provided by Plaintiffs shall be considered binding unless, within forty-five (45) days thereafter, Defendants seek judicial resolution of the dispute by filing a petition with this Court. The Plaintiffs may respond to the petition within forty-five (45) days of filing. In their initial filings with the Court under this Paragraph, the disputing Parties shall state their respective positions as to the applicable standard of law for resolving the particular dispute.

171. The time periods set out in this Section may be shortened or lengthened upon motion to the Court of one of the Parties to the dispute, explaining the Party's basis for seeking such a scheduling modification.

172. This Court shall not draw any inferences nor establish any presumptions adverse to any disputing Party as a result of invocation of this Section or the disputing Parties' inability to reach agreement.

173. As part of the resolution of any dispute under this Section, in appropriate circumstances the disputing Parties may agree, or this Court may order, an extension or modification of the schedule for the completion of the activities required under this Consent Decree to account for the delay that occurred as a result of dispute resolution. Defendants shall be liable for stipulated penalties for their failure thereafter to complete the work in accordance

with the extended or modified schedule, provided that Defendants shall not be precluded from asserting that a Force Majeure Event has caused or may cause a delay in complying with the extended or modified schedule.

174. The Court shall decide all disputes pursuant to applicable principles of law for resolving such disputes. In their initial filings with the Court under Paragraph 170, the disputing Parties shall state their respective positions as to the applicable standard of law for resolving the particular dispute.

#### XVI. PERMITS

175. Unless expressly stated otherwise in this Consent Decree, in any instance where otherwise applicable law or this Consent Decree requires Defendants to secure a permit to authorize construction or operation of any device contemplated herein, including all preconstruction, construction, and operating permits required under state law, Defendants shall make such application in a timely manner. Defendants shall provide Notice to Plaintiffs under Section XVIII (Notices), for each Unit that Defendants submit an application for any permit described in this Paragraph 175.

176. Notwithstanding the previous Paragraph, nothing in this Consent Decree shall be construed to require Defendants to apply for or obtain a PSD or Nonattainment NSR permit for physical changes in, or changes in the method of operation of, any AEP Eastern System Unit that would give rise to claims resolved by Paragraph 132 and 133, subject to Paragraphs 134 through 138, or Paragraphs 139 and 141 of this Consent Decree.

177. When permits are required as described in Paragraph 175, Defendants shall complete and submit applications for such permits to the appropriate authorities to allow time for all legally required processing and review of the permit request, including requests for additional

information by the permitting authorities. Any failure by Defendants to submit a timely permit application for any Unit in the AEP Eastern System shall bar any use by Defendants of Section XIV (Force Majeure) of this Consent Decree, where a Force Majeure claim is based on permitting delays.

178. Notwithstanding the reference to Title V permits in this Consent Decree, the enforcement of such permits shall be in accordance with their own terms and the Act. The Title V permits shall not be enforceable under this Consent Decree, although any term or limit established by or under this Consent Decree shall be enforceable under this Consent Decree regardless of whether such term or limit has or will become part of a Title V permit, subject to the terms of Section XXVI (Conditional Termination of Enforcement Under Decree) of this Consent Decree.

179. Within three (3) years from the Date of Entry of this Consent Decree, and in accordance with federal and/or state requirements for modifying or renewing a Title V permit, Defendants shall amend any applicable Title V permit application, or apply for amendments to their Title V permits, to include a schedule for any Unit-specific performance, operational, maintenance, and control technology requirements established by this Consent Decree including, but not limited to, required emission rates or other limitations. For Units subject to a requirement to Retire, Retrofit, or Re-power, Defendants shall apply to modify, renew, or obtain any applicable Title V permit to include a schedule for any Unit-specific performance, operation, maintenance, and control technology requirements established by this Consent Decree including, but not limited to, required emission rates or other limitations, within (12) twelve months of making such election to Retire, Retrofit, or Re-power.



180. Within one (1) year from commencement of operation of each pollution control device to be installed, upgraded, and/or operated under this Consent Decree, Defendants shall apply to include the requirements and limitations enumerated in this Consent Decree into federally-enforceable non-Title V permits and/or site-specific amendments to the applicable state implementation plans to reflect all new requirements applicable to each Unit in the AEP Eastern System, the Plant-Wide Annual Rolling Average Tonnage Limitation for SO<sub>2</sub> at Clinch River, and the Plant-Wide Annual Tonnage Limitation for SO<sub>2</sub> at Kammer.

181. Defendants shall provide the United States with a copy of each application for a federally-enforceable non-Title V permit or amendment to a state implementation plan, as well as a copy of any permit proposed as a result of such application, to allow for timely participation in any public comment period.

182. Prior to termination of this Consent Decree, Defendants shall obtain enforceable provisions in their Title V permits for the AEP Eastern System that incorporate (a) any Unit-specific requirements and limitations of this Consent Decree, such as performance, operational, maintenance, and control technology requirements, (b) the Plant-Wide Annual Rolling Average Tonnage Limitation for SO<sub>2</sub> at Clinch River and the Plant-Wide Annual Tonnage Limitation for SO<sub>2</sub> at Kammer, and (c) the Eastern System-Wide Annual Tonnage Limitations for SO<sub>2</sub> and NO<sub>x</sub>. If Defendants do not obtain enforceable provisions for the Eastern System-Wide Annual Tonnage Limitations for SO<sub>2</sub> and NO<sub>x</sub> in such Title V permits, then the requirements in Paragraphs 86 and 67 shall remain enforceable under this Consent Decree and shall not be subject to termination.

183. If Defendants sell or transfer to an entity unrelated to Defendants ("Third-Party Purchaser") part or all of Defendants' Ownership Interest in a Unit in the AEP Eastern System,

Defendants shall comply with the requirements of Section XIX (Sales or Transfers of Operational or Ownership Interests) with regard to that Unit prior to any such sale or transfer unless, following any such sale or transfer, Defendants remain the holder of the Title V permit for such facility.

#### XVII. INFORMATION COLLECTION AND RETENTION

184. Any authorized representative of the United States, including attorneys, contractors, and consultants, upon presentation of credentials, shall have a right of entry upon the premises of any facility in the AEP Eastern System at any reasonable time for the purpose of:

- a. monitoring the progress of activities required under this Consent Decree;
- b. verifying any data or information submitted to the United States in accordance with the terms of this Consent Decree;
- c. obtaining samples and, upon request, splits of any samples taken by Defendants or their representatives, contractors, or consultants; and
- d. assessing Defendants' compliance with this Consent Decree.

185. Defendants shall retain, and instruct their contractors and agents to preserve, all non-identical copies of all records and documents (including records and documents in electronic form) now in their or their contractors' or agents' possession or control (with the exception of their contractors' copies of field drawings and specifications), and that directly relate to Defendants' performance of their obligations under this Consent Decree until six (6) years following completion of performance of such obligations. This record retention requirement shall apply regardless of any corporate document retention policy to the contrary.

186. All information and documents submitted by Defendants pursuant to this Consent Decree shall be subject to any requests under applicable law providing public disclosure of

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documents unless (a) the information and documents are subject to legal privileges or protection or (b) Defendants claim and substantiate in accordance with 40 C.F.R. Part 2 that the information and documents contain confidential business information.

187. Nothing in this Consent Decree shall limit the authority of EPA to conduct tests and inspections at Defendants' facilities under Section 114 of the Act, 42 U.S.C. § 7414, or any other applicable federal or state laws, regulations, or permits.

#### XVIII. NOTICES

188. Unless otherwise provided herein, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

As to the United States:

Chief, Environmental Enforcement Section  
Environment and Natural Resources Division  
U.S. Department of Justice  
P.O. Box 7611, Ben Franklin Station  
Washington, DC 20044-7611  
DJ# 90-5-2-1-06893

and

Director, Air Enforcement Division  
Office of Enforcement and Compliance Assurance  
U.S. Environmental Protection Agency  
Ariel Rios Building [Mail Code 2242A]  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

and

Air Enforcement & Compliance Assurance Branch  
U.S. EPA Region V  
77 W. Jackson St.  
Mail Code AE17J  
Chicago, IL 60604

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and

Air Protection Division Director  
U.S. EPA Region III  
1650 Arch Street  
Philadelphia, PA 19103

As to the State of Connecticut:

Office of the Attorney General  
Environmental Department  
P.O. Box 120  
Hartford, Connecticut  
06141-0120

As to the State of Maryland:

Frank Courtright  
Program Manager  
Air Quality Compliance Program  
Maryland Department of the Environment  
1800 Washington Blvd.  
Baltimore, Maryland 21230  
fcourtright@mde.state.md.us

As to the Commonwealth of Massachusetts:

Frederick D. Augenster, Assistant Attorney General  
Office of the Attorney General  
1 Ashburton Place, 18th floor  
Boston, Massachusetts 02108  
fred.augenster@state.ma.us

and

Douglas Shallcross, Esquire  
Department of Environmental Protection  
Office of General Counsel  
1 Winter Street  
Boston, Massachusetts 02108  
Douglas.Shallcross@state.ma.us

As to the State of New Hampshire:

Director, Air Resources Division  
New Hampshire Department of Environmental Services  
29 Hazen Drive  
Concord, New Hampshire 03302-0095

As to the State of New Jersey:

Kevin P. Auerbacher  
Section Chief  
Environmental Enforcement Section  
R.J. Hughes Justice Complex  
25 Market Street  
P.O. Box 093  
Trenton, New Jersey 08625-0093

As to the State of New York:

Robert Rosenthal  
Assistant Attorney General  
New York State Attorney General's Office  
The Capitol  
Albany, New York 12224

As to the State of Rhode Island:

Tricia K. Jedele  
Special Assistant Attorney General  
150 South Main Street  
Providence, RI 02903  
(401) 274-4400, Ext. 2400  
tjedele@riag.ri.gov

As to the State of Vermont:

Environmental Division  
Office of the Attorney General  
109 State Street  
Montpelier, Vermont 05609-1001

and

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Director  
Air Pollution Control Division  
Department of Environmental Conservation  
Agency of Natural Resources  
Building 3 South  
103 South Main Street  
Waterbury, Vermont 05671-0402

As to the Citizen Plaintiffs:

Nancy S. Marks  
Natural Resources Defense Council, Inc.  
40 West 20th Street  
New York, New York 10011  
(212) 727-4414  
nmarks@nrdc.org

and

Albert F. Ettinger  
Environmental Law and Policy Center  
35 East Wacker Dr. Suite 1300  
Chicago, Illinois 60601-2110  
(312) 673-6500  
aettinger@elpc.org

As to Defendants:

Vice President, Environmental Services  
American Electric Power Service Corporation  
1 Riverside Plaza  
Columbus, OH 43215  
jmmcmanus@aep.com

and

General Counsel  
American Electric Power  
1 Riverside Plaza  
Columbus, OH 43215  
jbkeanc@aep.com

189. All notifications, communications, or submissions made pursuant to this Section shall be sent as follows: (a) by overnight mail or overnight delivery service to the United States;

and (b) by electronic mail to all Plaintiffs, if practicable, but if not practicable, then by overnight mail or overnight delivery service to the States and Citizen Plaintiffs. All notifications, communications, and transmissions sent by overnight delivery service shall be deemed submitted on the date they are delivered to the delivery service.

190. Any Party may change either the notice recipient or the address for providing notices to it by serving all other Parties with a notice setting forth such new notice recipient or address.

XIX. SALES OR TRANSFERS OF OPERATIONAL OR OWNERSHIP INTERESTS

191. If Defendants propose to sell or transfer an Operational or Ownership Interest to an entity unrelated to Defendants ("Third Party"), they shall advise the Third Party in writing of the existence of this Consent Decree prior to such sale or transfer, and shall send a copy of such written notification to the Plaintiffs pursuant to Section XVIII (Notices) of this Consent Decree at least sixty (60) days before such proposed sale or transfer.

192. No sale or transfer of an Operational or Ownership Interest shall take place before the Third Party and Plaintiffs have executed, and the Court has approved, a modification pursuant to Section XXII (Modification) of this Consent Decree making the Third Party a party to this Consent Decree and jointly and severally liable with Defendants for all the requirements of this Decree that may be applicable to the transferred or purchased Interests.

193. This Consent Decree shall not be construed to impede the transfer of any Interests between Defendants and any Third Party so long as the requirements of this Consent Decree are met. This Consent Decree shall not be construed to prohibit a contractual allocation – as between Defendants and any Third Party – of the burdens of compliance with this Decree,

provided that both Defendants and such Third Party shall remain jointly and severally liable for the obligations of the Consent Decree applicable to the transferred or purchased Interests.

194. If the Plaintiffs agree, the Plaintiffs, Defendants, and the Third Party that has become a party to this Consent Decree pursuant to Paragraph 192, may execute a modification that relieves Defendants of liability under this Consent Decree for, and makes the Third Party liable for, all obligations and liabilities applicable to the purchased or transferred Interests. Notwithstanding the foregoing, however, Defendants may not assign, and may not be released from, any obligation under this Consent Decree that is not specific to the purchased or transferred Interests, including the obligations set forth in Section VIII (Environmental Mitigation Projects), Paragraphs 86 and 67, and Section IX (Civil Penalty).

195. Defendants may propose and Plaintiffs may agree to restrict the scope of joint and several liability of any purchaser or transferee for any AEP Eastern System obligations to the extent such obligations may be adequately separated in an enforceable manner using the methods provided by or approved under Section XVI (Permits).

196. Paragraphs 191-195 of this Consent Decree do not apply if an Interest is sold or transferred solely as collateral security in order to consummate a financing arrangement (not including a sale-leaseback), so long as Defendants: (a) remain the operator (as that term is used and interpreted under the Clean Air Act) of the subject AEP Eastern System Unit(s); (b) remain



subject to and liable for all obligations and liabilities of this Consent Decree; and (c) supply

Plaintiffs with the following certification within thirty (30) days of the sale or transfer:

“Certification of Change in Ownership Interest Solely for Purpose of Consummating Financing. We, the Chief Executive Officer and General Counsel of American Electric Power (“AEP”), hereby jointly certify under Title 18 U.S.C. Section 1001, on our own behalf and on behalf of AEP, that any change in AEP’s Ownership Interest in any AEP Eastern System Unit that is caused by the sale or transfer as collateral security of such Ownership Interest in such Unit(s) pursuant to the financing agreement consummated on [insert applicable date] between AEP and [insert applicable entity]: a) is made solely for the purpose of providing collateral security in order to consummate a financing arrangement; b) does not impair AEP’s ability, legally or otherwise, to comply timely with all terms and provisions of the Consent Decree entered in *United States, et al. v. American Electric Power Service Corp., et al.*, Civil Action No. C2-99-1250 (“AEP I”) and *United States, et al. v. American Electric Power Service Corp., et al.*, Civil Action Nos. C2-04-1098 and C2-05-360 (“AEP II”); c) does not affect AEP’s operational control of any Unit covered by that Consent Decree in a manner that is inconsistent with AEP’s performance of its obligations under the Consent Decree; and d) in no way affects the status of AEP’s obligations or liabilities under that Consent Decree.”

#### XX. EFFECTIVE DATE

197. The effective date of this Consent Decree shall be the Date of Entry.

#### XXI. RETENTION OF JURISDICTION

198. The Court shall retain jurisdiction of this case after the Date of Entry of this Consent Decree to enforce compliance with the terms and conditions of this Consent Decree and to take any action necessary or appropriate for its interpretation, construction, execution, modification, or adjudication of disputes. During the term of this Consent Decree, any Party to this Consent Decree may apply to the Court for any relief necessary to construe or effectuate this Consent Decree.

## XXII. MODIFICATION

199. The terms of this Consent Decree may be modified only by a subsequent written agreement signed by the Plaintiffs and Defendants. Where the modification constitutes a material change to any term of this Decree, it shall be effective only upon approval by the Court.

## XXIII. GENERAL PROVISIONS

200. This Consent Decree is not a permit. Compliance with the terms of this Consent Decree does not guarantee compliance with all applicable federal, state, or local laws or regulations. The limitations and requirements set forth herein do not relieve Defendants from any obligation to comply with other state and federal requirements under the Clean Air Act at any Units covered by this Consent Decree, including the Defendants' obligation to satisfy any state modeling requirements set forth in a state implementation plan.

201. This Consent Decree does not apply to any claim(s) of alleged criminal liability.

202. In any subsequent administrative or judicial action initiated by any of the Plaintiffs for injunctive relief or civil penalties relating to the facilities covered by this Consent Decree, Defendants shall not assert any defense or claim based upon principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, or claim splitting, or any other defense based upon the contention that the claims raised by any of the Plaintiffs in the subsequent proceeding were brought, or should have been brought, in the instant case; provided, however, that nothing in this Paragraph affects the validity of Paragraphs Paragraph 132 and 133, subject to Paragraphs 134 through 138, or Paragraphs 139 and 141.

203. Except as specifically provided by this Consent Decree, nothing in this Consent Decree shall relieve Defendants of their obligation to comply with all applicable federal, state, and local laws and regulations. Subject to the provisions in Section X (Resolution of Civil

Claims Against Defendants), nothing contained in this Consent Decree shall be construed to prevent or limit the rights of the Plaintiffs to obtain penalties or injunctive relief under the Act or other federal, state, or local statutes, regulations, or permits.

204. At any time prior to termination of this Consent Decree, Defendants may request approval from Plaintiffs to implement other control technology for SO<sub>2</sub> or NO<sub>x</sub> than what is required by this Consent Decree. In seeking such approval, Defendants must demonstrate that such alternative control technology is capable of achieving pollution reductions equivalent to an FGD (for SO<sub>2</sub>) or SCR (for NO<sub>x</sub>) at the Units in the AEP Eastern System at which Defendants seek approval to implement such other control technology for SO<sub>2</sub> or NO<sub>x</sub>. Approval of such a request is solely at the discretion of the Plaintiffs.

205. Nothing in this Consent Decree is intended to, or shall, alter or waive any applicable law (including but not limited to any defenses, entitlements, challenges, or clarifications related to the Credible Evidence Rule, 62 Fed. Reg. 8314 (Feb. 24, 1997)) concerning the use of data for any purpose under the Act generated either by the reference methods specified herein or otherwise.

206. Each limit and/or other requirement established by or under this Consent Decree is a separate, independent requirement.

207. Performance standards, emissions limits, and other quantitative standards set by or under this Consent Decree must be met to the number of significant digits in which the standard or limit is expressed. For example, an Emission Rate of 0.100 is not met if the actual Emission Rate is 0.101. Defendants shall round the fourth significant digit to the nearest third significant digit, or the third significant digit to the nearest second significant digit, depending upon whether the limit is expressed to three or two significant digits. For example, if an actual

Emission Rate is 0.1004, that shall be reported as 0.100, and shall be in compliance with an Emission Rate of 0.100, and if an actual Emission Rate is 0.1005, that shall be reported as 0.101, and shall not be in compliance with an Emission Rate of 0.100. Defendants shall report data to the number of significant digits in which the standard or limit is expressed.

208. This Consent Decree does not limit, enlarge, or affect the rights of any Party to this Consent Decree as against any third parties.

209. This Consent Decree constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Consent Decree, and supersedes all prior agreements and understandings among the Parties related to the subject matter herein. No document, representation, inducement, agreement, understanding, or promise constitutes any part of this Consent Decree or the settlement it represents, nor shall they be used in construing the terms of this Consent Decree.

210. Except for Citizen Plaintiffs, each Party to this action shall bear its own costs and attorneys' fees. Defendants shall reimburse the Citizen Plaintiffs' attorneys' fees and costs, pursuant to 42 U.S.C. § 7604(d), and the agreement between counsel for Defendants and Citizen Plaintiffs within thirty (30) days of the Date of Entry of this Consent Decree.

#### XXIV. SIGNATORIES AND SERVICE

211. Each undersigned representative of the Parties certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind to this document the Party he or she represents.

212. This Consent Decree may be signed in counterparts, and such counterpart signature pages shall be given full force and effect.

213. Each Party hereby agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

#### XXV. PUBLIC COMMENT

214. The Parties agree and acknowledge that final approval by the United States and the entry of this Consent Decree is subject to the procedures of 28 C.F.R. § 50.7, which provides for notice of lodging of this Consent Decree in the Federal Register, an opportunity for public comment, and the right of the United States to withdraw or withhold consent if the comments disclose facts or considerations which indicate that the Consent Decree is inappropriate, improper, or inadequate. The Defendants shall not oppose entry of this Consent Decree by this Court or challenge any provision of this Consent Decree unless the United States has notified the Defendants, in writing, that the United States no longer supports entry of the Consent Decree.

#### XXVI. CONDITIONAL TERMINATION OF ENFORCEMENT UNDER DECREE

215. Termination as to Completed Tasks. As soon as Defendants complete a construction project or any other requirement of this Consent Decree that is not ongoing or recurring, Defendants may, by motion to this Court, seek termination of the provision or provisions of this Consent Decree that imposed the requirement.

216. Conditional Termination of Enforcement Through the Consent Decree. After Defendants:

- a. have successfully completed construction, and have maintained Continuous Operation, of all pollution controls as required by this Consent Decree;

- b. have obtained final Title V permits (i) as required by the terms of this Consent Decree; (ii) that cover all Units in this Consent Decree; and (iii) that include as enforceable permit terms all of the Unit performance and other requirements specified in this Consent Decree; and
- c. certify that the date is later than December 31, 2022;

then Defendants may so certify these facts to the Plaintiffs and this Court. If the Plaintiffs do not object in writing with specific reasons within forty-five (45) days of receipt of Defendants' certification, then, for any Consent Decree violations that occur after the filing of notice, the Plaintiffs shall pursue enforcement of the requirements contained in the Title V permit through the applicable Title V permit and not through this Consent Decree.

217. Resort to Enforcement under this Consent Decree. Notwithstanding Paragraph 216, if enforcement of a provision in this Consent Decree cannot be pursued by a Party under the applicable Title V permit, or if a Consent Decree requirement was intended to be part of a Title V Permit and did not become or remain part of such permit, then such requirement may be enforced under the terms of this Consent Decree at any time.

XXVII. FINAL JUDGMENT

218. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment among the Parties.

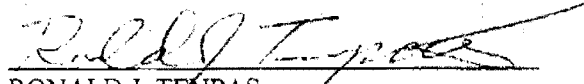
IT IS SO ORDERED, this 10th day of December, 2007.

  
\_\_\_\_\_  
EDMUND A. SARGUS, JR.  
UNITED STATES DISTRICT JUDGE

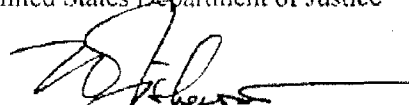
Signature Page for Consent Decree in:

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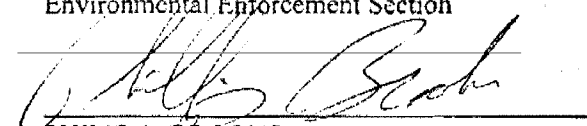
**FOR THE UNITED STATES:**



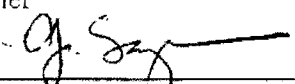
RONALD J. TENPAS  
Acting Assistant Attorney General  
Environmental and Natural Resources Division  
United States Department of Justice



W. BENJAMIN FISHEROW  
Deputy Chief  
Environmental Enforcement Section



PHILIP A. BROOKS  
Counsel to the Chief



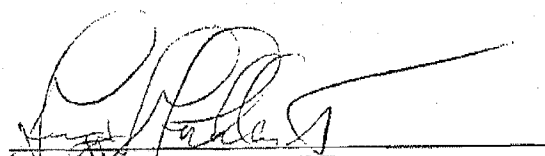
JUSTIN A. SAVAGE  
THOMAS A. MARIANI  
Assistant Chief  
JAMES A. LOFTON  
Senior Counsel  
MARC BORODIN  
JENNIFER A. LUKAS-JACKSON  
THOMAS A. BENSON  
KATHERINE L. VANDERHOOK  
DEBORAH BEHLES  
MYLES E. FLINT, II  
Trial Attorneys  
LESLIE B. BELLAS  
By Special Appointment as a Department of Justice  
Attorney  
Environmental Enforcement Section  
Environmental and Natural Resources Division

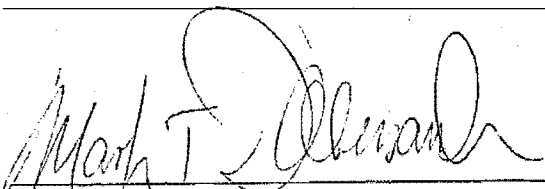


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v.  
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**FOR THE UNITED STATES OF AMERICA:**

  
\_\_\_\_\_  
GREGORY G. LOCKHART  
United States Attorney  
Southern District of Ohio

  
\_\_\_\_\_  
MARK D'ALESSANDRO  
Assistant United States Attorney  
Southern District of Ohio  
United States Department of Justice

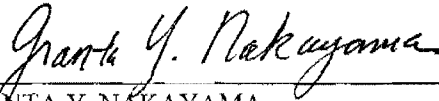
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**FOR THE UNITED STATES:**



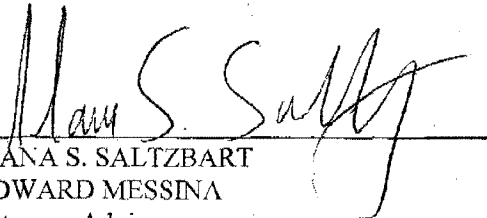
GRANTA Y. NAKAYAMA  
Assistant Administrator  
Office of Enforcement and Compliance Assurance  
United States Environmental Protection Agency



WALKER B. SMITH  
Director, Office of Civil Enforcement  
Office of Enforcement and Compliance Assurance  
United States Environmental Protection Agency



ADAM M. KUSHNER  
Acting Director, Air Enforcement Division  
Office of Enforcement and Compliance Assurance  
United States Environmental Protection Agency



ILANA S. SALTZBART  
EDWARD MESSINA  
Attorney-Advisor

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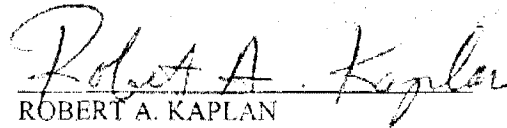
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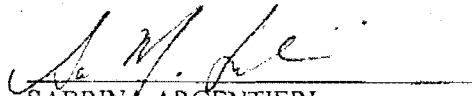
MARY A. GADE  
Regional Administrator  
Region 5  
U.S. Environmental Protection Agency



ROBERT A. KAPLAN  
Regional Counsel  
Region 5  
U.S. Environmental Protection Agency



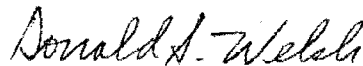
STEPHEN ROTHBLATT  
Director  
Air and Radiation Division  
Region 5  
U.S. Environmental Protection Agency



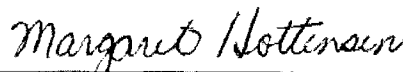
SABRINA ARGENTIERI  
Associate Regional Counsel  
Region 5  
U.S. Environmental Protection Agency

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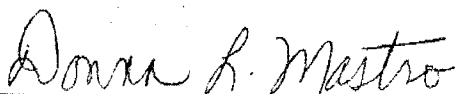
*United States et al.,*  
v.  
*American Electric Power Service Corp., et al.*



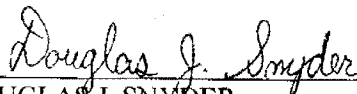
\_\_\_\_\_  
DONALD S. WELSH  
Regional Administrator  
U.S. EPA Region III



\_\_\_\_\_  
for WILLIAM C. EARLY  
Regional Counsel  
U.S. EPA Region III



\_\_\_\_\_  
DONNA L. MASTRO  
Senior Assistant Regional Counsel  
U.S. EPA Region III



\_\_\_\_\_  
DOUGLAS J. SNYDER  
Senior Assistant Regional Counsel  
U.S. EPA Region III

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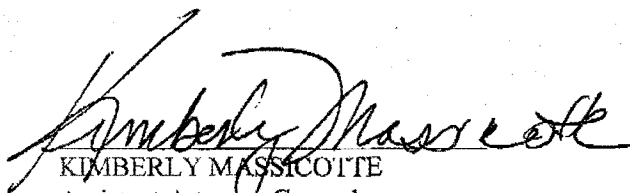
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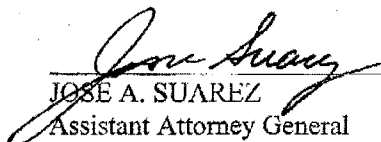
**FOR THE STATE OF CONNECTICUT:**



RICHARD BLUMENTHAL  
Attorney General



KIMBERLY MASSICOTTE  
Assistant Attorney General



JOSE A. SUAREZ  
Assistant Attorney General

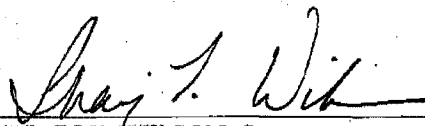
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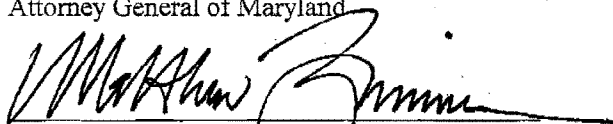
*American Electric Power Service Corp., et al.*

**FOR THE STATE OF MARYLAND:**



SHARI T. WILSON, Secretary  
Maryland Department of the Environment  
1800 Washington Blvd.  
Baltimore, Maryland 21230

DOUGLAS F. GANSLER  
Attorney General of Maryland



MATTHEW ZIMMERMAN  
Assistant Attorney General  
Office of the Attorney General  
1800 Washington Blvd.  
Baltimore, Maryland 21230  
410-537-3452

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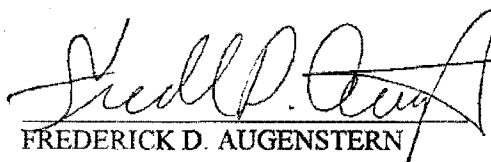
*United States et al.*

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**FOR THE COMMONWEALTH OF MASSACHUSETTS:**

MARTHA COAKLEY  
ATTORNEY GENERAL

A handwritten signature in black ink, appearing to read "Fred D. Aug", is written over a horizontal line. The signature is stylized and cursive.

FREDERICK D. AUGENSTERN  
Assistant Attorney General  
Environmental Protection Division  
1 Ashburton Place, 18th Floor  
Boston, Massachusetts 02108  
(617) 727-2200 ext. 2427

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**FOR THE STATE OF NEW HAMPSHIRE:**



MAUREEN D. SMITH  
Senior Assistant Attorney General  
33 Capitol Street  
Concord, New Hampshire 03301



K. ALLEN BROOKS  
Assistant Attorney General  
33 Capitol Street  
Concord, New Hampshire 03301



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FOR THE STATE OF NEW JERSEY:

Very Truly Yours,

ANNE MILGRAM  
ATTORNEY GENERAL OF NEW JERSEY

By:

  
Jon C. Martin  
Deputy Attorney General

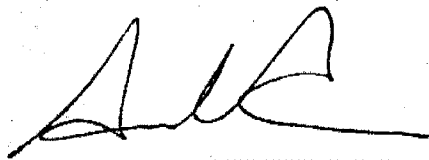
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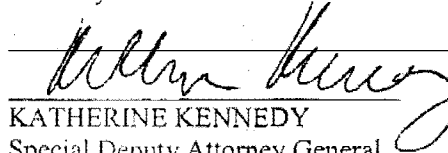
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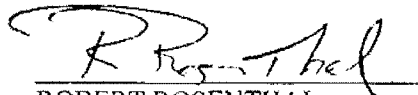
**FOR THE STATE OF NEW YORK:**



ANDREW M. CUOMO  
Attorney General



KATHERINE KENNEDY  
Special Deputy Attorney General  
for Environmental Protection



ROBERT ROSENTHAL  
MICHAEL J. MYERS  
Assistant Attorneys General  
Environmental Protection Bureau  
The Capitol  
Albany, New York 12224  
(518) 402-2260  
Of counsel


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**FOR THE STATE OF RHODE ISLAND:**

  
PATRICK C. LYNCH  
Attorney General

  
TRICIA K. JEDELE  
Special Assistant Attorney General  
150 South Main Street  
Providence, Rhode Island 02903  
*Of counsel*

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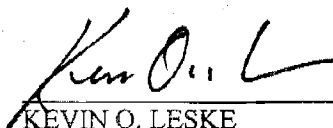
*United States, et al.*

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**FOR THE STATE OF VERMONT:**

WILLIAM H. SORRELL  
ATTORNEY GENERAL  
STATE OF VERMONT



---

KEVIN O. LESKE  
ERICK TITRUD  
Assistant Attorneys General  
Environmental Division  
109 State Street  
Montpelier, VT 05609-1001

Signature Page for Consent Decree in:

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**FOR CITIZEN PLAINTIFFS:**

*Nancy S Marks*

NANCY S. MARKS  
Natural Resources Defense Council, Inc.  
40 West 20th Street  
New York, New York 10011  
(212) 727-4414

For Citizen Plaintiffs Sierra Club and  
Natural Resources Defense Council, Inc.

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**FOR CITIZEN PLAINTIFFS:**



ALBERT F. ETTINGER  
Environmental Law & Policy Center  
35 East Wacker Drive, Suite 1300  
Chicago, Illinois 60601-2110

For Citizen Plaintiffs Ohio Citizen Action,  
CitizensAction Coalition of Indiana,  
Hoosier Environmental Council,  
Ohio Valley Environmental Coalition,  
West Virginia Environmental Council,  
Clean Air Council,  
Izaak Walton League of America,  
United States Public Interest Research Group,  
National Wildlife Federation,  
Indiana Wildlife Federation  
and League of Ohio Sportsmen

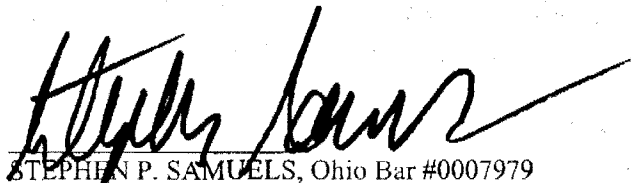
Signature Page for Consent Decree in:

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*American Electric Power Service Corp., et al.*

**FOR CITIZEN PLAINTIFFS:**



STEPHEN P. SAMUELS, Ohio Bar #0007979  
Schottenstein, Zox & Dunn Co., LPA  
P.O. Box 165020  
Columbus, Ohio 43216-5020  
(614) 462-5021

Local Counsel for Sierra Club and  
Natural Resources Defense Council, Inc. Ohio Citizen  
Action, Citizens Action Coalition of Indiana, Hoosier  
Environmental Council, Ohio Valley  
Environmental Coalition, West Virginia  
Environmental Council, Clean Air Council,  
Izaak Walton League of America, United States  
Public Interest Research Group, National Wildlife  
Federation, Indiana Wildlife Federation, and League  
of Ohio Sportsmen

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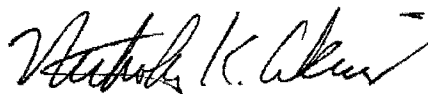
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v.

*American Electric Power Service Corp., et al.*

**FOR DEFENDANTS AMERICAN ELECTRIC POWER SERVICE CORPORATION, ET  
AL.:**



---

NICHOLAS K. AKINS

Executive Vice President -- Generation



**APPENDIX A**  
**ENVIRONMENTAL MITIGATION PROJECTS**

In compliance with and in addition to the requirements in Section VIII of this Consent Decree (Environmental Mitigation Projects), Defendants shall comply with the requirements of this Appendix to ensure that the benefits of the \$36 million in federally directed Environmental Mitigation Projects are achieved.

**I. National Parks Mitigation**

- A. Within 45 days from the Date of Entry, Defendants shall pay to the National Park Service the sum of \$2 million to be used in accordance with the Park System Resource Protection Act, 16 U.S.C. § 19jj, for the restoration of land, watersheds, vegetation, and forests using adaptive management techniques designed to improve ecosystem health and mitigate harmful effects from air pollution. This may include reforestation or restoration of native species and acquisition of equivalent resources and support for collaborative initiatives with state and local agencies and other stakeholders to develop plans to assure resource protection over the long-term. Projects will focus on one or more of the following Class I areas alleged in the underlying action to have been injured by emissions from Defendants facilities: Shenandoah National Park, Mammoth Cave National Park, and Great Smoky Mountains National Park.
- B. Payment of the amount specified in the preceding paragraph shall be made to the Natural Resource Damage and Assessment Fund managed by the United States Department of the Interior. Instructions for transferring funds will be provided to the Defendants by the National Park Service. Notwithstanding Section I.A of this Appendix, payment of funds by Defendants is not due until ten (10) days after receipt of payment instructions.
- C. Upon payment of the required funds into the Natural Resource Damage and Assessment Fund, Defendants shall have no further responsibilities regarding the implementation of any project selected by the National Park Service in connection with this provision of the Consent Decree.

**II. Overall Environmental Mitigation Project Schedule and Budget**

- A. Within 120 days of the Date of Entry, as further described below, Defendants shall submit plans to EPA for review and approval for completing the remaining \$34 million in federally directed Environmental Mitigation Projects specified in this Appendix over a period of not more than five (5) years from the Date of Entry. EPA will consult with the Citizen Plaintiffs, through their counsel, prior to approving or commenting on any proposed plan. The Parties agree that Defendants are entitled to spread their payments for Environmental Mitigation Projects evenly over the five-year period commencing upon the Date of Entry. Defendants are not, however, precluded from accelerating payments to better effectuate a proposed mitigation plan, provided however, Defendants shall not be

entitled to any reduction in the nominal amount of the required payments by virtue of the early expenditures. EPA may, but is not required to, approve a proposed Project budget that results in a back-loading of some expenditures. EPA shall determine prior to approval that all Projects are consistent with federal law.

- B. Defendants may, at their election, consolidate the plans required by this Appendix into a single plan.
- C. In addition to the requirements set forth below, Defendants shall submit within 120 days of the Date of Entry, a summary-level budget and Project time-line that covers all of the Projects proposed.
- D. Beginning March 31, 2008, and continuing on March 31 of each year thereafter until completion of each Project (including any applicable periods of demonstration or testing), Defendants shall provide the United States and Citizen Plaintiffs with written reports detailing the progress of each Project, including Project Dollars.
- E. Within 60 days following the completion of each Project required under Appendix A, Defendants shall submit to the United States and Citizen Plaintiffs a report that documents the date that the Project was completed, the results of implementing the Project, including the emission reductions or other environmental benefits achieved, and the Project Dollars expended by Defendants in implementing the Project.
- F. Upon approval of the plans required by this Appendix by EPA, Defendants shall complete the Environmental Mitigation Projects according to the approved plans. Nothing in this Consent Decree shall be interpreted to prohibit Defendants from completing Environmental Mitigation Projects before the deadlines specified in the schedule of an approved plan.

**III. Acquisition and Restoration of Ecologically Significant Areas in Indiana, Kentucky, North Carolina, Ohio, Pennsylvania, Virginia, and West Virginia**

- A. Within 120 days of the Date of Entry, and on each anniversary of the initial submission for the following four (4) years, Defendants shall submit a plan to EPA for review and approval, in consultation with the Citizen Plaintiffs, for acquisition and/or restoration of ecologically significant areas in Indiana, Kentucky, North Carolina, Ohio, Pennsylvania, Virginia, and West Virginia ("Land Acquisition and Restoration"). Defendants shall spend no less than a total of \$10 million in Project Dollars on Land Acquisition and Restoration over the five year period provided under this Appendix for completion of federally directed Environmental Mitigation Projects.

B. Defendants' proposed plan shall:

1. Describe the proposed Land Acquisition and Restoration projects in sufficient detail to allow the reader to ascertain how each proposed action meets the requirements set out below. For purposes of this Appendix and Section VIII (Environmental Mitigation Projects) of this Consent Decree, land acquisition means purchase of interests in land, including fee ownership, easements, or other restrictions that run with the land that provide for perpetual protection of the acquired land. Restoration may include, by way of illustration, direct reforestation (particularly of tree species that may be affected by acidic deposition) and soil enhancement. Any restoration action must also incorporate the acquisition of an interest in the restored lands sufficient to ensure perpetual protection of the restored land. Any proposal for acquisition of land must identify fully all owners of the interests in the land. Every proposal for acquisition of land must identify the ultimate holder of the interests to be acquired and provide a basis for concluding that the proposed holder of title is appropriate for long-term protection of the ecological or environmental benefits sought to be achieved through the acquisition.
  2. Describe generally the ecological significance of the area to be acquired or restored. In particular, identify the environmental/ecological benefits expected as a result of the proposed action. In proposing areas for acquisition and restoration, Defendants shall focus on those areas that are in most need of conservation action or that promise the greatest conservation return on investment.
  3. Describe the expected cost of the Land Acquisition and Restoration, including the fair market value of any areas to be acquired.
  4. Identify any person or entity other than Defendants that will be involved in the land acquisition or restoration action. Defendants shall describe the third-party's role in the action and the basis for asserting that such entity is able and suited to perform the intended role. For purposes of this Section of the Appendix, third-parties shall only include non-profits; federal, state, and local agencies; or universities. Any proposed third-party must be legally authorized to perform the proposed action or to receive Project Dollars.
  5. Include a schedule for completing and funding each portion of the project.
- C. Performance - Upon approval of the plan by EPA, after consultation with the Citizen Plaintiffs, Defendants shall complete the Land Acquisition and Restoration project according to the approved plan and schedule.

**IV. Nitrogen Impact Mitigation in the Chesapeake Bay**

- A. Within 120 days of Date of Entry, Defendants shall submit a plan to EPA for review and approval, in consultation with the Citizen Plaintiffs, for the mitigation of adverse impacts on the Chesapeake Bay associated with nitrogen ("Chesapeake Bay Mitigation Project"). Defendants shall spend no less than a total of \$3 million in Project Dollars on the Chesapeake Bay Mitigation Project.
- B. Defendant's proposed plan shall:
1. Describe proposed Project(s) that reduce nitrogen loading in the Chesapeake Bay or otherwise mitigate the adverse effects of nitrogen in the Chesapeake Bay. Projects that may be approved include, by way of illustration, creation of forested stream buffers on agricultural land or other land cover to establish a "buffer zone" to keep livestock out of the adjoining waterway and to filter runoff before it enters the waterway.
  2. Describe generally the expected environmental benefit of the proposed Chesapeake Bay Mitigation Project. The key criteria for selection of components of the Project are the magnitude of the expected ecological/environmental benefit(s) in relation to the cost and the relative permanence of the expected benefit(s). Expected loadings benefits should be quantified to the extent practicable.
  3. Describe the expected cost of each element of the Chesapeake Bay Mitigation Project, including the fair market value of any interests in land to be acquired.
  4. Identify any person or entity other than Defendants that will be involved in any aspect of the Chesapeake Bay Mitigation Project. Defendants shall describe the third-party's role in the action and the basis for asserting that such entity is able and suited to perform the intended role. For purposes of this Section of the Appendix, third-parties shall only include non-profits; federal, state, and local agencies; or universities. Any proposed third-party must be legally authorized to perform the proposed action or to receive Project Dollars.
  5. Include a schedule for completing and funding each portion of the Project.
- C. Performance - Upon approval of the plan for Chesapeake Bay Mitigation by EPA, Defendants shall complete the Project according to the approved plan and schedule.

**V. Mobile Source Emission Reduction Projects**

- A. Within 120 days of the Date of Entry, Defendants shall submit a plan to EPA for review and approval, in consultation with the Citizen Plaintiffs, for the completion of Projects to reduce emissions from Defendants' fleet of barge tugboats on the Ohio River, diesel trains at or near power plants, Defendants' fleet of motor vehicles in certain eastern states, and/or truck stops in certain eastern states ("Mobile Source Projects"). Defendants shall spend no less than a total of \$21 million in Project Dollars on one or more of the three Mobile Source Projects specified in this Section, in accordance with the plans for such Projects approved by EPA, after consultation with the Citizen Plaintiffs. The key criteria for selection of components of the Mobile Source Projects are the magnitude of the expected environmental benefit(s) in relation to the cost.
- B. Diesel Tug/Train Project
1. Defendants are among the leading barge operators in the country, with operations on the Ohio River, the Mississippi River, and the Gulf Coast. Barges are propelled by tugboats, which generally use a type of marine diesel fuel known as No. 2 distillate fuel oil. Tugboats that switch to ultra-low sulfur diesel fuel ("ULSD") reduce emissions of NO<sub>x</sub>, PM, volatile organic compounds ("VOCs"), and other air pollutants. All marine diesel fuel must be ULSD by June 1, 2012, pursuant to EPA's Nonroad Diesel Rule (see "Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuels; Final Rule," 69 Fed. Reg. 38,958 (June 29, 2004)). Defendants also receive coal by diesel trains.
  2. As part of the plan for Mobile Source Projects, Defendants may elect to achieve accelerated emission reductions from their tugboat fleet on the Ohio River ("Ohio River Tug Fleet") and/or their diesel powered trains used at or near their power plants, as one of the three possible mobile source Projects under this Consent Decree ("Diesel Tug/Train Project").
  3. The Diesel Tug/Train Project shall require one or more of the following:
    - a. The accelerated retrofitting or re-powering of Tugs with engines that require the use of ULSD. Selection of this Project is expressly conditioned upon identification of satisfactory technology and an agreement between EPA and Defendants on how to credit Project Dollars towards this project.
    - b. The retrofitting or repowering of the marine engines in the Ohio River Tug Fleet with diesel oxidation catalysts ("DOCs"), diesel particulate filters ("DPFs"), or other equivalent advanced technologies that reduce emissions of PM and VOCs from marine engines in tugboats (collectively "DOC/DPFs"). Defendants shall only install DOCs/DPFs that have received applicable approvals or

verifications, if any, from the relevant regulatory agencies for reducing emissions from tugboat engines. Defendants must maintain any DOCs/DPFs installed as part of the Tug Project for the useful life of the equipment (as defined in the proposed Plan), even after the completion of the Tug Project. Project Dollars may be spent on DOCs/DPFs within 5 years of the Date of Entry, in accordance with the approved schedule for the mitigation projects in this Appendix.

- c. The accelerated use of ULSD for the Ohio River Tug Fleet, from the Date of Entry through January 1, 2012. Notwithstanding any other provision of this Consent Decree, including this Appendix, Defendants shall only receive credit for the incremental cost of ULSD as compared to the cost of the fuel Defendants would otherwise utilize.
  - d. Emission reduction measures for diesel powered trains. Such measures may include retro-fitting with, or conversion to, Multiple Diesel Engine GenSets that are EPA Tier III Off-Road certified; Diesel Electric Hybrid; Anti-idling controls/strategies and Auto Shut-Off capabilities. Selection of this Project is expressly conditioned upon identification of satisfactory technology and an agreement between EPA and Defendants on how to credit Project Dollars towards this project.
4. The proposed plan for the Diesel Tug/Train Project shall:
- a. Describe the expected cost of the project, including the costs for any equipment, material, labor costs, and the proposed method for accounting for the cost of each element of the Diesel Tug/Train Project, including the incremental cost of ULSD.
  - b. Describe generally the expected environmental benefit of the project, including any expected fuel efficiency improvements and quantify emission reductions expected.
  - c. Include a schedule for completing each portion of the Diesel Tug/Train Project.
5. Performance - Upon approval of the Diesel Tug/Train Project plan by EPA, Defendants shall complete the project according to the approved plan and schedule.

C. Hybrid Vehicle Fleet Project

1. AEP has a fleet of approximately 11,000 motor vehicles in the eleven states where it operates, including vehicles in Indiana, Ohio, Michigan, Virginia, West Virginia, and Kentucky. These motor vehicles are generally powered by conventional diesel or gasoline engines and include vehicles such as diesel "bucket" trucks. The use of hybrid engine technologies in Defendants' motor vehicles, such as diesel-electric engines, will improve fuel efficiency and reduce emissions of NO<sub>x</sub>, PM, VOCs, and other air pollutants.
2. As part of the plan for Mobile Source Projects, Defendants may elect to spend Project Dollars on the replacement of conventional motor vehicles in their fleet with newly manufactured Hybrid Vehicles ("Hybrid Vehicle Fleet Project").
3. The proposed plan for the Hybrid Vehicle Fleet Project shall:
  - a. Propose the replacement of conventional gasoline or diesel powered motor vehicles (such as bucket trucks) with Hybrid Vehicles. For purposes of this subsection of this Appendix, "Hybrid Vehicle" means a vehicle that can generate and utilize electric power to reduce the vehicle's consumption of fossil fuel. Any Hybrid Vehicle proposed for inclusion in the Hybrid Fleet Project shall meet all applicable engine standards, certifications, and/or verifications.
  - b. Provide for Hybrid Vehicles replacement in that portion of Defendants' fleet in Indiana, Ohio, Michigan, West Virginia, Virginia, and/or Kentucky. Notwithstanding any other provision of this Consent Decree, including this Appendix, Defendants shall only receive credit toward Project Dollars for the incremental cost of Hybrid Vehicles as compared to the cost of a newly manufactured, similar motor vehicle.
  - c. Prioritize the replacement of diesel-powered vehicles in Defendants' fleet.
  - d. Provide a method to account for the costs of the Hybrid Vehicles, including the incremental costs of such vehicles as compared to conventional gasoline or diesel motor vehicles.
  - e. Certify that Defendants will use the Hybrid Vehicles for their useful life (as defined in the proposed plan).
  - f. Include a schedule for completing each portion of the Project.

g. Describe generally the expected environmental benefits of the Project, including any fuel efficiency improvements, and quantify emission reductions expected.

4. Performance - Upon approval by EPA of the plan for the Hybrid Vehicle Fleet Project, after consultation with the Citizen Plaintiffs, Defendants shall complete the Project according to the approved plan.

D. Truck Stop Electrification

1. Long-haul truck drivers typically idle their engines at night at rest areas to supply heat or cooling in their sleeper cab compartments, and to maintain vehicle battery charge while electrical appliances such as televisions, computers, and microwaves are in use. Modifications to rest areas to provide parking spaces with electrical power, heat, and air conditioning will allow truck drivers to turn their engines off. Truck stop electrification reduces idling time and therefore reduces diesel fuel usage, and thus reduces emissions of PM, NO<sub>x</sub>, and VOCs.

2. As part of the plan for Mobile Source Projects, Defendants may elect to achieve emission reductions by truck stop electrification, which shall include, where necessary, techniques and infrastructure needed to support such a program ("Truck Stop Electrification Project").

3. The proposed plan for the Truck Stop Electrification Project shall:

a. Identify truck stops in one or more of the following States for Electrification: Ohio, Indiana, Kentucky, North Carolina, Pennsylvania, West Virginia, and Virginia. EPA may give preference to electrification Projects that are co-located, if possible, along the same transportation corridor.

b. Describe the level of expected usage of the planned electrification facilities, air quality in the vicinity of the proposed Projects, proximity of the proposed Project to population centers, and whether the owner or some other entity is willing to pay for some portion of the work.

c. Provide for the construction of truck stop electrification stations with established technologies and equipment.

d. Account for hardware procurement and installation costs at the recipient truck stops.

e. Include a schedule for completing each portion of the Project.



- f. Describe generally the expected environmental benefits of the Project and quantify emission reductions expected.
4. Performance - Upon approval of the plan for the Truck Stop Electrification Project by EPA, after consultation with the Citizen Plaintiffs, Defendants shall complete the Project according to the approved plan.

## APPENDIX B

### REPORTING REQUIREMENTS

#### I. Annual Reporting Requirements

In accordance with the dates specified below, for periods on and after the Date of Entry, Defendants shall submit annual reports to the United States, the States, and the Citizen Plaintiffs, electronically and in hard copy, as required by Paragraph 143 and certified as required by Paragraph 146. In such annual reports, Defendants shall include the following information:

##### A. Eastern System-Wide Annual Tonnage Limitations for SO<sub>2</sub> and NO<sub>x</sub>

Beginning on March 31, 2010, for the Eastern System-Wide Annual Tonnage Limitations for NO<sub>x</sub>, and March 31, 2011, for the Eastern System-Wide Annual Tonnage Limitations for SO<sub>2</sub>, and annually thereafter, Defendants shall report the following information: (a) the total actual annual tons of the pollutant emitted from each Unit (or for Units vented to a common stack, from each combined stack) within the AEP Eastern System, as defined in Paragraph 7, during the prior calendar year; (b) the total actual annual tons of the pollutant emitted from the AEP Eastern System during the prior calendar year; (c) the difference, if any, between the applicable Eastern System-Wide Annual Tonnage Limitation for the pollutant in that calendar year and the amount reported in subparagraph (b); and (d) the annual average emission rate, expressed as a lb/mmBTU for NO<sub>x</sub>, for each Unit within the AEP Eastern System and for the entire AEP Eastern System during the prior calendar year. Data reported pursuant to this subsection shall be based upon the CEMS data submitted to the Clean Air Markets Division.

##### B. Plant-Wide Annual Rolling Average Tonnage Limitation for SO<sub>2</sub> at Clinch River

Beginning on March 31, 2011, and continuing annually thereafter, Defendants shall report: (a) the actual tons of SO<sub>2</sub> emitted from all Units at the Clinch River plant on an annual rolling average basis as defined in Paragraphs 47 and 88 for the prior calendar year; and (b) the applicable Plant-Wide Annual Rolling Average Tonnage Limitation for SO<sub>2</sub> at the Clinch River plant for the prior calendar year. For calendar years other than 2010 and 2015, Defendants shall also report the 12-month rolling average emissions for each month.

##### C. Plant-Wide Tonnage Limitation for SO<sub>2</sub> at Kammer

Beginning on March 31, 2011, and continuing annually thereafter, Defendants shall report: (a) the actual tons of SO<sub>2</sub> emitted from all Units at the Kammer plant as specified in Paragraph 48 for the prior calendar year; and (b) the Plant-Wide Tonnage Limitation for SO<sub>2</sub> at the Kammer plant for that calendar year.

**D. Reporting Requirements for Excess NO<sub>x</sub> Allowances**

**1. Reporting Requirements for Unrestricted Excess NO<sub>x</sub> Allowances**

Beginning on March 31, 2010, and continuing annually through March 31, 2016, Defendants shall report the number of Unrestricted Excess NO<sub>x</sub> Allowances available each year between 2009 through 2015, and how or whether such allowances were used so that Defendants account for each Unrestricted Excess NO<sub>x</sub> Allowance for each year during 2009 through 2015. No later than March 31, 2016, Defendants shall report: (a) the cumulative number of unused Unrestricted Excess NO<sub>x</sub> Allowances subject to surrender pursuant to Paragraph 75 and calculated pursuant to Paragraph 74, and (b) the total number of unused Unrestricted Excess NO<sub>x</sub> Allowances that they surrendered.

**2. Reporting Requirements for Restricted Excess NO<sub>x</sub> Allowances**

a. Beginning on March 31, 2010, and continuing annually through March 31, 2016, Defendants shall report: (a) the number of Restricted Excess NO<sub>x</sub> Allowances available each year between 2009 through 2015; (b) the actual emissions from any New and Newly Permitted Unit during each year; (c) the actual NO<sub>x</sub> emissions from the five natural gas plants listed in Paragraph 76 during each year; (d) the amount, if any, of Restricted Excess NO<sub>x</sub> Allowances that are not subject to surrender each year because of Defendants' investment in renewable energy as defined in Paragraph 77 and the data supporting Defendants' calculation; and (e) the difference between the cumulative total of Restricted Excess NO<sub>x</sub> Allowances available from each year and any prior year and the actual emissions reported under (b) and (c), above, for that year and any Restricted Excess NO<sub>x</sub> Allowances not subject to surrender reported under (d), above. No later than March 31, 2016, Defendants shall report: (a) the cumulative number of unused Restricted Excess NO<sub>x</sub> Allowances subject to surrender calculated pursuant to Paragraphs 76 and 77, and (b) the total number of unused Restricted Excess NO<sub>x</sub> Allowances that they surrendered.

b. No later than March 31, 2017, and continuing annually thereafter, Defendants shall report: (a) the number of Restricted Excess NO<sub>x</sub> Allowances available in the prior year; (b) the actual emissions from any New and Newly Permitted Unit during such year; (c) the actual emissions from the five natural gas plants listed in Paragraph 76 during such year; (d) the amount, if any, of Restricted Excess NO<sub>x</sub> Allowances that are not subject to surrender for such year because of Defendants' investment in renewable energy as defined in Paragraph 77 and the data supporting Defendants' calculation; (e) the number of Restricted Excess NO<sub>x</sub> Allowances subject to surrender for such year calculated pursuant to Paragraphs 76 and 77; and (f) the total number of unused Restricted Excess NO<sub>x</sub> Allowances that they surrendered for such year.

**E. Reporting Requirements for Excess SO<sub>2</sub> Allowances**

Beginning on March 31, 2011, and continuing annually thereafter, Defendants shall report: (a) the number of Excess SO<sub>2</sub> Allowances subject to surrender calculated pursuant to Paragraph 93, and (b) the total number of Excess SO<sub>2</sub> Allowances that they surrendered.

**F. Continuous Operation of Pollution Controls required by Paragraphs 68, 69, 87, and 102**

On March 31 of the year following Defendants' obligation pursuant to this Consent Decree to commence Continuous Operation of an SCR, FGD, ESP, or Additional NO<sub>x</sub> Pollution Controls, Defendants shall report the date that they commenced Continuous Operation of each such pollution control as required by this Consent Decree. Beginning on March 31, 2008, and continuing annually thereafter, Defendants shall report, for any SCR, FGD, ESP, or Additional NO<sub>x</sub> Pollution Controls required to Continuously Operate during that year, the duration of any period during which that pollution control did not Continuously Operate, including the specific dates and times that such pollution control did not operate, the reason why Defendants did not Continuously Operate such pollution control, and the measures taken to reduce emissions of the pollutant controlled by such pollution control.

**G. Installation of SO<sub>2</sub> and NO<sub>x</sub> Pollution Controls**

Beginning on March 31, 2008, and continuing annually thereafter, Defendants shall report on the progress of construction of NO<sub>x</sub> and SO<sub>2</sub> pollution controls required by this Consent Decree including: (1) if construction is not underway, any available information concerning the construction schedule, including the dates of any major contracts executed during the prior calendar year, and any major components delivered during the prior calendar year; (2) if construction is underway, the estimated percent of installation as of the end of the prior calendar year, the current estimated construction completion date, and a brief description of completion of significant milestones during the prior calendar year, including a narrative description of the current construction status (e.g. foundations completed, absorber installation proceeding all material on-site, new stack erection completed, etc.); and (3) once construction is complete, the dates the equipment was placed in service and any acceptance testing was performed during the prior calendar year.

**H. Installation and Operation of PM CEMS**

Beginning on March 31, 2013, for Cardinal Units 1 and 2 and a third Unit identified pursuant to Paragraph 110, and continuing annually thereafter for all periods of operation of PM CEMS as required by this Consent Decree, Defendants shall report the data recorded by the PM CEMS, expressed in lb/mmBTU on a 3-hour rolling average basis in electronic format for the prior calendar year, in accordance with Paragraph 107.

### I. Other SO<sub>2</sub> Measures

Commencing in the first annual report Defendants submit pursuant to Paragraph 143, and continuing annually thereafter, Defendants shall submit all data necessary to determine Defendants' compliance with the annual average coal content specified in the table in Paragraph 90.

### J. 1-Hour Average NO<sub>x</sub> Emission Rate and 30-Day Rolling Average Emission Rates for SO<sub>2</sub> and NO<sub>x</sub>

1. Beginning on March 31 of the year following Defendants' obligation pursuant to this Consent Decree to first comply with an applicable 1-Hour Average NO<sub>x</sub> Emission Rate and/or 30-Day Rolling Average Emission Rate for SO<sub>2</sub> and NO<sub>x</sub>, and continuing annually thereafter, Defendants shall report all 1-Hour Average Emission Rate results and/or 30-Day Rolling Average Emission Rate results to determine compliance with such emission rate, as defined in Paragraph 4 or 5, as appropriate. Defendants shall also report: (a) the date and time that the Unit initially combusts any fuel after shutdown; (b) the date and time after startup that the Unit is synchronized with a utility electric distribution system; (c) the date and time that the fire is extinguished in a Unit; and (d) for the fifth and subsequent Cold Start Up Period that occurs within any 30-Day period, the earlier of the date and time that is either (i) eight hours after the unit is synchronized with a utility electric distribution system, or (ii) the flue gas has reached the SCR operational temperature range specified by the catalyst manufacturer.

2. Within the first report that identifies a 1-Hour Average NO<sub>x</sub> Emission Rate or 30-Day Rolling Average Emission Rate for SO<sub>2</sub> or NO<sub>x</sub>, Defendants shall include at least five (5) example calculations (including hourly CEMS data in electronic format for the calculation) used to determine the 1-Hour Average NO<sub>x</sub> Emission Rate and the 30-Day Rolling Average Emission Rate for SO<sub>2</sub> or NO<sub>x</sub> for five (5) randomly selected days. If at any time Defendants change the methodology used in determining the 1-Hour Average NO<sub>x</sub> Emission Rate or the 30-Day Rolling Average Emission Rate for SO<sub>2</sub> or NO<sub>x</sub>, Defendants shall explain the change and the reason for using the new methodology.

### K. 30-Day Rolling Average Removal Efficiency for SO<sub>2</sub>

1. Beginning on March 31 of the year following Defendants' obligation pursuant to this Consent Decree to first comply with a 30-Day Rolling Average Removal Efficiency, and continuing annually thereafter, Defendants shall report all 30-Day Rolling Average Removal Efficiency results to determine compliance with such removal efficiency as defined in Paragraph 6 or, for Conesville Units 5 and 6, as specified in Appendix C.

2. Within the first report that identifies a 30-Day Rolling Average Removal Efficiency for SO<sub>2</sub>, Defendants shall include at least five (5) example calculations (including hourly CEMS data in electronic format for the calculation) used to determine the 30-Day Rolling Average Removal Efficiency for five (5) randomly selected days. If

at any time Defendants change the methodology used in determining the 30-Day Rolling Average Removal Efficiency, Defendants shall explain the change and the reason for using the new methodology.

#### L. PM Emission Rates

Beginning on March 31, 2010, for Cardinal Units 1 and 2, and beginning on March 31, 2013 for Muskingum River Unit 5, and continuing annually thereafter, Defendants shall report the PM Emission Rate as defined in Paragraph 51, for Cardinal Unit 1, Cardinal Unit 2, and Muskingum River Unit 5. For all such Units, Defendants shall attach a copy of the executive summary and results of any stack test performed during the calendar year covered by the annual report.

#### M. Environmental Mitigation Projects

##### 1. Mitigation Projects to be Conducted by the States

Defendants shall report the disbursement of funds as required in Paragraph 127 of the Consent Decree in the next annual progress report that Defendants submit pursuant to Paragraph 143 following such disbursement of funds.

##### 2. Appendix A Projects

Beginning March 31, 2008, and continuing on March 31 of each year thereafter until completion of each Project (including any applicable periods of demonstration or testing), Defendants shall provide the United States and Citizen Plaintiffs with written reports detailing the progress of each Project, including Project Dollars.

#### N. Other Unit becoming an Improved Unit

If Defendants decide to make an Other Unit an Improved Unit, Defendants shall so state in the next annual progress report they submit pursuant to Paragraph 143 after making such decision, and comply with the reporting requirements specified in Section I.G of this Appendix and any other reporting or notice requirements in accordance with the Consent Decree.

## II. Deviation Reports

Beginning March 31, 2008, and continuing annually thereafter, Defendants shall report a summary of all deviations from the requirements of the Consent Decree that occurred during the prior calendar year, identifying the date and time that the deviation occurred, the date and time the deviation was corrected, the cause and any corrective actions taken for each deviation, if necessary, and the date that the deviation was initially reported under Paragraph 145. In addition to any express requirements in Section I, above, or in the Consent Decree, such deviations required to be reported include, but are not limited to, the following requirements: the 1-Hour Average NO<sub>x</sub> Emission Rate, the

30-Day Rolling Average Emission Rates for SO<sub>2</sub> and NO<sub>x</sub>, the 30-Day Rolling Average Removal Efficiency for SO<sub>2</sub>, and the PM Emission Rate.

**III. Submissions Pending Review**

In each annual report Defendants submit pursuant to Paragraph 143, Defendants shall include a list of all plans or submissions made pursuant to this Consent Decree during the calendar year covered by the annual report, the date(s) such plans or submissions were submitted to one or more Plaintiffs for review and/or approval, and shall identify which, if any, are still pending review and approval by Plaintiffs upon the date of submission of the annual report.

**IV. Other Information Necessary To Determine Compliance**

To the extent that information not expressly identified above is necessary to determine Defendants' compliance with the requirements of this Consent Decree during a reporting period, and has not otherwise been submitted in accordance with the provisions of the Consent Decree, Defendants shall provide such information as part of the annual report required pursuant to Section XI of the Consent Decree.

## APPENDIX C

### MONITORING STRATEGY AND CALCULATION OF THE 30-DAY ROLLING AVERAGE REMOVAL EFFICIENCY FOR CONESVILLE UNITS 5 AND 6

#### I. Monitoring Strategy

1. The SO<sub>2</sub> monitoring system for Conesville Units 5 & 6 will consist of two separate FGD inlet monitors in each of the two FGD inlet ducts for each Unit, and one FGD outlet monitor in the combined flow from the outlets of the FGD modules for each Unit, prior to the common stack.
2. Due to space constraints and potential interferences, monitors are currently located in the inlet duct for one FGD module on each Unit and at the combined outlet from both FGD modules for each Unit prior to entering the stack using best engineering judgment.
3. On or before December 31, 2008, Defendants shall submit a monitoring plan to EPA for approval that will propose where to site and install an additional inlet monitor in each of the unmonitored FGD inlet ducts for each Unit, and include a requirement that Defendants submit a complete certification application for the Conesville Units 5 & 6 monitoring system to EPA and the state permitting authority.
4. The Monitoring Plan will incorporate the applicable procedures and quality assurance testing found in 40 C.F.R. Part 75, subject to the following:
  - a. The PS-2 siting criteria will not be applied to these monitoring systems; however, the majority of the procedures in Section 8.1.3.2 of PS-2 will be followed. Sampling of at least nine (9) sampling points selected in accordance with PS-1 will be performed prior to the initial RATA. If the resultant SO<sub>2</sub> emission rates for any single sampling point calculated in accordance with Equation 19.7 are all within 10% or 0.02 lb/mmBtu of the mean of all nine (9) sampling points, the alternative traverse point locations (0.4, 1.2, and 2.0 meters from the duct wall) will be representative and may be used for all subsequent RATAs.
  - b. The required relative accuracy test audit will be performed in accordance with the procedures of 40 C.F.R. Part 75, except that the calculations will be performed on an SO<sub>2</sub> emission rate basis (i.e., lb/mmBtu).
  - c. The criteria for passing the relative accuracy test audit will be the same criteria that 40 C.F.R. Part 75 requires for relative accuracy or alternative performance specification as provided for NO<sub>x</sub> emission rates.



- d. "Diluent capping" (i.e., 5% CO<sub>2</sub>) will be applied to the SO<sub>2</sub> emission rate for any hours where the measured CO<sub>2</sub> concentration rounds to zero.
- e. Results of quality assurance testing, data gathered by the inlet and outlet monitoring systems, and the resultant 30-day Rolling Average Removal Efficiencies for these monitoring systems are not required to be reported in the quarterly reports submitted to EPA's Clean Air Markets Division for purposes of 40 C.F.R. Part 75. Results will be maintained at the facility and available for inspection, and the 30-day Rolling Average Removal Efficiency will be reported in accordance with the requirements of the Consent Decree and Appendix B. Equivalent data retention and reporting requirements will be incorporated into the applicable permits for these Units.
- f. Missing Data Substitution of 40 C.F.R Part 75 will not be implemented.
- g. Initial performance testing will be performed before the effective date of the 30-Day Rolling Average Removal Efficiency requirements, and the results will be reported to Plaintiffs as part of the annual report submitted in accordance with Appendix B.

## II. Calculation of 30-Day Rolling Average Removal Efficiency

1. Removal efficiency shall be calculated by the equation:

$$[\text{SO}_2 \text{ emission rate}_{\text{Inlet}} - \text{SO}_2 \text{ emission rate}_{\text{Outlet}}] / \text{SO}_2 \text{ emission rate}_{\text{Inlet}} * 100$$

2. Inlet and outlet emission rates shall be calculated using the methodology specified in 40 C.F.R. Part 60 Appendix B – Method 19. Inlet emission rates will be based on the average of the valid recorded values calculated for each of the inlet FGD monitors at each Unit. Measurements are made on a wet basis, so Equation 19.7 will be utilized to determine the hourly SO<sub>2</sub> emission rate at each location. To make the conversion between the measured wet SO<sub>2</sub> and CO<sub>2</sub> concentrations and an emission rate in pounds per million BTU, an electronic Data System will perform Equation 19.7 using the SO<sub>2</sub> ppm conversion factor from Table 19-1 of Method 19 and the Fc factor for the applicable fuel (currently bituminous coal) in Table 19-2 of Method 19. The resulting equation will be:

$$\text{Emission rate (lb SO}_2\text{/mmBtu)} = 1.660 \times 10^{-7} * \text{SO}_2 \text{ (in ppm)} * \text{Fc} * 100 / \text{CO}_2 \text{ (in \%)}$$

3. The electronic data system will calculate the hourly average SO<sub>2</sub> and CO<sub>2</sub> concentration in accordance with 40 C.F.R. Part 75 quality control/quality assurance requirements and will compute and retain these SO<sub>2</sub> emission rates for every operating hour meeting the minimum data capture requirements in accordance with 40 C.F.R. Part 75. Prior to the

calculation of the SO<sub>2</sub> emission rate, hourly SO<sub>2</sub> and CO<sub>2</sub> concentrations will be rounded to the nearest tenth (i.e., 0.1 ppm or 0.1 % CO<sub>2</sub>) and the resulting SO<sub>2</sub> emission rate will be rounded to the nearest thousandth (i.e., 0.001 lb/mmBtu).

4. From these hourly SO<sub>2</sub> emission rates, SO<sub>2</sub> removal efficiencies will be calculated for each hour when the Unit is firing fossil fuel, and the hourly SO<sub>2</sub> and CO<sub>2</sub> monitors meet the QA/QC requirements of Part 75. Hourly SO<sub>2</sub> removal efficiencies will be computed by taking the hourly inlet SO<sub>2</sub> emission rate minus the outlet SO<sub>2</sub> emission rate, dividing the result by inlet SO<sub>2</sub> emission rate and multiplying by 100. The resulting removal efficiency will be rounded to the nearest tenth (i.e., 95.1%). Daily SO<sub>2</sub> removal efficiencies will be calculated by taking the sum of Hourly SO<sub>2</sub> removal efficiencies and dividing by the number of valid monitored hours for each Operating Day. The resulting daily removal efficiencies will be rounded to the nearest tenth (i.e., 95.1%).
5. The 30-Day Rolling Average Removal Efficiency will be computed by taking the current Operating Day's daily SO<sub>2</sub> removal efficiency (as described in Paragraph 4 of this Appendix C) plus the previous 29 Operating Days' daily SO<sub>2</sub> removal efficiency, and dividing the sum by 30. In the event that a daily SO<sub>2</sub> removal efficiency is not available for an Operating Day, Defendants shall exclude that Operating Day from the calculation of the 30-Day Rolling Average Removal Efficiency. The resulting 30-day Rolling Average Removal Efficiency will be rounded to the nearest tenth of a percent (i.e., a value of 95.04% rounds down to 95.0%, and a value of 95.05% rounds up to 95.1%).

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF OHIO  
EASTERN DIVISION

UNITED STATES OF AMERICA )  
 )  
 Plaintiff, )  
 )  
 and )  
 )  
 STATE OF NEW YORK, ET AL., )  
 )  
 Plaintiff-Intervenors, )  
 )  
 v. )  
 )  
 AMERICAN ELECTRIC POWER SERVICE )  
 CORP., ET AL., )  
 )  
 Defendants. )  
 )  
 OHIO CITIZEN ACTION, ET AL., )  
 )  
 Plaintiffs, )  
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 v. )  
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 AMERICAN ELECTRIC POWER SERVICE )  
 CORP., ET AL., )  
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 Defendants. )  
 )  
 UNITED STATES OF AMERICA )  
 )  
 Plaintiff, )  
 )  
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 )  
 AMERICAN ELECTRIC POWER SERVICE )  
 CORP., ET AL., )  
 )  
 Defendants. )

Consolidated Cases:  
Civil Action No. C2-99-1182  
Civil Action No. C2-99-1250  
JUDGE EDMUND A. SARGUS, JR.  
Magistrate Judge Terence P. Kemp

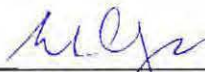
JUDGE EDMUND A. SARGUS, JR.  
Magistrate Judge Norah McCann King  
  
Civil Action No. C2-05-360  
Civil Action No. C2-04-1098

**ORDER ENTERING THIRD JOINT MODIFICATION TO CONSENT DECREE**

This matter is before the Court on Plaintiff the United States of America's Motion to Approve the Third Joint Modification of the Consent Decree. (Doc. No. 547.) For the reasons set forth within Plaintiff's motion, the Court **GRANTS** the motion and **ENTERS** the Third Joint Modification to Consent Decree, which is attached hereto.

This Order renders moot Defendants' Application for Judicial Interpretation of the Consent Decree (Doc. No. 528) and Defendants' Motion to Strike (Doc. No. 539). These two motions are therefore **DENIED AS MOOT**.

**IT IS SO ORDERED** this 11<sup>th</sup> day of MAY, 2013.

  
\_\_\_\_\_  
EDMUND A. SARGUS, JR.  
UNITED STATES DISTRICT COURT JUDGE

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF OHIO  
EASTERN DIVISION

UNITED STATES OF AMERICA )  
 )  
 Plaintiff, )  
 )  
 and )  
 )  
 STATE OF NEW YORK, ET AL., )  
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 Plaintiff-Intervenors, )  
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 v. )  
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 )  
 Defendants. )

OHIO CITIZEN ACTION, ET AL., )  
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 Plaintiffs, )  
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 v. )  
 )  
 AMERICAN ELECTRIC POWER SERVICE )  
 CORP., ET AL., )  
 )  
 Defendants. )

UNITED STATES OF AMERICA )  
 )  
 Plaintiff, )  
 )  
 v. )  
 )  
 AMERICAN ELECTRIC POWER SERVICE )  
 CORP., ET AL., )  
 )  
 Defendants. )

Consolidated Cases:  
Civil Action No. C2-99-1182  
Civil Action No. C2-99-1250  
JUDGE EDMUND A. SARGUS, JR.  
Magistrate Judge Terence P. Kemp

Civil Action No. C2-04-1098  
JUDGE EDMUND A. SARGUS, JR.  
Magistrate Judge Norah McCann King

Civil Action No. C2-05-360  
JUDGE EDMUND A. SARGUS, JR.  
Magistrate Judge Norah McCann King

**THIRD JOINT MODIFICATION TO CONSENT DECREE  
WITH ORDER MODIFYING CONSENT DECREE**

WHEREAS On December 10, 2007, this Court entered a Consent Decree in the above-captioned matters (Case No. 99-1250, Docket # 363; Case No. 99-1182, Docket # 508).

WHEREAS Paragraph 199 of the Consent Decree provides that the terms of the Consent Decree may be modified only by a subsequent written agreement signed by the Plaintiffs and Defendants. Material modifications shall be effective only upon written approval by the Court.

WHEREAS pursuant to Paragraph 87 of the Consent Decree, as modified by a Joint Modification to Consent Decree With Order Modifying Consent Decree, filed on April 5, 2010 (Case No. 99-1250, Docket # 371), and as modified by a second Joint Modification to Consent Decree With Order Modifying Consent Decree, filed on December 28, 2010 (Case No. 99-1250, Docket # 372), the Defendants are required, *inter alia*, to install and continuously operate a Flue Gas Desulfurization System (FGD) no later than December 31, 2015 on Big Sandy Unit 2, December 31, 2015 on Muskingum River Unit 5, December 31, 2017 on Rockport Unit 1, and December 31, 2019 on Rockport Unit 2.

WHEREAS, on October 31, 2012, the Defendants filed an Application for Judicial Interpretation of Consent Decree in Case No. 99-1182 (Docket # 528) and the related cases.

WHEREAS, the United States, the States and Citizen Plaintiffs filed a Memorandum in Opposition (Case No. 99-1182, Docket # 534), and Citizen Plaintiffs filed a Supplemental Memorandum in Opposition (Case No. 99-1250, Docket # 381) to the Defendants' Application.

WHEREAS all Parties made additional filings and the Application was scheduled for a hearing on December 17, 2012.

WHEREAS, the Parties have engaged in settlement discussions and have reached

agreement on a modification to the Consent Decree as set forth herein.

WHEREAS, the Parties have agreed, and this Court by entering this Third Joint Modification finds, that this Third Joint Modification has been negotiated in good faith and at arm's length; that this settlement is fair, reasonable, and in the public interest, and consistent with the goals of the Clean Air Act, 42 U.S.C. §7401, *et seq.*; and that entry of this Third Joint Modification without further litigation is the most appropriate means of resolving this matter.

WHEREAS, the Parties agree and acknowledge that final approval of the United States and entry of this Third Joint Modification is subject to the procedures set forth in 28 CFR § 50.7, which provides for notice of this Third Joint Modification in the Federal Register, an opportunity for public comment, and the right of the United States to withdraw or withhold consent if the comments disclose facts or considerations which indicate that the Third Joint Modification is inappropriate, improper, or inadequate. No Party will oppose entry of this Third Joint Modification by this Court or challenge any provision of this Third Joint Modification unless the United States has notified the Parties, in writing, that the United States no longer supports entry of the Third Joint Modification.

NOW THEREFORE, for good cause shown, without admission of any issue of fact or law raised in the Application or the underlying litigation, the Parties hereby seek to modify the Consent Decree in this matter, and upon the filing of a Motion to Enter by the United States, move that the Court sign and enter the following Order:

1. Add a definition of "Cease Burning Coal" as new Paragraph 8A of the Consent Decree as follows:

8A. "Cease Burning Coal" means that Defendants shall permanently cease burning coal for purposes of generating electricity from a Unit, and shall submit all necessary notifications or

requests for permit amendments to reflect the permanent cessation of coal firing at the Unit.

2. Modify the definition of "Continuously Operate" in Paragraph 14 of the Consent Decree as follows:

14. "Continuously Operate" or "Continuous Operation" means that when an SCR, FGD, DSI, ESP, or Other NO<sub>x</sub> Pollution Controls are used at a Unit, except during a Malfunction, they shall be operated at all times such Unit is in operation, consistent with the technological limitations, manufacturer's specifications, and good engineering and maintenance practices for such equipment and the Unit so as to minimize emissions to the greatest extent practicable.

3. Add a new definition of "Dry Sorbent Injection" or "DSI" as new Paragraph 18A of the Consent Decree as follows:

18A. "Dry Sorbent Injection" or "DSI" means a pollution control system in which a sorbent is injected into the flue gas path prior to the particulate pollution control device for the purpose of reducing SO<sub>2</sub> emissions. For purposes of the DSI systems required to be installed at the Rockport Units only, the DSI systems shall utilize a sodium based sorbent and be designed to inject at least 10 tons per hour of a sodium based sorbent. Defendants may utilize a different sorbent at the Rockport Units provided they obtain prior approval from Plaintiffs pursuant to Paragraph 148 of the Consent Decree.

4. Modify the definition of "Improved Unit" in Paragraph 28 of the Consent Decree as follows:

28. An "Improved Unit" for SO<sub>2</sub> means an AEP Eastern System Unit equipped with an FGD or scheduled under this Consent Decree to be equipped with an FGD, or required to be Retired, Retrofitted, Re-Powered, or Refueled.

The remainder of Paragraph 28 shall remain the same.



5. Add a definition of “Plant-Wide Annual Tonnage Limitation for SO<sub>2</sub> at Rockport” as new Paragraph 48A of the Consent Decree, as follows:

48A. “Plant-Wide Annual Tonnage Limitation for SO<sub>2</sub> at Rockport” means the sum of the tons of SO<sub>2</sub> emitted during all periods of operation from the Rockport Plant, including, without limitation, all SO<sub>2</sub> emitted during periods of startup, shutdown, and Malfunction, during the relevant calendar year (i.e., January 1 – December 31).

6. Add a definition of “Refuel” as new Paragraph 53A of the Consent Decree, as follows:

53A. “Refuel” means, solely for purposes of this Consent Decree, the modification of a unit as necessary such that the modified unit generates electricity solely through the combustion of natural gas rather than coal, including the installation and Continuous Operation of the NO<sub>x</sub> controls required by Section IV of this Consent Decree. Nothing herein shall prevent the reuse of any equipment at any existing unit or new emissions unit, provided that AEP applies for, and obtains, all required permits, including, if applicable, a PSD or Nonattainment NSR permit.

7. Modify the definition of “Retrofit” in Paragraph 56 of the Consent Decree as follows:

56. “Retrofit” means that the Unit must install and Continuously Operate both an SCR and an FGD, as defined in the Consent Decree. For purposes of the requirements in Paragraph 87 for the Rockport Units, “Retrofit” also means that the Unit will be equipped with a post-combustion wet- or dry-FGD system with a control technology vendor guaranteed design removal efficiency of 98% or more, and subject upon installation to a 30-Day Rolling Average Emissions Rate of 0.100 lb/mmBTU for SO<sub>2</sub>, if the Unit burns coal with an uncontrolled SO<sub>2</sub> emissions rate of 3.0 lb/mmBTU or higher, or a 30-day Rolling Average Emission Rate of 0.060 lb/mmBTU if the

Unit burns coal with an uncontrolled SO<sub>2</sub> emissions rate below 3.0 lb/mmBTU. For the 600 MW listed in the table in Paragraph 68 and 87, “Retrofit” means that the Unit must meet a federally-enforceable 30-Day Rolling Average Emission Rate of 0.100 lb/mmBTU for NO<sub>x</sub> and a 30-Day Rolling Average Emission Rate of 0.100 lb/mmBTU for SO<sub>2</sub>, measured in accordance with the requirements of this Consent Decree.

8. Modify the Eastern System-Wide Annual Tonnage Limitations for SO<sub>2</sub> in the table in Paragraph 86 of the Consent Decree as follows:

86. Notwithstanding any other provision of this Consent Decree, except Section XIV (Force Majeure), during each calendar year specified in the table below, all Units in the AEP Eastern System, collectively, shall not emit SO<sub>2</sub> in excess of the following Eastern System-Wide Annual Tonnage Limitations:

| <b>Calendar Year(s)</b>                          | <b>Eastern System-Wide Annual Tonnage Limitations for SO<sub>2</sub></b> | <b>Modified Eastern System-Wide Annual Tonnage Limitations for SO<sub>2</sub></b> |
|--|--|---|
| <u>2016</u>                                      | <u>260,000 tons</u>  | <u>145,000 tons</u>   |
| <u>2017</u>                                      | <u>235,000 tons</u>  | <u>145,000 tons</u>   |
| <u>2018</u>                                      | <u>184,000 tons</u>  | <u>145,000 tons</u>   |
| <u>2019, and each year thereafter -<br/>2021</u> | <u>174,000 tons</u>  | <u>113,000 tons per year</u>  |
| <u>2022 - 2025</u>                               | <u>174,000 tons</u>  | <u>110,000 tons per year</u>  |
| <u>2026 - 2028</u>                               | <u>174,000 tons</u>  | <u>102,000 tons per year</u>  |
| <u>2029, and each year thereafter</u>            | <u>174,000 tons</u>  | <u>94,000 tons per year</u>   |

The remainder of the table in Paragraph 86 shall remain the same.

9. Modify the SO<sub>2</sub> pollution control requirements and compliance dates listed in the

table in Paragraph 87 of the Consent Decree for Big Sandy Unit 2, Muskingum River Unit 5, Rockport Units 1 and 2, and Tanners Creek Unit 4 as follows:

87. No later than the dates set forth in the table below, Defendants shall install and Continuously Operate an FGD on each Unit identified therein, or, if indicated in the table, Retire, Retrofit, ~~or~~ Re-power, or Refuel such Unit:

| Unit                          | SO <sub>2</sub> Pollution Control | Modified SO <sub>2</sub> Pollution Control  | Date                     | Modified Date  |
|-------------------------------|-----------------------------------|---|--------------------------|--|
| <u>Big Sandy Unit 2</u>       | <u>FGD</u>                        | <u>Retrofit, Retire, Re-power, or Refuel</u>  | <u>December 31, 2015</u> | <u>NA</u>  |
| <u>Muskingum River Unit 5</u> | <u>FGD</u>                        | <u>Cease Burning Coal and Retire</u><br><br><u>Or</u><br><br><u>Cease Burning Coal and Refuel</u>   | <u>December 31, 2015</u> | <u>December 15, 2015</u><br><br><br><u>December 31, 2015, unless the Refueling project is not completed in which case the unit will be taken out of service no later than December 31, 2015 and will not restart until the Refueling project is completed. The Refueling project must be completed by June 30, 2017.</u> |
| <u>First Rockport Unit</u>    | <u>FGD</u>                        | <u>Dry Sorbent Injection,</u><br><br><u>and</u><br><br><u>Retrofit, Retire, Re-power, or Refuel</u> | <u>December 31, 2017</u> | <u>April 16, 2015</u><br><br><br><u>December 31, 2025.</u>   |
| <u>Second Rockport Unit</u>   | <u>FGD</u>                        | <u>Dry Sorbent Injection,</u><br><br><u>and</u>   | <u>December 31, 2019</u> | <u>April 16, 2015</u><br><br><br><u>and</u>  |

| Unit                        | SO <sub>2</sub> Pollution Control | Modified SO <sub>2</sub> Pollution Control   | Date      | Modified Date             |
|-----------------------------|-----------------------------------|--|-----------|---------------------------|
|                             |                                   | <u>Retrofit, Retire, Re-power, or Refuel</u> |           | <u>December 31, 2028.</u> |
| <u>Tanners Creek Unit 4</u> | <u>NA</u>                         | <u>Retire or Refuel</u>                      | <u>NA</u> | <u>June 1, 2015</u>       |

The remainder of the table in Paragraph 87 of the Consent Decree shall remain the same, including the Joint Modifications previously made to the compliance deadlines for Amos Units 1 and 2.

10. Add a new Paragraph 89A establishing the Plant-Wide Annual Tonnage Limitations for SO<sub>2</sub> at Rockport, as follows:

89A. For each of the calendar years set forth in the table below, Defendants shall limit their total annual SO<sub>2</sub> emissions from Rockport Units 1 and 2 to Plant-Wide Annual Tonnage

Limitations for SO<sub>2</sub> as follows:

| <u>Calendar Years</u>                 | <u>Plant-Wide Annual Tonnage Limitations for SO<sub>2</sub></u> |
|---------------------------------------|---|
| <u>2016 - 2017</u>                    | <u>28,000 tons per year</u>                                     |
| <u>2018 - 2019</u>                    | <u>26,000 tons per year</u>                                     |
| <u>2020 - 2025</u>                    | <u>22,000 tons per year</u>                                     |
| <u>2026 - 2028</u>                    | <u>18,000 tons per year</u>                                     |
| <u>2029, and each year thereafter</u> | <u>10,000 tons per year</u>                                     |

11. Modify Paragraph 92 of the Consent Decree as follows:

92. Except as may be necessary to comply with this Section and Section XIII (Stipulated Penalties), Defendants may not use any SO<sub>2</sub> Allowances to comply with any requirements of this

Consent Decree, including by claiming compliance with any emission limitation, Eastern System-Wide Annual Tonnage Limitation, Plant-Wide Annual Rolling Average Tonnage Limitation for SO<sub>2</sub> at Clinch River, Plant-Wide Annual Tonnage Limitation for SO<sub>2</sub> at Kammer, or Plant-Wide Annual Tonnage Limitations for SO<sub>2</sub> at Rockport required by this Consent Decree by using, tendering, or otherwise applying SO<sub>2</sub> Allowances to achieve compliance or offset any emission above the limits specified in this Consent Decree.

12. Modify Paragraph 100 of the Consent Decree as follows:

100. To the extent an Emission Rate, 30-Day Rolling Average Removal Efficiency, Eastern System-Wide Annual Tonnage Limitation, or Plant-Wide Annual Tonnage Limitation for SO<sub>2</sub> is required under this Consent Decree, Defendants shall use CEMS in accordance with the reference methods specified in 40 C.F.R. Part 75 to determine the Emission Rate or annual emissions.

13. Modify Paragraph 104 of the Consent Decree as follows:

104. On or before the date established by this Consent Decree for Defendants to achieve and maintain 0.030 lb/mmBTU at Cardinal Unit 1, Cardinal Unit 2, and Muskingum River Unit 5, Defendants shall conduct a performance test for PM that demonstrates compliance with the PM Emission Rate required by this Consent Decree. Within forty-five (45) days of each such performance test, Defendants shall submit the results of the performance test to Plaintiffs pursuant to Section XVIII (Notices) of this Consent Decree. On and after the date that Muskingum River Unit 5 complies with the requirement to Cease Burning Coal pursuant to Paragraph 87 of this Consent Decree, Defendants shall no longer be obligated to comply with the performance testing requirements for Muskingum River Unit 5 contained in this Paragraph.

14. Modify Paragraph 105 of the Consent Decree as follows:

105. Beginning in calendar year 2010 for Cardinal Unit 1 and Cardinal Unit 2, and calendar year 2013 for Muskingum River Unit 5, and continuing in each calendar year thereafter, Defendants shall conduct a stack test for PM on each stack servicing Cardinal Unit 1, Cardinal Unit 2, and Muskingum River Unit 5. The annual stack test requirement imposed by this Paragraph may be satisfied by stack tests conducted by Defendants as required by their permits from the State of Ohio for any year that such stack tests are required under the permits. On and after the date that Muskingum River Unit 5 complies with the requirement to Cease Burning Coal pursuant to Paragraph 87 of this Consent Decree, Defendants shall no longer be obligated to comply with the stack testing requirements for Muskingum River Unit 5 contained in this Paragraph.

15. Modify Paragraph 119 of the Consent Decree as follows:

119. Defendants shall implement the Environmental Mitigation Projects described in Appendix A to this Consent Decree, shall fund the categories of Projects described in Subsection B, below, and shall implement the Citizen Plaintiffs' Renewable Energy Project and Citizen Plaintiffs' Mitigation Projects described in Subsection C, below, (collectively, the "Projects") in compliance with the approved plans and schedules for such Projects and other terms of this Consent Decree.

The remainder of Paragraph 119 shall remain the same.

16. Add a new Subsection C after Paragraph 128 of the Consent Decree as follows:

C. Citizen Plaintiffs' Renewable Energy Project and Citizen Plaintiffs' Mitigation Projects.

128A. Citizen Plaintiffs' Renewable Energy Project. Defendants shall implement a renewable

energy project as described below during the period from 2013 through 2019.

a. If, during the period from 2013-2015, a renewable energy production tax credit of at least 2.2 cents/kwh for ten years is available for new wind electricity production facilities upon which construction is commenced within one year or more after enactment of the tax credit (or an alternative tax benefit is available that provides sufficient economic value so that the levelized cost to customers does not exceed the weighted average cost of any existing contracts with Indiana Michigan Power Company ("I&M") for 50 MW or greater of wind capacity, adjusted for inflation) I&M will secure 200 MW of new wind energy capacity from facilities located in Indiana or Michigan that qualify for the production tax credit or alternative tax benefit within two years after enactment. For the avoidance of doubt, so long as the energy production tax credit contained in the American Taxpayer Relief Act of 2012 allows projects that have commenced construction by December 31, 2013, and that are placed in service by December 31, 2014, to qualify for the energy production tax credit provided in that Act, then I&M shall be obligated to secure new renewable energy purchase agreements for 200 MW of new wind energy capacity.

b. If a renewable energy production tax credit or alternative tax benefit as described in subparagraph a., above, is not available during 2013-2015, but becomes available during 2016-2019 for new wind electricity production facilities on which construction is commenced within one year or more after the production tax credit or alternative tax benefit is enacted, I&M will use commercially reasonable efforts to secure 200 MW of new wind energy capacity from facilities located in Indiana or Michigan that qualify for the production tax credit or alternative tax benefit within two years after enactment.

c. If a renewable energy production tax credit or alternative tax benefit as described in subparagraph a., above, is not available during the period from 2013 – 2019 for new wind electricity production facilities on which construction is commenced within one year or more after the production tax credit or alternative tax benefit is enacted, I&M shall be relieved of its obligations to secure new wind energy capacity under this Paragraph 119A.

128B. Citizen Plaintiffs' Mitigation Projects. I&M will provide \$2.5 million in mitigation funding as directed by the Citizen Plaintiffs for projects in Indiana that include diesel retrofits, health and safety home repairs, solar water heaters, outdoor wood boilers, land acquisition projects, and small renewable energy projects (less than 0.5 MW) located on customer premises that are eligible for net metering or similar interconnection arrangements on or before December 31, 2014. I&M shall make payments to fund such Projects within seventy-five (75) days after being notified by the Citizen Plaintiffs in writing of the nature of the Project, the amount of funding requested, the identity and mailing address of the recipient of the funds, payment instructions, including taxpayer identification numbers and routing instructions for electronic payments, and any other information necessary to process the requested payments. Defendants shall not have approval rights for the Projects or the amount of funding requested, but in no event shall the cumulative amount of funding provided pursuant to this Paragraph 128B exceed \$2.5 million.

17. Modify Paragraph 127 of the Consent Decree as follows:

127. The States, by and through their respective Attorneys General, shall jointly submit to Defendants Projects within the categories identified in this Subsection B for funding in amounts not to exceed \$4.8 million per calendar year for no less than five (5) years following the Date of Entry of this Consent Decree beginning as early as calendar year 2008, and for an additional



amount not to exceed \$6.0 million in 2013. The funds for these Projects will be apportioned by and among the States, and Defendants shall not have approval rights for the Projects or the apportionment. Defendants shall pay proceeds as designated by the States in accordance with the Projects submitted for funding each year within seventy-five (75) days after being notified by the States in writing. Notwithstanding the maximum annual funding limitations above, if the total costs of the projects submitted in any one or more years is less than the maximum annual amount, the difference between the amount requested and the maximum annual amount for that year will be available for funding by the Defendants of new and previously submitted projects in the following years, except that all amounts not requested by and paid to the States within eleven (11) years after the Date of Entry of this Consent Decree shall expire.

18. Modify Paragraph 133 of the Consent Decree as follows:

133. Claims Based on Modifications after the Date of Lodging of This Consent Decree. Entry of this Consent Decree shall resolve all civil claims of the United States against Defendants that arise based on a modification commenced before December 31, 2018, or, solely for the first Rockport Unit, before December 31, 2025, or, solely for the second Rockport Unit, before December 31, 2028, for all pollutants, except Particulate Matter, regulated under Parts C or D of Subchapter I of the Clean Air Act, and under regulations promulgated thereunder, as of the Date of Lodging of this Consent Decree, and:

- a. where such modification is commenced at any AEP Eastern System Unit after the Date of Lodging of this Consent Decree; or
- b. where such modification is one this Consent Decree expressly directs Defendants to undertake.

The remainder of Paragraph 133 shall remain the same.

19. Modify the table in Paragraph 150 of the Consent Decree as follows:

| Consent Decree Violation  | Stipulated Penalty (Per Day, Per Violation, Unless Otherwise Specified)   |
|---|---|
| <u>x. Failure to comply with the Plant-Wide Annual Tonnage Limitation for SO<sub>2</sub> at Rockport</u>                          | <u>\$40,000 per ton, plus the surrender, pursuant to the procedures set forth in Paragraphs 95 and 96, of SO<sub>2</sub> Allowances in an amount equal to two times the number of tons by which the limitation was exceeded</u> |
| <u>y. Failure to fund a Citizen Plaintiffs' Mitigation Project as required by Paragraph 119B of this Consent Decree</u>           | <u>\$1,000 per day per violation during the first 30 days, \$5,000 per day per violation thereafter</u>   |
| <u>z. Failure to implement the Citizen Plaintiffs' Renewable Energy Project required by Paragraph 128A of this Consent Decree</u> | <u>\$10,000 per day per violation during the first 30 days, \$32,500 per day per violation thereafter</u>   |

The remainder of the table in Paragraph 150 shall remain the same.

20. In addition to the requirements reflected in Appendix B (Reporting Requirements) to the Consent Decree, Defendants shall include in their Annual Report to Plaintiffs the following information:

O. Plant-Wide Annual Tonnage Limitation for SO<sub>2</sub> at Rockport

Beginning on March 31, 2017, and continuing annually thereafter, Defendants shall report: (a) the actual tons of SO<sub>2</sub> emitted from Units 1 and 2 at the Rockport Plant for the prior calendar year; (b) the Plant-Wide Annual Tonnage Limitation for SO<sub>2</sub> at the Rockport Plant for the prior calendar year as set forth in Paragraph 89A of the Consent Decree; and (c) for the annual reports for calendar years 2015 – 2028, Defendants shall report the daily average SO<sub>2</sub> emissions from the Rockport Plant expressed in lb/mmBTU, and the daily sorbent deliveries to the Rockport Plant by weight.

P. Citizen Plaintiffs' Renewable Energy Project

Beginning on March 31, 2014, and continuing each year thereafter until completion of the Citizen Plaintiffs' Renewable Energy Project, Defendants shall include a written report detailing the progress of the implementation of the Citizen Plaintiffs' Renewable Energy Project required by Paragraph 119A of the Consent Decree.

Q. Citizen Plaintiffs' Mitigation Projects

Beginning on March 31, 2013, and continuing each year until March 31, 2015, Defendants shall include a written report detailing the progress of implementation of the Citizen

Plaintiffs' Mitigation Projects required by Paragraph 119B of the Consent Decree.

R. By March 31, 2015, Defendants shall notify Plaintiffs of their intent to Retire or Refuel Muskingum River 5.

S. By March 31, 2024, Defendants shall notify Plaintiffs of their decision to Retrofit, Retire, Re-Power or Refuel the first Rockport Unit. If Defendants elect to Retrofit the Unit, Defendants shall provide with such notification, information regarding the removal efficiency guarantee requested from and obtained from the control technology vendor and the sulfur content of the fuel used to design the FGD, including any non-confidential information regarding the SO<sub>2</sub> control technology filed by Defendants with the public utility regulator.


T. By March 31, 2027, Defendants shall notify Plaintiffs of their decision to Retrofit, Retire, Re-power or Refuel the second Rockport Unit. If Defendants elect to Retrofit the Unit, Defendants shall provide with such notification, information regarding the removal efficiency guarantee requested from and obtained from the control technology vendor and the sulfur content of the fuel used to design the FGD, including any non-confidential information regarding the SO<sub>2</sub> control technology filed by Defendants with the public utility regulator.

U. If Defendants elect to Retrofit one or both of the Rockport Units, beginning in the annual reports submitted for calendar years 2026 and/or 2029, as applicable, Defendants shall report a 30-Day Rolling Average SO<sub>2</sub> Emission Rate for the Unit(s) that is (are) Retrofit in accordance with Paragraph 5 of the Consent Decree. In addition, Defendants shall report a 30-Day Rolling Average Uncontrolled Emission Rate for SO<sub>2</sub> for the Unit(s) that is(are) Retrofit based on daily as burned coal sampling and analysis or an inlet SO<sub>2</sub> CEMs upstream of the FGD.

The remainder of Appendix B shall remain the same.

21. Except as specifically provided in this Order, all other terms and conditions of the Consent Decree remain unchanged and in full effect.

SO ORDERED, THIS 14th DAY OF May, 2013.

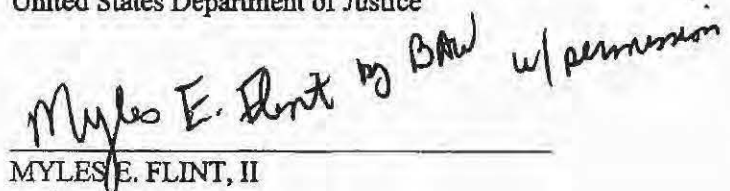
  
\_\_\_\_\_  
HONORABLE EDMUND A. SARGUS, JR.  
UNITED STATES DISTRICT COURT JUDGE

Respectfully submitted,

**FOR THE UNITED STATES OF AMERICA:**



IGNACIA S. MORENO  
Assistant Attorney General  
Environmental and Natural Resources Division  
United States Department of Justice


 Myles E. Flint, II by BAW w/ permission

MYLES E. FLINT, II  
Senior Counsel  
Environmental Enforcement Section  
Environmental and Natural Resources Division  
United States Department of Justice  
P.O. Box 7611  
Washington, D.C. 20530  
(202) 307-1859

**FOR THE UNITED STATES OF AMERICA:**



SUSAN SHINKMAN  
Director  
Office of Civil Enforcement  
United States Environmental Protection Agency

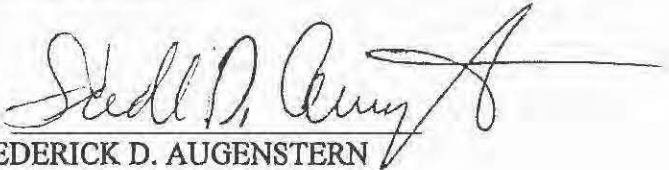


PHILLIP A. BROOKS  
Director, Air Enforcement Division  
Office of Civil Enforcement  
United States Environmental Protection Agency

SEEMA KAKADE  
Attorney-Advisor  
Air Enforcement Division  
Office of Civil Enforcement  
United States Environmental Protection Agency

**FOR THE COMMONWEALTH OF  
MASSACHUSETTS:**


MARTHA COAKLEY  
Attorney General

By: 

FREDERICK D. AUGENSTERN  
Assistant Attorney General  
Environmental Protection Division  
1 Ashburton Place, 18th Floor  
Boston, Massachusetts 02108

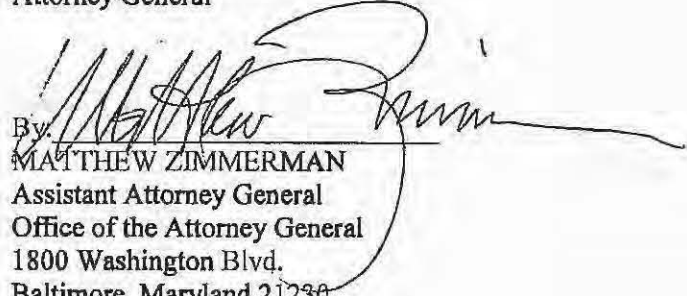
**FOR THE STATE OF CONNECTICUT:**

**GEORGE JEPSEN**  
Attorney General

By:   
**KIMBERLY MASSICOTE**  
Assistant Attorney General  
Office of the Attorney General  
55 Elm Street, P.O. Box 120  
Hartford, Connecticut 06141-0120

**FOR THE STATE OF MARYLAND:**

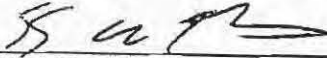
**DOUGLAS F. GANSLER**  
Attorney General

By:   
MATTHEW ZIMMERMAN  
Assistant Attorney General  
Office of the Attorney General  
1800 Washington Blvd.  
Baltimore, Maryland 21230



**FOR THE STATE OF NEW HAMPSHIRE:**

MICHAEL A. DELANEY  
Attorney General

By:   
K. ALLEN BROOKS  
Senior Assistant Attorney General  
33 Capitol Street  
Concord, New Hampshire 03301

**FOR THE STATE OF NEW JERSEY:**


**JEFFREY S. CHIESA**  
Attorney General

By: 

**JON C. MARTIN**  
Deputy Attorney General  
New Jersey Dept. of Law & Public Safety  
25 Market St., P.O. Box 093  
Trenton, NJ 08625-0093


**FOR THE STATE OF NEW YORK:**

**ERIC T. SCHNEIDERMAN**  
**Attorney General**

By:   
MICHAEL J. MYERS  
**Assistant Attorney General**  
**Environmental Protection Bureau**  
**The Capitol**  
**Albany, New York 12224**

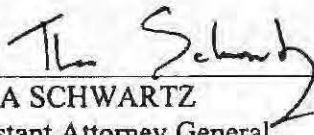
**FOR THE STATE OF RHODE ISLAND:**

PETER F. KILMARTIN  
Attorney General

By:   
GREGORY S. SCHULTZ  
Special Assistant Attorney General  
150 South Main Street  
Providence, Rhode Island 02903

**FOR THE STATE OF VERMONT:**

WILLIAM H. SORRELL  
Attorney General

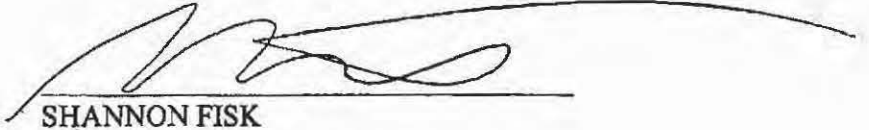
By:   
THEA SCHWARTZ  
Assistant Attorney General  
Environmental Division  
109 State Street  
Montpelier, Vermont 05609-1001

**FOR NATURAL RESOURCES DEFENSE COUNCIL,  
INC.:**

Handwritten signature of Nancy S. Marks in blue ink, written over a horizontal line.

**NANCY S. MARKS**  
Natural Resources Defense Council, Inc.  
40 West 20th Street  
New York, NY 10011

**FOR SIERRA CLUB:**

A handwritten signature in black ink, appearing to read 'Shannon Fisk', is written over a horizontal line.

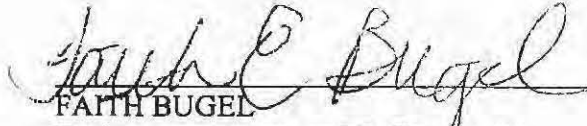
**SHANNON FISK**

**Earthjustice**

**1617 John F. Kennedy Blvd., Suite 1675**

**Philadelphia, PA 19103**

**FOR OHIO CITIZEN ACTION, CITIZENS ACTION  
COALITION OF INDIANA, HOOSIER  
ENVIRONMENTAL COUNCIL, OHIO VALLEY  
ENVIRONMENTAL COALITION, WEST VIRGINIA  
ENVIRONMENTAL COUNCIL, CLEAN AIR  
COUNCIL, IZAAK WALTON LEAGUE OF  
AMERICA, ENVIRONMENT AMERICA<sup>1</sup>,  
NATIONAL WILDLIFE FEDERATION, INDIANA  
WILDLIFE FEDERATION AND LEAGUE OF OHIO  
SPORTSMEN:**



FAITH BUGEL  
Environmental Law and Policy Center  
35 East Wacker Drive, Suite 1300  
Chicago, Illinois 60601-2110

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<sup>1</sup> Environment America is the same entity that signed on to the original Consent Decree as United States Public Interest Research Group.



**LOCAL COUNSEL FOR SIERRA CLUB, NATURAL  
RESOURCES DEFENSE COUNCIL, INC., OHIO  
CITIZEN ACTION, CITIZENS ACTION  
COALITION OF INDIANA, HOOSIER  
ENVIRONMENTAL COUNCIL, OHIO VALLEY  
ENVIRONMENTAL COALITION, WEST VIRGINIA  
ENVIRONMENTAL COUNCIL, CLEAN AIR  
COUNCIL, IZAAK WALTON LEAGUE OF  
AMERICA, ENVIRONMENT AMERICA<sup>1</sup>.  
NATIONAL WILDLIFE FEDERATION, INDIANA  
WILDLIFE FEDERATION AND LEAGUE OF OHIO  
SPORTSMEN:**



PETER PRECARIO 0027080  
Attorney At Law  
2 Miranova Pl., Suite 500  
Columbus, Ohio 43215-4525

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<sup>1</sup> Environment America is the same entity that signed on to the original Consent Decree as United States Public Interest Research Group.

**FOR DEFENDANTS AMERICAN ELECTRIC  
POWER SERVICE CORPORATION, ET AL.:**



\_\_\_\_\_  
**DAVID M. FEINBERG**

**General Counsel**

**American Electric Power Service Corporation**

**1 Riverside Plaza**

**Columbus, Ohio 43215**

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For     )**  
**A General Adjustment Of Its Rates For Electric    )**  
**Service; (2) An Order Approving Its 2014         )**  
**Environmental Compliance Plan; (3) An Order     ) Case No. 2014-00396**  
**Approving Its Tariffs And Riders; And (4) An     )**  
**Order Granting All Other Required Approvals    )**  
**And Relief   )**

**DIRECT TESTIMONY OF**  
**EVERETT G. PHILLIPS**  
**ON BEHALF OF KENTUCKY POWER COMPANY**



**DIRECT TESTIMONY  
OF  
EVERETT G. PHILLIPS  
ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY  
CASE NO. 2014-00396**

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**EXHIBITS**

|               |  |
|---------------|--|
| EXHIBIT EGP-1 | MAP OF THE KPCO SERVICE AREA                   |
| EXHIBIT EGP-2 | FOREST LAND DISTRIBUTION FOR STATE OF KENTUCKY |

**DIRECT TESTIMONY  
OF  
EVERETT G. PHILLIPS  
ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY  
CASE NO. 2014-00396**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION.**

2 A. My name is Everett G. Phillips. My business address is 12333 Kevin Avenue,  
3 Ashland, Kentucky 41102. I am the Managing Director of Distribution Region  
4 Operations for the Kentucky Power Company (KPCo or Company). Kentucky Power  
5 Company is a subsidiary of American Electric Power Company (AEP).

6 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND  
7 AND PROFESSIONAL EXPERIENCE.**

8 A. I earned a bachelor's degree in Electrical Engineering in 1985 from West Virginia  
9 University. I am a registered professional engineer in the Commonwealth of  
10 Kentucky. I am a member of the National Society of Professional Engineers  
11 (NSPE). I am an advisory board member of the Power and Energy Institute of  
12 Kentucky (PEIK) for University of Kentucky and a member of the applied process  
13 technologies advisory committee for the Ashland Community and Technical  
14 College. Throughout my career, I have held positions of increasing responsibility. In  
15 1998, I was promoted to the KPCo Pikeville district superintendent position, and in  
16 2000, I became the Pikeville district manager. In 2004, I moved to Ashland, Kentucky

1 where I was Director of Customer and Distribution Operations. In 2011, I assumed my  
2 current position.

3 **Q. WHAT ARE YOUR RESPONSIBILITIES AS MANAGING DIRECTOR OF**  
4 **DISTRIBUTION REGION OPERATIONS?**

5 A. I am responsible for overseeing the planning, construction, operation and  
6 maintenance of KPCo's distribution system. My duties include the oversight and  
7 management of service extension to new customers, the safe and reliable delivery of  
8 service to our customers and the restoration of service when outages occur. My  
9 responsibilities also include overseeing KPCo's Distribution Vegetation  
10 Management Program.

11 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

12 A. Yes. I have testified before this Commission and filed testimony in the Company's  
13 base rate case filing, Case No. 2009-00459.

14 **II. PURPOSE OF TESTIMONY**

15 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

16 A. The purpose of my testimony is to provide an overview of KPCo's current power  
17 quality and service reliability programs. I will discuss the yearly Distribution  
18 Operation and Maintenance (O&M) expenses and capital spending since the last base  
19 case (Case No. 2009-00459). Finally, I will discuss the Company's progress in the  
20 implementation of the Distribution Vegetation Management Plan (Plan), and the  
21 changes to the Plan being proposed by the Company.

22 **Q. ARE YOU SPONSORING ANY EXHIBITS AS PART OF YOUR**  
23 **TESTIMONY?**

1 A. Yes. I am sponsoring the following exhibits attached to my testimony:

| 2 | <u>Exhibit</u> | <u>Description</u>                             |
|---|----------------|--|
| 3 | EXHIBIT EGP-1  | Map of the KPCo Service Area                   |
| 4 | EXHIBIT EGP-2  | Forest Land Distribution for State of Kentucky |

**III. CURRENT DISTRIBUTION RELIABILITY PROGRAMS**

5 **Q. PLEASE DESCRIBE THE DISTRIBUTION SYSTEM THAT SERVES**  
 6 **KPCO’S CUSTOMERS.**

7 A. KPCo serves approximately 172,000 retail customers in Kentucky in a service area  
 8 that covers approximately 3,780 square miles. KPCo’s Distribution System includes  
 9 approximately 10,000 pole miles of primary and secondary voltage lines. KPCo  
 10 delivers reliable electric service to our customers by having adequate distribution  
 11 facilities in place and by working to protect those facilities from hazards that  
 12 interrupt service.

13 **Q. HOW DOES KPCO CURRENTLY MAINTAIN RELIABILITY ON ITS**  
 14 **DISTRIBUTION SYSTEM?**

15 A. KPCo uses a combination of programs to maintain its distribution infrastructure.  
 16 These programs are designed to reduce the number of service interruptions and to  
 17 minimize their impact on customers. The programs can be divided into three major  
 18 categories:

- 19 1) Distribution Asset Management;
- 20 2) Major Distribution Reliability and Capacity Additions; and



1                   3) Distribution Vegetation Management.

2   **Q.   PLEASE DESCRIBE KPCO'S DISTRIBUTION ASSET MANAGEMENT**  
3   **PROGRAMS.**

4   A.   The Distribution Asset Management Programs are designed to maximize the  
5   efficiency of expenditures and optimize system performance. KPCo has ten Asset  
6   Management Programs. The programs and their roles with respect to the  
7   distribution system are as follows:

8                   1. Overhead Circuit Facilities: Inspection and Maintenance Program:

9                   Every two year under this program, KPCo visually inspects its overhead  
10                  facilities to identify and correct potential problems before they can lead to  
11                  an outage. Through identifying and repairing such potential problems,  
12                  KPCo's customers experience fewer service interruptions.

13                  2. Animal Mitigation Program: The objective of this Asset Management

14                  Program is to reduce the number of animal-caused outages by installing  
15                  animal guards on line transformers and other line equipment at locations  
16                  that have had, or potentially may have, a high risk of animal-caused  
17                  outages.

18                  3. Capacitor Inspection and Maintenance Program: The purpose of this

19                  program is to inspect and maintain all fixed and switched capacitor  
20                  installations to ensure these devices are functioning properly. These  
21                  capacitor installations provide voltage support throughout the KPCo  
22                  service territory and are a critical component in the implementation of  
23                  Volt/VAR Optimization (VVO).

- 1           4. Underground Facilities Inspection and Maintenance Program: Every  
2           two years under this Asset Management Program, KPCo visually inspects  
3           the external, above-ground portions of underground distribution facilities  
4           to identify and correct problems before they can cause an outage.  
5           Through these inspections, KPCo identifies and repairs such things as  
6           transformers, pedestals, and switchgear.
- 7           5. Pole Inspection and Maintenance Program: The primary objective of this  
8           Asset Management Program is to maintain and prolong the mechanical  
9           integrity of KPCo's wood poles. As necessary, poles are treated, treated  
10          and reinforced, or replaced. This program helps KPCo identify and  
11          replace poles that might otherwise fail and cause power interruptions.
- 12          6. Recloser Maintenance / Replacement Program: The objective of this  
13          program is to perform preventive maintenance on reclosers, or to replace,  
14          as needed, recloser units that are not operating properly. When a recloser  
15          device senses a fault, the device will automatically open and allow a brief  
16          period of time for the cause of the fault to clear from the line. The  
17          reclosing equipment will then automatically re-energize the circuit. A  
18          recloser that does not open and close properly can turn a momentary  
19          interruption into a sustained interruption of service, or result in an  
20          interruption to more customers than necessary.
- 21          7. Overhead Conductor Program: This program minimizes primary and  
22          secondary conductor failures by replacing overhead conductors that show  
23          signs of wear. Targeted areas generally come from historical reliability

1 data or from the overhead facilities inspection program where an  
2 abnormal number of splices were found in the field for a section of line.

3 8. Underground Cable Program: The objective of this program is to correct  
4 underground primary cable deficiencies by restoring the integrity of cable  
5 through either cable injection or cable replacement. As is the case with  
6 KPCo's Overhead Conductor Program, this program targets areas  
7 experiencing circuit interruptions and lessens the likelihood of future  
8 interruptions to our customers.

9 9. Lightning Mitigation Program: The objective of this Asset Management  
10 Program is to reduce the number of lightning-caused outages through the  
11 installation of new lightning arresters at locations within areas known to  
12 be prone to lightning-caused outages.

13 10. Sectionalizing Program: This Asset Management Program improves the  
14 reliability of KPCo's distribution circuits by adding new, or modifying  
15 existing, sectionalizing devices. These sectionalizing devices may be  
16 manual pole top switches or automatic devices such as reclosers or fused  
17 cutouts. The addition of manual switches where warranted allows the  
18 outage duration to be lessened for the customers served by the unaffected  
19 portions of the circuit that can be reenergized. Fused cutouts or reclosers  
20 work to remove a faulted section of the circuit from service and prevent  
21 the entire circuit from experiencing a sustained outage. This enhanced  
22 sectionalizing capability results in smaller circuit segments and fewer  
23 customers being interrupted after faults occur on distribution circuits.

1 **Q. PLEASE DESCRIBE WHAT IS INCLUDED IN THE MAJOR DISTRIBUTION**  
2 **RELIABILITY AND CAPACITY ADDITIONS PROGRAM.**

3 A. KPCo's planning efforts identify areas where the increasing or shifting demand for  
4 electricity is approaching the limit of the Distribution System's existing load capacity.  
5 These specific projects re-conductor portions of the existing distribution circuits or  
6 allow portions of a circuit to be reconfigured. The expansion of the Distribution  
7 System to serve new customers can also result in the upgrade or replacement of  
8 distribution facilities to maintain and enhance reliable service to KPCo's customers.

9 **Q. PLEASE DESCRIBE KPCO'S EXISTING DISTRIBUTION VEGETATION**  
10 **MANAGEMENT PROGRAM.**

11 A. KPCo's vegetation management practices are conducted in accordance with  
12 standards established by the American National Standards Institute (ANSI), the  
13 Occupational Safety and Health Administration (OSHA), and the National Electrical  
14 Safety Code (NESC), and include such things as pruning and removing trees; safety  
15 and worker protection; work clearances and training requirements; and safety  
16 clearance guidelines.

17 The Company is currently implementing a Commission approved schedule to  
18 transition KPCo's Distribution Vegetation Management Program from a  
19 performance-based to a cycle-based approach. After the transition is complete,  
20 KPCo will trim vegetation adjacent to all distribution circuits on a four-year cycle.  
21 The KPCo service territory is located in an area with rugged terrain and dense  
22 forests (Compare Exhibit EGP-1 to Exhibit EGP-2.). Once fully implemented, the

four-year trim cycle is expected to improve tree-related distribution circuit reliability further through the increased frequency of re-clearing Rights-of-Way (ROW).

**IV. CAPITAL INVESTMENT**

**Q. PLEASE SUMMARIZE THE YEARLY DISTRIBUTION CAPITAL COSTS SINCE THE TEST YEAR END OF THE LAST BASE RATE CASE.**

A. The following Table 1 provides a summary of the Distribution Capital Costs since September 30, 2009, and includes FERC Account 107 – Construction Work In Progress (CWIP).

**Table 1 - KPCo 2009-2014 Capital Costs (\$ Millions)**

| <b>Category</b>    | <b>2009*</b>  | <b>2010</b>   | <b>2011</b>   | <b>2012</b>   | <b>2013</b>   | <b>2014**</b> | <b>Total</b>   |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Asset Improvement  | \$1.7         | \$7.1         | \$9.4         | \$11.4        | \$8.3         | \$7.2         | \$45.0         |
| Customer Service   | \$3.7         | \$16.3        | \$16.1        | \$18.6        | \$16.4        | \$10.1        | \$81.2         |
| Forestry           | \$1.7         | \$1.3         | \$1.4         | \$2.5         | \$3.4         | \$2.6         | \$13.0         |
| Other              | (\$0.1)       | \$0.1         | \$1.1         | \$0.7         | \$0.5         | \$0.3         | \$2.6          |
| Reliability        | \$2.4         | \$4.7         | \$7.5         | \$11.2        | \$17.8        | \$5.8         | \$49.4         |
| System Restoration | \$2.8         | \$1.6         | \$2.9         | \$8.8         | \$2.2         | \$3.0         | \$21.4         |
| <b>Total</b>       | <b>\$12.3</b> | <b>\$31.1</b> | <b>\$38.5</b> | <b>\$53.2</b> | <b>\$48.5</b> | <b>\$29.0</b> | <b>\$212.6</b> |

\* The 2009 period is for October 1, 2009 thru December 31, 2009.

\*\* The 2014 period is for January 1, 2014 thru September 30, 2014.

**Q. PLEASE EXPLAIN EACH OF THE CAPITAL PROJECT CATEGORIES.**

A. Each year, KPCo completes a significant number of capital projects of varying degrees of complexity and dollar value. The majority of capital projects completed by KPCo can be classified under one of six general categories. The general capital project categories are described as follows:

1. Asset Improvement: Asset Improvement projects generally include replacement of obsolete equipment and other aging infrastructure, as well as the addition of new assets that support projects associated with smart grid such as the Distribution Automation – Circuit Reconfiguration

1 (DACR) technology. DACR projects automatically reconfigure  
2 distribution circuits during fault conditions to minimize the impact of  
3 outages to the fewest number of customers. These projects include both  
4 line and station equipment. This project category also has a significant  
5 impact on reducing customer outage minutes and improving customer  
6 reliability.

7 2. Customer Service: This category of projects supports new customer  
8 facilities, meter installations and other customer requirements.

9 3. Forestry: Forestry capital projects generally involve ROW widening and  
10 clearing ROW for new lines. ROW widening continues to be an  
11 important initiative to reduce tree contacts and fall-ins, which cause  
12 customer outages.

13 4. Reliability: Reliability projects are specific projects that target known  
14 reliability issues impacting groups of customers or entire circuits. Also,  
15 these projects add capacity to the system, which include new lines or  
16 stations, additions to existing facilities, and replacing existing assets with  
17 higher capacity assets such as re-conductoring an existing line with an  
18 increased conductor size.

19 5. System Restoration: These projects replace assets that have failed.  
20 Capital projects completed during storm restoration are typical system  
21 restoration projects.

1           6. Other: These are projects that are different from the other project  
2           categories and include miscellaneous projects or distribution projects that  
3           support other business units.

4           Capital investment is a key component in the Company's strategy for  
5           maintaining the Distribution System and improving system reliability. Another key  
6           component is the O&M associated with each of these categories. In the next section  
7           of my testimony, I describe the Test Year O&M expense and how it supports each of  
8           these capital project categories. Additionally, the O&M inspection and maintenance  
9           programs are an important element in the process to identify and prioritize the  
10          capital projects that need to be completed.

#### **V. O&M EXPENSES**

11   **Q.   WHAT IS THE KPCO DISTRIBUTION O&M EXPENSE FOR THE TEST**  
12   **YEAR?**

13   A.   KPCo's unadjusted, actual Distribution O&M Expense for the Test Year was  
14   approximately \$43.8 million. The Test Year for the O&M expense is the 12-month  
15   period ending September 30, 2014, and it is based on twelve months of actual  
16   expenses.

17   **Q.   HOW DOES THE TEST YEAR DISTRIBUTION O&M EXPENSES**  
18   **COMPARE WITH HISTORIC LEVELS FOR KPCO?**

19   A.   The test year Distribution O&M expenditures compare favorably with the amounts  
20   spent annually during the 2009-2013 periods as shown in Table 2. The actual Test  
21   Year Distribution O&M Expenses shown in Table 2 provides the O&M Expense

1 levels necessary during calendar years 2009 through 2013 to support the Distribution  
2 Asset Management Programs, as well as the expenditures for the test year.

3 **Table 2 - KPCo Distribution O&M Expenses by Year (\$ Millions)**

| <b>General Category</b> | <b>2009</b>   | <b>2010</b>   | <b>2011</b>   | <b>2012</b>   | <b>2013</b>   | <b>Test Yr</b> |
|-------------------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Asset Improvement       | \$4.9         | \$4.6         | \$5.6         | \$4.2         | \$4.6         | \$4.7          |
| Customer Service        | \$1.2         | \$1.6         | \$1.3         | \$0.7         | \$0.8         | \$1.0          |
| Forestry                | \$6.6         | \$12.7        | \$17.3        | \$17.2        | \$17.3        | \$17.0         |
| Other                   | \$3.8         | \$13.8        | \$4.8         | \$5.4         | \$4.5         | \$4.8          |
| Regulatory Asset        | \$0.0         | \$0.0         | \$4.7         | \$4.7         | \$4.7         | \$4.7          |
| Reliability             | \$1.0         | \$0.8         | \$0.5         | \$0.3         | \$0.6         | \$0.6          |
| System Restoration      | \$12.2        | \$6.2         | \$10.2        | \$7.8         | \$6.9         | \$10.9         |
| <b>Grand Total</b>      | <b>\$29.7</b> | <b>\$39.6</b> | <b>\$44.4</b> | <b>\$40.4</b> | <b>\$39.3</b> | <b>\$43.8</b>  |

4 The expenditures shown in Table 2 are those amounts booked in FERC  
5 Accounts 580–598.

6 **Q. PLEASE DESCRIBE THE MAJOR COMPONENTS OF THE**  
7 **DISTRIBUTION O&M EXPENSES INCLUDED IN THE TEST YEAR.**

8 A. The largest O&M expense of the Test Year is the Forestry expense that is required to  
9 implement the Company's Distribution Vegetation Management Plan approved by  
10 the Commission in Case No. 2009-00459. This level of Forestry expense is  
11 expected to continue until the initial re-clear of all distribution circuits are  
12 completed, after which time the Forestry expense will be adjusted to the level  
13 required to maintain the four-year trim cycle. The System Restoration expense can  
14 vary from year-to-year, and is largely dependent on weather events throughout each  
15 year. The Customer Service expense provides the necessary O&M to support  
16 customer programs and address customer issues. The Asset Improvement expense is  
17 the O&M required to support capital additions such as the replacement of poles,



1 towers, fixtures, conductors, line transformers and station equipment. The other  
2 major category is the Regulatory Assets expense, which was approved by the  
3 Commission to recover the cost of major storm restoration efforts.

#### **VI. DISTRIBUTION VEGETATION MANAGEMENT PLAN**

4 **Q. WHY WAS THE KPCO VEGETATION MANAGEMENT PLAN**  
5 **ESTABLISHED BY THE COMPANY?**

6 A. Beginning as early as the Company's 2005 rate case, KPCo recognized the need to  
7 secure through ratemaking the additional funding necessary to expand the Company's  
8 distribution vegetation management efforts. The Company's service territory includes  
9 some of the most rugged and heavily forested terrain in the Commonwealth (See  
10 Exhibits EGP-1 and EGP-2). The additional vegetation management expenditures  
11 were critical to the Company's efforts to improve its distribution system reliability  
12 because vegetation within and outside the Company's ROW can grow into or fall onto  
13 the Company's distribution facilities causing outages. As part of the settlement  
14 agreement in Case No. 2009-00459, Kentucky Power agreed to increase its vegetation  
15 management O&M expenditures by an additional \$10 million annually to  
16 \$17,237,965. In addition, KPCo also agreed to maintain its vegetation management  
17 capital expenditures of approximately \$2 million annually.

18 **Q. DID THE COMMISSION APPROVE THE SETTLEMENT AGREEMENT,**  
19 **INCLUDING THE COMPANY'S DISTRIBUTION VEGETATION**  
20 **MANAGEMENT PLAN?**

21 A. Yes. On June 28, 2010, the Commission issued an Order approving the unanimous  
22 settlement agreement. Under the Order, the increased distribution vegetation

1 management expenditures were to be continued annually until the effective date of the  
 2 rates established in the Company’s next base rate case. In addition to funding the  
 3 additional \$10 million in distribution vegetation management O&M expenditures, the  
 4 agreement approved by the Commission imposed reporting requirements on the  
 5 Company. By September 30 of each year, the Company has been required to provide  
 6 the Commission with a work plan outlining the Vegetation Management Plan  
 7 expenditures for the following year. Beginning April 1, 2011 and in subsequent years,  
 8 the Company also has been required to provide the Commission with a report on  
 9 system reliability and the expenditure of funds for the previous year.

10 In addition to its immediate effect on distribution system reliability, the  
 11 Company’s distribution vegetation management plan was intended to allow the  
 12 Company to transition to a four-year re-clearing cycle to enable and maintain the  
 13 reliability gains.

14 **Q. PLEASE SUMMARIZE THE CURRENT STATUS OF THE KPCO**  
 15 **VEGETATION MANAGEMENT PLAN.**

16 **A.** The Company has completed more than four full years of work under the Plan. It was  
 17 originally estimated it would take approximately seven years at the approved funding  
 18 level to re-clear all distribution circuits. As discussed below, it now appears it will  
 19 take more than seven years at current funding levels to re-clear all distribution circuits.  
 20 Table 3 provides a summary of the vegetation management work plan as completed  
 21 through 2014:

22 **Table 3 – Summary of Vegetation Management Plan Completed**

| Description | 2010* | 2011 | 2012 | 2013 | 2014** | Total |
|-------------|-------|------|------|------|--------|-------|
|-------------|-------|------|------|------|--------|-------|

|                    |         |         |         |         |         |         |
|--------------------|---------|---------|---------|---------|---------|---------|
| Circuits Completed | 5       | 20      | 22      | 22      | 18      | 87      |
| Miles Completed    | 463     | 943     | 878     | 826     | 829     | 3,939   |
| Brush Cut Acres    | 848     | 2,419   | 1,393   | 1,471   | 1,297   | 7,428   |
| Brush Spray Acres  | 1,372   | 2,012   | 1,879   | 2,549   | 2,270   | 10,082  |
| Tree Removal       | 111,010 | 232,457 | 233,676 | 237,549 | 184,117 | 998,809 |
| Tree Trim          | 46,736  | 62,618  | 70,568  | 79,334  | 47,197  | 306,453 |

\* The 2010 period is from June 29 through December 31, 2010.

\*\* The 2014 period is from January 1 through September 30, 2014.

In addition, more complete details of the circuits completed are provided in the annual progress reports filed on or before April 1 of each year.

**Q. DOES THE COMPANY MANAGE THE VEGETATION MANAGEMENT PLAN TO THE SPENDING TARGETS AGREED UPON IN CASE NO. 2009-00459?**

A. Yes. While the Company strives to achieve the annual target expenditure amounts, it is difficult to achieve the numbers precisely due to unplanned work that may arise, the complexity of the work schedules, the balancing of resources and not knowing the exact amount of overheads that might be applied in the final accounting. Even though any given year may be slightly over or under the target, the Company has met its expenditure obligation for the nearly four and one-half years the program has been in operation. Table 4 provides a summary of the actual vegetation expenditures through September 30, 2014.

**Table 4 – Summary of Vegetation Management Plan Costs (\$ Million)**

| Description   | 2010* | 2011   | 2012   | 2013   | 2014** | Total  |
|---------------|-------|--------|--------|--------|--------|--------|
| O&M Expenses  | \$9.0 | \$17.3 | \$17.0 | \$17.5 | \$13.3 | \$74.0 |
| Capital Costs | \$0.5 | \$1.4  | \$2.5  | \$3.4  | \$2.6  | \$10.5 |

\* 2010 costs are from June 29 through December 31, 2010.

\*\* 2014 costs are from January 1 through September 30, 2014.

The Distribution Vegetation Management Plan expenditures are provided in more detail in the annual progress reports filed on or before April 1 of each year.

1 **Q. HAS THE COMPANY INCREASED THE NUMBER OF VEGETATION**  
 2 **CONTRACTOR FULL-TIME-EQUIVALENT (FTE) EMPLOYEES SINCE**  
 3 **THE IMPLEMENTATION OF THE VEGETATION MANAGEMENT PLAN?**

4 A. Yes. Since the implementation of the Plan, the Company has more than doubled the  
 5 vegetation contractor FTE employees. These numbers fluctuate during the year due to  
 6 the transient nature of these employees and the balancing of these employees by the  
 7 contractor for work within and outside KPCo. Adding vegetation contract employees  
 8 requires recruitment and extensive training over multiple years to fully develop the  
 9 skills necessary to perform the various types of vegetation management work required  
 10 in KPCo’s service territory.

11 **Q. IS THE PLAN ACHIEVING IMPROVED RELIABILITY METRICS?**

12 A. Yes. Table 5 provides a summary of the annual reliability metrics since 2009. The  
 13 implementation of the Vegetation Management Plan began mid-2010:

14 **Table 5 – Summary of KPCo Reliability Metrics**

| <b>Description</b> | <b>2009</b> | <b>2010</b> | <b>2011</b> | <b>2012</b> | <b>2013</b> | <b>2014*</b> |
|--------------------|-------------|-------------|-------------|-------------|-------------|--------------|
| SAIFI              | 2.556       | 2.470       | 3.085       | 2.417       | 2.144       | 2.307        |
| CAIDI              | 194.5       | 169.4       | 195.4       | 189.5       | 178.5       | 218.5        |
| SAIDI              | 497.1       | 418.4       | 602.8       | 458.0       | 382.7       | 504.1        |

15 \* 2014 metrics reflect 12 months ending September.

16 The details of the Company’s annual reliability metrics are provided in the annual  
 17 progress reports filed on or before April 1 of each year.

18 **Q. PLEASE DEFINE THESE RELIABILITY METRICS AND EXPLAIN HOW**  
 19 **THE METRICS ARE USED TO IMPROVE RELIABILITY?**

20 A. SAIDI, CAIDI and SAIFI are defined in IEEE 1366-2012, the “IEEE Guide for  
 21 Electric Power Distribution Reliability Indices”. SAIDI (System Average Interruption

1 Duration Index) indicates the total duration of interruption for the average customer  
2 during a predefined period of time, and it is defined as the “Summation of Customer  
3 Interruption Duration” divided by the “Total Number of Customers Served”. CAIDI  
4 (Customer Average Interruption Duration Index) represents the average time required  
5 to restore service to customers, and it is defined as the “Summation of Customer  
6 Interruption Duration” divided by the “Total Number of Customers Interrupted”.  
7 SAIFI (System Average Interruption Frequency Index) indicates how often the average  
8 customer experiences a sustained interruption on an annual basis, and is defined as the  
9 “Summation of the Total Number of Customers Interrupted” divided by the “Total  
10 Number of Customers Served”. By monitoring these metrics over an extended period  
11 of time, the Company can determine if its reliability strategy is achieving the desired  
12 goals or if the strategy need to be modified to achieve the desired results.

13 **Q. SINCE THE PROGRAM BEGAN IN 2010, KPCO HAS EXPENDED ALMOST**  
14 **\$85 MILLION ON ITS DISTRIBUTION VEGETATION MANAGEMENT**  
15 **PROGRAM. WHY HAVE THE RELIABILITY METRICS NOT IMPROVED**  
16 **MORE OVER THE PAST FOUR YEARS?**

17 A. In addition to vegetation in the ROW, the principal target of the Company’s  
18 Distribution Vegetation Management Program, reliability metrics are also affected by  
19 external factors such as weather and tree contact from outside the ROW. These  
20 external factors are neither predictable nor controllable by the Company, and can make  
21 year-to-year comparisons misleading.

22 For instance, as the Company improves vegetation management within its  
23 ROW and continues its asset management programs, weather events will cause less

1 damage to the utility system. Storms that would have produced enough damage to be  
2 categorized as major events in the past may now result in less, but still significant  
3 damage. This can result in the SAIDI metric actually worsening since major events  
4 are excluded from the index calculations, but the less damaging storms cannot be  
5 excluded. As an example, this situation occurred during a severe ice storm that began  
6 the evening of February 4, 2014 and continued into February 5. The Company's  
7 response to the outages resulting from that storm was immediate and extensive.

8 However, due to the immediate and extensive Company response, the improved ROW,  
9 and the storm outages partially spanning two different days, this severe storm was not  
10 considered a major event by the IEEE methodology and regulatory rules. These two  
11 days contributed fifty-three minutes toward the Company's SAIDI metric in 2014. If  
12 this storm had occurred in a previous year, it would likely have been excluded as a  
13 major event. See Graphs 2 and 3 to see the impact of this single storm on the SAIDI  
14 metrics.

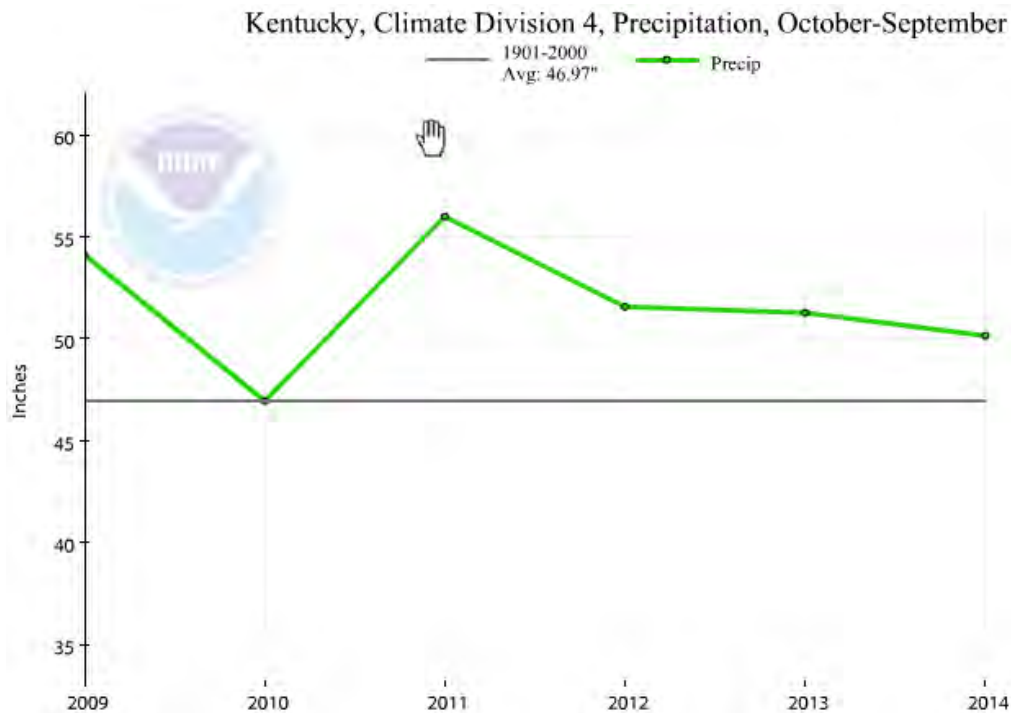
15 **Q. PLEASE EXPLAIN HOW PRECIPITATION CAN AFFECT RELIABILITY**  
16 **METRICS.**

17 A. While excessive rainfall in itself typically does not cause outages, the wind and  
18 lightning associated with an increased number or length of storms can increase  
19 unexpected outages. The higher than normal rainfall also causes an increase in the  
20 vegetation growth rates. This increased vegetation growth increases the likelihood of  
21 vegetation outages, and because increased amounts of vegetation must be removed,  
22 slows the Company's re-clearing efforts.

1 Q. DID THE COMPANY'S SERVICE TERRITORY EXPERIENCE HIGHER  
 2 THAN NORMAL LEVELS OF PRECIPITATION FOR ANY PORTION OF  
 3 THE PERIOD 2009-2014?

4 A. Yes. The average annual rainfall for Kentucky is approximately 47 inches per year. In  
 5 the twelve months ending September 2011, the average rainfall was 56 inches or  
 6 approximately 19 percent above normal. From October 2011 through September  
 7 2014, the average September twelve-month ending rainfall has consistently been above  
 8 normal. Graph 1 below illustrates precipitation levels experienced in Eastern  
 9 Kentucky from 2009 – 2014:

10 **Graph 1 – Illustration of Eastern Kentucky 12-Month Precipitation**



11 Data Source: NOAA website, <http://www.ncdc.noaa.gov/cag/time-series/us>

12

13

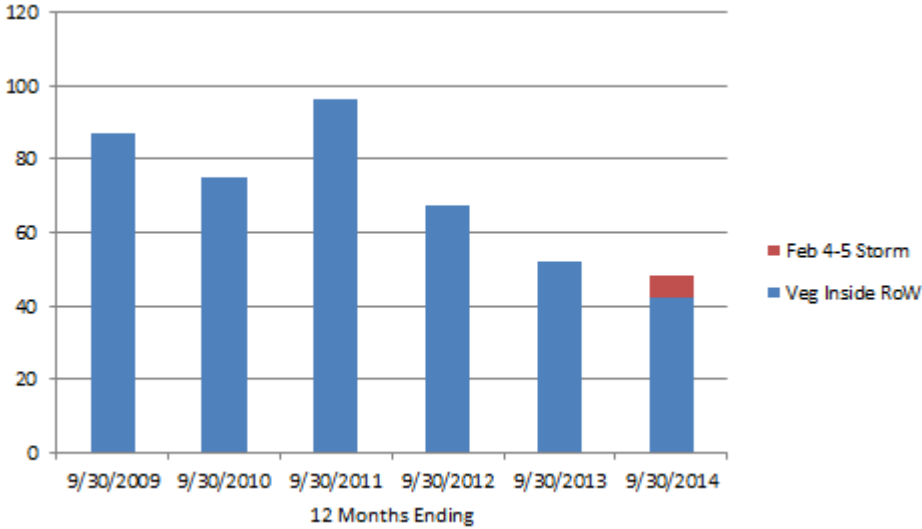
14

The 2011 spike in precipitation corresponds with the decrease in the Company's reliability indices.

1 Q. WHAT OTHER EVIDENCE DOES THE COMPANY HAVE THAT ITS  
2 DISTRIBUTION VEGETATION MANAGEMENT PROGRAM HAS  
3 IMPROVED ITS DISTRIBUTION SYSTEM RELIABILITY?

4 A. The principal focus of the Company’s Distribution Vegetation Management Plan is the  
5 elimination of vegetation within the Company’s ROWs. This vegetation, which  
6 typically is in closest proximity to the Company’s distribution facilities, is most likely  
7 to result in system outages. As evidenced by Graph 2 below, the Company’s  
8 Distribution Vegetation Management Program has reduced the SAIDI for interruptions  
9 resulting from tree contact from inside the ROW.

10 **Graph 2 – KPCo SAIDI from Vegetation Inside the ROW**

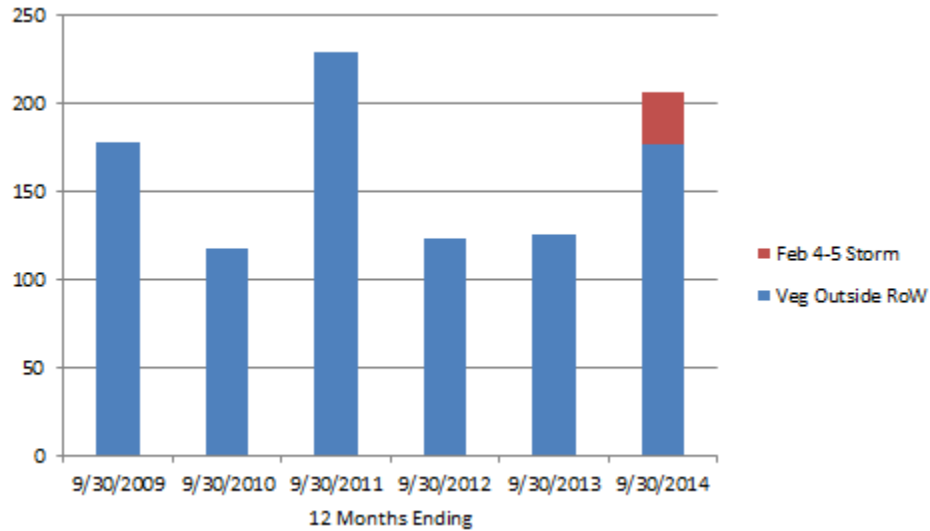


11 Note: Excludes Major Storms

12  
13  
14 This improvement contrasts with the lack of improvement in outage duration in  
15 connection with outages caused by vegetation outside the ROW:

16 **Graph 3 – KPCo SAIDI from Vegetation Outside the ROW**





Note: Excludes Major Storms

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**Q. YOU JUST INDICATED THAT THE FOCUS OF THE COMPANY’S DISTRIBUTION VEGETATION MANAGEMENT PROGRAM HAS BEEN VEGETATION WITHIN THE COMPANY’S ROW. DOES KPCO IGNORE VEGETATION OUTSIDE ITS ROW?**

A. No. The Company is also alert to, and seeks to address, danger trees outside its ROW. Danger trees are trees that may be distressed due to disease, insect damage, dead limbs, or that lean toward the ROW, or that pose a danger of falling into the Company’s distribution facilities because of loose soil conditions or exposed roots. A distribution ROW typically varies between thirty- and forty-foot wide. If a sixty-foot tree falls from just outside the ROW, it will likely make contact with the distribution circuit. This problem is further exacerbated when the danger tree is on a hillside above the ROW. With the aid of gravity, the danger tree can easily end up in the ROW if the tree falls.

**Q. WHAT IS THE COMPANY DOING TO ADDRESS THE INCREASE IN OUTAGES CAUSED BY VEGETATION OUTSIDE THE ROW?**

1 A. When trees are removed from outside the ROW, the Company must work with  
2 property owners to obtain permission and address any concerns. This can result in  
3 additional costs and delays. The Company has increased the amount of its capital  
4 spending (tree removals are charged to capital if the ROW is widened) to widen  
5 existing ROWs and to remove additional danger trees outside the ROW. As shown in  
6 Table 4 above, KPCo's capital costs have been increasing each year to support efforts  
7 to address outages caused by vegetation outside the ROW.

8 **Q. ARE THERE OTHER FACTORS THAT IMPACT THE COST OF**  
9 **REMOVING TREES FROM WITHIN OR OUTSIDE THE ROW?**

10 A. Yes. As indicated in Exhibit EGP-2, the KPCo service territory has the highest  
11 volume of trees with a diameter greater than five inches within the Commonwealth of  
12 Kentucky. In order for vegetation contractors to safely remove a tree equal to or  
13 greater than five inches, roping of the tree is required. The safety rule states that the  
14 tree shall be properly notched and back cut, and a rope shall be used to direct its fall in  
15 the required (intended) direction. This rule helps to protect vegetation workers from  
16 trees falling in an unintended direction, but it also requires more time and cost to cut  
17 down the tree. This rule also reduces the risk a tree will unintentionally fall into the  
18 distribution line and cause an outage.

19 Also, herbicide application is a vital component of the KPCo Vegetation  
20 Management Program. Judicious use of herbicides is cost effective and efficient, and  
21 a best management practice for achieving the goal of establishing low-growing plant  
22 cover in the ROW that has been cleared. The spray program is essential in  
23 establishing and maintaining a four-year cycle. The long-term benefits include

1 improved reliability, a reduction in future ROW maintenance costs, and improved  
2 access to the KPCo's distribution facilities. KPCo typically treats between 2,000 to  
3 3,000 acres of brush each year. Treatment methods include high-volume foliar, basal  
4 treatment, stump application, low-volume foliar and aerial application.

5 **Q. ARE THE ACTIVITIES TO WIDEN THE ROW AND REMOVE DANGER**  
6 **TREES OUTSIDE THE ROW YIELDING ANY POSITIVE RESULTS?**

7 A. Yes. Even though the Company is seeing an increase in the number of outages due to  
8 vegetation contact outside the ROW in 2014, more of the SAIDI duration minutes  
9 were caused by trees from outside the ROW on lines that have not been cleared versus  
10 lines that have been cleared by a two-to-one ratio. Currently, the danger trees are only  
11 being removed from outside the ROW on the distribution lines actively being cleared.  
12 As the Company continues to clear distribution lines end-to-end, widen ROWs and  
13 remove danger trees, it is expected that fewer trees from outside the ROW will impact  
14 SAIDI.

**VII. PROPOSED MODIFICATION OF THE COMPANY'S**

**EXISTING DISTRIBUTION VEGETATION MANAGEMENT PLAN**

15 **Q. IS THE COMPANY PROPOSING ANY CHANGES TO ITS EXISTING**  
16 **DISTRIBUTION VEGETATION MANAGEMENT PLAN?**

17 A. Yes. The original 2010 Vegetation Management Plan work and completion estimates  
18 were based on the best information available at the time. Since that time, the  
19 Company has gained multiple years of experience and can better estimate the unit  
20 costs required for the various types of vegetation work, the number of hours needed to  
21 perform the work, as well as the total work that needs to be completed. For example,

1 the Company originally estimated that 763,000 trees would need to be removed to re-  
2 clear its distribution system in its entirety. In the first four years of the program, the  
3 Company has already removed over a million trees. Additionally, since undertaking  
4 the current plan, the Company determined that the amount of vegetation in or in close  
5 proximity to its energized facilities and the time it would take to safely and  
6 productively increase the vegetation management workforce to higher staffing levels  
7 had both been underestimated. Moreover, above-normal precipitation has also  
8 contributed to higher vegetation growth rates and increased the required work to clear  
9 and keep the ROW clear. Based on this experience, the Company now estimates it  
10 will require eight and one-half years to complete the re-clearing of every circuit instead  
11 of the original estimate of seven years.

12 **Q. WHAT CHANGES TO THE VEGETATION MANAGEMENT PLAN ARE**  
13 **BEING PROPOSED BY KPCO?**

14 A. There are three fundamental tasks that are required at specific intervals to complete the  
15 transition from the former performance-based vegetation management program to a  
16 four-year cycle-based vegetation management program:

- 17 1. The first task is the initial end-to-end re-clearing of every distribution  
18 circuit ROW as contemplated by the unanimous settlement agreement.  
19 This task originally was estimated to take approximately seven years  
20 (transition period). In fact, as discussed above, it now appears eight and  
21 one-half years will be required.
- 22 2. The second task is the interim maintenance or subsequent second pass-  
23 through prior to the establishment of a four-year cycle. If undertaken

1 within four to five years of the initial re-clearing, this second task can be  
2 performed at the lower maintenance cost. If delayed more than four to five  
3 years from the initial re-clearing of the vegetation growth, this second task  
4 requires funding at the higher re-clearing cost levels.

- 5 3. The third task is the initiation of the four-year cycle through the clearing at  
6 “maintenance cost levels” of approximately one-fourth of the distribution  
7 circuit ROW miles each year.

8 **Q. HOW DOES THE COMPANY PROPOSE TO IMPLEMENT THESE**  
9 **MODIFICATIONS?**

10 A. These tasks can be accomplished through different scenarios. The primary difference  
11 between the scenarios is the timing, duration, and cost of the three tasks described in  
12 the previous response. KPCo’s 2015 Distribution Vegetation Management Plan,  
13 which was filed September 30, 2014, presented three scenarios for the establishment  
14 of a four-year maintenance cycle. In addition, following a meeting with Staff and a  
15 representative of the Office of the Attorney General in October 2014, the Company  
16 developed a fourth scenario. The following Tables 6 – 9 illustrate the types and timing  
17 of tasks (as described above) being undertaken each year to implement a four-year  
18 cycle.

19 Under Scenario 1, the first task will continue at the funding levels established  
20 in the Unanimous Settlement Agreement in Case No. 2009-00459. The first task will  
21 be completed by the end of 2018. Beginning with the completion of the first task, the  
22 company in 2019 will begin the second pass through or the start of the second task at a  
23 higher re-clear cost. Eight and one-half years will have elapsed before the second









1

Table 9 – Scenario 4

| Table 9: Scenario 4 |      |  |      |      |      |      |      |      |                    |      |      |      |      |      |
|---------------------|------|--|------|------|------|------|------|------|--------------------|------|------|------|------|------|
|                     | 2010 | 2011   | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018               | 2019 | 2020 | 2021 | 2022 | 2023 |
| Yr 1 Miles          | 463  | ← 5 years growth →   |      |      |      | 663  |      | 1008 | ← 4 years growth → |      |      |      | 2016 |      |
| Yr 2 Miles          |      | 932  |      |      |      |      | 732  |      | 2016               |      |      |      | 2016 |      |
| Yr 3 Miles          |      |  | 891  |      |      |      |      | 219  |                    | 2016 |      |      |      | 2016 |
| Yr 4 Miles          |      |  |      | 826  |      |      |      |      |                    |      | 2016 |      |      |      |
| Yr 5 Miles          |      |  |      |      | 1008 |      |      |      |                    |      |      |      |      |      |
| Yr 6 Miles          |      |  |      |      |      | 1578 |      |      |                    |      |      |      |      |      |
| Yr 7 Miles          |      |  |      |      |      |      | 1578 |      |                    |      |      |      |      |      |
| Yr 8 Miles          |      |  |      |      |      |      |      | 789  |                    |      |      |      |      |      |
| Program Miles       | 463  | 932  | 891  | 826  | 1008 | 2241 | 2310 | 2016 | 2016               | 2016 | 2016 | 2016 | 2016 | 2016 |
|                     |      | Task 1 - # Miles (Unanimous Settlement Agreement)                    |      |      |      |      |      |      |                    |      |      |      |      |      |
|                     |      | Task 2 - # Miles Interim Clear at Maintained Cost (4 - 5 yrs growth) |      |      |      |      |      |      |                    |      |      |      |      |      |
|                     |      | Task 3 - # Miles at Maintained Cost (4 yrs growth)                   |      |      |      |      |      |      |                    |      |      |      |      |      |

2 Q. YOU INDICATE THE MAINTENANCE COST LEVEL IS LESS THAN THE  
 3 CLEARING COST LEVEL. WHAT ARE THE ESTIMATED COSTS OF THE  
 4 TWO LEVELS OF WORK?

5 A. For 2015, the Company estimates re-clearing costs of \$17,605 per mile. This estimate  
 6 is based upon the actual per mile initial clearing costs incurred by KPCo in the first  
 7 three quarters of 2014. This estimate requires a one percent cost per mile  
 8 improvement over 2014, but with the inflation cost estimated at two percent, an actual  
 9 three percent improvement is required to attain the 2015 re-clearing mileage. The  
 10 2015 maintenance level costs are estimated at \$10,563, or sixty percent of the re-  
 11 clearing cost.

12 Q. IS THE WORK PROPOSED TO BE PERFORMED BEYOND THE INITIAL  
 13 CLEARING OF THE COMPANY’S DISTRIBUTION SYSTEM RELATED TO  
 14 THE DELAY IN THE COMPLETION OF THE INITIAL SYSTEM  
 15 CLEARING?

16 A. No. Even if the Company had been able to complete the initial clearing within the  
 17 previously estimated seven years, some sort of interim funding increase would have

1           been required to allow KPCo to implement the four-year cycle at the maintenance cost  
2           level.

3   **Q.   WHAT WILL BE THE OVERALL COST OF THE IMPLEMENTATION OF A**  
4   **FOUR YEAR CYCLE AT MAINTENANCE COST LEVEL?**

5   A.   The final cost depends on the scenario selected.  Among the variables affecting both  
6   the annual and overall cost are:

7           •   Whether subsequent re-clearings are performed within four to five years of  
8           the initial clearing, subsequent re-clearings within four to five years of the  
9           initial clearing can be performed at the maintenance cost level, which is  
10          approximately sixty percent of the initial clearing cost.  After five years, the  
11          cost of clearing increases to the initial clearing cost because of the amount of  
12          vegetation that will have grown since the initial clearing.

13          •   Whether Roving Crews from outside the area must be deployed, Scenarios  
14          2, 3 and 4, for example, require the additional cost of Roving Crews, which are  
15          temporary tree crews from outside the KPCo service area.  These Roving  
16          Crews require a higher premium pay to provide for temporary housing and  
17          meal allowances since these crews are working outside their normal work  
18          areas.  The AEP System has experienced an estimated additional expenditure  
19          of one and one-half times the cost per mile where these types of crews have  
20          been used in the past.

21          •   The length of ROW being cleared and the particular task being performed  
22          in any year can impact costs.  For example, Scenario 4 requires 2,310 miles of  
23          ROW to be cleared in 2016.  Distributing the mileage into the specific task,

1 1,578 miles at re-clear cost (Task 1) and 732 interim clear miles at maintained  
 2 cost (Task 2), Scenario 2, by contrast, projects only 1,752 of ROW being  
 3 cleared for the same year. The required mileage for the specific tasks is 986  
 4 miles at re-clear cost (Task 1) and 771 interim clear miles at maintained cost  
 5 (Task 2).

6 The Table 10 below provides a cost comparison of each of the proposed  
 7 scenarios:

8 **Table 10 – Scenario Cost Comparison**

| Year         | Scenario 1           | Scenario 2           | Scenario 3           | Scenario 4           |
|--------------|----------------------|----------------------|----------------------|----------------------|
| 2010         | \$8,950,346          | \$8,950,346          | \$8,950,346          | \$8,950,346          |
| 2011         | \$17,261,128         | \$17,261,128         | \$17,261,128         | \$17,261,128         |
| 2012         | \$17,029,248         | \$17,029,248         | \$17,029,248         | \$17,029,248         |
| 2013         | \$17,466,579         | \$17,466,579         | \$17,466,579         | \$17,466,579         |
| 2014         | \$17,237,965         | \$17,237,965         | \$17,237,965         | \$17,237,965         |
| 2015         | \$17,237,965         | \$27,661,060         | \$24,304,356         | \$40,801,455         |
| 2016         | \$17,237,965         | \$27,664,598         | \$24,790,443         | \$41,125,000         |
| 2017         | \$17,237,965         | \$27,661,949         | \$29,292,312         | \$29,775,649         |
| 2018         | \$17,237,965         | \$27,664,089         | \$33,980,685         | \$21,456,386         |
| 2019         | \$38,462,690         | \$20,251,822         | \$34,660,298         | \$20,251,822         |
| 2020         | \$38,462,690         | \$20,049,303         | \$35,353,504         | \$20,049,303         |
| 2021         | \$37,697,283         | \$19,848,810         | \$26,454,828         | \$19,848,810         |
| 2022         | \$37,320,310         | \$19,650,322         | \$21,402,966         | \$19,650,322         |
| 2023         | \$19,453,819         | \$19,453,819         | \$19,453,819         | \$19,453,819         |
| <b>Total</b> | <b>\$317,909,291</b> | <b>\$287,851,038</b> | <b>\$327,638,477</b> | <b>\$310,357,832</b> |

9 **Q. WHICH SCENARIO DOES THE COMPANY PREFER?**

10 A. The Company proposes Scenario 2 as the best alternative for improving vegetation-  
 11 related reliability and completing the transition to a four-year cycle at maintenance  
 12 cost levels. This scenario will transition the vegetation management program over to a  
 13 four-year cycle-based program in the most efficient process, at the least cost, and with  
 14 the fewest additional forestry employees over the long range plan. The Company,

1           however, remains receptive to the input of other stakeholders as these various  
2           scenarios are discussed and considered.

3   **Q.    DOES THE COMPANY NEED A RELIABILITY ADJUSTMENT TO THE**  
4   **TEST YEAR O&M TO SUPPORT THE PROPOSED SCENARIO 2?**

5   A.    Yes. The details of the reliability adjustment are shown in Section V, Exhibit 2, W19.  
6           The annual reliability amount approved in Case No. 2009-00459 is \$17,237,965. The  
7           total reliability adjustment recommended to support Scenario 2 is \$10,655,900 as  
8           shown on Line No. 7. This reliability adjustment would need to be modified if the  
9           scenario is modified or if a different scenario is selected.

**VII. CONCLUSION**

10 **Q.    MR. PHILLIPS, PLEASE SUMMARIZE YOUR TESTIMONY.**

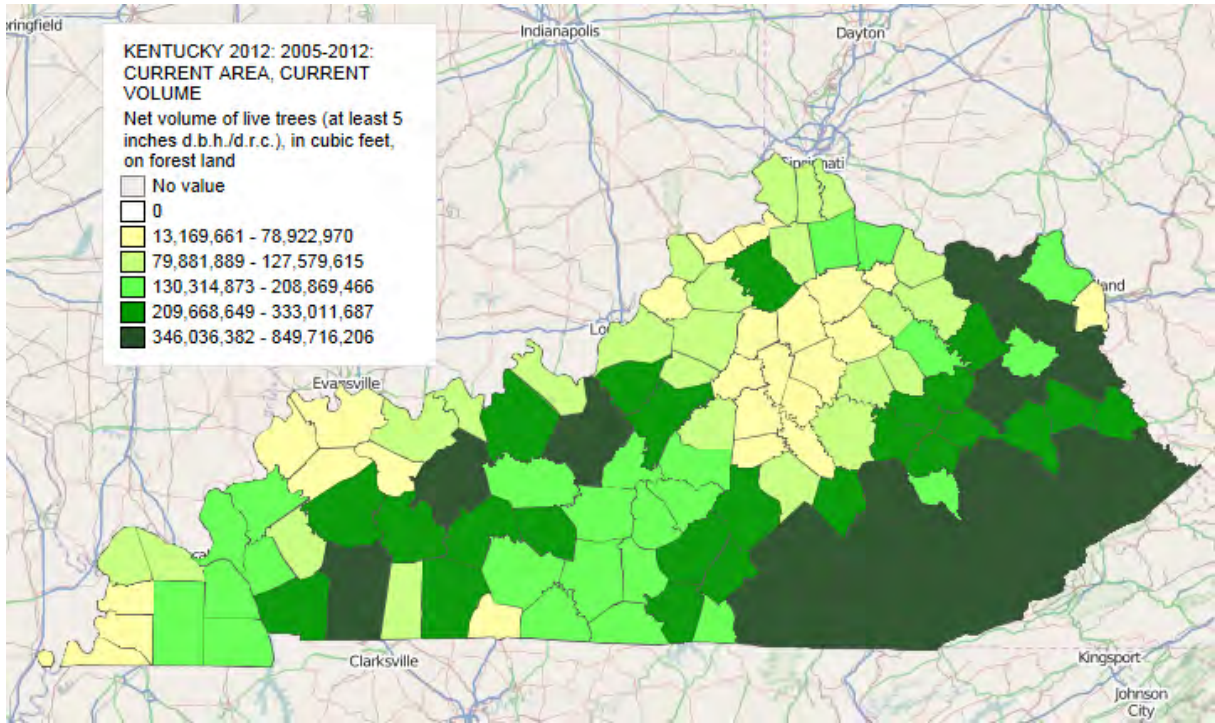
11 A.    The Company remains committed to establishing and maintaining a four-year  
12           vegetation maintenance cycle for distribution circuits. Since the conception of the  
13           Vegetation Management Plan, the Company has worked through the details of  
14           developing and implementing the Plan. As the Plan has evolved, the Company has  
15           improved the processes for estimating the time required to complete the various  
16           vegetation maintenance activities, the costs associated with those activities and the  
17           overall resources needed to complete the Plan commitment to ensure customers  
18           achieve acceptable reliability.

19 **Q.    DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?**

20 A.    Yes, it does.



Exhibit EGP-2: Forest Land Distribution for State of Kentucky



**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

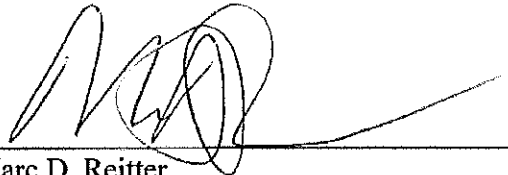
**In the Matter of:**

**Application Of Kentucky Power Company For     )**  
**A General Adjustment Of Its Rates For Electric    )**  
**Service; (2) An Order Approving Its 2014         )**  
**Environmental Compliance Plan; (3) An Order     ) Case No. 2014-00396**  
**Approving Its Tariffs And Riders; And (4) An     )**  
**Order Granting All Other Required Approvals    )**  
**And Relief   )**

**DIRECT TESTIMONY OF**  
**MARC D. REITTER**  
**ON BEHALF OF KENTUCKY POWER COMPANY**

**VERIFICATION**

The undersigned, Marc D. Reitter, being duly sworn, deposes and says he is the Managing Director, Corporate Finance for American Electric Power Service Corporation and that he has personal knowledge of the matters set forth in the forgoing testimony and the information contained therein is true and correct to the best of his information, knowledge and belief.



Marc D. Reitter

STATE OF OHIO

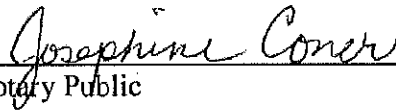
)

) Case No. 2014-00396

COUNTY OF FRANKLIN

)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Marc D. Reitter, this the 10th day of December, 2014.



Notary Public



JOSEPHINE CONER  
Notary Public, State of Ohio  
My Commission Expires 09-20-16

My Commission Expires: 09/20/2016



**DIRECT TESTIMONY OF  
MARC D REITTER ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
MARC D REITTER ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION.**

2 A. My name is Marc D. Reitter. My business address is 1 Riverside Plaza, Columbus,  
3 Ohio 43215. I am employed by American Electric Power Service Corporation  
4 (AEPSC) as Managing Director of Corporate Finance. AEPSC, a wholly owned  
5 subsidiary of American Electric Power Company, Inc. (AEP), provides centralized  
6 professional and other services to subsidiaries of AEP. AEP is the parent company  
7 of Kentucky Power Company (Kentucky Power or Company) and AEPSC is  
8 Kentucky Power's services provider company.

**II. BACKGROUND**

9 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**  
10 **BUSINESS EXPERIENCE.**

11 A. I earned a Bachelor of Science in Business Administration from Arizona State  
12 University in 2000. I earned a Master of Business Administration from the Fisher  
13 College of Business at The Ohio State University in 2007. In January 2002, I was  
14 hired by AEPSC as an analyst in its AEP Texas Retail Group. I transferred to the  
15 Utility Group Business Services in December 2002 as a financial analyst. In  
16 December 2004, I was promoted to the Strategic Initiatives Group as a financial  
17 analyst. In February 2007, I transferred into the Corporate Finance Group as a  
18 financial analyst and progressed to Corporate Finance Manager in February 2010.

1 In October 2014, I was promoted to my current position as Managing Director of  
2 Corporate Finance.

3 **Q. WHAT ARE YOUR RESPONSIBILITIES AS MANAGING DIRECTOR OF**  
4 **CORPORATE FINANCE?**

5 A. My responsibilities include planning and executing the corporate finance programs  
6 of the regulated operating companies in the AEP System, including Kentucky  
7 Power. I am also responsible for preparing dividend payment recommendations for  
8 the companies in the AEP System, establishing capitalization targets, and managing  
9 the relationships between AEP and its subsidiaries with the credit rating agencies.

10 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

11 A. Yes. I testified before the Public Service Commission of Kentucky Case No. 2009-  
12 00459 and submitted testimony in Case No. 2013-00197 on behalf of Kentucky  
13 Power.

14 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN ANY OTHER**  
15 **REGULATORY PROCEEDINGS?**

16 A. Yes. I have submitted testimony and testified before the Virginia State Corporation  
17 Commission in Docket No. PUE-2011-00037 on behalf of Appalachian Power  
18 Company (APCO), an AEP operating company. In addition, I have submitted  
19 testimony and testified on behalf of APCO before the Public Service Commission  
20 of West Virginia in Docket No. 10-0699-E-42T. I have also submitted testimony  
21 and testified before the Public Utility Commission of Texas in Docket No. 40443  
22 on behalf of Southwestern Electric Power Company, another operating company of  
23 AEP. Further, I have submitted testimony before the Michigan Public Service

1 Commission in Docket No. U-16801 on behalf of Indiana Michigan Power  
2 Company, an operating company of AEP and most recently submitted testimony  
3 before the Indiana Utility Regulatory Commission in Cause No. 44543 on behalf of  
4 Indiana Michigan Power Company.

### **III. PURPOSE OF TESTIMONY**

5 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**  
6 **PROCEEDING?**

7 A. The purpose of my testimony is to support certain historical and adjusted data  
8 incorporated in this application. I will sponsor Kentucky Power Company's  
9 proposed capital structure and cost of capital for ratemaking purposes, employing  
10 the cost of common equity, supported by Company witnesses Avera and McKenzie.

11 **Q. ARE YOU SPONSORING ANY SCHEDULES INCLUDED IN THE**  
12 **COMPANY'S FILING?**

13 A. Yes. I am sponsoring the following Section V schedules and workpapers:

- 14 • Section V Workpaper S-2 Page 1 of 3
- 15 • Section V Schedule 3 (Columns 3 and 4, Lines 1-4)
- 16 • Section V Workpaper S-3 Pages 1 and 2

17 **Q. WERE THE SCHEDULES PREPARED BY YOU OR UNDER YOUR**  
18 **DIRECTION?**

19 A. Yes.

### **IV. PROPOSED COST OF CAPITAL AND CAPITAL STRUCTURE**

20 **Q. WHAT IS KENTUCKY POWER'S PROPOSED COST OF CAPITAL FOR**  
21 **RATEMAKING PURPOSES?**

1 A. For the test year ended September 30, 2014, Kentucky Power's proposed after-tax  
2 weighted average cost of capital is 7.71%, as illustrated on Section V, Workpaper  
3 S-2, page 1 of 3.

4 **Q. HAS KENTUCKY POWER'S DEBT TO CAPITALIZATION RATIO**  
5 **RETURNED TO A LEVEL APPROXIMATING THE LEVEL THAT**  
6 **EXISTED PRIOR TO THE TRANSFER TO KENTUCKY POWER OF A**  
7 **FIFTY-PERCENT UNDIVIDED INTEREST IN THE MITCHELL**  
8 **GENERATING STATION AND RELATED ASSETS AND LIABILITIES?**

9 A. Yes. On December 31, 2013, and in accordance with the Commission's October 7,  
10 2013 Order in Case No. 2012-00578, a fifty percent undivided interest in the  
11 Mitchell generating station, along with related assets and liabilities, was transferred  
12 from Ohio Power to Kentucky Power ("Mitchell Transfer"). As described in the  
13 application and testimony in Case No. 2012-00578, the Mitchell Transfer  
14 significantly increased the Company's equity and thereby reduced its debt to  
15 capitalization ratio. The Company recapitalized following the Mitchell Transfer in  
16 order to restore the Generally Accepted Accounting Principles (GAAP) debt to total  
17 capitalization ratio to approximately fifty four percent, which was the Company's  
18 debt to capitalization level prior to the Mitchell Transfer.

19 **Q. HOW WAS THE RECAPITALIZATION ACCOMPLISHED?**

20 A. During 2014, Kentucky Power both reduced its equity and increased its debt as part  
21 of the recapitalization required to restore the Company's debt to capitalization ratio  
22 to pre-Mitchell Transfer levels equal to approximately 54%.

1 **Q. PLEASE SUMMARIZE THE PERMANENT LONG-TERM DEBT**  
2 **FINANCING EMPLOYED BY KENTUCKY POWER AS PART OF ITS**  
3 **RECAPITALIZATION.**

4 A. As authorized by the Commission's March's 25, 2014 Order, the Company  
5 permanently refinanced \$265 million of long-term debt associated with the Mitchell  
6 Transfer. The \$200 million in intermediate term loan debt, carrying an average  
7 interest rate of 1.44% was refinanced with private placement senior unsecured notes  
8 at a weighted average rate of 4.24%. In addition, Kentucky Power refinanced the  
9 \$65 million tax-exempt pollution control bonds at an initial rate of 0.90%.

10 **Q. PLEASE DESCRIBE THE EQUITY DISTRIBUTIONS ASSOCIATED**  
11 **WITH KENTUCKY POWER'S RECAPITALIZATION.**

12 A. In order to restore Kentucky Power's debt to capitalization ratio to the level  
13 approximating the level prior to the Mitchell Transfer, the Company distributed  
14 \$155 million to its Parent Company in the form of dividends and returned paid-in-  
15 capital associated with the Mitchell Transfer.

16 **Q. PLEASE EXPLAIN HOW THE PROPOSED AFTER-TAX WEIGHTED**  
17 **AVERAGE COST OF CAPITAL OF 7.71% WAS CALCULATED.**

18 A. The overall cost of capital is based on a weighting of the costs for the Company's  
19 sources of capital, including long-term debt, short-term debt, common stock,  
20 accounts receivable financing, and investment tax credits. The Company started  
21 with the Reapportioned Kentucky Jurisdiction capital as calculated on Section V  
22 Schedule 3 Column 14 for each category of capital. Next, as illustrated on Section  
23 V, Workpaper S-2 page 1 of 3, the Company divided the dollar amount of each

1 component of capital by the Company's total dollar amount of capital to derive the  
2 percentage of the Company's total capital each component represents.

3 **Q. PLEASE EXPLAIN WHAT RATES WERE USED IN CALCULATING THE**  
4 **COMPANY'S PER BOOKS WEIGHTED AVERAGE COST OF CAPITAL**  
5 **AS OF SEPTEMBER 30, 2014.**

6 A. The weighted cost of long-term debt was determined by taking the sum of each  
7 bond's actual annualized cost and dividing this amount by the total net proceeds  
8 outstanding as of September 30, 2014. The annualized cost for each bond was  
9 calculated by multiplying the effective cost rate (yield to maturity) by the net  
10 proceeds outstanding. The effective cost rate, or yield to maturity, is the bond's  
11 yield expressed as an annual rate in relation to the face value of the bond. As such,  
12 a bond's annualized cost is calculated by multiplying the yield to maturity by the  
13 face value of the bond. The sum of the annualized costs is then divided by the total  
14 net proceeds outstanding to determine the weighted cost of the long-term debt  
15 portfolio.

16 The cost of short-term debt used in the calculation is the Company's actual short-  
17 term interest expense for the twelve months ended September 30, 2014 divided by  
18 the actual average borrowings outstanding during the same time period. Please  
19 refer to Section V, Workpaper S-3, page 2 of 4.

20 The cost of accounts receivable financing used in the derivation of the weighted  
21 average cost of capital was calculated by using a thirteen month average cost  
22 experienced by the Company during the test year.

1 The cost of common equity used in the calculation is the amount recommended by  
2 Company Witnesses Avera and McKenzie.

3 **Q. DID THE COMPANY INCLUDE ANY PRO FORMA ADJUSTMENTS TO**  
4 **THE DEBT COMPONENT OF THE COMPANY'S PER BOOKS CAPITAL**  
5 **STRUCTURE AS OF SEPTEMBER 30, 2014?**

6 A. Yes. The Company made three pro forma adjustments to long-term debt as shown  
7 within Section V, Workpaper S-3, page 1 of 4.

8 **Q. PLEASE EXPLAIN THE PRO FORMA ADJUSTMENTS MADE TO THE**  
9 **DEBT COMPONENT OF THE COMPANY'S PER BOOKS CAPITAL**  
10 **STRUCTURE AS OF SEPTEMBER 30, 2014.**

11 A. The net pro forma long-term debt adjustment reflected on Section V, Schedule 3 is  
12 \$5 million. The net adjustment is derived by taking the September 30, 2014 per  
13 books debt balance and substituting the \$80 million intermediate term loan debt  
14 with \$80 million private placement senior unsecured notes that will fund on  
15 December 30, 2014. In addition, the Company's debt capitalization increased by  
16 \$25 million in local bank term loan initial funding approved by the Commission's  
17 September 26, 2014 Order in Case 2014-00210. Finally, the \$20 million affiliated  
18 note was retired in October 2014 thereby decreasing the Company's debt  
19 capitalization. Details of each of the three pro forma adjustments are described  
20 below:

21 Intermediate Term Loan Refinancing

22 The Company issued new permanent long-term private placement senior  
23 unsecured notes in the amount of \$200 million. The proceeds were



1 dedicated to retiring the Company's intermediate \$200 million term loan  
2 debt obligation that was assumed as part of the Mitchell Transfer. The  
3 private placement transaction closed in July 2014 and was structured with  
4 two delayed draw tranches: \$120 million Series A that funded September  
5 30, 2014, and \$80 million Series B that will fund December 30, 2014. The  
6 debt component of the Company's capital structure has been adjusted to  
7 reflect the permanent financing of the \$80 million intermediate term loan  
8 obligation with \$80 million fixed private placement senior unsecured notes  
9 that will fund on December 30, 2014. As a result of the delayed draw feature  
10 on the private placement senior unsecured notes, the Company continued to  
11 accrue and pay interest on the variable rate intermediate term loan debt at  
12 approximately 1.44% versus the fixed 4.24% weighted average coupon of  
13 the private placement senior unsecured notes. The delayed funding allowed  
14 the Company to utilize the lower cost of funds from the intermediate term  
15 loan debt from when the refinancing event closed in July 2014 through the  
16 September and December funding dates of the permanent private placement  
17 senior unsecured notes. This resulted in the Company achieving  
18 approximately \$1.9 million in long-term interest expense savings in 2014.

#### 19 Affiliated Note Early Retirement

20 On October 10, 2014, the Company extinguished the existing 5.25%  
21 affiliated note payable to AEP Parent. The debt component of the capital  
22 structure was adjusted properly to reflect the early retirement. In addition,  
23 by redeeming the affiliated debt prior to its maturity of June 1, 2015, the

1 Company was able to forego the remaining scheduled interest payments and  
2 generate approximately \$673,000 of long-term debt interest expense  
3 savings.

4 Local Bank Term Loan Financing

5 On November 5, 2014, the Company entered into a four year variable rate  
6 \$75 million unsecured term loan facility with local Kentucky banks. An  
7 adjustment was made to the debt component of the capital structure to  
8 reflect the Company's initial funding of \$25 million. This financing  
9 transaction represents a portion of the financing authority granted in Case  
10 No. 2014-00210.

11 **Q. PLEASE DESCRIBE THE IMPACT ON THE WEIGHTED AVERAGE**  
12 **COST OF LONG-TERM DEBT WITH REGARDS TO THE**  
13 **RECAPITALIZATION AND PRO FORMA DEBT ADJUSTMENTS.**

14 A. The Company's weighted average cost of long-term debt inclusive of the pro forma  
15 debt adjustments is 5.41%, which is 47 basis points lower than the weighted  
16 average cost of long term debt of 5.98% filed in Case No. 2013-00197, which was  
17 subsequently withdrawn per the settlement in Case No. 2012-00578.

18 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

19 A. Yes.

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For     )**  
**A General Adjustment Of Its Rates For Electric    )**  
**Service; (2) An Order Approving Its 2014         )**  
**Environmental Compliance Plan; (3) An Order     ) Case No. 2014-00396**  
**Approving Its Tariffs And Riders; And (4) An    )**  
**Order Granting All Other Required Approvals    )**  
**And Relief    )**

**DIRECT TESTIMONY OF**  
**JOHN A ROGNESS**  
**ON BEHALF OF KENTUCKY POWER COMPANY**

**SECTION III**

**VOLUME 3 OF 4**

**December 23, 2014**

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For:            )**  
**(1) A General Adjustment Of Its Rates For Electric    )**  
**Service; (2) An Order Approving Its 2014                )**    **Case No. 2014-00396**  
**Environmental Compliance Plan; (3) An Order            )**  
**Approving Its Tariffs And Riders; And (4) An            )**  
**Order Granting All Other Required Approvals            )**  
**And Relief    )**

**DIRECT TESTIMONY OF**  
**JOHN A. ROGNESS III**  
**ON BEHALF OF KENTUCKY POWER COMPANY**



**DIRECT TESTIMONY OF  
JOHN A ROGNESS III, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
JOHN A. ROGNESS, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q: PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

2 A: My name is John A. Rogness III. My position is Director, Regulatory Services  
3 for Kentucky Power Company (“Kentucky Power” or “Company”). My business  
4 address is 101 A Enterprise Drive, Frankfort, Kentucky 40601.

**II. BACKGROUND**

5 **Q: PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**  
6 **BUSINESS EXPERIENCE.**

7 A: I received a Bachelor of Science in Economics from the University of  
8 Chattanooga in 1980, a Master of Science in Economics from Vanderbilt  
9 University in 1984 and a Ph.D. in Economics from the University of Kentucky in  
10 1991.

11 In January 1990, I began working in the Kentucky Office of Financial  
12 Management and Economic Analysis. From July 1991 – September 1998, I  
13 served as an Economist with the Kentucky Public Service Commission  
14 (Commission). From September 1998 – July 2010, I served as Manager of the  
15 Management Audit Branch at the Commission. From August 2010 – September  
16 2012, I served as the Director of the Financial Analysis Division at the  
17 Commission. From October 2012 – March 2014, I served as the Director, Energy  
18 Generation, Transmission and Distribution at the Department for Energy

1 Development and Independence in Kentucky's Energy and Environment Cabinet.  
2 On March 17, 2014, I began my duties as Director of Regulatory Services for  
3 Kentucky Power.

4 **Q: WHAT ARE YOUR RESPONSIBILITIES AS DIRECTOR OF**  
5 **REGULATORY SERVICES?**

6 A: As Director of Kentucky Power's Regulatory Services, I am responsible for the  
7 rate and regulatory matters of Kentucky Power. This includes the preparation and  
8 coordination of the Company's testimony and exhibits in rate cases and any other  
9 formal filings before this Commission and federal regulatory bodies. In addition,  
10 I am responsible for assuring the proper application of the Company's rates and  
11 tariffs in all classifications of business.

12 **Q: HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

13 A: Yes. I testified before the Commission at the hearing in Case No. 2014-00225.  
14 Also, I submitted testimony in Case No. 2014-00336.

**III. PURPOSE OF TESTIMONY**

15 **Q: WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**  
16 **PROCEEDING?**

17 A: The purpose of my testimony is two-fold. First, I present certain revenue and  
18 operating expense adjustments to test year values. Second, I describe the nature  
19 and bases for certain changes to the Company's filed tariffs.

20 **Q: ARE YOU SPONSORING ANY EXHIBITS TO YOUR TESTIMONY?**

21 A: Yes. I identify the exhibits that I am sponsoring throughout my testimony, and  
22 list them below:

- 23
- Exhibit JAR-1: Rockport Extension Capacity Charge Development



- 1 • Exhibit JAR-2: Capacity Charge Tariff Revenues
- 2 • Exhibit JAR-3: Over/(Under) Recovery of Fuel Costs
- 3 • Exhibit JAR-4: Analysis and Monthly Breakdown of Non-Recurring
- 4 Charges
- 5 • Exhibit JAR-5: Analysis of Non-Recurring Charges at Proposed Rates
- 6 • Exhibit JAR-6: Monthly Non-Recurring Charge Test Year Revenue at
- 7 Current Rates
- 8 • Exhibit JAR-7: Monthly Non-Recurring Charge Revenues at Proposed
- 9 Rates
- 10 • Exhibit JAR-8: Proposed Tariff Sheets
- 11 • Exhibit JAR-9: Strike Through Tariff Sheets

12 **Q: WERE THESE SCHEDULES AND EXHIBITS PREPARED BY YOU OR**  
13 **UNDER YOUR DIRECTION?**

14 **A:** Yes.

**IV. REVENUE AND OPERATING EXPENSE ADJUSTMENTS**

15 **Q: WHY ARE REVENUE AND OPERATING EXPENSE ADJUSTMENTS**  
16 **NECESSARY?**

17 **A:** Adjustments are necessary because certain known and measurable adjustments to  
18 the data developed in the test year ending September 30, 2014 must be made to  
19 more accurately represent the Company's future revenue requirement.

20 **Q: WOULD YOU PLEASE IDENTIFY AND DISCUSS EACH OF THE**  
21 **REVENUE AND OPERATING EXPENSE ADJUSTMENTS THAT YOU**  
22 **ARE SPONSORING?**

1 A: Yes. The details of the revenue and operating expense adjustments set forth on  
 2 various pages of Section V, Exhibit 2. Specifically, I am sponsoring the following  
 3 adjustments:

|    | <u>Adjustment</u>  | <u>Exhibit 2, Page No.</u> |
|----|--|----------------------------|
| 4  | 1. Capacity Charge Revenues Adjustment (Rockport)          | W1                         |
| 5  | 2. Miscellaneous Service Charges                           | W6                         |
| 6  | 3. Fuel Under (Over) Recovery Revenues                     | W7                         |
| 7  | 4. O&M Expense Interest on Customer Deposits               | W11                        |
| 8  | 5. Amortization Out of Period PSC Mandated Consultant Cost | W12                        |
| 9  | 6. Rate Case Expense                                       | W15                        |
| 10 | 7. Postage Rate Increase Adjustment                        | W16                        |
| 11 | 8. Eliminate Advertising Expense                           | W17                        |
| 12 | 9. Annualization of Lease Cost                             | W18                        |
| 13 | 10. Annualization of Property Tax Expense                  | W44                        |
| 14 | 11. Annualization of PSC Maintenance Assessment            | W45                        |
| 15 | 12. Coal Stock Adjustment – Mitchell Plant                 | W54                        |
| 16 | 13. Coal Stock Adjustment – Big Sandy Plant                | W55                        |

**Interest Expense Associated with Customer Deposits**  
**(Section V, Exhibit 2, W11)**

17 Q. **EXPLAIN THE ADJUSTMENT FOR INTEREST EXPENSE**  
 18 **ASSOCIATED WITH CUSTOMER DEPOSITS.**

19 A. Customer deposits have been included in this case as a reduction to the  
 20 Company’s Rate Base. This recognizes that customer deposits, similar to  
 21 customer advances for construction, are a source of funds to the Company.

1 Unlike customer advances for construction however, interest is paid to customers  
2 for customer deposits. In the past, interest was paid at a rate of 6% per annum,  
3 however due to new legislation passed in 2012, the new rate beginning January 1,  
4 2015 is unchanged from 2014. The new rate is 0.12% per annum. Consistent  
5 with the treatment of interest allowed by the Commission in past cases, an  
6 adjustment has been made to annualize these test year expenses to the current rate  
7 of 0.12% per year by an adjustment of \$2,422.

**Capacity Charge Revenues Adjustment**  
**(Rockport Unit Power Agreement)**  
**(Section V, Exhibit 2, W1)**

8 **Q. WHAT IS THE CAPACITY CHARGE?**

9 A. In accordance with the Stipulation and Settlement Agreement dated October 20,  
10 2004, in Case No. 2004-00420, the Capacity Charge is designed to enable  
11 recovery from each class of customers for the supplemental annual payments tied  
12 into the Rockport Unit Power Agreement. The Commission authorized Kentucky  
13 Power to collect \$6.2 million annually through 2021, and \$5,792,329 in 2022  
14 through the Capacity Charge.

15 **Q. WILL THERE BE ANY CHANGES TO THE CAPACITY CHARGE**  
16 **RATES?**

17 A. Yes. In accordance to Section (1)(d)(iii) of the Stipulation and Settlement  
18 Agreement, Kentucky Power will develop, and other Parties will not oppose, a  
19 new tariff that will allow the Company to receive the additional Capacity Charge  
20 revenue. Kentucky Power is seeking to change the Capacity Charge rates to

1           \$0.000659 per kWh for I.G.S. customers, and \$0.001182 per kWh for all other  
2 customer classes. The I.G.S. customer class (discussed more fully below) is the  
3 result of combining the Q.P. and C.I.P.-T.O.D. customer classes pursuant to the  
4 Stipulation and Settlement Agreement and subsequent Commission Order in Case  
5 No. 2012-00578. Please see Exhibit JAR-1 for the calculations of the new  
6 Capacity Charge rates.

7 **Q. IS THE COMPANY MAKING ANY OTHER PROPOSALS THAT WILL**  
8 **IMPACT THE CAPACITY CHARGE?**

9 A. Yes. As can be seen in Section V, Exhibit 2, W1, the Company has not collected  
10 the full Capacity Charge amount authorized by the Commission. In order to  
11 collect the authorized annual amount, Kentucky Power is proposing an annual  
12 true-up. This will allow any over/under recovery from the previous 12 month  
13 period, to be collected in the following 12 month period in addition to the  
14 Commission's authorized annual amount. Please see Exhibit JAR-8, Original  
15 Tariff Sheet No. 28-2 for the proposed formula to calculate the Capacity Charge  
16 rates with the annual true-up.

**Amortization of Out of Period Commission Mandated Consultant Cost &**  
**Elimination of Commission Mandated Consultant Expense during Test Year**  
**(Section V, Exhibit 2, W12)**

17 **Q. PLEASE EXPLAIN THE COMMISSION MANDATED CONSULTANT**  
18 **COST ADJUSTMENT.**

19 A. When the Commission requires additional technical expertise, it hires a consultant  
20 to assist in determining whether certain technical portions of the case are just and

1 reasonable. The Company is required to compensate the consultant and is then  
2 allowed to request reimbursement in its next filed rate procedure. Kentucky  
3 Power did not pay any consultants fees during the test year. However, Kentucky  
4 Power has compensated consultants for the Commission in three such cases since  
5 its last base case as described below:

- 6 • In Case No. 2011-00295, The Application of Kentucky Power Company  
7 for a Certificate of Public Convenience and Necessity to Construct a  
8 138kV Transmission Line and associated Facilities in Breathitt, Knott and  
9 Perry Counties, Kentucky (Bonnyman-Soft Shell Line), Accion Group Inc  
10 was hired at a cost of \$26,440;
- 11 • In Case No, 2011-00401, The Application of Kentucky Power Company  
12 for Approval of its 2011 Environmental Compliance Plan, For Approval  
13 of its Amended Environmental Cost Recovery Surcharge Tariff, and for  
14 the Grant of a Certificate of Public Convenience and Necessity for the  
15 Construction and Acquisition of Related Facilities, Vantage Energy  
16 Consulting LLC was hired at a cost of \$119,338; and
- 17 • In Case No. 2012-00578, The Application of Kentucky Power Company  
18 in Connection with the Transfer of an Undivided Fifty Percent Interest in  
19 the Mitchell Generating Station and Certain Related Relief, Vantage  
20 Energy Consulting LLC was again hired at a cost of \$108,814.

21 The total amounts for the three consultants of \$254,592 should be amortized over  
22 three years at a rate of \$84,864 per year. A three-year amortization will assure  
23 that the cost of the consultants are being borne by those customers that received

1 the benefit of their involvement in the most recent rate proceeding, rather than  
2 spreading it over a longer period.

**Miscellaneous Service Charges**  
**(Section V, Exhibit 2, W16)**

3 **Q. WHAT ARE THE MISCELLANEOUS SERVICE CHARGE**  
4 **ADJUSTMENTS?**

5 A. Kentucky Power charges its customers for services such as Reconnects,  
6 Collection Trips, Bad Checks and Meter Test charges. As I will discuss later, the  
7 Company is proposing to increase the rates charged for such services to more  
8 closely match the cost to the Company. This adjustment annualizes test year  
9 revenues based upon the proposed new rates. The impact is to increase Kentucky  
10 Power revenues by \$251,903. Also see Exhibits JAR-4 and 5.

**Annualization of PSC Maintenance Assessment**  
**(Section V, Exhibit 2, W45)**

11 **Q. IS THE COMPANY PROPOSING AN ADJUSTMENT IN CONNECTION**  
12 **WITH THE KENTUCKY PSC ASSESSMENT FEE EXPENSE?**

13 A. Yes. The Company received an invoice from the Commonwealth of Kentucky in  
14 June 2014 in the amount of \$1,069,553 for the Kentucky PSC Assessment fee.  
15 During the test year the Company recorded \$977,073 in Kentucky PSC assessment  
16 fees. The Company's proposed adjustment is to increase the Taxes Other Than  
17 Income Taxes expense by the difference between the test year amount and the June  
18 2014 assessment, or \$92,475.

**Rate Case Expense Adjustment**  
**(Section V, Exhibit 2, W15)**

1 **Q. WHAT IS THE RATE CASE EXPENSE ADJUSTMENT?**

2 A. The Company is allowed to recover the costs of preparation and execution of its  
3 rate case proceeding, including consulting and legal expenses. The Company has  
4 received invoices totaling \$28,630 as of September 30, 2014. However, the  
5 Company estimates a total rate case expense of \$860,000. The difference between  
6 actual and estimated expenses should be amortized over three years at the rate of  
7 \$258,037 per year.

**Postage Rate Increase Adjustment**  
**(Section V, Exhibit 2, W16)**

8 **Q. WHAT IS THE POSTAGE RATE INCREASE ADJUSTMENT?**

9 A. The test year adjustment for postage expense annualizes the United States Postal  
10 Service 5.42% across-the-board increase that went into effect on January 6, 2014.  
11 To reflect this increased cost, the number of bills, notices, letters, etc. mailed by  
12 the Company from October 1, 2013 through January 26, 2014, 610,938, was  
13 multiplied by the postage rate increase of 5.42% or \$0.02 per mailing, resulting in  
14 an increase to Operation and Maintenance (O&M) Expenses of \$12,219.

**Eliminate Advertising Expense**  
**(Section V, Exhibit 2, W17)**

15 **Q. WHY ARE ADVERTISING EXPENSES BEING ELIMINATED?**

16 A. Pursuant to 807 KAR 5:016 Section 4(1) those expenses that were for  
17 promotional and institutional advertising must be removed from the test year. A

1 review was made of advertising expenses recorded during the test year and a total  
2 of \$30,610 is being eliminated from O&M Expenses.

**Annualization of Lease Costs**  
**(Section V, Exhibit 2, W18)**

3 **Q. WHY ARE LEASE COSTS ANNUALIZED?**

4 A. This adjustment annualizes the current level of lease costs based on September  
5 2014 lease rental expenses and compares that amount to the amount of lease costs  
6 incurred during the test year. The adjustment increases the jurisdictional O&M  
7 Expense by \$72,974.

**Annualization of Property Tax Expense**  
**(Section V, Exhibit 2, W44)**

8 **Q. WHY ARE PROPERTY TAX EXPENSES ANNUALIZED?**

9 A. The Transmission and Distribution property tax expense reflected in the test year  
10 is based upon the actual property tax amounts collected during the test year. The  
11 Company estimated the property tax expense on a going forward basis using the  
12 most recent assessable property value (from December 31, 2013) and the most  
13 recent property tax rates. This adjustment increases property taxes by a  
14 jurisdictional amount of \$314,531 to reflect increased property tax expense going  
15 forward. The Generation portion of property tax expense is included in  
16 adjustments related to recovery of Big Sandy Plant and Mitchell Plant costs  
17 supported by Company Witness Yoder.

**Fuel Under/(Over) Recovery Revenues**  
**(Section V, Exhibit 2, W7)**

18 **Q. PLEASE EXPLAIN THE ADJUSTMENTS PROPOSED IN CONNECTION**  
19 **WITH THE OVER/(UNDER) RECOVERY OF FUEL COSTS.**



1 A. As Exhibit JAR-3 demonstrates, the total test year level of jurisdictional fuel costs  
2 was \$214,069,635. The total test year level of jurisdictional fuel revenues were  
3 \$204,806,948, or a difference of (\$14,561,463). In order to properly design rates  
4 so that the appropriate level of revenue is recovered from the Kentucky  
5 customers, test year revenues should be decreased by \$5,298,776. This  
6 adjustment trues up the fuel clause revenues with the actual fuel clause expenses.  
7 If this adjustment were not made, the rates to be designed would assume that each  
8 year the tariffs are in effect the Company would over-recover its fuel costs by  
9 \$5,298,776.

10 **Q. ARE THERE ANY OTHER ADJUSTMENTS RELATED TO THE OVER**  
11 **OR UNDER-RECOVERY OF FUEL COSTS?**

12 A. Yes. There is an associated deferred tax adjustment in the amount of  
13 (\$1,854,572) required with the fuel cost adjustment. The Company has made this  
14 adjustment in its prior rate cases and the Commission has accepted the  
15 adjustment. Details of this adjustment are supported by Witness Bartsch.

**Coal Stock Adjustments**  
**(Section V, Exhibit 2, W54 & W55)**

16 **Q. WHY ARE COAL STOCK ADJUSTMENTS NECESSARY?**

17 A. The Coal Stock Adjustment adjusts the coal pile investment at the Big Sandy and  
18 Mitchell Plants to the supply level allowed for recovery. The supply level  
19 requested at each plant is based on many factors, including the means of  
20 transportation to the plant and the location of the supplier in relation to the plant.  
21 For Big Sandy and Mitchell Plants the necessary supply level is 30 days and 45  
22 days, respectively. The effect of this adjustment is to reduce Kentucky Power's

1 Materials and Supplies – Fuel Stock working capital by \$664,080 for Mitchell. In  
2 accordance with the Stipulation and Settlement Agreement the Commission’s  
3 October 7, 2013 Order in Case No. 2012-00578, the coal related assets and  
4 associated expenses for Big Sandy have been removed from rate base in their  
5 entirety. The treatment of the coal-related assets and expenses for Big Sandy is  
6 addressed in the testimony of Company Witness Wohnhas.

V. **TARIFF REVISIONS**

7 **Q. IS THE COMPANY PROPOSING ANY ADDITIONS OR CHANGES TO**  
8 **THE COMPANY’S TARIFFS CURRENTLY ON FILE WITH THE**  
9 **COMMISSION?**

10 A. Yes. The revisions are indicated in the right-hand margin of each tariff sheet  
11 attached in Section III, Exhibits JAR-8 and JAR-9. Some of the changes are  
12 minor text changes and are self-explanatory. I will address the following major  
13 tariff changes in my testimony:

- 14 • tariff eliminations;
- 15 • new tariffs and charges;
- 16 • changes to the Company’s current terms and conditions of service;
- 17 • changes to the Company’s schedule of special or non-recurring charges;
- 18 • changes to Company’s current bill format; and
- 19 • changes to the Company’s current tariffs.

**Tariff Eliminations**

20 **Q: IS THE COMPANY PROPOSING ELIMINATION OF ANY TARIFFS IN**  
21 **THIS PROCEEDING?**

22 A: Yes, the Company proposes to eliminate four tariffs:

- 1           • Tariff Q.P., Quantity Power (Tariff Sheet Nos. 10-1 thru 10-4), is being  
2           eliminated in accordance with the Stipulation and Settlement Agreement  
3           and subsequent Commission Order in Case No. 2012-00578;
- 4           • Tariff C.I.P.-T.O.D., Commercial and Industrial Power – Time of Day  
5           (Tariff Sheets 11-1 thru 11-3), is being eliminated in accordance with the  
6           Stipulation and Settlement Agreement and subsequent Commission Order  
7           in Case No. 2012-00578;
- 8           • Rider E.C.S.-C.&E., Emergency Curtailable Service – Capacity & Energy  
9           (Tariff Sheet Nos. 24-1 thru 24-6), is being eliminated because it expired  
10          May 31, 2012;
- 11          • Rider E.P.C.S., Energy Price Curtailable Service Rider (Tariff Sheet Nos.  
12          25-1 thru 25-3), is being eliminated because there are no current  
13          customers; and
- 14          • Tariff R.T.P., Experimental Real Time Pricing (Tariff Sheet Nos. 30-1  
15          thru 30-4) is an experimental tariff, with no current customers. It was  
16          effectively terminated by the Commission’s Order dated December 20,  
17          2012 in Case No. 2012-00226. As such, the Company is eliminating the  
18          tariff.

**New Tariffs And Charges**

19   **Q: IS THE COMPANY PROPOSING ANY NEW TARIFFS IN THIS**  
20   **PROCEEDING?**

21   A: Yes, the Company is proposing several new tariffs and/or riders.

1 **Q: PLEASE LIST THE NEW TARIFFS, RIDERS AND CHARGES THE**  
 2 **COMPANY IS PROPOSING AND THE WITNESS WHO DISCUSSES**  
 3 **THEM.**

4 A: The Company is proposing the following new tariffs, riders and charges:

- 5 • Industrial General Service (“I.G.S.”) Tariff, Tariff Sheet Nos. 10-1 thru  
 6 10-4;
- 7 • PJM Rider, Tariff Sheet Nos. 24-1 thru 24-3 – is supported by Company  
 8 Witness Vaughn.
- 9 • Big Sandy Retirement Rider, B.S.R.R., Tariff Sheet No. 38-1 thru 38-2 –  
 10 is supported by Company Witnesses Wohnhas and Yoder.
- 11 • Big Sandy 1 Operation Rider, B.S.1.O.R., Tariff Sheet No. 39-1 thru 39-2  
 12 – is supported by Company Witnesses Wohnhas and Vaughn.
- 13 • NERC Compliance and Cybersecurity Rider, Tariff Sheet 40-1 thru 40-3 –  
 14 is supported by Company Witnesses Wohnhas and Stogran.
- 15 • Kentucky Economic Development Surcharge (“K.E.D.S.”).

16 I discuss below the new I.G.S., Tariff Sheet No. 10-1 thru 10-4 and the Kentucky  
 17 Economic Development Surcharge.

18 **Q. TO WHICH CUSTOMER CLASS TARIFFS ARE THE NEW RIDERS,**  
 19 **AND CHARGES APPLICABLE?**

20 A. The PJM Rider, Big Sandy Retirement Rider, Big Sandy 1 Operation Rider, and  
 21 the NERC Compliance and Cybersecurity Rider are applicable to the following  
 22 Tariffs: R.S., R.S.-L.M.-T.O.D., R.S.-T O.D., Experimental R.S.-T.O.D.2, S.G.S.,

1 S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S., C.S.-  
2 I.R.P., M.W., O.L., and S.L.

3 The new Kentucky Economic Development Surcharge is applicable to the  
4 following Tariffs: R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-  
5 T.O.D.2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D.,  
6 I.G.S., C.S.-I.R.P., M.W., and S.L.

7 **Q: PLEASE DESCRIBE THE I.G.S. TARIFF.**

8 A: As a result of the Stipulation and Settlement Agreement and subsequent  
9 Commission Order in Case No. 2012-00578, the Company is combining the  
10 current Q.P. and C.I.P.-T.O.D. customer classes. To accomplish this, the  
11 Company has proposed eliminating those tariffs and replacing them with a new  
12 tariff for the combined customer classes, the Industrial General Service (I.G.S)  
13 Tariff. The new tariff is available to commercial and industrial customers whose  
14 contract capacity is no less than 1,000 kW. The rates, determined through a cost  
15 of service study, are supported in Company Witness Vaughn's testimony.

16 **Q: PLEASE DESCRIBE THE KENTUCKY ECONOMIC DEVELOPMENT**  
17 **SURCHARGE.**

18 A: In order to help jump start economic development in its service territory, the  
19 Company is proposing the K.E.D.S. A monthly surcharge of \$0.15 will be  
20 applied to each customer account for the purpose of funding economic  
21 development initiatives. As a part of its ongoing commitment toward fostering  
22 economic growth in the service territory, the Company proposes to match the  
23 funds raised through the surcharge with shareholder funds. Based upon test year

1 end billing determinant data, the program will yield \$307,507 from customers and  
2 with Company's matching funds will yield a total of \$615,014 annually. The  
3 \$0.15 per month charge has been added to each customer class tariff, except for  
4 outdoor lights.

5 **Q: PLEASE EXPLAIN HOW THE FUNDS RAISED THROUGH THE K.E.D.S**  
6 **WILL BE UTILIZED TO FOSTER ECONOMIC DEVELOPMENT.**

7 A: The Company is committed to pursuing economic development within the service  
8 territory. In December 2012, the Company commissioned InSite Consulting,  
9 LLC, a professional Site Location Consultant, to study a significant portion of the  
10 Kentucky Power service territory to determine gaps in economic development  
11 efforts. The study was completed in September, 2013 and the findings showed a  
12 significant absence of any organized regional or local economic development  
13 effort in the Company's service territory. Based on the recommendations of the  
14 consultants' report, focus is necessary in the following four strategic areas, each  
15 of which will require additional funding:

- 16 • Specification Building Seed Money – Currently, there are no available  
17 specification buildings located at three of the four existing industrial  
18 parks. The authorities responsible for the industrial parks without  
19 specification buildings are in the planning stages for such a building, but  
20 seed money is needed for design and planning activities as well as local  
21 matching dollars for anticipated grant funds.
- 22 • Infrastructure Improvements – The InSite report provided an inventory of  
23 recommended infrastructure improvements for each of the key industrial

1 properties in the Company's service territory. Each property has  
2 infrastructure deficiencies that, until they are remedied, make the property  
3 not competitive. Additional funding is necessary for design and  
4 construction activities to make these properties competitive.

- 5 • Master Plan Updates – Many of the key properties identified in the InSite  
6 report do not have an existing master plan. If a master plan does exist, it  
7 needs to be modified to meet the standards of a nationally competitive  
8 property prospect. Additional funding would be used to create, update,  
9 and implement property master plans that will facilitate the proper use of  
10 each of the identified industrial parks.

- 11 • Site Marketing – Currently, no organization is funded to market any  
12 existing industrial properties. Industrial authorities are in place to manage  
13 most of the properties, but they lack the necessary funding to improve or  
14 market the properties. Additional funding would be used to market these  
15 properties to site consultants and target industries.

16 InSite has also completed two additional studies. InSite's Phase II study  
17 narrowed down the list of possible properties and identified the improvements  
18 necessary to make key industrial properties market ready. The Phase II study  
19 prioritized the infrastructure investment projects based on which would provide  
20 the best return on investment for the Company's service territory. InSite's Phase  
21 III study is focused on providing assistance the owners of the top two properties  
22 identified in Phase II. The Phase III study is providing assistance to these owners

1 in documenting all due diligence items required to market these properties  
2 effectively, including which items need to be addressed and the associated cost.

3 Working with InSite has provided the Company with detailed, specific  
4 tasks. Investing resources to implement these tasks will result in a service  
5 territory that is able to participate effectively in the competitive economic  
6 development arena. The Company will use K.E.D.S. funds along with assistance  
7 from local governments, state government, and other private industries to  
8 implement the InSite studies' recommendations.

9 **Q: PLEASE IDENTIFY THE BENEFITS KENTUCKY POWER'S**  
10 **CUSTOMERS WILL RECEIVE FROM SUCCESSFUL ECONOMIC**  
11 **DEVELOPMENT ACTIVITIES?**

12 A: Broadly speaking, there are multiple benefits to the service territory from the  
13 economic development that will result from implementing this program.  
14 Increased economic activity and additional jobs will benefit those families  
15 directly employed. The additional money that is spent within the service territory  
16 will also spur additional economic activity which will support additional jobs.  
17 The increased economic activity will also strengthen communities' tax base,  
18 which will in turn help to support schools and other local government provided  
19 services. In addition, the Company has seen both its load and customer base  
20 erode slowly over the last several years, especially as mining activity has slowed  
21 down. The Company, by strengthening communities' ability to grow the service  
22 territory economy will grow its load and its customer base. Everything else being  
23 equal, this will allow the Company to spread its costs over a greater number of



1 kilowatt hours and customers and keep the cost to individual customers as low as  
2 possible.

3 Specifically, funds can be used to help support the creation and  
4 implementation of Master Plans for industrial sites, site infrastructure  
5 development, and the planning and design of buildings that could be used by  
6 prospective businesses. Having industrial sites and buildings ready for occupancy  
7 is crucial to attracting new businesses. Finally, once sites are ready for  
8 occupancy, marketing the prospective sites effectively is an important next step.  
9 Equally important is enhancing the training and resources of local economic  
10 development organization personnel. These are all necessary activities that are  
11 not being accomplished currently. The additional funding that the surcharge will  
12 provide, along with the Company's matching funds and leadership, will help  
13 communities within the service territory be more competitive in attracting  
14 prospective employers and creating jobs.

15 **Q: IS THE COMPANY PURSUING ANY OTHER ECONOMIC**  
16 **DEVELOPMENT PROGRAMS WITHIN ITS SERVICE TERRITORY?**

17 A: Yes. Broadly, there are several initiatives.

- 18 • Kentucky Power has hired a Manager – External Affairs in June 2012  
19 whose primary responsibility is working in conjunction with local  
20 governments and economic development organizations in the Company's  
21 service territory to find and bring new businesses to the service territory  
22 that will help create jobs and sustained economic growth.

- 1           • On September 18, 2014, the Company submitted an Economic  
2           Development Rider tariff for Commission approval in Case No. 2014-  
3           00336. That tariff is designed to offer a temporary declining discount to  
4           the demand charge for new industrial and commercial load of at least 500  
5           kW. The Commission has not issued a final Order in that case. The  
6           proposed Tariff E.D.R. is included as Tariff Sheet Nos. 37-1 to 37-5.
- 7           • As a result of the Settlement Agreement and subsequent Commission Order in  
8           Case No. 2012-00578 dated October 13, 2013, the Company is contributing  
9           \$200,000 per year through 2018 toward economic development in Lawrence  
10          County and the surrounding contiguous counties. The Company is also  
11          providing \$33,000 per year designated for job training for five years to two  
12          technical colleges in the Kentucky Community and Technical College System,  
13          Ashland Community and Technical College and Big Sandy Community and  
14          Technical College.
- 15          • Kentucky Power also is an active participant in Shaping Our Appalachian  
16          Region (SOAR). This initiative was created by Gov. Steve Beshear and Rep.  
17          Hal Rogers, R-Ky. to improve the economy and quality of life in Eastern  
18          Kentucky. Also, the Manager – External Affairs serves as Co-Chair for the  
19          Business Recruitment and Expansion Committee for SOAR.

**Changes to the Company's Terms and Conditions of Service**

1   **Q.    ARE THERE ANY CHANGES TO THE COMPANY'S CURRENT TERMS**  
2       **AND CONDITIONS OF SERVICE BEING PROPOSED IN THIS**  
3       **PROCEEDING?**

4    A.    Yes. Changes are being proposed to Kentucky Power's Terms and Conditions of  
5       Service on Tariff Sheet Nos. 2-1, 2-2, 2-3, 2-7, 2-9, and 2-10 as described below:

6           •    Tariff Sheet No. 2-1, paragraph 1, was revised to add the location of the  
7                on-line tariff.

8           •    On Tariff Sheet No. 2-2, the Criteria for Waiver of Deposit Requirement,  
9                Paragraph 4B, was revised for clarification. The language was modified  
10              to define what the Company considers to be "satisfactory payment  
11              criteria." If the customer complies with the satisfactory payment criteria  
12              the Company may waive the deposit requirements.

13          •    Tariff Sheet No. 2-3, paragraph 4D, Additional or Supplemental Deposit  
14              Requirement was modified to allow the Company the ability to impose  
15              additional deposit requirements for residential and non-residential  
16              customers who fail to maintain a satisfactory payment criteria or a  
17              payment history. It will also allow the Company to require an additional  
18              or supplemental deposit if a non-residential customer's credit rating falls  
19              to specific levels as reported by various national credit reporting agencies,  
20              such as below a "C" level at Value Line, a "BB+" level at Standard &  
21              Poor's, a "BB+" level at Fitch, or a "Ba3" level at Moody's. The  
22              modification reflects the fact that the current tariff language uses only the

1 Value Line criteria yet because not all customers are listed in Value Line,  
 2 this was not adequate to assure customer ratings.

3 • Tariff Sheet No. 2-8, paragraph 14, Monitoring Usage, was clarified to  
 4 state that the Company monitors each customer’s usage at least quarterly.

5 • Tariff Sheet No. 2-9, paragraph 16 was modified to clarify that individual  
 6 residences are to be served by single phase service under the applicable  
 7 residential service tariff.

8 • On Tariff Sheet No. 2-9, paragraph 17, Denial or Discontinuance of  
 9 Service, the language has been revised to define an applicant as a  
 10 customer in conformity with the Commission’s definition of a customer.

11 • Tariff Sheet No. 2-10, paragraph 19A, was modified to clarify that the  
 12 third line should be labeled “3. Reconnect for nonpayment when a “Call  
 13 Out” is required prior to 10:00 PM”. Also, clarifying language was added  
 14 “Reconnection for nonpayment will not be made when a “Call Out” after  
 15 10 pm is required.”; and

16 • Tariff Sheet No. 2-10, paragraphs 19C Returned Check Charges and 19D  
 17 Meter Test Charges have been revised so the rates more closely match  
 18 current costs.

**Changes to the Bill Format**

19 **Q. ARE THERE ANY CHANGES TO THE COMPANY’S CURRENT BILL**  
 20 **FORMAT BEING PROPOSED IN THIS PROCEEDING?**

21 A. Yes. The Company is proposing to add the following line items to customer bills:

22 • Kentucky Economic Development Surcharge

- 1           • Big Sandy 1 Operation Rider
- 2           • P.J.M. Rider
- 3           • NERC Compliance and Cybersecurity Rider
- 4           • Big Sandy Retirement Rider

5   **Q:    IS THE COMPANY PROPOSING ANY FURTHER CHANGES TO THE**  
6   **BILL FORMAT?**

7   A:    No, not in this proceeding. The Company proposed a change to its bill format  
8        applicable to residential service tariffs for an optional non-regulated home  
9        warranty service. This tariff filing is the subject of a separate Commission  
10       proceeding, Case No. 2014-00420. Once the Commission has issued its final  
11       Order in that case, the Company will make any necessary amendments to the  
12       tariff pursuant to the Commission's Order.

**Changes to the Company's Schedule of Special or Nonrecurring Charges**

13   **Q:    WHAT ARE SPECIAL OR NONRECURRING CHARGES?**

14   A:    Special or Nonrecurring charges are charges to customers due to a specific request  
15        for certain types of services for which, when the activity is completed, no  
16        additional charges will be incurred. Such charges are intended to be limited in  
17        nature and to recover the specific cost of the activity.

18   **Q:    DOES THE COMPANY HAVE ANY SPECIAL CHARGES CURRENTLY**  
19   **IN ITS TERMS AND CONDITIONS OF SERVICE?**

20   A:    Yes. The Company currently has four categories of Special Charges. They are:  
21        (1) reconnect for nonpayment charge, (2) termination or field trip charge, (3)  
22        returned check charge, and (4) meter test charge. The existing Special Charges

1 were last modified in Case No. 2005-00431. The Company sought to modify the  
2 Special Charges in the last base rate case, Case No. 2009-00459, but the Special  
3 Charges were not changed as part of the Settlement Agreement resolving that  
4 case.

5 **Q: DOES THE COMPANY HAVE DIFFERENT CHARGES WITHIN THE**  
6 **RECONNECT FOR NONPAYMENT CATEGORY?**

7 **A:** Yes. The Company has the following four categories of reconnect for  
8 nonpayment:

- 9 1. Reconnect for non-payment during regular business hours;
- 10 2. Reconnect for non-payment at the end of the day (No “Call Out” required);
- 11 3. Reconnect for non-payment when a “Call-Out” is required prior to 10:00  
12 PM; and
- 13 4. Reconnect for non-payment on a Sunday and Holiday.

14 **Q: WHY DOES THE COMPANY HAVE FOUR DIFFERENT RECONNECT**  
15 **FOR NONPAYMENT CHARGES?**

16 **A:** The four different charges reflect the unique costs associated with each of the four  
17 types of reconnections. For example, when the Company reconnects a customer  
18 after normal business hours, an employee is “called out” and the Company is  
19 obligated to pay that employee time and half for a minimum of two hours. When  
20 the Company reconnects a customer on a Sunday or a Holiday, an employee is  
21 called out and the Company is obligated to pay the employee double time for a  
22 minimum of two hours. Also, the Company incurs different costs depending upon  
23 the time of day (or night) the work is performed. The intent of the Special

1 Charges is to assign the cost incurred by the Company to perform the specific  
2 activity to the customer who required the Company to incur those costs. The  
3 customer has the ability to decide what charge to be incurred.

4 **Q: HOW WERE THE AMOUNTS OF THE DIFFERENT SPECIAL**  
5 **CHARGES SERVICE RECONNECTION DETERMINED?**

6 A: The methodology used to determine the Special Charges is the same methodology  
7 that has been used in prior rate cases. Using data and information supplied by the  
8 field employees and their supervisors, the average time to perform the different  
9 activities was calculated. The Company then aggregated the total labor costs,  
10 transportation costs, fringe benefit costs and any other associated cost incurred to  
11 arrive at the total cost to perform each of the different activities listed on Exhibit  
12 JAR-5. Where it differed, the Company also calculated the costs incurred based  
13 upon the amount of time the Company is required to pay the employee for  
14 performing a service. For example, on reconnections requiring a call out at night,  
15 on weekends, or on holidays, the minimum hours that can be logged by the  
16 worker is two hours. Accordingly, for the same reconnection, the cost varies from  
17 \$21.29 during regular hours, \$30.91 when it goes into overtime, \$95.46 for a  
18 weekday call-out, and \$124.15 for a Sunday or holiday call-out, which requires  
19 payment of double time.

20 **Q: ARE THERE ADDITIONAL CHANGES TO THE COMPANY'S**  
21 **RECONNECT POLICY?**

22 A: Yes. The Company is revising the tariff for reconnection after hours with a Call  
23 Out. For reasons of personnel safety, the Company will no longer call out

1 personnel to reconnect customers after 10 PM. Work orders generated after 10  
2 PM will be handled at the beginning of the next business day. Even though the  
3 Company will no longer call out personnel after 10 PM, it will still be providing  
4 reconnections within the requirements of 807 KAR 5:006, Section 14(4).

5 **Q: ARE THERE CHANGES TO OTHER SPECIAL CHARGES?**

6 A: Yes. The methodology used to determine the Special Charges is the same  
7 methodology used in prior rate cases. See Exhibit JAR-5 for an analysis of the  
8 various labor costs, transportation costs, fringe benefit and other associated costs  
9 incurred by the company for the following Special Charges:

- 10 • Termination or Field Trip Charge. When the Company makes a special  
11 trip to the customer's premises to perform a disconnect for non-payment,  
12 the Company incurs a cost of \$12.99. The Company is proposing a charge  
13 of \$13.00.
- 14 • Meter Test Charge. Upon written request by the customer, the Company  
15 will test the meter for accuracy. The Company incurs a cost of \$48.25 for  
16 each test and is proposing a charge of \$48.00.
- 17 • Bad Check Charge. When a customer pays the monthly bill with a check  
18 that is subsequently returned, there is labor involved in the processing, as  
19 well as assessed bank fees. The cost to the Company of a bad check is  
20 \$18.71 and is proposing a charge of \$18.00.

21 **Q: ARE THERE ANY NEW SPECIAL CHARGES?**

22 A: Yes. The Company is proposing a new Special Charge on Tariff Sheet No. 2-10  
23 paragraph 19B Meter Reading Check. There are instances in which the customer



1 wants the Company to read the meter a second time. Currently, the Company  
2 reads all its meters electronically. When the Company makes a special trip to a  
3 customer's premise to perform a manual visual meter read, the Company incurs  
4 costs in the same manner as in the performance of a service reconnect during  
5 regular business hours, i.e., \$21.29. The Company is proposing a Meter Reading  
6 Check charge of \$21.00. See Exhibit JAR-5 for an analysis of the various labor  
7 costs, transportation costs, fringe benefit and other associated costs incurred by  
8 the Company for a meter reading check.

9 **Q: WHAT IS THE ADDITIONAL ANNUAL REVENUE THE COMPANY**  
10 **WOULD ANTICIPATE BY INCREASING THE SPECIAL CHARGES?**

11 A: If the proposed changes to all Special Charges were in effect for the twelve  
12 months ending September 31, 2014, and the number of transactions for each  
13 activity remained the same, the total increase in the Company's Special Charges  
14 revenue would have been \$251,903. A breakdown of this increase in Special  
15 Charges revenue by type of charge and customer class is shown on Exhibits JAR-  
16 5 – JAR-7.

**Changes to the Company's Current Tariffs**

17 **Q. IS THE COMPANY PROPOSING ANY OTHER CHANGES TO**  
18 **EXISTING TARIFFS?**

19 A: Yes. In addition to the changes identified above and the changes relating to rate  
20 updates, the Company is proposing to update numerous tariffs. These changes are  
21 described below.

**Residential Service Tariffs (Tariffs R.S., R.S.-L.M.-T.O.D.,  
R.S.-T.O.D., R.S.-T.O.D.2)**

1 **Q. IS KENTUCKY POWER PROPOSING ANY CHANGES TO THE**  
2 **EXISTING RESIDENTIAL SERVICE TARIFFS?**

3 A. Yes. The Company is proposing to make the following changes:

4 1. Add language to note that Volunteer Fire Departments may take service  
5 under residential Tariff R.S. Tariff Sheet No. 6-2.

6 2. Under Special Terms and Conditions, replace language to explain  
7 availability as follows: “This tariff is available for single-phase, residential  
8 service. Where the residential customer requests three-phase service, this  
9 tariff will apply if the residential customer pays to the Company the  
10 difference between constructing single-phase service and three-phase  
11 service. Where motors or heating equipment are used for commercial or  
12 industrial purposes, the applicable general service tariff will apply to such  
13 service” on Tariff R.S. Tariff Sheet No. 6-4, Tariff R.S.-L.M.-T.O.D.  
14 Tariff Sheet No. 6-7, Tariff R.S.-T.O.D. Tariff Sheet No. 10 and Tariff  
15 R.S.-T.O.D. 2 Tariff Sheet No. 6-13 .

16 3. Add language to clarify that extensions for service “of up to 150 feet for a  
17 mobile home are provided without charge” on Tariff R.S. Tariff Sheet No.  
18 6-4.

**Small General Service Tariffs (Tariffs S.G.S. and S.G.S.-T.O.D.)**

1 **Q. IS KENTUCKY POWER PROPOSING ANY CHANGES TO THE**  
2 **EXISTING SMALL GENERAL SERVICE TARIFFS?**

3 A. Yes. The Company is proposing to add language to Tariff S.G.S. Tariff Sheet No.  
4 7-1 and Tariff S.G.S.-T.O.D. Tariff Sheet No. 7-4 to limit this tariff to metered  
5 customers being served at a secondary distribution voltage because the rate was  
6 designed for secondary service. Under Availability of Service, the Company has  
7 added the following grandfather clause “Customers not meeting the requirements  
8 for availability under this tariff will only be permitted to continue service under  
9 this tariff at the premise occupied for continuous service beginning no later than  
10 January 22, 2015.”

**M.G.S. Tariff - Medium General Service**

12 **Q: ARE THERE ANY PROPOSED CHANGES TO THE M.G.S. TARIFF?**

13 A: Yes. At Tariff Sheet No. 8-1 under Availability of Service, the Company is  
14 proposing to add the following language to clarify that “Customers receiving  
15 service on or before January 22, 2015 at a secondary voltage and with average  
16 monthly demand below 10 kw will be served under the S.G.S. tariff”. Also on  
17 Tariff Sheet 8-4, under Term of Contract, the Company is modifying the contract  
18 terms such that contracts may be required of any customer, regardless of the level  
19 of normal maximum demand.

**Quantity Power C.I.P.-T.O.D. Combined Tariff**

20 **Q: ARE THERE ANY PROPOSED CHANGES TO THE TERMS AND**  
21 **CONDITIONS FOR THE Q.P. and C.I.P.-T.O.D TARIFF?**

1 A: Yes. Per the Stipulation and Settlement Agreement and the Commission's Order  
2 in Case No. 2012-00578, the Company eliminated Tariffs Q.P. and C.I.P.-T.O.D.  
3 and replaced them with a new Tariff Industrial General Service (I.G.S.). Please  
4 see Exhibits JAR-8 and JAR-9 for the proposed Tariff I.G.S.

**Tariff C.S.-I.R.P. – Contract Services – Interruptible Power**

5 **Q: ARE THERE ANY PROPOSED CHANGES TO THE TERMS AND**  
6 **CONDITIONS FOR THE C.S.-I.R.P TARIFF?**

7 A: Yes. Per the Stipulation and Settlement Agreement and the Commission's Order  
8 in Case No. 2012-00578, on Tariff Sheet No. 12-1, the Company has increased  
9 the total contract capacity for all customers served under Tariff C.S.-I.R.P. from  
10 60,000 kW to 75,000 kW. In addition, under Rate, language has been added to  
11 clarify that "Credits under this Tariff of \$3.68/kW/month will be provided for  
12 interruptible load that qualifies under PJM's rules as capacity for the purpose of  
13 the Company's FRR obligation."

**C.A.T.V. Tariff – Cable Television Pole Attachment**

14 **Q: ARE THERE ANY PROPOSED CHANGES TO THE C.A.T.V. TARIFF?**

15 A: Yes. At Tariff Sheet No. 16-1 under Availability of Service, the Company has  
16 clarified the definition of "attachment" to mean "physical connection of (a) a  
17 messenger strand supporting the wires, cables or stand-mounted associated  
18 facilities and equipment of a cable system or (b) service drops affixed to the pole  
19 and located more than one vertical foot away from the point at which the  
20 messenger strand is attached to the pole (but not a strand originating or mid-span  
21 service drop) or (c) service drops located on a dedicated service, drop or lift pole.  
22

1 An attachment shall consume no more than one foot (1') of vertical space on any  
2 distribution pole owned by the Company.” In addition, the Company has clarified  
3 the applicability of the rates to be applied as “attachments per year” and defined  
4 two and three user poles. On Tariff Sheet No. 16-4 under Charges and Fees, the  
5 Company is proposing “an annual charge per attachments set forth on Sheet 16-1”  
6 rather than semi-annually. Also under Advance Billing, when a payment date is  
7 not specified on an invoice, the Company is extending the time to make the  
8 payment from 15 to 30 days.

**Tariff O.L. – Outdoor Lighting**

9 **Q: ARE THERE ANY PROPOSED CHANGES TO THE TERMS AND**  
10 **CONDITIONS FOR THE OUTDOOR LIGHTING TARIFF?**

11 A: The Company is proposing to clarify the Terms of Initial Service on Sheet No.  
12 14-4 by adding the following language, “If early termination is requested, the  
13 customer will be billed for the remainder of the 12 month period.” Consistent  
14 with cost-causation principles, it is important that the cost for installing a new  
15 outdoor light is paid by the customer that requested that installation instead of the  
16 Company’s other customers.

**Tariffs COGEN/SPP I and COGEN/SPP II**

17 **Q: PLEASE DESCRIBE THE ADDITIONS TO THE COGEN/SPP TARIFFS.**

18 A: Tariff Sheet Nos. 17-1 and 18-1, Tariff COGEN/SPP I and II, respectively, under  
19 Monthly Metering Charge Option 1, are being revised to state “Option 1 – Not  
20 Applicable.” The Company uses AMR meters that no longer require a detent to  
21 prevent reverse rotation, so the prior language is obsolete.

1           On Tariff Sheet No. 17-3 under Capacity Credit B.(2), the calculation of  
2           the on-peak metered average capacity is being modified to correct an arithmetic  
3           error in the current tariff. The revised tariff calculates the on-peak metered  
4           average capacity by dividing the on-peak kWh delivered to the Company or  
5           produced by COGEN/SPP facilities divided by 305 instead of 327 as in the  
6           current tariff.

7           On Tariff Sheet No. 18-3 under Capacity Credit B.(2), the calculation of  
8           the on-peak metered average capacity is being modified to correct an arithmetic  
9           error in the current tariff. The revised tariff calculates the on-peak metered  
10          average capacity by dividing the on-peak kWh delivered to the Company or  
11          produced by COGEN/SPP facilities divided by 305 instead of 730 as in the  
12          current tariff. Because there are no customers on this tariff, the error in the  
13          current tariff has had no adverse effect.

**Tariff S.S.C. – System Sales Clause**

14   **Q.    IS THE COMPANY PROPOSING CHANGES TO TARIFF S.S.C.?**

15    A.    Yes. Company Witness Wohnhas addresses revisions to Kentucky Power’s Tariff  
16    S.S.C., System Sales Clause, Tariff Sheet Nos. 19-1 and 19-2.

**Tariff T.S. – Temporary Service**

17   **Q.    IS THE COMPANY PROPOSING CHANGES TO TARIFF T.S.?**

18    A.    Yes. On Tariff Sheet No. 21-1 the Company is clarifying Availability of Service  
19    to state that “Residential customers will be supplied with 100 amp service. All  
20    other customer classes will be supplied at voltage levels applicable to the class of  
21    business.” In addition, The Company is clarifying the Term of temporary service

1 to be more in line with the time necessary to complete a construction project. The  
2 Company will install the temporary service for an initial period of 180 days and  
3 may extend the service for an additional 90 days.

**Tariff N.U.G. – Non-Utility Generator**

4 **Q. WHAT REVISIONS BEING PROPOSED TO THE COMPANY'S**  
5 **EXISTING TARIFF N.U.G.?**

6 A. Because of the differences in those customers that would request Tariff N.U.G.,  
7 and the customer-specific terms that may be necessary during Startup, a contract  
8 is required for each customer under the Startup Power Service section. On Tariff  
9 Sheet No. 26-2, the Company has removed the Monthly Transmission and  
10 Distribution Rates under that section to accommodate the differences and will  
11 now include those rates in the customer's contract, similar to the way generation  
12 rates are treated.

**Tariff N.M.S. – Net Metering Service**

13 **Q. WHAT REVISIONS BEING PROPOSED TO THE COMPANY'S**  
14 **EXISTING TARIFF N.M.S.?**

15 A. On Tariff Sheet Nos. 27-9 and 27-15 of Tariff N.M.S. the Company designee is  
16 being changed to reference the Distributed Generation Coordinator and not a  
17 specific individual so that the tariff does not require changes anytime the person  
18 holding that position are changed.

**Tariff E.S. – Environmental Surcharge Tariff**

1 **Q: IS THE COMPANY PROPOSING TO CHANGE THE BASE AMOUNT OF**  
2 **ENVIRONMENTAL COSTS REFLECTED IN THE ENVIRONMENTAL**  
3 **SURCHARGE MONTHLY CALCULATIONS?**

4 A: Yes. Company Witness Elliott will address changes regarding the Environmental  
5 Surcharge tariff in her testimony.

**Tariff P.P.A – Purchase Power Adjustment**

6 **Q. IS THE COMPANY PROPOSING CHANGES TO TARIFF P.P.A.?**

7 A. Yes. The Company is modifying the monthly rate formula. On Tariff Sheet No  
8 35-1, under Rates, Subsection 2, the Company is adding a variable to the formula  
9 to read, “c .PE(m)= The cost of power purchased unrelated to forced generation  
10 or transmission outages that are calculated in accordance with the peaking unit  
11 equivalent methodology.” The previous 2.c. is renumbered to be 2.d. The new  
12 formula will read, “Monthly P(m) = PPA(m) + RP(m)+PE(m) + CSIRP(m).” The  
13 new formula will allow the Company to recover the full cost of purchased power  
14 on a timely basis.

**Tariff A.T.R. –Asset Transfer Rider**

15  
16 **Q: IS THE COMPANY PROPOSING CHANGES TO THE A.T.R. TARIFF?**

17 A: Yes. Because of the manner through which costs are recovered under Tariff  
18 A.T.R., the Company is modifying the Rate section on Tariff Sheet 36-1. The  
19 Company is eliminating the language, “and ending when the Commission sets  
20 new base rates for the Company that include Mitchell Units 1 and 2.” And adding  
21 the language “Recovery under Tariff A.T.R. shall terminate on the effective date



1 of new base rates for the Company that include Mitchell Units 1 and 2, except that  
2 the Company shall recover through the Residential Asset Transfer Adjustment  
3 and the All Other Classes Transfer Adjustment such amounts as required to  
4 ensure the Company recovers in the year new base rates for the Company are  
5 established that include Mitchell Units 1 and 2 a pro rata share (computed on a  
6 365-day annual basis) of the \$44 million annual revenue requirement under Tariff  
7 A.T.R.” The modification will allow a temporary extension of the Rider to allow  
8 the Company to recover the full amount of the authorized \$44 million. Once the  
9 full amount has been recovered, the Rider will be withdrawn.

10 **Tariff D.S.M.C. – Demand-Side Management Adjustment Clause**

11 **Q: IS THE COMPANY PROPOSING ANY CHANGES TO THE DSMC**  
12 **TARIFF?**

13 A: No, not in this proceeding. The Company’s current demand-side management  
14 programs are the subject of a separate Commission proceeding, Case No. 2014-  
15 00271. Once the Commission has issued its final Order in that case, the Company  
16 will make any necessary amendments to the tariff pursuant to the Commission’s  
17 Order.

18 **Tariff E.D.R. – Economic Development Rider**

19 **Q: IS THE COMPANY PROPOSING ANY CHANGES TO THE ECONOMIC**  
20 **DEVELOPMENT RIDER TARIFF?**

21 A: No, not in this proceeding. The Economic Development Rider tariff is the subject  
22 of a separate Commission proceeding, Case No. 2014-00336. Once the

1 Commission has issued its final Order in that case, the Company will make any  
2 necessary amendments to the tariff pursuant to the Commission's Order.

3 **Q: DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

4 **A:** Yes.

**Kentucky Power Company  
Rockport Extension Proposed Revenue Allocation**

**Exhibit JAR-1**

| Ln.<br>No.<br>(1) | Tariffs<br>(2) | Proposed<br>Billed<br>Revenues<br>(3) | Percent of<br>Revenue<br>(4) | Allocated<br>\$6.2 Million<br>(5) | Proposed<br>Billing Units<br>kWh Sales<br>(6) | kWh Rate<br>All Other<br>Customers<br>(7) | kWh Rate<br>IGS<br>Customers<br>(8) |
|-------------------|----------------|---------------------------------------|------------------------------|-----------------------------------|---|---|-------------------------------------|
| 1                 | Residential    | \$267,061,060                         | 42.35%                       | \$ 2,625,700                      | 2,260,149,747                                 |   |                                     |
| 2                 | SGS            | \$ 21,651,296                         | 3.43%                        | \$ 212,660                        | 142,560,732                                   |   |                                     |
| 3                 | MGS            | \$ 64,645,805                         | 10.25%                       | \$ 635,500                        | 513,643,421                                   |   |                                     |
| 4                 | LGS            | \$ 78,000,533                         | 12.37%                       | \$ 766,940                        | 707,364,999                                   |   |                                     |
| 5                 | OL             | \$ 8,191,296                          | 1.30%                        | \$ 80,600                         | 37,640,598                                    |   |                                     |
| 6                 | SL             | \$ 1,609,696                          | 0.26%                        | \$ 16,120                         | 8,190,082                                     |   |                                     |
| 7                 | MW             | \$ 395,083                            | 0.06%                        | \$ 3,720                          | 3,864,039                                     |   |                                     |
| 8                 | IGS            | \$ 189,000,671                        | 29.97%                       | \$ 1,858,140                      | 2,818,677,591                                 |   |                                     |
| 9                 | Total          | <u>\$630,555,440</u>                  | <u>99.99%</u>                | <u>\$ 6,199,380</u>               | <u>6,492,091,209</u>                          |   |                                     |
| 10                | New Rate       |                                       |                              |                                   |   | <u>\$0.001182</u>                         | <u>\$0.000659</u>                   |

**Kentucky Power Company  
Capacity Charge Tariff Revenues  
October 1, 2013 to September 30, 2014**

| Ln<br>No<br>(1) | Month<br>(2) | Year<br>(3) | Total<br>Ky Retail<br>Billed &<br>Accrued<br>kWh<br>(4) | Ky Retail<br>CIP - TOD*<br>Billed & Accrued<br>kWh<br>(5) | CIP - TOD<br>Capacity Charge<br>Rate Per<br>kWh<br>(6) | Ky Retail<br>All Other<br>Billed & Accrued<br>kWh<br>(7) = (4) - (5) | All Other<br>Capacity Charge<br>Rate Per<br>kWh<br>(8) | Total<br>(9)       |
|-----------------|--------------|-------------|---|---|--|--|--|--------------------|
| 1               | October      | 2013        | 497,904,629   | 179,117,536   | \$0.000667   | 318,787,093  | \$0.000970   | \$428,695          |
| 2               | November     | 2013        | 570,541,462   | 188,257,047   | \$0.000667   | 382,284,415  | \$0.000970   | \$496,383          |
| 3               | December     | 2013        | 601,269,198   | 178,635,737   | \$0.000667   | 422,633,461  | \$0.000970   | \$529,104          |
| 4               | January      | 2014        | 727,096,121   | 187,522,268   | \$0.000667   | 539,573,853  | \$0.000970   | \$648,464          |
| 5               | February     | 2014        | 590,212,723   | 161,235,143   | \$0.000667   | 428,977,580  | \$0.000970   | \$523,652          |
| 6               | March        | 2014        | 626,175,478   | 173,811,498   | \$0.000667   | 452,363,980  | \$0.000970   | \$554,725          |
| 7               | April        | 2014        | 440,658,617   | 173,969,661   | \$0.000667   | 266,688,956  | \$0.000970   | \$374,726          |
| 8               | May          | 2014        | 524,708,651   | 193,559,040   | \$0.000667   | 331,149,611  | \$0.000970   | \$450,319          |
| 9               | June         | 2014        | 513,007,262   | 178,848,316   | \$0.000667   | 334,158,946  | \$0.000970   | \$443,426          |
| 10              | July         | 2014        | 507,524,113   | 162,904,164   | \$0.000667   | 344,619,949  | \$0.000970   | \$442,938          |
| 11              | August       | 2014        | 521,897,278   | 181,426,199   | \$0.000667   | 340,471,079  | \$0.000970   | \$451,268          |
| 12              | September    | 2014        | 432,907,942   | 144,068,608   | \$0.000667   | 288,839,334  | \$0.000970   | \$376,268          |
| 13              | Total        |             | <u>6,553,903,474</u>                                    | <u>2,103,355,217</u>                                      |  | <u>4,450,548,257</u>   |  | <u>\$5,719,967</u> |

\* Usage billed under Tariff RTP for customers who are usually on the CIP-TOD Tariff has been included in Column (5)

**Kentucky Power Company  
Analysis of  
Over/(Under) Recovery of Fuel  
Test Year Ended September 30, 2014**

| Ln No<br>(1) | Month<br>(2)      | Year<br>(3) | Generation Month<br>KWH<br>Sales<br>(4) | Billed<br>Olive Hill<br>Vanceburg<br>Sales<br>(5) | Juris.<br>KWH<br>Sales<br>(C4-C5)<br>(6) | Total<br>Company<br>Fuel<br>Cost<br>(7) | Juris.<br>Fuel<br>Cost<br>(C6*(C7/C4)<br>(8) | Deferred<br>Fuel<br>(9) | Juris.<br>Total<br>Fuel<br>Cost<br>(C8+C9)<br>(10) | Cents<br>Per<br>kWh<br>(C7/C4)<br>(11) | Billed and<br>Accrued<br>KWH<br>(12) | Base<br>Fuel<br>(13) | FAC<br>(C11-C13)<br>(14) | Base<br>Fuel<br>Revenue<br>(C12*C13)<br>(15) | F.A.C.<br>Revenue<br>(C12*C14)<br>(16) | Total<br>Fuel<br>Revenue<br>(C15+C16)<br>(17) | Over/(Under)<br>Recovery<br>of Fuel<br>(C17-C10)<br>(18) |
|--------------|-------------------|-------------|---|---|--|---|--|-------------------------|--|--|--------------------------------------|----------------------|--------------------------|--|--|---|--|
| 1            | August            | 2013        | 542,214,000                             |   | 542,214,000                              | \$15,170,229                            | \$15,170,229                                 | \$846,294               | \$16,016,523                                       | 0.02798                                | 550,323,969                          | 0.02840              | (0.00042)                |  |  |   |  |
| 2            | September         | 2013        | 474,833,000                             |   | 474,833,000                              | \$12,129,595                            | \$12,129,595                                 | \$1,401,633             | \$13,531,228                                       | 0.02554                                | 453,917,512                          | 0.02840              | (0.00286)                |  |  |   |  |
| 3            | October           | 2013        | 486,952,000                             | 6,679,100   | 480,272,900                              | \$13,284,121                            | \$13,101,914                                 | (\$411,831)             | \$12,690,083                                       | 0.02728                                | 497,904,629                          | 0.02840              | (0.00112)                | \$14,140,491                                 | (\$209,120)                            | \$13,931,371                                  | \$1,241,288  |
| 4            | November          | 2013        | 579,155,000                             | 7,869,700   | 571,285,300                              | \$17,681,028                            | \$17,440,774                                 | (\$170,274)             | \$17,270,500                                       | 0.03053                                | 570,541,462                          | 0.02840              | 0.00213                  | \$16,203,378                                 | (\$1,631,749)                          | \$14,571,629                                  | (\$2,698,871)  |
| 5            | December          | 2013        | 634,238,000                             | 9,017,200   | 625,220,800                              | \$16,892,829                            | \$16,652,657                                 | (\$2,400,476)           | \$14,252,181                                       | 0.02663                                | 601,269,198                          | 0.02840              | (0.00177)                | \$17,076,045                                 | (\$673,422)                            | \$16,402,623                                  | \$2,150,442  |
| 6            | January           | 2014        | 755,082,000                             | 11,047,100  | 744,034,900                              | \$19,958,870                            | \$19,666,865                                 | (\$2,444,502)           | \$17,222,363                                       | 0.02643                                | 727,096,121                          | 0.02840              | (0.00197)                | \$20,649,530                                 | \$1,548,715                            | \$22,198,245                                  | \$4,975,882  |
| 7            | February          | 2014        | 626,869,000                             | 9,156,500   | 617,712,500                              | \$23,228,140                            | \$22,888,853                                 | (\$5,804,907)           | \$17,083,946                                       | 0.03705                                | 590,212,723                          | 0.02840              | 0.00865                  | \$16,762,041                                 | (\$1,044,677)                          | \$15,717,364                                  | (\$1,366,582)  |
| 8            | March             | 2014        | 530,008,000                             | 8,605,000   | 521,403,000                              | \$18,353,423                            | \$18,055,444                                 | (\$4,933,030)           | \$13,122,414                                       | 0.03463                                | 626,175,478                          | 0.02840              | 0.00623                  | \$17,783,384                                 | (\$1,233,566)                          | \$16,549,818                                  | \$3,427,404  |
| 9            | April             | 2014        | 469,384,000                             | 6,391,700   | 462,992,300                              | \$17,722,956                            | \$17,481,619                                 | (\$592,942)             | \$16,888,677                                       | 0.03776                                | 440,658,617                          | 0.02840              | 0.00936                  | \$12,514,705                                 | \$3,811,697                            | \$16,326,402                                  | (\$562,275)  |
| 10           | May               | 2014        | 481,881,000                             | 6,690,100   | 475,190,900                              | \$17,055,704                            | \$16,818,914                                 | \$1,073,615             | \$17,892,529                                       | 0.03539                                | 524,708,651                          | 0.02840              | 0.00699                  | \$14,901,726                                 | \$3,268,935                            | \$18,170,661                                  | \$278,132  |
| 11           | June              | 2014        | 517,352,000                             | 7,434,700   | 509,917,300                              | \$17,994,542                            | \$17,735,949                                 | (\$61,597)              | \$17,674,352                                       | 0.03478                                | 513,007,262                          | 0.02840              | 0.00638                  | \$14,569,406                                 | \$4,801,748                            | \$19,371,154                                  | \$1,696,802  |
| 12           | July              | 2014        | 533,564,000                             | 7,733,400   | 525,830,600                              | \$19,049,860                            | \$18,773,754                                 | (\$327,236)             | \$18,446,518                                       | 0.03570                                | 507,524,113                          | 0.02840              | 0.00730                  | \$14,413,685                                 | \$3,547,594                            | \$17,961,279                                  | (\$485,239)  |
| 13           | August            | 2014        | 531,708,000                             | 7,894,600   | 523,813,400                              | \$18,957,360                            | \$18,675,888                                 | (\$982,626)             | \$17,693,262                                       | 0.03565                                | 521,897,278                          | 0.02840              | 0.00725                  | \$14,821,883                                 | \$3,329,705                            | \$18,151,588                                  | \$458,326  |
| 14           | September         | 2014        | 461,160,000                             | 6,762,800   | 454,397,200                              | \$17,026,696                            | \$16,777,004                                 | \$2,494,343             | \$19,271,347                                       | 0.03692                                | 432,907,942                          | 0.02840              | 0.00852                  | \$12,294,586                                 | \$3,160,228                            | \$15,454,814                                  | (\$3,816,533)  |
| 15           | Oct-Sept<br>Total |             | <u>6,607,353,000</u>                    | <u>95,281,900</u>                                 | <u>6,512,071,100</u>                     | <u>\$217,205,528</u>                    | <u>\$214,069,635</u>                         | <u>(\$14,561,463)</u>   | <u>\$199,508,172</u>                               |  | <u>6,553,903,474</u>                 |                      |                          | <u>\$186,130,860</u>                         | <u>\$18,676,088</u>                    | <u>\$204,806,948</u>                          | <u>\$5,298,776</u>                                       |

**Kentucky Power Company  
Analysis of Reconnect Charges**

| Line No. | Description  | Reconnect<br>Regular<br>Hours -<br>Day Shift<br>(1) | Reconnect<br>Into O. T.<br>Hours -<br>Day Shift<br>(2) | Reconnect<br>Call-Out<br>Hours -<br>Day Shift<br>(3) | Reconnect<br>Sunday/<br>Holidays -<br>Day Shift<br>(4) | Collection<br>Trip<br>Charge<br>(5) | Bad<br>Check<br>Charge<br>(6) | Meter<br>Test<br>Charge<br>(7) | Meter<br>Reading<br>Check<br>(8) | Total<br>Additional<br>Revenues<br>(9) |
|----------|--|---|--|--|--|-------------------------------------|-------------------------------|--------------------------------|----------------------------------|--|
| 1        | Hours Worked   | 0.5   | 0.5  | 2.0  | 2.0  | 0.3                                 | 0.0                           | 1.0                            | 0.5                              |  |
| 2        | Transportation Hours                                       | 0.5   | 1.0  | 1.0  | 1.0  | 0.5                                 | 0.0                           | 0.5                            | 0.5                              |  |
| 3        | Hourly Labor Rate  | 25.48   | 25.48  | 25.48  | 25.48  | 25.48                               | 0.00                          | 32.87                          | 25.48                            |  |
| 4        | Overtime Adj.  | 0.00  | 12.74  | 12.74  | 25.48  | 0.00                                | 0.00                          | 0.00                           | 0.00                             |  |
| 5        | Hourly Labor Rate W/O.T. (Line 3 + Line 4)                 | 25.48   | 38.22  | 38.22  | 50.96  | 25.48                               | 0.00                          | 32.87                          | 25.48                            |  |
| 6        | Labor Cost (Line 1 * Line 5)                               | 12.74   | 19.11  | 76.44  | 101.92   | 6.37                                | 3.12                          | 32.87                          | 12.74                            |  |
| 7        | Transportation Hourly Rate                                 | 9.39  | 9.39   | 9.39   | 9.39   | 9.39                                | 0.00                          | 10.89                          | 9.39                             |  |
| 8        | Trans. Cost (Line 7 * Line 2)                              | 4.70  | 9.39   | 9.39   | 9.39   | 4.70                                | 0.00                          | 5.45                           | 4.70                             |  |
| 9        | Fringe Benefits Rate                                       | 0.3020  | 0.1260   | 0.1260   | 0.1260   | 0.3020                              | 0.3020                        | 0.3020                         | 0.3020                           |  |
| 10       | Benefits Cost (Line 6 * Line 9)                            | 3.85  | 2.41   | 9.63   | 12.84  | 1.92                                | 0.94                          | 9.93                           | 3.85                             |  |
| 11       | Bank Fees  |   |  |  |  |                                     | 14.65                         |                                |                                  |  |
| 12       | Total Cost (Line 6 + Line 8 + Line 10 + Line 11 = Line 12) | 21.29   | 30.91  | 95.46  | 124.15   | 12.99                               | 18.71                         | 48.25                          | 21.29                            |  |
| 13       | Suggested Charge   | 21.00   | 30.00  | 95.00  | 124.00   | 13.00                               | 18.00                         | 48.00                          | 21.00                            |  |
| 14       | Current Charge   | 12.94   | 17.26  | 35.95  | 44.58  | 8.63                                | 7.00                          | 14.38                          | 0.00                             |  |
| 15       | Increase/(Decrease)  | \$8.06  | \$12.74  | \$59.05  | \$79.42  | \$4.37                              | \$11.00                       | \$33.62                        | \$21.00                          |  |
| 16       | 12 Month 09/30/14 Actual No. of Trans.                     | 6,134   | 427  | 368  | 27   | 31,077                              | 2,736                         | 55                             | 257                              |  |
| 17       | Total Additional Revenues                                  | \$49,440.04   | \$5,439.98   | \$21,730.40  | \$2,144.34   | \$135,806.49                        | \$30,096.00                   | \$1,849.10                     | \$5,397.00                       | \$251,903.35                           |
| 18       | Less:State Income Tax at 6.00%                             |   |  |  |  |                                     |                               |                                |                                  | \$15,114                               |
| 19       | Less:Federal Tax At 35%                                    |   |  |  |  |                                     |                               |                                |                                  | \$82,876                               |
| 20       | Net Income Effect  |   |  |  |  |                                     |                               |                                |                                  | \$153,913                              |
| 21       | 13 Month Average Equity as of September 30, 2014           |   |  |  |  |                                     |                               |                                |                                  | \$778,700,000                          |
| 22       | Effect on Return on Equity ( Line 20 / Line 21)            |   |  |  |  |                                     |                               |                                |                                  | 0.02%                                  |



**Kentucky Power Company**  
**Non-Recurring Charges at Proposed Rates**  
**by Customer Class**  
**Twelve Months Ending September 30, 2014**

| Ln<br>No | Description                   | Reconnect<br>\$21.00<br>Charge | Reconnect<br>\$30.00<br>Charge | Reconnect<br>\$95.00<br>Charge | Reconnect<br>\$124.00<br>Charge | Collection<br>Trip<br>\$13.00<br>Charge | Bad<br>Check<br>\$18.00<br>Charge | Meter<br>Test<br>\$48.00<br>Charge | Meter<br>Reading Check<br>21.00<br>Charge | Class<br>Revenue<br>Increase | Twelve Month<br>September 30, 2014<br>Billed & Accrued<br>Revenue | Class<br>Total<br>Percent<br>Change |
|----------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|---|-----------------------------------|------------------------------------|---|------------------------------|---|-------------------------------------|
| (1)      | (2)                           | (3)                            | (4)                            | (5)                            | (6)                             | (7)                                     | (8)                               | (9)                                | (10)                                      | (11)                         | (12)  | (13)                                |
| 1        | Residential                   | \$46,393                       | \$5,160                        | \$20,845                       | \$1,906                         | \$122,749                               | \$27,555                          | \$1,513                            | \$1,743                                   | \$227,864                    | \$239,925,809   | 0.0950%                             |
| 2        | Commerical                    | \$3,023                        | \$280                          | \$886                          | \$238                           | \$12,708                                | \$2,530                           | \$336                              | \$1,260                                   | \$21,261                     | \$104,680,619   | 0.0203%                             |
| 3        | Public Authority              | \$0                            | \$0                            | \$0                            | \$0                             | \$13                                    | \$11                              | \$0                                | \$315                                     | \$339                        | \$19,745,753  | 0.0017%                             |
| 4        | School                        | \$0                            | \$0                            | \$0                            | \$0                             | \$4                                     | \$0                               | \$0                                | \$0                                       | \$4                          | \$19,042,856  | 0.0000%                             |
| 5        | Industrial                    | \$16                           | \$0                            | \$0                            | \$0                             | \$170                                   | \$0                               | \$0                                | \$2,079                                   | \$2,266                      | \$131,032,794   | 0.0017%                             |
| 6        | Mine Power                    | \$8                            | \$0                            | \$0                            | \$0                             | \$162                                   | \$0                               | \$0                                | \$0                                       | \$170                        | \$47,686,278  | 0.0004%                             |
| 7        | Public Street Lighting        | \$0                            | \$0                            | \$0                            | \$0                             | \$0                                     | \$0                               | \$0                                | \$0                                       | \$0                          | \$1,720,808   | 0.0000%                             |
| 8        | Total Incremental<br>Increase | <u>\$49,440</u>                | <u>\$5,440</u>                 | <u>\$21,730</u>                | <u>\$2,144</u>                  | <u>\$135,806</u>                        | <u>\$30,096</u>                   | <u>\$1,849</u>                     | <u>\$5,397</u>                            | <u>\$251,903</u>             | <u>\$563,834,917</u>  | <u>0.0447%</u>                      |
| 9        | Total at Proposed<br>Rates    | <u>\$128,814</u>               | <u>\$12,810</u>                | <u>\$34,960</u>                | <u>\$3,348</u>                  | <u>\$404,001</u>                        | <u>\$49,248</u>                   | <u>\$2,640</u>                     | <u>\$5,397</u>                            | <u>\$641,218</u>             |   |                                     |

Exhibit JAR-5



**Kentucky Power Company**  
**Twelve Months Ending September 30, 2014**  
**Non-Recurring Charges**  
**Monthly Break Down**  
**Test Year Revenues**

| Ln<br>No                        | Description          | Oct 13      | Nov 13      | Dec 13      | Jan 14      | Feb 14      | Mar 14      | Apr 14      | May 14      | Jun 14      | Jul 14      | Aug 14      | Sep 14      | Total         | Test Year<br>Rate | Test Year<br>Revenue<br>Per Class |
|---------------------------------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|-------------------|-----------------------------------|
| (1)                             | (2)                  | (3)         | (4)         | (5)         | (6)         | (7)         | (8)         | (9)         | (10)        | (11)        | (12)        | (13)        | (14)        | (15)          | (16)              | (17)                              |
| <b>\$12.94 Reconnect Charge</b> |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                   |                                   |
| 1                               | Residential          | 998         | 384         | 201         | 98          | 134         | 286         | 620         | 659         | 510         | 615         | 690         | 561         | 5,756         | \$12.94           | \$74,482.64                       |
| 2                               | Commerical           | 48          | 22          | 21          | 11          | 19          | 20          | 36          | 43          | 26          | 39          | 54          | 36          | 375           | \$12.94           | \$4,852.50                        |
| 3                               | Public Authority     | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0             | \$12.94           | \$0.00                            |
| 4                               | Mine Power           | 1           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 1             | \$12.94           | \$12.94                           |
| 5                               | Industrial           | 0           | 0           | 0           | 1           | 0           | 0           | 1           | 0           | 0           | 0           | 0           | 0           | 2             | \$12.94           | \$25.88                           |
| 6                               | Total                | <u>1047</u> | <u>406</u>  | <u>222</u>  | <u>110</u>  | <u>153</u>  | <u>306</u>  | <u>657</u>  | <u>702</u>  | <u>536</u>  | <u>654</u>  | <u>744</u>  | <u>597</u>  | <u>6,134</u>  |                   | <u>\$79,373.96</u>                |
| <b>\$17.26 into Overtime</b>    |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                   |                                   |
| 7                               | Residential          | 66          | 20          | 12          | 9           | 8           | 27          | 48          | 51          | 29          | 35          | 56          | 44          | 405           | 17.26             | \$6,990.30                        |
| 8                               | Commerical           | 4           | 0           | 5           | 0           | 0           | 1           | 3           | 1           | 4           | 1           | 0           | 3           | 22            | 17.26             | \$379.72                          |
| 9                               | Total                | <u>70</u>   | <u>20</u>   | <u>17</u>   | <u>9</u>    | <u>8</u>    | <u>28</u>   | <u>51</u>   | <u>52</u>   | <u>33</u>   | <u>36</u>   | <u>56</u>   | <u>47</u>   | <u>427</u>    |                   | <u>\$7,370.02</u>                 |
| <b>\$35.95 Call Out</b>         |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                   |                                   |
| 10                              | Residential          | 55          | 23          | 6           | 9           | 8           | 31          | 52          | 32          | 34          | 39          | 32          | 32          | 353           | 35.95             | \$12,690.35                       |
| 11                              | Commerical           | 2           | 2           | 0           | 0           | 1           | 1           | 2           | 0           | 2           | 1           | 2           | 2           | 15            | 35.95             | \$539.25                          |
| 12                              | Industrial           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0             | 35.95             | \$0.00                            |
| 13                              | Total                | <u>57</u>   | <u>25</u>   | <u>6</u>    | <u>9</u>    | <u>9</u>    | <u>32</u>   | <u>54</u>   | <u>32</u>   | <u>36</u>   | <u>40</u>   | <u>34</u>   | <u>34</u>   | <u>368</u>    |                   | <u>\$13,229.60</u>                |
| <b>\$44.58 Sun. Holiday</b>     |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                   |                                   |
| 14                              | Residential          | 1           | 1           | 2           | 0           | 1           | 1           | 5           | 3           | 2           | 4           | 3           | 1           | 24            | 44.58             | \$1,069.92                        |
| 15                              | Commerical           | 0           | 0           | 1           | 0           | 0           | 0           | 0           | 1           | 0           | 1           | 0           | 0           | 3             | 44.58             | \$133.74                          |
| 16                              | Total                | <u>1</u>    | <u>1</u>    | <u>3</u>    | <u>0</u>    | <u>1</u>    | <u>1</u>    | <u>5</u>    | <u>4</u>    | <u>2</u>    | <u>5</u>    | <u>3</u>    | <u>1</u>    | <u>27</u>     |                   | <u>\$1,203.66</u>                 |
| <b>\$8.63Collection Trip</b>    |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                   |                                   |
| 17                              | Residential          | 3007        | 2088        | 1630        | 2441        | 1495        | 2447        | 3023        | 2580        | 2293        | 2656        | 2345        | 2084        | 28,089        | 8.63              | \$242,408.07                      |
| 18                              | Commerical           | 259         | 228         | 188         | 279         | 226         | 291         | 262         | 246         | 198         | 246         | 255         | 230         | 2,908         | 8.63              | \$25,096.04                       |
| 19                              | Public Authority     | 0           | 0           | 0           | 0           | 0           | 0           | 1           | 1           | 0           | 1           | 0           | 0           | 3             | 8.63              | \$25.89                           |
| 20                              | School               | 0           | 1           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 1             | 8.63              | \$8.63                            |
| 21                              | Industrial           | 4           | 4           | 0           | 6           | 2           | 2           | 5           | 3           | 1           | 2           | 7           | 3           | 39            | 8.63              | \$336.57                          |
| 22                              | Mine Power           | 2           | 4           | 5           | 1           | 3           | 5           | 4           | 2           | 2           | 3           | 3           | 3           | 37            | 8.63              | \$319.31                          |
| 23                              | Public Street Lights | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0             | 8.63              | \$0.00                            |
| 24                              | Total                | <u>3272</u> | <u>2325</u> | <u>1823</u> | <u>2727</u> | <u>1726</u> | <u>2745</u> | <u>3295</u> | <u>2832</u> | <u>2494</u> | <u>2908</u> | <u>2610</u> | <u>2320</u> | <u>31,077</u> |                   | <u>\$268,194.51</u>               |
| <b>\$7.00</b>                   |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                   |                                   |
| <b>Bad Check Charge</b>         |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                   |                                   |
| 25                              | Residential          | 179         | 133         | 140         | 202         | 167         | 178         | 279         | 243         | 263         | 243         | 246         | 232         | 2,505         | 7.00              | \$17,535.00                       |
| 26                              | Commerical           | 13          | 9           | 8           | 28          | 22          | 26          | 22          | 25          | 16          | 21          | 28          | 12          | 230           | 7.00              | \$1,610.00                        |
| 27                              | Public Authority     | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 1           | 0           | 0           | 0           | 0           | 1             | 7.00              | \$7.00                            |
| 28                              | Industrial           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0             | 7.00              | \$0.00                            |
| 29                              | Mine Power           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0             | 7.00              | \$0.00                            |
| 30                              | Total                | <u>192</u>  | <u>142</u>  | <u>148</u>  | <u>230</u>  | <u>189</u>  | <u>204</u>  | <u>301</u>  | <u>269</u>  | <u>279</u>  | <u>264</u>  | <u>274</u>  | <u>244</u>  | <u>2,736</u>  |                   | <u>\$19,152.00</u>                |
| <b>\$14.38 Meter Test</b>       |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                   |                                   |
| 31                              | Residential          | 1           | 0           | 1           | 9           | 15          | 8           | 0           | 2           | 2           | 3           | 3           | 1           | 45            | 14.38             | \$647.10                          |
| 32                              | Commerical           | 1           | 1           | 0           | 3           | 1           | 1           | 0           | 3           | 0           | 0           | 0           | 0           | 10            | 14.38             | \$143.80                          |
| 33                              | Public Authority     | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0             | 14.38             | \$0.00                            |
| 34                              | Total                | <u>2</u>    | <u>1</u>    | <u>1</u>    | <u>12</u>   | <u>16</u>   | <u>9</u>    | <u>0</u>    | <u>5</u>    | <u>2</u>    | <u>3</u>    | <u>3</u>    | <u>1</u>    | <u>55</u>     |                   | <u>\$790.90</u>                   |
| <b>Meter Reading Check</b>      |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                   |                                   |
| 35                              | Residential          | 6           | 5           | 9           | 10          | 14          | 6           | 9           | 5           | 4           | 7           | 4           | 4           | 83            |                   | \$0.00                            |
| 36                              | Commerical           | 2           | 4           | 2           | 2           | 4           | 7           | 13          | 8           | 4           | 7           | 4           | 3           | 60            |                   | \$0.00                            |
| 36                              | Industrial           | 5           | 1           | 2           | 2           | 5           | 3           | 57          | 7           | 4           | 5           | 5           | 3           | 99            |                   | \$0.00                            |
| 37                              | Public Authority     | 2           | 1           | 1           | 2           | 1           | 1           | 3           | 1           | 3           | 0           | 0           | 0           | 15            |                   | \$0.00                            |
| 38                              | Total                | <u>15</u>   | <u>11</u>   | <u>14</u>   | <u>16</u>   | <u>24</u>   | <u>17</u>   | <u>82</u>   | <u>21</u>   | <u>15</u>   | <u>19</u>   | <u>13</u>   | <u>10</u>   | <u>257</u>    |                   | <u>\$0.00</u>                     |
| 39                              | Total                |             |             |             |             |             |             |             |             |             |             |             |             |               |                   | <u>\$389,314.65</u>               |

**Kentucky Power Company**  
**Twelve Months Ending September 30, 2014**  
**Non-Recurring Charges**  
**Monthly Break Down**  
**Monthly Break Down with Proposed Increase**

| Ln<br>No                        | Description          | Oct 13      | Nov 13      | Dec 13      | Jan 14      | Feb 14      | Mar 14      | Apr 14      | May 14      | Jun 14      | Jul 14      | Aug 14      | Sep 14      | Total         | Proposed<br>Increase | Proposed<br>Increase<br>Per Class |                     |
|---------------------------------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|----------------------|-----------------------------------|---------------------|
| (1)                             | (2)                  | (3)         | (4)         | (5)         | (6)         | (7)         | (8)         | (9)         | (10)        | (11)        | (12)        | (13)        | (14)        | (15)          | (16)                 | (17)                              |                     |
| <b>\$12.94 Reconnect Charge</b> |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                      |                                   |                     |
| 1                               | Residential          | 998         | 384         | 201         | 98          | 134         | 286         | 620         | 659         | 510         | 615         | 690         | 561         | 5,756         | \$8.06               | \$46,393.36                       |                     |
| 2                               | Commerical           | 48          | 22          | 21          | 11          | 19          | 20          | 36          | 43          | 26          | 39          | 54          | 36          | 375           | \$8.06               | \$3,022.50                        |                     |
| 3                               | Public Authority     | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0             | \$8.06               | \$0.00                            |                     |
| 4                               | Mine Power           | 1           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 1             | \$8.06               | \$8.06                            |                     |
| 5                               | Industrial           | 0           | 0           | 0           | 1           | 0           | 0           | 1           | 0           | 0           | 0           | 0           | 0           | 2             | \$8.06               | \$16.12                           |                     |
| 6                               | Total                | <u>1047</u> | <u>406</u>  | <u>222</u>  | <u>110</u>  | <u>153</u>  | <u>306</u>  | <u>657</u>  | <u>702</u>  | <u>536</u>  | <u>654</u>  | <u>744</u>  | <u>597</u>  | <u>6,134</u>  | <u>\$8.06</u>        | <u>\$49,440.04</u>                |                     |
| <b>\$17.26 into Overtime</b>    |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                      |                                   |                     |
| 7                               | Residential          | 66          | 20          | 12          | 9           | 8           | 27          | 48          | 51          | 29          | 35          | 56          | 44          | 405           | 12.74                | \$5,159.70                        |                     |
| 8                               | Commerical           | 4           | 0           | 5           | 0           | 0           | 1           | 3           | 1           | 4           | 1           | 0           | 3           | 22            | 12.74                | \$280.28                          |                     |
| 9                               | Total                | <u>70</u>   | <u>20</u>   | <u>17</u>   | <u>9</u>    | <u>8</u>    | <u>28</u>   | <u>51</u>   | <u>52</u>   | <u>33</u>   | <u>36</u>   | <u>56</u>   | <u>47</u>   | <u>427</u>    | <u>12.74</u>         | <u>\$5,439.98</u>                 |                     |
| <b>\$35.95 Call Out</b>         |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                      |                                   |                     |
| 10                              | Residential          | 55          | 23          | 6           | 9           | 8           | 31          | 52          | 32          | 34          | 39          | 32          | 32          | 353           | 59.05                | \$20,844.65                       |                     |
| 11                              | Commerical           | 2           | 2           | 0           | 0           | 1           | 1           | 2           | 0           | 2           | 1           | 2           | 2           | 15            | 59.05                | \$885.75                          |                     |
| 12                              | Industrial           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0             | 59.05                | \$0.00                            |                     |
| 13                              | Total                | <u>57</u>   | <u>25</u>   | <u>6</u>    | <u>9</u>    | <u>9</u>    | <u>32</u>   | <u>54</u>   | <u>32</u>   | <u>36</u>   | <u>40</u>   | <u>34</u>   | <u>34</u>   | <u>368</u>    | <u>59.05</u>         | <u>\$21,730.40</u>                |                     |
| <b>\$44.58 Sun. Holiday</b>     |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                      |                                   |                     |
| 14                              | Residential          | 1           | 1           | 2           | 0           | 1           | 1           | 5           | 3           | 2           | 4           | 3           | 1           | 24            | 79.42                | \$1,906.08                        |                     |
| 15                              | Commerical           | 0           | 0           | 1           | 0           | 0           | 0           | 0           | 1           | 0           | 1           | 0           | 0           | 3             | 79.42                | \$238.26                          |                     |
| 16                              | Total                | <u>1</u>    | <u>1</u>    | <u>3</u>    | <u>0</u>    | <u>1</u>    | <u>1</u>    | <u>5</u>    | <u>4</u>    | <u>2</u>    | <u>5</u>    | <u>3</u>    | <u>1</u>    | <u>27</u>     | <u>79.42</u>         | <u>\$2,144.34</u>                 |                     |
| <b>\$8.63Collection Trip</b>    |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                      |                                   |                     |
| 17                              | Residential          | 3007        | 2088        | 1630        | 2441        | 1495        | 2447        | 3023        | 2580        | 2293        | 2656        | 2345        | 2084        | 28,089        | 4.37                 | \$122,748.93                      |                     |
| 18                              | Commerical           | 259         | 228         | 188         | 279         | 226         | 291         | 262         | 246         | 198         | 246         | 255         | 230         | 2,908         | 4.37                 | \$12,707.96                       |                     |
| 19                              | Public Authority     | 0           | 0           | 0           | 0           | 0           | 0           | 1           | 1           | 0           | 1           | 0           | 0           | 3             | 4.37                 | \$13.11                           |                     |
| 20                              | School               | 0           | 1           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 1             | 4.37                 | \$4.37                            |                     |
| 21                              | Industrial           | 4           | 4           | 0           | 6           | 2           | 2           | 5           | 3           | 1           | 2           | 7           | 3           | 39            | 4.37                 | \$170.43                          |                     |
| 22                              | Mine Power           | 2           | 4           | 5           | 1           | 3           | 5           | 4           | 2           | 2           | 3           | 3           | 3           | 37            | 4.37                 | \$161.69                          |                     |
| 23                              | Public Street Lights | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0             | 4.37                 | \$0.00                            |                     |
| 24                              | Total                | <u>3272</u> | <u>2325</u> | <u>1823</u> | <u>2727</u> | <u>1726</u> | <u>2745</u> | <u>3295</u> | <u>2832</u> | <u>2494</u> | <u>2908</u> | <u>2610</u> | <u>2320</u> | <u>31,077</u> | <u>4.37</u>          | <u>\$135,806.49</u>               |                     |
| <b>\$7.00</b>                   |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                      |                                   |                     |
| <b>Bad Check Charge</b>         |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                      |                                   |                     |
| 25                              | Residential          | 179         | 133         | 140         | 202         | 167         | 178         | 279         | 243         | 263         | 243         | 246         | 232         | 2,505         | 11.00                | \$27,555.00                       |                     |
| 26                              | Commerical           | 13          | 9           | 8           | 28          | 22          | 26          | 22          | 25          | 16          | 21          | 28          | 12          | 230           | 11.00                | \$2,530.00                        |                     |
| 27                              | Public Authority     | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 1           | 0           | 0           | 0           | 0           | 1             | 11.00                | \$11.00                           |                     |
| 28                              | Industrial           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0             | 11.00                | \$0.00                            |                     |
| 29                              | Mine Power           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0             | 11.00                | \$0.00                            |                     |
| 30                              | Total                | <u>192</u>  | <u>142</u>  | <u>148</u>  | <u>230</u>  | <u>189</u>  | <u>204</u>  | <u>301</u>  | <u>269</u>  | <u>279</u>  | <u>264</u>  | <u>274</u>  | <u>244</u>  | <u>2,736</u>  | <u>11.00</u>         | <u>\$30,096.00</u>                |                     |
| <b>\$14.38 Meter Test</b>       |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                      |                                   |                     |
| 31                              | Residential          | 1           | 0           | 1           | 9           | 15          | 8           | 0           | 2           | 2           | 3           | 3           | 1           | 45            | 33.62                | \$1,512.90                        |                     |
| 32                              | Commerical           | 1           | 1           | 0           | 3           | 1           | 1           | 0           | 3           | 0           | 0           | 0           | 0           | 10            | 33.62                | \$336.20                          |                     |
| 33                              | Public Authority     | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0           | 0             | 33.62                | \$0.00                            |                     |
| 34                              | Total                | <u>2</u>    | <u>1</u>    | <u>1</u>    | <u>12</u>   | <u>16</u>   | <u>9</u>    | <u>0</u>    | <u>5</u>    | <u>2</u>    | <u>3</u>    | <u>3</u>    | <u>1</u>    | <u>55</u>     | <u>33.62</u>         | <u>\$1,849.10</u>                 |                     |
| <b>Meter Reading Check</b>      |                      |             |             |             |             |             |             |             |             |             |             |             |             |               |                      |                                   |                     |
| 35                              | Residential          | 6           | 5           | 9           | 10          | 14          | 6           | 9           | 5           | 4           | 7           | 4           | 4           | 83            | 21.00                | \$1,743.00                        |                     |
| 36                              | Commerical           | 2           | 4           | 2           | 2           | 4           | 7           | 13          | 8           | 4           | 7           | 4           | 3           | 60            | 21.00                | \$1,260.00                        |                     |
| 36                              | Industrial           | 5           | 1           | 2           | 2           | 5           | 3           | 57          | 7           | 4           | 5           | 5           | 3           | 99            | 21.00                | \$2,079.00                        |                     |
| 37                              | Public Authority     | 2           | 1           | 1           | 2           | 1           | 1           | 3           | 1           | 3           | 0           | 0           | 0           | 15            | 21.00                | \$315.00                          |                     |
| 38                              | Total                | <u>15</u>   | <u>11</u>   | <u>14</u>   | <u>16</u>   | <u>24</u>   | <u>17</u>   | <u>82</u>   | <u>21</u>   | <u>15</u>   | <u>19</u>   | <u>13</u>   | <u>10</u>   | <u>257</u>    | <u>21.00</u>         | <u>\$5,397.00</u>                 |                     |
| 39                              | Total                |             |             |             |             |             |             |             |             |             |             |             |             |               |                      |                                   | <u>\$251,903.35</u> |

**P.S.C KY. NO. 10**

**KENTUCKY POWER COMPANY  
101A ENTERPRISE DRIVE  
P.O. BOX 5190  
FRANKFORT, KY 40602**

**RATES-CHARGES-RULES-REGULATIONS  
FOR FURNISHING**

**ELECTRIC SERVICE**

**IN THE KENTUCKY TERRITORY SERVED  
BY KENTUCKY POWER COMPANY  
AS STATED ON SHEET NO. 1**

**FILED WITH THE PUBLIC SERVICE COMMISSION  
OF  
KENTUCKY**


**DATE OF ISSUE: December 23, 2014  
DATE EFFECTIVE: January 23, 2015  
ISSUED BY: John A. Rogness III  
TITLE: Director Regulatory Services**

| <u>TITLE</u>                        | <u>INDEX</u>                                   | <u>SHEET NO.</u> |
|-------------------------------------|--|------------------|
| Terms and Conditions of Service     |  | 2-1 thru 2-17    |
| Capacity and Energy Control Program |  | 3-1 thru 3-10    |
| Standard Nominal Voltages           |  | 4-1              |
| Tariff F.A.C.                       | Fuel Adjustment Clause                         | 5-1 thru 5-2     |
| Tariff R.S.                         | Residential Service                            | 6-1 thru 6-3     |
| Tariff R.S.-L.M.-T.O.D.             | Residential Load Management-Time-of-Day        | 6-4 thru 6-6     |
| Tariff R.S.-T.O.D.                  | Residential Time-of-Day                        | 6-7 thru 6-9     |
| Tariff R.S.-T.O.D. 2                | Experimental Residential Service Time-of-Day 2 | 6-10 thru 6-12   |
| Tariff S.G.S.                       | Small General Service                          | 7-1 thru 7-3     |
| Tariff S.G.S.-T.O.D.                | Small General Service Time-of-Day              | 7-4 thru 7-6     |
| Tariff M.G.S.                       | Medium General Service                         | 8-1 thru 8-4     |
| Tariff M.G.S.-T.O.D.                | Medium General Service Time-of-Day             | 8-5 thru 8-7     |
| Tariff L.G.S.                       | Large General Service                          | 9-1 thru 9-4     |
| Tariff L.G.S.-T.O.D.                | Large General Service Time-of-Day              | 9-5 thru 9-8     |
| Tariff I.G.S.                       | Industrial General Service                     | 10-1 thru 10-4   |
| Tariff                              | Reserved for future use                        | 11-1             |
| Tariff C.S.-I.R.P.                  | Contract Service – Interruptible Power         | 12-1 thru 12-4   |
| Tariff M.W.                         | Municipal Waterworks                           | 13-1 thru 13-3   |
| Tariff O.L.                         | Outdoor Lighting                               | 14-1 thru 14-4   |
| Tariff S.L.                         | Street Lighting                                | 15-1 thru 15-3   |
| Tariff C.A.T.V.                     | Cable Television Pole Attachment               | 16-1 thru 16-5   |

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ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated Xxxxxxxx

| <u>TITLE</u>        | <u>INDEX (Cont'd)</u>                                       | <u>SHEET NO.</u> |
|---------------------|---|------------------|
| Tariff COGEN/SPP I  | Cogeneration and/or Small Power Production – 100 kW or less | 17-1 thru 17-3   |
| Tariff COGEN/SPP II | Cogeneration and/or Small Power Production – Over 100 kW    | 18-1 thru 18-3   |
| Tariff S.S.C.       | System Sales Clause   | 19-1 thru 19-2   |
| Tariff F.T.         | Franchise Tariff  | 20-1             |
| Tariff T.S.         | Temporary Service   | 21-1             |
| Tariff D.S.M.C.     | Demand-Side Management Adjustment Clause                    | 22-1 thru 22-13  |
| Tariff B.E.R.       | Biomass Energy Rider  | 23-1             |
| Tariff P.J.M.       | P.J.M.R.  | 24-1 thru 24-3   |
| Tariff              | Reserved for future use                                     | 25-1             |
| Tariff N.U.G.       | Non-Utility Generator                                       | 26-1 thru 26-3   |
| Tariff N.M.S.       | Net Metering Service  | 27-1 thru 27-22  |
| Tariff C.C.         | Capacity Charge   | 28-1 thru 28-2   |
| Tariff E.S.         | Environmental Surcharge                                     | 29-1 thru 29-5   |
| Tariff              | Reserved for future use                                     | 30-1             |
| Rider G.P.O.        | Green Pricing Option Rider                                  | 31-1             |
| Rider A.F.S.        | Alternate Feed Service Rider                                | 32-1 thru 32-4   |
| Tariff U.G.R.T.     | Utility Gross Receipts Tax (School Tax)                     | 33-1             |
| Tariff K.S.T.       | Kentucky Sales Tax  | 34-1             |
| Tariff P.P.A.       | Purchase Power Adjustment                                   | 35-1             |
| Tariff A.T.R.       | Asset Transfer Rider  | 36-1 thru 36-2   |
| Tariff E.D.R.       | Economic Development Rider                                  | 37-1 thru 37-5   |

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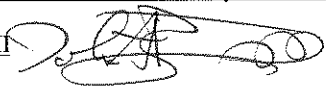
In Case No. 2014-XXXX Dated XXXXXXXX

| <u>TITLE</u>      | <u>INDEX (Cont'd)</u>             | <u>SHEET NO.</u> |   |
|-------------------|-----------------------------------|------------------|---|
| Rider B.S.R.R.    | Big Sandy Retirement Rider        | 38-1thru 38-2    | N |
| Rider B.S.1. O.R. | Big Sandy 1 Operation Rider       | 39-1thru 39-2    | N |
| Rider N.C.C.R.    | NERC Compliance and Cybersecurity | 40-1thru 40-3    | N |

**THE ABOVE TARIFFS ARE APPLICABLE TO THE ENTIRE TERRITORY SERVED BY KENTUCKY POWER COMPANY IN BOYD, BREATHITT, CARTER, CLAY, ELLIOTT, FLOYD, GREENUP, JOHNSON, KNOTT, LAWRENCE, LESLIE, LETCHER, LEWIS, MAGOFFIN, MARTIN, MORGAN, OWSLEY, PERRY, PIKE AND ROWAN COUNTIES.**

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In Case No. 2014-Xxxx Dated Xxxxxxxx

**TERMS AND CONDITIONS OF SERVICE**

1. **APPLICATION.**

A copy of the tariffs and standard terms and conditions under which service is to be rendered to the Customer will be furnished upon request and the Customer shall elect upon which tariff applicable to his service his application shall be based. A copy of the tariff is also available on-line at www.kentuckypower.com.

If the Company requires a written agreement from a Customer before service will be commenced, a copy of the agreement will be furnished to the Customer upon request.

When the Customer desires delivery of energy at more than one point, a separate agreement may be required for each separate point of delivery. Service delivered at each point of delivery will be billed separately under the applicable tariff.

2. **INSPECTION.**

The Customer is responsible for the proper installation and maintenance of the customer's wiring and electrical equipment and the customer shall at all times be responsible for the character and condition thereof. The Company has no obligation to undertake inspection thereof and in no event shall be responsible therefore. However, the Company may refuse to connect to the customer's system if such connection is deemed unsafe by the Company.

Where a Customer's premises are located in a municipality or other governmental subdivision where inspection laws or ordinances are in effect, the Company may withhold furnishing service to new installations until the Company has received evidence that the inspection laws or ordinances have been complied with.

Where a Customer's premises are located outside of an area where inspection service is in effect, the Company may require the delivery by the Customer to the Company of an agreement duly signed by the owner and/or tenant of the premises authorizing the connection to the wiring system of the Customer and assuming responsibility therefore. No responsibility shall attach to the Company because of any waiver of this requirement.

3. **SERVICE CONNECTIONS.**

Service connections will be provided in accordance with 807 KAR 5:041, Section 10.

The Customer should in all cases consult the Company before the Customer's premises are wired to determine the location of Company's point of service connection.

The Company will, when requested to furnish service, designate the location of its service connection. The Customer's wiring must, except for those cases listed below, be brought outside the building wall nearest the Company's service wires so as to be readily accessible thereto. When service is from an overhead system, the Customer's wiring must extend at least 18 inches beyond the building. Where Customers install service entrance facilities which have capacity and layout specified by the Company and/or install and use certain equipment specified by the Company, the Company may supply or offer to own certain facilities on the Customer's side of the point where the service wires attach to the building.

All inside wiring must be grounded in accordance with the requirements of the National Electrical Code or the requirements of any local inspection service authorized by a state or local authority.

When a Customer desires that energy be delivered at a point or in a manner other than that designated by the Company, the Customer shall pay the additional cost of same.

(Cont'd on Sheet No. 2-2)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**4. DEPOSITS.**

Prior to providing service or at any time thereafter, the Company may require a cash deposit or other guaranty acceptable to the Company to secure payment of bills except for customers qualifying for service reconnection pursuant to 807 KAR 5:006, Section 16, Winter Hardship Reconnection. Service may be refused or discontinued for failure to pay the requested deposit. Upon request from a residential customer the deposit will be returned after 18 months if the customer has established a satisfactory payment record; but commercial deposits will be retained by the Company during the entire time that the account remains active.

**A. Interest**

Interest will be paid on all sums held on deposit at the rate indicated in KRS 278.460. The interest will be applied by the Company as a credit to the Customer's bill or will be paid to the Customer on an annual basis. If the deposit is refunded or credited to the Customer's bill prior to the deposit anniversary date, interest will be paid or credited to the Customer's bill on a pro-rated basis.

The Company will not pay interest on deposits after discontinuance of service to the Customer. Retention of any deposit or guaranty by the Company prior to final settlement is not a payment or partial payment of any bill for service. The Company shall have a reasonable time in which to obtain a final reading and to ascertain that the obligations of the Customer have been fully performed before being required to return any deposits.

**B. Criteria for Waiver of Deposit Requirement**

The Company may waive any deposit requirement based upon the following criteria, which may be considered by the Company cumulatively.

- 1. Satisfactory payment criteria, which may be established by paying all bills rendered, having no disconnections for nonpayment, having no late notices, having no defaulted credit arrangements, having no returned payments and having no meter diversion or theft of service.
- 2. Meeting satisfactory credit criteria. Satisfactory credit for customers will be determined by utilizing independent credit sources as well as historic and ongoing payment and credit history with Company.
- 3. Another customer with satisfactory payment history is willing to sign as a guarantor for an amount equal to the required deposit.
- 4. Providing evidence of other collateral acceptable to Company.
- 5. Checkless Payment Plan (CPP)

**C. Method of Determination**

**1. Calculated Deposits**

- a. Deposit amounts paid by residential customers shall not exceed a calculated amount based upon actual usage data of the Customer at the same or similar premises for the most recent 12-month period, if such information is available. If the actual usage data is not available, the deposit amount shall be based on the average bills of similar customers and premises in the customer class. The deposit shall not exceed 2/12 of the Customer's actual or estimated annual bill.
- b. Deposit amounts paid by commercial and industrial customers shall not exceed a calculated amount based upon actual usage data of the customer at the same or similar premises for the most recent 12-month period, if such information is available. If the actual usage data is not available, the deposit amount shall be based on the typical bills of similar customers and premises in the customer class. The deposit shall not exceed 2/12 of the customer's actual or estimated annual bill.

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**4. DEPOSITS, (Cont'd.)**

**D. Additional or Supplemental Deposit Requirement**

An additional or supplemental deposit may be required if the Customer does not maintain a satisfactory credit criteria or payment history. If a change in usage or classification of service has occurred, the customer may be required to pay an additional deposit up to 2/12 of the annual usage. The Customer will receive a message on the bill informing the Customer that if the account is not current by the specified date listed an additional or supplement deposit will be charged to the account the next time the account is billed.

1. Satisfactory payment criteria is defined as paying all bills rendered, having no disconnections for nonpayment, having no late notices, having no defaulted credit arrangements, having no returned payments and having no meter diversion or theft of service.
2. A nonresidential customer does not maintain satisfactory credit criteria when its credit score at any national independent credit rating service falls to a level that is deemed to be vulnerable to nonpayment, including but not limited to: "C" level at Valueline, a "BB+" level at Standard and Poor's or Fitch, "Ba3" at Moody's. If a nonresidential customer is not rated by a national independent credit rating service, its credit may be evaluated by using credit scoring services, public record financial information, or financial scoring and modeling services, and if it is deemed that the customer is vulnerable to nonpayment, a deposit may be required.

**E. Recalculation of Customers Deposit**

When a deposit is held longer than 18 months, the Customer may request that the deposit be recalculated based on the Customer's actual usage. If the amount of deposit on the account differs from the recalculated amount by more than \$10.00 for a residential Customer or 10 percent for a non-residential Customer, the Company may collect any underpayment and shall refund any overpayment by check or credit to the Customer's bill. No refund will be made if the Customer's bill is delinquent at the time of the recalculation.

**5. PAYMENTS,**

Bills will be rendered by the Company to the Customer monthly or in accordance with the tariff selected applicable to the Customer's service.

**A. Equal Payment Plan**

Residential Customers have the option of paying a fixed amount each month under the Company's Equal Payment Plan. The monthly payment amount will be based on one-twelfth of the Customers' estimated annual usage. The payment amount is subject to periodic review and adjustment during the budget year to more accurately reflect actual usage. The normal plan period is 12 months, which may commence in any month.

In the last month of the plan, if the actual usage during the plan period exceeds the amount billed, the Customer will be billed for the balance due. If an overpayment exists, the amount of overpayment will either be refunded to the Customer or credited to the last bill of the period. If a Customer discontinues service with the Company under the Equal Payment Plan, any amounts not yet paid shall become payable immediately.

If a Customer fails to pay bills as rendered under the Equal Payment Plan, the Company reserves the right to revoke the plan, restore the Customer to regular billing, require immediate payment of any deficiency, and require a cash deposit or other guaranty to secure payment of bills.

(Cont'd on Sheet No. 2-4)

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**B. Average Monthly Payment Plan (Amp)**

The Average Monthly Payment Plan (AMP Plan) is available to the following applicable tariffs; R.S.; R.S.-L.M-T.O.D.; R.S.-T.O.D 2.; S.G.S., and S.G.S.-T.O.D. When mutually agreeable the AMP Plan may be offered by the Company to Customers serviced under other tariffs.

The AMP Plan is designed to allow the Customer to pay an average amount each month based upon the actual billed amounts during the past twelve (12) months. The average payment amount is based upon the current month's total bill plus the eleven (11) preceding months. That result is divided by the total billing days associated with the billings to determine a per day average. The daily average amount is multiplied by thirty (30) to determine the current month's payment under the AMP Plan. At the next billing period, the oldest month's billing history is removed, the current month's billing is added and the total is again divided by the total billing days associated with the billings to determine a per day average. Again the daily average amount is multiplied by thirty (30) to find the new average payment amount. The average monthly payment amount is calculated each and every month in this manner.

The difference between the actual billings and the AMP Plan billings will be carried in a deferred balance. Both the debit and credit differences will accumulate in the deferred balance for the duration of the AMP Plan year, which is twelve consecutive billings months. At the end of the AMP Plan year (anniversary month), the current month's billing plus the eleven (11) preceding month's billing is summed and divided by the total billing days associated with the billings to determine a per day average. That result is multiplied by thirty (30) to calculate the AMP Plan's monthly payment amount. In addition, the net accumulated deferred balance is divided by 12. This result is added or subtracted to the calculated average payment amount starting with the next billing of the new AMP plan year and will be used in the average payment amount calculation for the remaining AMP plan year. Settlement occurs only when participation in the AMP Plan is terminated. This happens if any account is final billed, if the customer requests termination, or at the Company's discretion when the customer fails to make two or more consecutive monthly payments on an account by the due date. The deferred balance (debit or credit) is then applied to the billing now due.

In such instances where sufficient billing history is not available, an AMP Plan may be established by using the actual billing history available throughout the first AMP Plan year.

**C. All Payments.**

All bills are payable at the business offices or authorized collection agencies of the Company within the time limits specified in the tariff. Failure to receive a bill will not entitle a Customer to any discount or to the remission of any charges for non-payment within the time specified. The word "month" as used herein and in the tariffs is hereby defined to be the elapsed time between 2 successive meter readings approximately 30 days apart.

In the event of the stoppage of or the failure of any meter to register the full amount of energy consumed, the Customer will be billed for the period based on an estimated consumption of energy in a similar period of like use.

The tariffs of the Company are met if the account of the Customer is paid within the time limit specified in the tariff applicable to the Customer's service. To discourage delinquency and encourage prompt payment within the specified time limit, certain tariffs contain a delayed payment charge, which may be added in accordance with the tariff under which service is provided. Any one delayed payment charge billed against the Customer for non-payment of bill or any one forfeited discount applied against the Customer for non-payment of bill may be remitted, provided the Customer's previous accounts are paid in full and provided no delayed payment charge or forfeited discount has been remitted under this clause during the preceding 6 months.

**6. UNDERGROUND SERVICE.**

When a real estate developer desires an underground distribution system within the property which he is developing or when a Customer desires an underground service, the real estate developer or the Customer, as the case may be, shall pay the Company the difference between the anticipated cost of the underground facilities so requested and the cost of the overhead facilities which would ordinarily be installed in accordance with 807 KAR 5:041, Section 21, and the Company's underground service plan as filed with the Public Service Commission. Upon receipt of payment, the Company will install the underground facilities and will own, operate and maintain the same.

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**7. COMPANY'S LIABILITY**

The Company will use reasonable diligence in furnishing a regular and uninterrupted supply of energy, but does not guarantee uninterrupted service. The Company shall not be liable for damages in case such supply should be interrupted or fail by reason of an event of Force Majeure. Force Majeure consists of an event or circumstance which prevents Company from providing service, which event or circumstance was not anticipated, which is not in the reasonable control of, or the result of negligence of, the Company, and which, by the exercise of due diligence, Company is unable to overcome or avoid or causes to be avoided. Force Majeure events includes act of God, the public enemy, accidents, labor disputes, orders or acts of civil or military authority, breakdowns or injury to the machinery, transmission lines, distribution lines or other facilities of the Company, or extraordinary repairs.

Unless otherwise provided in a contract between the Company and Customer, the point at which service is delivered by Company to Customer, to be known as "delivery point," shall be the point at which the Customer's facilities are connected to the Company's facilities. The metering device is the property of the Company. The meter base, connection, grounds and all associated internal parts inside the meter base are customer owned and are the responsibility of the customer to install and maintain. The Company shall not be liable for any loss, injury, or damage resulting from the Customer's use of their equipment or occasioned by the energy furnished by the Company beyond the delivery point.

Beginning September 1, 2014 and thereafter, any new installation, upgrade or other modification of an existing meter installation shall be made using only Company supplied or approved meter bases. A list of Company-approved meter bases and specifications can be found on the Company's website at: [www.kentuckypower.com](http://www.kentuckypower.com).

The Customer shall provide and maintain suitable protective devices on their equipment to prevent any loss, injury or damage that might result from single phasing conditions or any other fluctuation or irregularity in the supply of energy. The Company shall not be liable for any loss, injury or damage resulting from a single phasing condition or any other fluctuation or irregularity in the supply of energy which could have been prevented by the use of such protective devices. The Company shall not be liable for any damages, whether direct, incidental or consequential, including, without limitation, loss of profits, loss of revenue, or loss of production capacity occasioned by interruptions, fluctuations, or irregularity in the supply of energy.

The Company is not responsible for loss or damage caused by the disconnection or reconnection of its facilities. The Company is not responsible for loss or damages caused by the theft or destruction of Company facilities by a third party.

The Company will provide and maintain the necessary line or service connections, transformers (when same are required by conditions of contract between the parties thereto), meters and other apparatus, which may be required for the proper measurement of and protection to its service. All such apparatus shall be and remain the property of the Company.

**8. CUSTOMER'S LIABILITY**

In the event of loss or injury to the property of the Company through misuse by, or the negligence of, the Customer or the employees of the same, the cost of the necessary repairs or replacement thereof shall be paid to the Company by the Customer.

Customers will be responsible for tampering with, interfering with, or breaking of seals of meters, or other equipment of the Company installed on the Customer's premises. The Customer hereby agrees that no one except the employees of the Company shall be allowed to make any internal or external adjustments of any meter or any other piece of apparatus, which shall be the property of the Company.

(Cont'd on Sheet 2-6)

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**8. CUSTOMER'S LIABILITY (Cont'd)**

The Company shall have the right at all reasonable hours to enter the premises of the Customer for the purpose of installing, reading, removing, testing, replacing or otherwise disposing of its apparatus and property, and the right of entire removal of the Company's property in the event of the termination of the contract for any cause.

**9. EXTENSION OF SERVICE.**

The electric facilities of the Company shall be extended or expanded to supply electric service to all residential Customers and small commercial Customers which require single phase line where the installed transformer capacity does not exceed 25 KVA in accordance with 807 KAR 5:041, Section 11.

The electric facilities of the Company shall be extended or expanded to supply electric service to Customers other than those named in the above paragraph when the estimated revenue is sufficient to justify the estimated cost of making such extensions or expansions as set forth below.

For service to be delivered to Commercial, Industrial, Mining and multiple housing project Customers up to and including estimated demands of 500 KW requiring new facilities, the Company will: (a) where the estimated revenue for one year exceeds the estimated installed cost of new local facilities required, provide such new facilities at no cost to the Customer; (b) where the estimated revenue for one year is less than the installed cost of new local facilities required, the Customer will be required to pay a contribution in aid of construction equal to the difference between the installed cost of the new facilities required to serve the load and the estimated revenue for one year; (c) if the Company has reason to question the financial stability of the Customer and/or the life of the operation is uncertain or temporary in nature, such as construction projects, oil and gas well drilling, sawmills and mining operations, the Customer shall pay a contribution in aid of construction, consisting of the estimated labor cost to install and remove the facilities required plus the cost of unsalvageable material, before the facilities are installed.

For service to be delivered to Customers with demand levels higher than those specified above, the annual cost to serve the Customer's requirements shall be compared with the estimated revenue for one year to determine if a contribution in aid of construction, and/or a special minimum and/or other arrangement may be necessary. The annual cost to serve shall be the sum of the following components:

1. The annual fixed costs of the generation, transmission and distribution facilities related to the Customer's requirements. These fixed costs will be calculated at 21.95% of the value to be based on the year-end embedded investment depreciated in all similar facilities of the Company.
2. The annual energy costs based on the latest available production costs related to the Customer's estimated annual energy use requirements.
3. The annual fixed costs of the new local facilities necessary to provide the service requested calculated at 21.95% of the installed cost of such facilities.

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

9. **EXTENSION OF SERVICE (Cont'd)**

If the estimated revenue for one year is greater than the cost to serve as described herein, the Company may provide any new local facilities required at no cost to the Customer. If the estimated revenue for one year is less than the cost to serve as described herein, the Company will require the Customer to pay a contribution in aid of construction equal to the difference between the annual cost to serve as calculated and the estimated revenue for one year divided by 21.95%, but in no case to exceed the installed cost of the new facilities required. If, however, the annual cost to serve excluding the cost of new facilities paid for by the Customer exceeds the estimated revenue for one year, the Company, will, in addition to a contribution in aid of construction, require a special minimum or other arrangement to compensate the Company for such deficiency in revenue.

Except where service is rendered in accordance with 807 KAR 5:041, Section 11, as described herein, the company may require the Customer to execute an Advance and Refund Agreement where the Company reasonably questions the longevity of the service or the estimated energy use and demand requirements provided by the Customer. Under the Advance and Refund Agreement, the Customers shall pay the company the estimated total installed cost of the required new facilities which advance could be refunded over a five year period under certain circumstances. Over the five year period the Customer's electric bill would be credited each month up to the amount of 1/60<sup>th</sup> of the total amount advanced.

10. **EXTENSION OF SERVICE TO MOBILE HOME.**

The electrical facilities of the Company will be extended or expanded to supply electric service to mobile homes in accordance with 807 KAR 5:041, Section 12.

11. **LOCATION AND MAINTENANCE OF COMPANY'S EQUIPMENT.**

The Company shall have the right to construct its poles, lines and circuits on the property, and to place its transformers and other apparatus on the property or within the building of the Customer, at a point or points convenient for such purposes, as required to serve such Customer, and the Customer shall provide suitable space for the installation of necessary measuring instruments so that the latter may be protected from injury by the elements or through the negligence or deliberate acts of the Customer or of any employee of the same.

12. **BILLING FORM.**

Pursuant to 807 KAR 5:006, Section 7 (3) copies of the billing forms used by the Company are shown on Sheet Nos. 2-12 thru 2-17.

13. **RATE SCHEDULE SELECTION.**

The Company will explain to the Customer, at the beginning of service or upon request the Company's rates available to the Customer. Company will assist Customer in the selection of the rate schedule best adapted to Customer's service requirements, provided, however, that Company does not assume responsibility for the selection or that Customer will at all times be served under the most favorable rate schedule.

Customer may change their initial rate schedule selection to another applicable rate schedule at any time by either written notice to Company and/or by executing a new contract for the rate schedule selected, provided that the application of such subsequent selection shall continue for 12 months before any other selection may be made. In no case will the Company refund any monetary difference between the rate schedule under which service was billed in prior periods and the newly selected rate schedule.

(Cont'd on Sheet No. 2-8)

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**14. MONITORING USAGE.**

At least once quarterly the Company will monitor the usage of each customer according to the following procedure:

1. The Customer's monthly usage will be compared with the usage of the corresponding period of the previous year.
2. If the monthly usage for the two periods is substantially the same or if any difference is known to be attributed to unique circumstances, such as unusual weather conditions, common to all customers, no further review will be made.
3. If the monthly usage is not substantially the same and cannot be attributed to a readily identified common cause, the Company will compare the Customer's monthly usage records for the 12-month period with the monthly usage for the same months of the preceding year.
4. If the cause for the usage deviation cannot be determined from analysis of the Customer's meter reading and billing records, the Company will contact the Customer to determine whether there have been changes that explain the increased or decreased usage.
5. Where the deviation is not otherwise explained, the Company will test the Customer's meter to determine whether it shows an average error greater than 2 percent fast or slow.
6. The Company will notify the customers of the investigation, its findings, and any refunds or back billing in accordance with 807 KAR 5:006, Section 11(4) and (5).

In addition to the quarterly monitoring, the Company will immediately investigate usage deviations brought to its attention as a result of its on-going meter reading, billing processes, or customer inquiry.

**15. USE OF ENERGY BY CUSTOMER.**

The tariffs for electric energy given herein are classified by the character of use of such energy and are not available for service except as provided herein.

Upon the expiration of an electric service contract, if required by the terms of the tariff, the Customer may elect to renew the contract upon the same or another tariff published by the Company available to the Customer and applicable to the Customer's requirements, except that in no case shall the Company be required to maintain transmission, switching or transformation equipment different from or in addition to that generally furnished to other Customers receiving electrical supply under the terms of the tariff elected by the Customer.

The service connections, transformers, meters and appliances supplied by the Company for each Customer have a definite capacity and no additions to the equipment, or load connected thereto, will be allowed except by consent of the Company.

The Customer shall install only motors, apparatus or appliances which are suitable for operation with the character of the service supplied by the Company, and which shall not be detrimental to same, and the electric energy must not be used in such a manner as to cause unprovided for voltage fluctuations or disturbances in the Company's transmission or distribution system. The Company shall be the sole judge as to the suitability of apparatus or appliances, and also as to whether the operation of such apparatus or appliances is or will be detrimental to its general service.

(Cont'd on Sheet No. 2-9)

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**15. USE OF ENERGY BY CUSTOMER. (Cont'd)**

No attachment of any kind whatsoever may be made to the Company's lines, poles, cross arms, structures or other facilities without the express written consent of the Company.

All apparatus used by the Customer shall be of such type as to secure the highest practicable commercial efficiency, power factor and the proper balancing of phases. Motors which are frequently started or motors arranged for automatic control must be of a type to give maximum starting torque with minimum current flow, and must be of a type, and equipped with controlling devices, approved by the Company. The Customer agrees to notify the Company of any increase or decrease in his connected load.

The Company will not supply service to Customers who have other sources of electrical energy supply except under tariffs, which specifically provide for same.

The Customer shall not be permitted to operate generating equipment in parallel with the Company's service except with express written consent of the Company.

Resale of energy will be permitted only with express written consent by the Company.

**16. RESIDENTIAL SERVICE.**

Except as otherwise provided in these tariffs, individual residences shall be served individually with single-phase service under the applicable residential service tariff. Customer may not take service for 2 or more separate residences through a single point of delivery under any tariff. Exclusions may be allowed pursuant to 807 KAR 5:046 (Prohibition of master metering).

The residential service tariff shall cease to apply to that portion of a residence which becomes regularly used for business, professional, institutional or gainful purposes, which requires three phase service or which requires service to motors in excess of 10 HP each. Under these circumstances, Customer shall have the choice of: (1) separating the wiring so that the residential portion of the premises is served through a separate meter under the residential service tariff and the other uses as enumerated above are served through a separate meter or meters under the applicable general service tariff; or (2) taking the entire service under the applicable general service tariff.

Detached building or buildings, actually appurtenant to the residence, such as a garage, stable or barn, may be served by an extension of the Customer's residence wiring through the residence meter and under the applicable residential service tariff.

**17. DENIAL OR DISCONTINUANCE OF SERVICE.**

The Company reserves the right to refuse or discontinue service to any customer if the customer is indebted to the Company for any service theretofore rendered at any location; provided however, the customer shall be notified in writing in accordance with 807 KAR 5:006, Section 15, before disconnection of service.


Any discontinuance of service shall not terminate the contract for electric service between the Company and the applicant or customer nor shall it abrogate any minimum charge, which may be effective.

(Cont'd on Sheet No. 2-10)

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**18. EMPLOYEE'S DISCOUNT.**

Regular employees who have been in the Company's employ for 6 months or more may, at the discretion of the Company, receive a reduction in their residence electric bills for the premises occupied by the employee.

**19. SPECIAL CHARGES.**

**A. Reconnection and Disconnect Charges**

In cases where the Company has discontinued service as herein provided for, the Company reserves the right to assess a reconnection charge pursuant to 807 KAR 5:006, Section 9 (3)(b), payable in advance, in accordance with the following schedule. However, those Customers qualifying for Winter Hardship Reconnection under 807 KAR 5:006 Section 16 shall be exempt from the reconnect charges.

- 1. Reconnect for nonpayment during regular hours.....\$ 21.00
- 2. Reconnect at the end of the day (No "Call Out" required)..... \$ 30.00
- 3. Reconnect for nonpayment when a "Call Out" is required prior to 10:00 PM  
(A "Call Out" is when an employee must be called in to work on an overtime basis to make the reconnect trip. Reconnection for nonpayment will not be made when a "Call Out" after 10:00 p.m. is required)..... \$ 95.00
- 4. Reconnect for nonpayment when double time is required  
(Sunday and Holiday)..... \$ 124.00
- 5. Termination or field trip..... \$ 13.00

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The reconnection charge for all Customers where service has been disconnected for fraudulent use of electricity will be the actual cost of the reconnection.

**B. Meter Reading Check**

Pursuant to 807 KAR 5:006, Section 9 (3) (d) in cases where a customer requests a meter be reread, and the second reading shows the original reading was correct, the Customer will be charged a fee of \$21.00 to cover the handling cost.

N  
N

**C. Returned Check Charge**

In cases where a customer pays by check, which is later returned as unpaid by the bank for any reason, the Customer will be charged a fee of \$18.00 to cover the handling costs.

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**D. Meter Test Charge**

Where test of a meter is made upon written request of the Customer pursuant to 807 KAR 5:006, Section 19, the Customer will be charged \$48.00 if such test shows that the meter was not more than two percent (2%) fast.

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(Cont'd on Sheet No. 2-11)

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

19. **SPECIAL CHARGES. CONT'D**

E. **Work performed on Company's Facilities at Customer's Requests**

Whenever, at the request and for the benefit of the Customer, work is performed on the Company's facilities, including the relocation, or replacement of the Company's facilities, the Customer shall pay to the Company in advance of the Company undertaking the work the estimated total cost of such work. This cost shall be itemized by major categories and shall include the Company's overheads and shall be credited with the net value of any salvageable material. The actual cost for the work performed shall be calculated at the completion of the work and the appropriate charge or refund will be made to the Customer.

Reasonable notice of not less than three working days shall be given to the Company for all requested work except for the covering of the Company's lines. Notice of any request for the Company to cover its lines shall be given at least two days in advance. The Company will endeavor to comply with all timely requests, but work may be delayed because of demands on the Company's personnel and equipment.

If the cost, as calculated above, is \$500 or less for covering the Company's distribution facilities no charge will be imposed. All costs in excess of \$500 for covering the Company's distribution facilities, shall be paid by the Customer, in advance of the Company undertaking the work. The actual cost for the work performed shall be calculated at the completion of the work and the appropriate charge or refund will be made to the customer.

(Cont'd on Sheet No. 2-12)

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**Residential Bill Form \_ Page 2**

Homeserve USA is optional. Homeserve USA is not the same as KPCO and is not regulated by the KY Public Service Commission. A customer does not have to buy the Warranty Service in order to continue to receive quality regulated service from KPCO.

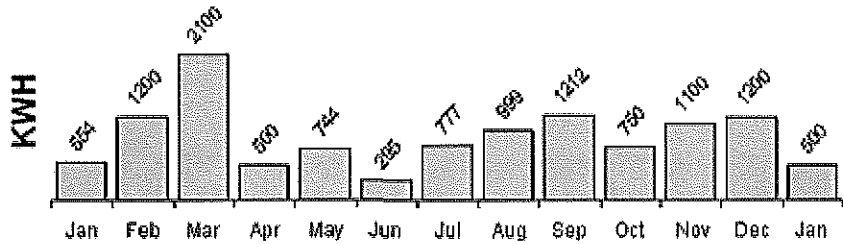
www.kyelectricalprotectionplan.com

Visit us at www.KentuckyPower.com  
 Rates available on request  
 See other side for Important Information



| Meter Number   | Service Period |       | Meter Reading Detail    |        |         |        |
|--|----------------|-------|-------------------------|--------|---------|--------|
| 999999999  | From           | To    | Previous                | Code   | Current | Code   |
|  | MM/DD          | MM/DD | XXXXX                   | Actual | XXXXX   | Actual |
| Multiplier X.XXXX  |                |       | Metered Usage X,XXX KWH |        |         |        |
| Next scheduled read date should be between MM/DD and MM/DD |                |       |                         |        |         |        |

**13 Month Usage History** **Total KWH for Past 12 Months is XX,XXX**



| Month                                 | Total KWH | Days | KWH Per Day | Cost Per Day | Average Temperature |
|---------------------------------------|-----------|------|-------------|--------------|---------------------|
| Current                               | XXX       | XX   | X,XXX       | \$XXX.XX     | 66° F               |
| Previous                              | XXX       | XX   | X,XXX       | \$XXX.XX     | 66° F               |
| One Year Ago                          | XXX       | XX   | X,XXX       | \$XXX.XX     | 48° F               |
| Your Average Monthly Usage: X,XXX KWH |           |      |             |              |                     |

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**Small Commercial Bill Form – Page 2**

Having a phone number for this address can help us serve you better, especially when storms cause service interruptions.

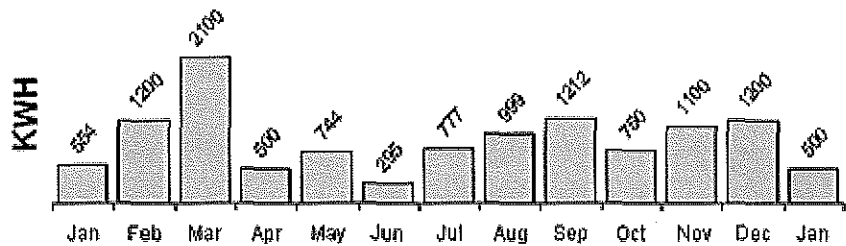
Visit us at [www.KentuckyPower.com](http://www.KentuckyPower.com)  
Rates available on request  
See other side for Important Information



| Meter Number   | Service Period |       | Meter Reading Detail    |        |         |        |
|--|----------------|-------|-------------------------|--------|---------|--------|
| 999999999  | From           | To    | Previous                | Code   | Current | Code   |
|  | MM/DD          | MM/DD | XXXX                    | Actual | XXXX    | Actual |
| Multiplier X.XXXX  |                |       | Metered Usage X,XXX KWH |        |         |        |
| Next scheduled read date should be between MM/DD and MM/DD |                |       |                         |        |         |        |

**13 Month Usage History**

**Total KWH for Past 12 Months is XX,XXX**



| Month                                 | Total KWH | Days | KWH Per Day | Cost Per Day | Average Temperature |
|---------------------------------------|-----------|------|-------------|--------------|---------------------|
| Current                               | XXX       | XX   | X,XXX       | \$XXX.XX     | 66° F               |
| Previous                              | XXX       | XX   | X,XXX       | \$XXX.XX     | 66° F               |
| One Year Ago                          | XXX       | XX   | X,XXX       | \$XXX.XX     | 48° F               |
| Your Average Monthly Usage: X,XXX KWH |           |      |             |              |                     |

(Cont'd on Sheet No. 2-16)

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

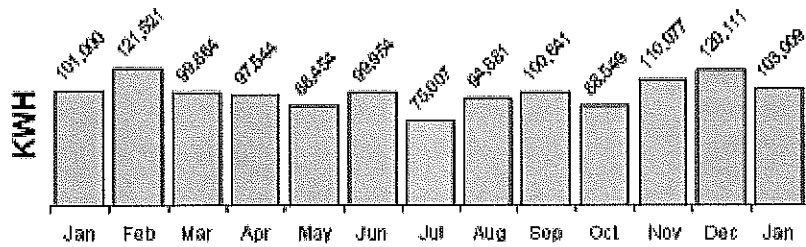
**Large Commercial and Industrial Bill Form – Page 2**

Send Inquiries To  
 PO BOX 24401  
 CANTON, OH 44701-4401  
 R-00-999999999

Service Address:  
 KPCo LARGEPOWER CUSTOMER  
 123 ANY STREET  
 ANY CITY, KY 99999-9999

| Meter              | Service Period |       | Meter Reading Detail         |        |         |        |
|--------------------|----------------|-------|------------------------------|--------|---------|--------|
| Number             | From           | To    | Previous                     | Code   | Current | Code   |
| 999999999          | MM/DD          | MM/DD | XXXX                         | Actual | XXXXX   | Actual |
| Multiplier XXXXXXX |                |       | Metered Usage XXX,XXX KWH    |        |         |        |
| 999999999          | MM/DD          | MM/DD | XXXX                         | Actual | XXXXX   | Actual |
| Multiplier XXXXXXX |                |       | Metered Usage XXX,XXX KW     |        |         |        |
| 999999999          | MM/DD          | MM/DD | XXXX                         | Actual | XXXXX   | Actual |
| Multiplier XXXXXXX |                |       | Metered Usage XXX,XXX KVAR H |        |         |        |

Next Scheduled read date should be between MM/DD and MM/DD  
 13 Month Usage History Total KWH for Past 12 Months is X,XXX,XXX



Stealing copper is illegal and can have deadly consequences. Reporting copper theft could save a life. If you have any information, please call 1-888-747-5845.

Having a phone number for this address can help us serve you better, especially when storms cause service interruptions.

Visit us at [www.KentuckyPower.com](http://www.KentuckyPower.com)  
 Rates available on request  
 See other side for important information



| Meter Number | Cycle-Route | Bill Date |
|--------------|-------------|-----------|
| 999999999    | 99-99       | MM/DD/YY  |

| Month        | Total KWH | Days | KWH Per Day | Cost Per Day | Average Temperature |
|--------------|-----------|------|-------------|--------------|---------------------|
| Current      | XXX,XXX   | XX   | X,XXX       | \$XXX.XX     | 68° F               |
| Previous     | XXX,XXX   | XX   | X,XXX       | \$XXX.XX     | 68° F               |
| One Year Ago | XXX,XXX   | XX   | X,XXX       | \$XXX.XX     | 49° F               |

Your Average Monthly Usage: XXX,XXX KWH

| Adjusted Usage MM/YY |        |              |                |
|----------------------|--------|--------------|----------------|
|                      | Power  | Power Factor | Comp. Meter    |
|                      | Factor | Constant     | Multiplier     |
| Metered Usage        | {XX.X} | {XXX.XXXX}   |                |
| XXX,XXX              |        |              | Billing Usage  |
| XXX,XXX              |        |              | XXX,XXX KWH    |
| XXX,XXX              |        |              | XXX,XXX KW     |
| XXX,XXX              |        |              | XXX,XXX KVAR H |

Contract Capacity = X,XXXXX High Prev Demand = X,XXX.X On-Pk  
 High Prev Demand = X,XXX.X Off-Pk

**Additional Messages**

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**CAPACITY AND ENERGY CONTROL PROGRAM**

The Company's Capacity and Energy Control Program consists of:

- I. Procedures During Abnormal System Frequency
- II. Capacity Deficiency Program
- III. Energy Emergency Control Program

A copy of the Company's Emergency Operating Plan was filed with the Kentucky Public Service Commission on May 1, 2014 in Administrative Case No. 345 in compliance with the Commission's Order dated May 18, 1993.

**I. PROCEDURES DURING ABNORMAL SYSTEM FREQUENCY**

**A. INTRODUCTION**

Precautionary procedures are required to meet emergency conditions such as system separation and operation at subnormal frequency. In addition, the coordination of these emergency procedures with neighboring companies is essential. The AEP program, which is in accordance with ECAR Document 3, is noted below.

**B. PROCEDURES AEP/PJM**

- 1. From 59.8 – 60.2 Hz to the extent practicable utilize all operating and emergency reserves. The manner of utilization of these reserves will depend greatly on the behavior of the System during the emergency. For rapid frequency decline, only that capacity on-line and automatically responsive to frequency (spinning reserve), and such items as interconnection assistance and load reductions by automatic means are of assistance in arresting the decline in frequency.


If the frequency decline is gradual, the Generation/Production Optimization Group, particularly in the deficient area, should invoke non-automatic procedures involving operating and emergency reserves. These efforts should continue until the frequency decline is arrested or until automatic load-shedding devices operate at subnormal frequencies.

- 2. At 59.75 Hz
  - a. Suspend Automatic Generation Control (AGC)
  - b. Notify Interruptible Customers to drop load
- 3. At 59.5 Hz automatically shed 5% of System internal load, excluding interruptibles, by relay action. (25 cycle, .42 sec. delay)
- 4. At 59.4 Hz automatically shed an additional 5% of System internal load, excluding interruptibles, by relay action. (25 cycle, .42 sec. delay)
- 5. At 59.3 Hz automatically shed an additional 5% of System internal load, excluding interruptibles, by relay action. (25 cycle, .42 sec. delay)
- 6. At 59.1 Hz automatically shed an additional 5% of System internal load, excluding interruptibles, by relay action. (25 cycle, .42 sec. delay)
- 7. At 59.0 Hz automatically shed an additional 5% of System internal load, excluding interruptibles, by relay action. (25 cycle, .42 sec. delay)
- 8. At 58.9 Hz automatically shed an additional 5% of System internal load, excluding interruptibles, by relay action. (25 cycle, .42 sec. delay)

(Cont'd on Sheet 3-2)

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**CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)**

**PROCEDURES DURING ABNORMAL SYSTEM FREQUENCY (cont'd)**

- 9. At 58.2 Hz automatically trip the D.C. Cook Nuclear Units 1 and 2.
- 10. At 58.0 Hz or at generator minimum turbine off-frequency value, isolate generating unit without time delay.

If at any time in the above procedure the decline in area frequency is arrested below 59.0 Hz, that part of the System in the low frequency area should shed an additional 10% of its initial load. If, after five minutes, this action has not returned the area frequency to 59.0 Hz or above, that part of the System shall shed an additional 10% of its remaining load and continue to repeat in five-minute intervals until 59.0 Hz is reached. These steps must be completed within the time constraints imposed upon the operation of generating units.

**II. CAPACITY DEFICIENCY PROGRAM**

**A. PURPOSE**

To provide a plan for full utilization of emergency capacity resources and for orderly reduction in the aggregate customer demand on the American Electric Power (AEP) East/PJM Eastern System in the event of a capacity deficiency.

**B. CRITERIA**

The goals of AEP are to safely and reliably operate the interconnected network in order to avoid widespread system outages as a consequence of a major disturbance. Precautionary procedures including maintaining Daily Operating Reserves, as specified in ECAR document 2, and PJM Manual M13, will assist in avoiding serious emergency conditions such as system separation and operation at abnormal frequency. However, adequate Daily Operating Reserves cannot always be maintained, so the use of additional emergency measures may be required. A Capacity Deficiency is a shortage of generation versus load and can be caused by generating unit outages and/or extreme internal load requirements.

**C. AEP EAST/PJM PROCEDURES**

(note: the following section contains excerpts from PJM Manual – M13)

**OVERVIEW**

PJM is responsible for determining and declaring that an Emergency is expected to exist, exists, or has ceased to exist in any part of the PJM RTO or in any other Control Area that is interconnected directly or indirectly with the PJM RTO. PJM directs the operations of the PJM Members as necessary to manage, allocate, or alleviate an emergency.

- PJM RTO Reserve Deficiencies — If PJM determines that PJM-scheduled resources available for an Operating Day in combination with Capacity Resources operating on a self-scheduled basis are not sufficient to maintain appropriate reserve levels for the PJM RTO, PJM performs the following actions:
- Recalls energy from Capacity Resources that otherwise deliver to loads outside the Control Area and dispatches that energy to serve load in the Control Area.
- Purchases capacity or energy from resources outside the Control Area. PJM uses its best efforts to purchase capacity or energy at the lowest prices available at the time such capacity or energy is needed. The price of any such capacity or energy is not considered in determining Locational Marginal Prices in the PJM Energy Market. The cost of capacity or energy is allocated among the Market Buyers as described in the PJM Manual for Operating Agreement Accounting (M-28)

The AEP System Control Center will be referred to as SCC and the AEP Production Optimization Group will be referred to as POG.

(Cont'd on Sheet No. 3-3)

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**CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)****AEP EAST/PJM PROCEDURES (cont'd)****CAPACITY SHORTAGES**

PJM is responsible for monitoring the operation of the PJM RTO, for declaring the existence of an Emergency, and for directing the operations of the PJM Member as necessary to manage, alleviate, or end an Emergency. PJM also is responsible for transferring energy on the PJM Members behalf to meet an Emergency. PJM is also responsible for agreements with other Control Areas interconnected with the PJM RTO for the mutual provision of service to meet an Emergency.

Exhibit 1 illustrates that there are three general levels of emergency actions for capacity shortages:

- alerts
- warnings
- actions

**ALERTS**

The intent of the alerts is to keep all affected system personnel aware of the forecast and/or actual status of the PJM RTO. All alerts and cancellation thereof are broadcast on the "ALL-CALL" system and posted to selected PJM web sites to assure that all members receive the same information.

Alerts are issued in advance of a scheduled load period to allow sufficient time for members to prepare for anticipated initial capacity shortages.

**Maximum Emergency Generation Alert**

The purpose of the Maximum Emergency Generation Alert is to provide an early alert that system conditions may require the use of the PJM emergency procedures. It is implemented when Maximum Emergency Generation is called into the operating capacity.

**Primary Reserve Alert**

The purpose of the Primary Reserve Alert is to alert members of the anticipated shortage of operating reserve capacity for a future critical period. It is implemented when estimated operating reserve capacity is less than the forecast primary reserve requirement.

**Voltage Reduction Alert**

The purpose of the Voltage Reduction Alert is to alert members that a voltage reduction may be required during a future critical period. It is implemented when the estimated operating reserve capacity is less than the forecast spinning reserve requirement.

**Voluntary Customer Load Curtailment Alert**

The purpose of the Voluntary Customer Load Curtailment Alert is to alert members of the probable future need to implement a voluntary customer load curtailment. It is implemented whenever the estimated operating reserve capacity indicates a probable future need for voluntary customer load curtailment.

**Warnings**

Warnings are issued during present operations to inform members of actual capacity shortages or contingencies that may jeopardize the reliable operation of the PJM RTO. The intent of warnings is to keep all affected system personnel aware of the forecast and/or actual status of the PJM RTO. All warnings and cancellations are broadcasted on the "ALL-CALL" system and posted to selected PJM web sites to assure that all members receive the same information.

**Primary Reserve Warning**

The purpose of the Primary Reserve Warning is to warn members that the available primary reserve is less than required and present operations are becoming critical. It is implemented when available primary reserve capacity is less than the primary reserve requirement, but greater than the spinning reserve requirement, after all available secondary reserve capacity (except restricted maximum emergency capacity) is brought to a primary reserve status and emergency operating capacity is scheduled from adjacent systems.

(Cont'd on Sheet 3-4)

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**CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)****AEP EAST/PJM PROCEDURES (cont'd)****Voltage Reduction Warning & Reduction of Non-Critical Plant Load**

The purpose of the Voltage Reduction Warning & Reduction of Non-Critical Plant Load is to warn members that the available spinning reserve is less than the Spinning Reserve Requirement and that present operations have deteriorated such that a voltage reduction may be required. It is implemented when the available spinning reserve capacity is less than the spinning reserve requirement, after all available secondary and primary reserve capacity (except restricted maximum emergency capacity) is brought to a spinning reserve status and emergency operating capacity is scheduled from adjacent systems.

**Manual Load Dump Warning**

The purpose of the Manual Load Dump Warning is to warn members of the increasingly critical condition of present operations that may require manually dumping load. It is issued when available primary reserve capacity is less than the largest operating generator or the loss of a transmission facility jeopardizes reliable operations after all other possible measures are taken to increase reserve. The amount of load and the location of areas(s) are specified.

**Actions**

The PJM RTO is normally loaded according to bid prices; however, during periods of reserve deficiencies, other measures must be taken to maintain system reliability. These measures involve:

- Loading generation that is restricted for reasons other than cost
- Recalling non-capacity backed off-system sales
- Purchasing emergency energy from participants / surrounding pools
- Load relief measures

The procedures to be used under these circumstances are described in the general order in which they are applied. Due to system conditions and the time required to obtain results, PJM dispatcher may find it necessary to vary the order of application to achieve the best overall system reliability. Issuance and cancellation of emergency procedures are broadcast over the "ALL-CALL" and posted to selected PJM web sites. Only affected systems take action. PJM dispatcher broadcasts the current and projected PJM RTO status periodically using the "ALL-CALL" during the extent of the implementation of the emergency procedures.

**Maximum Emergency Generation**

The purpose of the Maximum Emergency Generation is to increase the PJM RTO generation above the maximum economic level. It is implemented whenever generation is needed that is greater than the highest incremental cost level.

**Load Management Curtailments (ALM)****Steps 1 and 2 (PJM Control)**

The purpose of the Load Management Curtailments, Steps 1 and 2, is to provide additional load relief by using PJM controllable load management programs. Steps 1 and 2 are differentiated only by the expected time to implement. Load relief is required after initiating Maximum Emergency Generation.

**Step 1: Short Time Frame to Implement (1 Hour or Less)**

- PJM dispatcher requests members to implement Load Management Curtailment, Step 1.

**Step 2: Long Time Frame To Implement (Greater Than 1 Hour)**

- PJM dispatcher requests members to implement Load Management Curtailment, Step 2.

**Steps 3 and 4 (SCC Control)**

The purpose of the Local Control Center Programs of Load Management Curtailments, Steps 3 and 4, is to provide additional load relief by requesting use of Local Control Center load management programs.

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**CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)****Actions (cont'd)****Load Reduction Program**

The purpose of the Load Reduction Action is to request end-use customers to reduce load during emergency conditions.

**Voltage Reduction**

The purpose of Voltage Reduction during capacity deficient conditions is to reduce load to provide a sufficient amount of reserve to maintain tie flow schedules and preserve limited energy sources. A curtailment of non-essential building load is implemented prior to or at this same time as a Voltage Reduction Action. It is implemented when load relief is still needed to maintain tie schedules.

**Note:** Voltage reductions can also be implemented to increase transmission system voltage.

**Note:** Curtailment of non-essential building load may be implemented prior to, but not later than, the same time as a voltage reduction.

**Curtailment of Non-Essential Building Load**

The purpose of the Curtailment of Non-Essential Building Load is to provide additional load relief, to be expedited prior to, but no later than the same time as a voltage reduction.

**Voluntary Customer Load Curtailment**

The purpose of the Voluntary Customer Load Curtailment (VCLC) is to provide further load relief. It is implemented when the estimated peak load minus the relief expected from curtailment of non-essential building load and a 2.5% - 5% voltage reduction is greater than operating capacity.

PJM/SCC – Public Appeal to conserve electricity usage

**Manual Load Dump**

The purpose of the Manual Load Dump is to provide load relief when all other possible means of supplying internal PJM RTO load have been used to prevent a catastrophe within the PJM RTO or to maintain tie schedules so as not to jeopardize the reliability of the other interconnected regions. It is implemented when the PJM RTO cannot provide adequate capacity to meet the PJM RTO's load or critically overloaded transmission lines or equipment cannot be relieved in any other way and/or low frequency operation occurs in the PJM RTO, parts of the PJM RTO, or PJM RTO and adjacent Control Areas that may be separated as an island.

**Addendum to Manual Load Dump Procedures**

AEP understands that PJM intends to implement these curtailment protocols consistent with the agreements that PJM entered into in Kentucky and Virginia, in Stipulations approved by the Kentucky Public Service Commission and Virginia State Corporation Commission (with modifications) in Case No. 2002-00475 and Case No. PUE-2000-00550, respectively.

**Capacity Deficiency Summary**

A summary of the emergency alerts, warning and actions, together with the typical sequence and the method of communication, are presented in the following Table III-2 on Tariff Sheet No. 3-6.

(Cont'd on Sheet No. 3-6)

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**CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)**

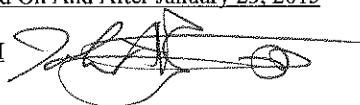
|                |  | Communications   | Description   |   |
|----------------|--|--|---|---|
| <b>Alert</b>   | Maximum Emergency Generation                                   | PJM-POG via All-Call<br>PJM-SCC via All-Call<br>SCC-TDC                | SCC/POG review scheduled or actual maintenance affecting capacity or critical transmission to determine if it can be deferred or cancelled          | <b>EEA 1</b>  |
|                | Primary Reserve  | PJM-POG via All-Call<br>PJM-SCC via All-Call<br>SCC-TDC                | (Same as above)   |   |
|                | Voltage Reduction  | PJM-SCC via All-Call<br>SCC-TDC  | SCC/TDC to identify stations for Voltage Reduction  |   |
|                | Voluntary Customer Load Curtailment                            | PJM-POG via All-Call<br>PJM-SCC via All-Call                           | Not Applicable  |   |
| <b>Warning</b> | Primary Reserve  | PJM-POG via All-Call<br>PJM-SCC via All-Call<br>SCC-TDC                | SCC/POG ensure that all deferrable maintenance or testing affecting capacity or critical transmission is halted.                                    |   |
|                | Voltage Reduction & Reduction of Non-Critical Plant Load       | PJM-POG via All-Call<br>PJM-SCC via All-Call<br>SCC-TDC                | SCC to inform TDC to man Voltage Reduction Stations & prepare for Voltage Reduction   | POG to reduce plant load. (See Table III-4)   |
|                | Manual Load Dump   | PJM-SCC via All-Call<br>SCC- POG-Environmental Services<br>SCC-TDC-DDC | Lifting of Environmental Restrictions ( See Table III-5)  | Manual & Automatic Load Shedding  |
|                |  | Make preparations for a Public Appeal if one becomes necessary.        | Obtain permission to exceed opacity limits<br>Obtain permission to exceed heat input limits<br>Obtain permission to exceed river temperature limits | SCC/TDC will review local computer procedures and man manual load shedding stations |
| <b>Action</b>  | Maximum Emergency Generation                                   | PJM-POG via All-Call<br>PJM-SCC via All-Call                           | Supplemental Oil & Gas Firing;<br>Operate Generator Peakers;<br>Emergency Hydro;<br>Extra Load Capability   | See Table III-3   |
|                | Load Management Curtailment (ALM)                              | PJM-SCC via All-Call<br>SCC - POG                                      | Step 3 - 1267 Mws - 1 hr, 249 Mws - 2 hr  | <b>EEA 2 (DOE Report)</b>   |
|                | Load Reduction Program   | PJM-SCC via All-Call   | Not Applicable  |   |
|                | Voltage Reduction  | PJM-SCC via All-Call<br>SCC -TDC & SCC - POG                           | Initiate Voltage Reduction - AEP/PJM - 64 Mws   |   |
|                | Curtailment of Non-Essential Building Load                     | PJM-POG via All-Call<br>PJM-SCC via All-Call<br>SCC- Building Services | Initiate curtailment of AEP building load - 4.4 Mws   | Issued approx. same time as Voltage Reduction                                       |
|                | Voluntary Customer Load Curtailment                            | PJM-POG via All-Call<br>PJM-SCC via All-Call                           | Not Applicable  | <b>EEA 3 (DOE Report)</b>   |
|                | Public Appeal (may be issued at any stage of the Action items) | SCC - Corporate Communications   | Radio and TV alert to general public  | 2% of AEP Internal Load   |
|                |  | SCC - Customer Services  | Call to Industrial and Commercial Customers   | 1276 Mws - 1 hr + 320 Mws - 2 hr  |
|                |  | SCC - TDC  | Municipal and REMC Customers  | 7% of Cust. Load  |
|                | Manual Load Dump   | PJM-SCC via All-Call<br>SCC-POG-Environmental Services<br>SCC-TDC-DDC  | PJM Allocation based on deficient zones   |   |
|                |  | Lift Environmental Restrictions on units                               | (regains curtailed generation)  |   |
|                |  | Selected distribution customers (manual load curtailment)              | Execute MLD   |   |

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**CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)****Energy Emergency Alert Levels (reference NERC Appendix 5C)**1. Alert 1 - All available resources in use.

## Circumstances:

- Control Area, Reserve Sharing Group, or Load Serving Entity foresees or is experiencing conditions where all available resources are committed to meet firm load, firm transactions, and reserve commitments, and is concerned about sustaining its required Operating Reserves, and
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

2. Alert 2 - Load management procedures in effect.

## Circumstances:

- Control Area, Reserve Sharing Group, or Load Serving Entity is no longer able to provide its customers' expected energy requirements, and is designated an Energy Deficient Entity.
- Energy Deficient Entity foresees or has implemented procedures up to, but excluding, interruption of firm load commitments. When time permits, these procedures may include, but are not limited to:
  - Voltage reduction
  - Emergency Curtailable Service
  - Public appeals to reduce demand
  - Interruption of non-firm end use loads in accordance with applicable contracts, for emergency, not economic reasons
  - Demand-side management
  - Utility load conservation measures

- During Alert 2, The Reliability Coordinators, Control Areas, and Energy Deficient Entities and AEP have the following responsibilities:

2.1 Notifying other Control Areas and Market Participants.

2.2 Declaration Period. The Energy Deficient Entity shall update the Reliability Coordinator of the situation at a minimum of every hour until the Alert 2 is terminated.

2.3 Share information on resource availability.

2.4 Evaluating and mitigating transmission limitations.

2.4.1 Notification of ATC adjustments.

2.4.2 Availability of generation redispatch options.

2.4.3 Evaluating impact of current Transmission Loading Relief events.

2.4.4 Initiating inquiries on reevaluating Operating Security Limits.

2.5 Coordination of emergency responses. The Reliability Coordinator shall communicate and coordinate the implementation of emergency operating responses.

2.6 Energy Deficient Entity actions. Before declaring an Alert 3, the Energy Deficient Entity must make use of available resources. This includes but is not limited to:

2.6.1 All available generation units are on line. All generation capable of being on line in the time frame of the emergency is on line including quick-start and peaking units, regardless of cost.

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**CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)****Energy Emergency Alert Levels (reference NERC Appendix 5C) (Cont'd)**

- 2.6.2 Purchases made regardless of cost. All firm and non-firm purchases have been made regardless of cost.
- 2.6.2 Non-firm sales recalled and contractually interruptible loads and DSM curtailed. All non-firm sales have been recalled, contractually interruptible retail loads curtailed, and Demand-side Management activated within provisions of the agreements.
- 2.6.3 Operating Reserves. Operating reserves are being utilized such that the Energy Deficient Entity AEP is carrying reserves below the required minimum or has initiated emergency assistance through its operating reserve sharing program.

3. Alert 3 - Firm load interruption imminent or in progress.

## Circumstances:

- Control Area or Load Serving Entity foresees or has implemented firm load obligation interruption. The available energy to the Energy Deficient Entity, as determined from Alert 2, is only accessible with actions taken to increase transmission transfer capabilities.

- 3.1 Continue actions from Alert 2.
- 3.2 Declaration Period. The Energy Deficient Entity shall update the Reliability Coordinator of the situation at a minimum of every hour until the Alert 3 is terminated.
- 3.3 Use of Transmission short-time limits.
- 3.4 Reevaluating and revising Operating Security Limits.
- 3.4.1 AEP Energy Deficient Entity obligations. The deficient Control Area or Load Serving Entity must agree that, upon notification from its Reliability Coordinator of the situation, it will immediately take whatever actions are necessary to mitigate any undue risk to the Interconnection. These actions may include load shedding.
- 3.4.2 Mitigation of cascading failures. The Reliability Coordinator shall use his best efforts to ensure that revising Operating Security Limits would not result in any cascading failures within the Interconnection.
- 3.5 Returning to pre-emergency Operating Security Limits. Whenever energy is made available to an Energy Deficient Entity such that the transmission systems can be returned to their pre-emergency Operating Security Limits, the Control Area Coordinator Energy Deficient Entity shall notify its respective Reliability Coordinator and downgrade the Alert.
- 3.5.1 Notification of other parties. Notifications will be made via Oasis and the RCIS.
- 3.6 Reporting. Any time an Alert 3 is declared, the Control Area Coordinator Energy Deficient Entity shall complete the report listed in NERC Appendix 9B, Section C and submit this report to its respective Reliability Coordinator within two business days of downgrading or termination of the Alert. Upon receiving the report, the Reliability Coordinator shall review it for completeness and immediately forward it to the NERC staff for posting on the NERC web site. The Reliability Coordinator shall present this report to the appropriate NERC Sub-committee Reliability Coordinator Working Group at its next scheduled meeting.
4. Alert 0 - Termination. When the Energy Deficient Entity believes it will be able to supply its customers' energy requirements, it shall request of his Reliability Coordinator that the EEA be terminated.

## 4.1 Notification.

(Cont'd on Sheet No. 3-9)

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CAPACITY AND ENERGY CONTROL PROGRAMIII. ENERGY EMERGENCY CONTROL PROGRAMA. INTRODUCTION

The purpose of this plan is to provide for the reduction of the consumption of electric energy on the American Electric Power Company System in the event of a severe coal fuel shortage, such as might result from a general strike, or severe weather.

B. PROCEDURES

In the event of a potential severe coal shortage, such as one resulting from a general coal strike, the following steps will be implemented. These steps will be carried out to the extent permitted by contractual commitments or by order of the regulatory authorities having jurisdiction.

- A. To be initiated when system fuel supplies are decreased to 70% of normal target days' operation of coal-fired generation and a continued downward trend in coal stocks is anticipated:
1. Optimize the use of non-coal-fired generation to the extent possible.
  2. For individual plants significantly under 750% of normal minimum target days' supply, review the prudence of modifying economic dispatching procedures to conserve coal.
  3. If necessary discontinue all economy sales to neighboring utilities.
  4. Curtail the use of energy in company offices, plants, etc., over and above the reductions already achieved by current in-house conservation measures.
- B. To be initiated when system fuel supplies are decreased to 60% of normal target days' operation of coal-fired generation and a continued downward trend in coal stocks is anticipated:
1. Substitute the use of oil for coal, as permitted by plant design, oil storage facilities, and oil availability.
  2. Discontinue all economy and short-term sales to neighboring utilities.
  3. Limit emergency deliveries to neighboring utilities to situations where regular customers of such utilities would otherwise be dropped or where the receiving utility agrees to return like quantities of energy within 14 days.
  4. Curtail electric energy consumption by customers on Interruptible contracts to a maximum of 132 hours of use at contract demand per week.
  5. Purchase energy from neighboring systems to the extent practicable.
  6. Purchase energy from industrial customers with generation facilities to the extent practicable.
  7. Through the use of news media and direct consumer contact, appeal to all customers (retail as well as wholesale) to reduce their nonessential use of electric energy as much as possible, in any case by at least 25%.
  8. Reduce voltage around the clock to the extent feasible.
  9. The Company will advise customers of the nature of the mandatory program to be introduced in C below, through direct contact and mass media, and establish an effective means of answering specific customer inquiries concerning the impact of the mandatory program on electricity availability.

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CAPACITY AND ENERGY CONTROL PROGRAM(Cont'd)III. ENERGY EMERGENCY CONTROL PROGRAM(Cont'd)B. PROCEDURES (Cont'd)

C. To be initiated -- in the order indicated below -- when system fuel supplies are decreased to 50% of normal target days' operation of coal-fired generation plants and a continued downward trend in coal stocks is anticipated:

1. Discontinue emergency deliveries to neighboring utilities unless the receiving utility agrees to return like quantities of energy within seven days.
2. Request all customers, retail as well as wholesale, to reduce their nonessential use of electric energy by 100%.
3. Request, through mass communication media, curtailment by all other customers a minimum of 15% of their electric use. These uses include lighting, air-conditioning, heating, manufacturing processes, cooking, refrigeration, clothes washing and drying and any other loads that can be curtailed.
4. All customers will be advised of the mandatory program specified below in D.

D. To be initiated when system fuel supplies are decreased to 40% of normal target days' operation of coal-fired generation and a continued downward trend in coal stocks is anticipated:

1. Implement procedures for curtailment of service to all customers to a minimum service level that is not greater than that required for protection of human life and safety, protection of physical plant facilities and employees' security. This step asks for curtailment of the maximum load possible without endangering life, safety and physical facilities.
2. All customers will be advised of the mandatory program specified below in E.

E. To be initiated when system fuel supplies are decreased to 30% of normal target days' operation of coal-fired generation and a continued downward trend in coal stocks is anticipated:

Implement procedures for interruption of selected distribution circuits on a rotational basis, while minimizing -- to the extent practicable -- interruption to facilities that are essential to the public health and safety. (See Section II, Step 14.)

F. The Energy Emergency Control Program will be terminated when:


1. The AEP System's remaining days of operation of coal-fired generation is at least 40% of normal target days' operation, and
2. Coal deliveries have been resumed, and
3. There is reasonable assurance that the AEP System's coal stocks are being restored to adequate levels.

With regard to mandatory curtailments identified in Items C, D, and E above, the Company proposes to monitor compliance after the fact. A customer exceeding his electric allotment would be warned to curtail his usage or face, upon continuing noncompliance and upon one day's actual written notice, disconnection of electric service for the duration of the energy emergency.

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**STANDARD NOMINAL VOLTAGES**

The voltage available to any individual customer shall depend upon the voltage of the Company's lines serving the area in which customer is provided service.

Electric service provided under the Company's rate schedules will be 60 hertz alternating current delivered from various load centers at nominal voltages and phases as available in a given location as follows:

**SECONDARY DISTRIBUTION VOLTAGES.**

Residential Service

Single phase 120/240 volts three wire or 120/208 volts three wire on network system.

General Service - All Except Residential

Single-phase 120/240 volts three wire or 120/208 volts three wire on network system. Three-phase 120/208 volts four wire on network system, 120/240 volts four wire, 240 volts three wire, 480 volts three wire and 277/480 volts four wire.

**PRIMARY DISTRIBUTION VOLTAGES.**

The Company's primary distribution voltage levels at load centers are 2,400; 4,160Y; 7,200; 12,470Y, 19,900 and 34,500Y.

**SUBTRANSMISSION LINE VOLTAGES.**

The Company's sub transmission voltage levels are 19,900; 34,500; 46,000; and 69,000.

**TRANSMISSION LINE VOLTAGES.**

The Company's transmission voltage levels are 138,000; 161,000; 345,000; and 765,000.

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**TARIFF F.A.C.**  
**(Fuel Adjustment Clause)**

**APPLICABLE.**

To Tariffs R.S., Experimental R.S.T.O.D. 2, R.S.-L.M.-T.O.D. R.S.-T.O.D., S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S. T.O.D., I.G.S., C.S.-I.R.P., M.W., O.L., and S.L.

T

**RATE.**

1. The fuel clause shall provide for periodic adjustment per kwh of sales equal to the difference between the fuel costs per kwh of sales in the base period and in the current period according to the following formula:

$$\text{Adjustment Factor} = \frac{F(m)}{S(m)} - \frac{F(b)}{S(b)}$$

Where F is the expense of fossil fuel in the base (b) and current (m) periods; and S is sales in the base (b) and current (m) periods, all as defined below:

2. F(b)/S(b) shall be so determined that on the effective date of the Commission's approval of the utility's application of the formula, the resultant adjustment will be equal to zero (0).
3. Fuel costs (F) shall be the most recent actual monthly cost of:
  - a. Fossil fuel consumed in the utility's own plants, and the utility's share of fossil and nuclear fuel consumed in jointly owned or leased plants, plus the cost of fuel which would have been used in plants suffering forced generation or transmission outages, but less the cost of the fuel related substitute generation, plus
  - b. The actual identifiable fossil and nuclear fuel costs [if not known--the month used to calculate fuel (F), shall be deemed to be the same as the actual unit cost of the Company generation in the month said calculations are made. When actual costs become known, the difference, if any, between fuel costs (F) as calculated using such actual unit costs and the fuel costs (F) used in that month shall be accounted for in the current month's calculation of fuel costs (F)] associated with energy purchased for reasons other than identified in paragraph (c) below, but excluding the cost of fuel related to purchases to substitute the forced outages, plus
  - c. The net energy cost of energy purchases, exclusive of capacity or demand charges (irrespective of the designation assigned to such transaction) when such energy is purchased on an economic dispatch basis. Included therein may be such costs as the charges for economy energy purchases and the charges as a result of scheduled outage, all such kinds of energy being purchased by the Company to substitute for its own higher cost energy; and less
  - d. The cost of fossil fuel recovered through intersystem sales including the fuel costs related to economy energy sales and other energy sold on an economic dispatch basis.
  - e. All fuel costs shall be based on weighted average inventory costing.
4. Forced outages are all nonscheduled losses of generation or transmission which require substitute power for a continuous period in excess of six (6) hours. Where forced outages are not as a result of faulty equipment, faulty manufacturer, faulty design, faulty installations, faulty operation, or faulty maintenance, but are Acts of God, riot, insurrection or acts of the public enemy, then the utility may, upon proper showing, with the approval of the Commission, include the fuel costs of substitute energy in the adjustment. Until such approval is obtained, in making the calculations of fuel costs (F) in subsection (3)(a) and (b) above, the forced outage costs to be subtracted shall be no less than the fuel cost related to the lost generation.

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**TARIFF F.A.C. (Cont'd)**  
**(Fuel Adjustment Clause)**

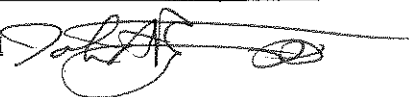
5. Sales (S) shall be all kwh's sold, excluding intersystem sales. Where, for any reason billed system sales cannot be coordinated with the fuel costs for the billing period, sales may be equated to the sum of (i) generation, (ii) purchases, (iii) interchange in, less (iv) energy associated with pumped storage operations, less (v) intersystem sales referred to in subsection (3)(d) above, less (vi) total system loss. Utility used energy shall not be excluded in the determination of sales (S).
6. The cost of fossil fuel shall include no items other than the invoice price of fuel less any cash or other discounts. The invoice price of fuel includes the cost of the fuel itself and necessary charges for transportation of the fuel from the point of acquisition to the unloading point, as listed in Account 151 of FERC Uniform System of Accounts or Public Utilities and Licensees.
7. At the time the fuel clause is initially filed, the utility shall submit copies of each fossil fuel purchase contract not otherwise on file with the Commission and all other agreements, options or similar such documents, and all amendments and modifications thereof related to the procurement of fuel supply and purchased power. Incorporation by reference is permissible. Any changes in the documents, including price escalations, or any new agreements entered into after the initial submission, shall be submitted at the time they are entered into. Where fuel is purchased from utility-owned or controlled sources, or the contract contains a price escalation clause, those facts shall be noted and the utility shall explain and justify them in writing. Fuel charges, which are unreasonable, shall be disallowed and may result in the suspension of the fuel adjustment clause. The Commission on its own motion may investigate any aspect of fuel purchasing activities covered by this regulation.
8. Any tariff filing which contains a fuel clause shall conform that clause with this regulation within three (3) months of the effective date of this regulation. The tariff filing shall contain a description of the fuel clause with detailed cost support.
9. The monthly fuel adjustment shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustments, which shall include data, and information as may be required by the Commission.
10. Copies of all documents required to be filed with the Commission under this regulation shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS61.870 to 61.884.
11. At six (6) month intervals, the Commission will conduct public hearings on a utility's past fuel adjustments. The Commission will order a utility to charge off and amortize, by means of a temporary decrease of rates, any adjustment it finds unjustified due to improper calculation or application of the charges or improper fuel procurement practice.
12. Every two (2) years following the initial effective date of each utility fuel clause, the Commission in a public hearing will review and evaluate past operations of the clause, disallow improper expenses, and to the extent appropriate, reestablish the fuel clause charge in accordance with Subsection 2.
13. Resulting cost per kilowatt-hour in June 2008 to be used as the base cost in Standard Fuel Adjustment Clause is :

|        |             |                               |
|--------|-------------|-------------------------------|
| Fuel - | June 2008 = | \$16,138,627 = \$ 0.02840/kwh |
| Sales  | June 2008   | 568,162,000                   |

This, as used in the Fuel Adjustment Clause, is 2.840¢ per kilowatt-hour.

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF R.S.  
(Residential Service)**

**AVAILABILITY OF SERVICE.**

Available for full domestic electric service through 1 (one) meter to individual residential customers including rural residential customers engaged principally in agricultural pursuits.

**RATE.** (Tariff Codes 015, 017, 022)

|                      |                   |
|----------------------|-------------------|
| Service Charge.....  | \$16.00 per month |
| Energy Charge: ..... | 9.035¢ per KWH    |

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**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the Service Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule.

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**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

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**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.

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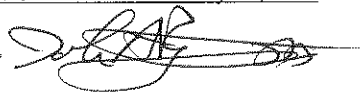
**BIG SANDY I OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy I Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy I Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule  
(Cont'd on Sheet No. 6-2)

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ISSUED BY: JOHN A. ROGNES III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX



**TARIFF R.S.(Cont'd)  
(Residential Service)**

**STORAGE WATER HEATING PROVISION.**

This provision is withdrawn except for the present installations of current customers receiving service hereunder at premises served prior to April 1, 1997.

If the customer installs a Company approved storage water heating system which consumes electrical energy only during off-peak hours as specified by the Company and stores hot water for use during on-peak hours, the following shall apply:

Tariff Code

- 012 (a) For Minimum Capacity of 80 gallons, the last 300 KWH of use in any month shall be billed at 4.940¢ per KWH.
- 013 (b) For Minimum Capacity of 100 gallons, the last 400 KWH of use in any month shall be billed at 4.940¢ per KWH.
- 014 (c) For Minimum Capacity of 120 gallons or greater, the last 500 KWH of use in any month shall be billed at 4.940¢ per KWH.

These provisions, however, shall in no event apply to the first 200 KWH used in any month, which shall be billed in accordance with the "Monthly Rate" as set forth above.

For purpose of this provision, the on-peak billing period is defined as 7:00A.M. to 9:00P.M. for all weekdays, Monday through Friday. The off-peak billing period is defined as 9:00PM to 7:00AM for all weekdays and all hours of Saturday and Sunday.

The Company reserves the right to inspect at all reasonable times the storage water heating system and devices which qualify the residence for service under the storage water heater provision, and to ascertain by any reasonable means that the time-differentiated load characteristics of such devices meet the Company's specifications. If the Company finds that in its sole judgment the availability conditions of this provision are being violated, it may discontinue billing the Customer under this provision and commence billing under the standard monthly rate.

This provision is subject to the Service Charge, the Fuel Adjustment Clause, the System Sales Clause, the Demand-Side Management Clause, the Asset Transfer Rider, Big Sandy Retirement Rider, Big Sandy 1 Operation Rider, the Purchase Power Adjustment, the Environmental Surcharge, the Capacity Charge, the P.J.M. Rider, the Kentucky Economic Development Rider, the Residential HEAP Charge, NERC Compliance and Cybersecurity Rider factors as stated in the above monthly rate.

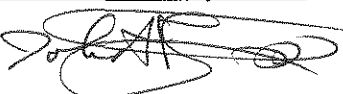
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(Cont'd. on Sheet No. 6-4)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF R.S.  
(Residential Service)**

**LOAD MANAGEMENT WATER-HEATING PROVISION.** (Tariff Code 011)

For residential customers who install a load management water-heating system which consumes electrical energy during off-peak hours specified by the Company and stores hot water for use during on-peak hours, of minimum capacity of 80 gallons, the last 250 KWH of use in any month shall be billed at 5.216¢ per KWH.

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This provision, however, shall in no event apply to the first 200 KWH used in any month, which shall be billed in accordance with the "Monthly Rate" as set forth above.

For the purpose of this provision, the on-peak billing period is defined as 7:00 A.M. to 9:00 P.M. for all weekdays, Monday through Friday. The off-peak billing period is defined as 9:00 P.M. to 7:00 A.M. for all weekdays and all hours of Saturday and Sunday.

The Company reserves the right to inspect at all reasonable times the load management water-heating system(s) and devices which qualify the residence for service under the Load Management Water-Heating Provision. If the Company finds that, in its sole judgment, the availability conditions of this provision are being violated; it may discontinue billing the Customer under this provision and commence billing under the standard monthly rate.

This provision is subject to the Service Charge, the Fuel Adjustment Clause, the System Sales Clause, the Demand-Side Management Clause, the Asset Transfer Rider, the Purchase Power Adjustment, the Environmental Surcharge, the Capacity Charge and the Residential HEAP Charge factors as stated in the above monthly rate.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

This service is available to rural domestic customers engaged principally in agricultural pursuits where service is taken through one meter for residential purposes as well as for the usual farm uses outside the home, but it is not extended to operations of a commercial nature or operations such as processing, preparing or distributing products not raised or produced on the farm, unless such operation is incidental to the usual residential and farm uses.

The Company shall have the option of reading meters monthly or bimonthly and rendering bills accordingly. When bills are rendered bimonthly, the minimum charge and the quantity of KWH in each block of the rates shall be multiplied by two.

Pursuant to 807 KAR 5:041, Section 11, paragraph (1), of Public Service Commission Regulations, the Company will make an extension of 1,000 feet or less to its existing distribution line without charge for a prospective permanent residential customer served under this R.S. Tariff. Pursuant to 807 KAR 5:041 Section 12 extensions of up to 150 feet for a mobile home are provided without charge.

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This tariff is available for single-phase, residential service. Where the residential customer requests three-phase service, this tariff will apply if the residential customer pays to the Company the difference between constructing single-phase service and three-phase service. Where motors or heating equipment are used for commercial or industrial purposes, the applicable general service tariff will apply to such service.

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Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or by special agreement.

(Cont'd on Sheet No. 6-5)

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TITLE: Director Regulatory Services

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In Case No. 2014-00396 Dated XXXXXXXXX



**TARIFF R.S.-L.M.-T.O.D.**  
**(Residential Service Load Management Time-of-Day)**

**AVAILABILITY OF SERVICE.**

Available to customers eligible for Tariff R.S. (Residential Service) who use energy storage devices with time-differentiated load characteristics approved by the Company which consume electrical energy only during off-peak hours specified by the Company and store energy for use during on-peak hours.

Households eligible to be served under this tariff shall be metered through a multiple-register meter capable of measuring electrical energy consumption during the on-peak and off-peak billing periods.

**RATE.** (Tariff Codes 028, 030, 032, 034)

|  |                    |
|--|--------------------|
| Service Charge.....                              | \$ 18.70 per month |
| Energy Charge:                                   |                    |
| All KWH used during on-peak billing period.....  | 13.879¢ per KWH    |
| All KWH used during off-peak billing period..... | 5.216¢ per KWH     |

For the purpose of this tariff, the on-peak billing period is defined as 7:00 A.M. to 9:00 P.M. for all weekdays, Monday through Friday. The off-peak period is defined as 9:00 P.M. to 7:00 A.M. for all weekdays and all hours of Saturday and Sunday.

**CONSERVATION AND LOAD MANAGEMENT CREDIT.**

For the combination of an approved electric thermal storage space heating system and water heater, both of which are designed to consume electrical energy only between the hours of 9:00P.M. and 7:00A.M. for all days of the week, each residence will be credited 0.745¢ per KWH for all energy used during the off-peak billing period, for a total of 60 monthly billing periods following the installation and use of these devices in such residence.

**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the Service Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule.

(Cont'd. on Sheet 6-6)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

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**TARIFF R.S.-L.M.-T.O.D. (Cont'd)**  
**(Residential Service Load Management Time-of-Day)**

**ASSET TRANSFER RIDER**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet Nos. 38-1 thru 38-2 of this Tariff Schedule.

**BIG SANDY 1 OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy 1 Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy 1 Operation Rider contained in Sheet No. 39-1 through 39-2 of this Tariff Schedule.

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 thru 29-5 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 and 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider factor per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 thru 24-3 of this Tariff Schedule.

(Cont'd on Sheet No. 6-7)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF R.S.-L.M.-T.O.D. (Cont'd)**  
**(Residential Service Load Management Time-of-Day)**

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers' bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kW and/or kWh calculated in compliance with the NERC Compliance Cybersecurity Rider contained in Sheet Nos. 40-1 thru 40-3 of this Tariff Schedule.

**DELAYED PAYMENT CHARGE.**

Bills under this tariff are due and payable within fifteen (15) days of the mailing date. On all accounts not paid in full by the next billing date, an additional charge of 5% of the unpaid portion will be made.

**SEPARATE METERING PROVISION.**

Customers who use electric thermal storage space heating and water heaters which consume energy only during off-peak hours specified by the Company, or other automatically controlled load management devices such as space and/or water heating equipment that use energy only during off-peak hours specified by the Company, shall have the option of having these approved load management devices separately metered. The service charge for the separate meter shall be \$3.85 per month.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

The Company reserves the right to inspect at all reasonable times the energy storage and load management devices which qualify the residence for service and for conservation and load management credits under this tariff, and to ascertain by any reasonable means that the time-differentiated load characteristics of such devices meet the Company's specifications. If the Company finds, that in its sole judgment, the availability conditions of this tariff are being violated, it may discontinue billing the Customer under this tariff and commence billing under the appropriate Residential Service Tariff.

This tariff is available for single-phase, residential service. Where the residential customer requests three-phase service, this tariff will apply if the residential customer pays to the Company the difference between constructing single-phase service and three-phase service. Where motors or heating equipment are used for commercial or industrial purposes, the applicable general service tariff will apply to such service.

Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or by special agreement with the Company.

(Cont'd on Sheet 6-8)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated Xxxxxxxx

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**TARIFF R.S. - T.O.D.**  
**(Residential Service Time-of-Day)**

**AVAILABILITY OF SERVICE.**

Available for residential electric service through a multiple-register meter capable of measuring electrical energy consumption during the on-peak and off-peak billing periods to individual residential customers, including residential customers engaged principally in agricultural pursuits. Availability is limited to the first 1,000 customers applying for service under this tariff.

**RATE.** (Tariff Code 036)

|  |                    |
|--|--------------------|
| Service Charge.....                              | \$ 18.70 per month |
| Energy Charge:                                   |                    |
| All KWH used during on-peak billing period.....  | 13.879¢ per KWH    |
| All KWH used during off-peak billing period..... | 5.216¢ per KWH     |

For the purpose of this tariff, the on-peak billing period is defined as 7:00A.M. to 9:00P.M. for all weekdays, Monday through Friday. The off-peak period is defined as 9:00P.M. to 7:00A.M. for all weekdays and all hours of Saturday and Sunday.

**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the Service Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bill computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule.

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment actor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet Nos. 38-1 thru 38-2 of this Tariff Schedule.

(Cont'd on Sheet No. 6-9)

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DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF R.S. - T.O.D.**  
**(Residential Service Time-of-Day)**

**BIG SANDY 1 OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy 1 Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy 1 Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 thru 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers' bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

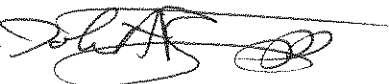
Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.

(Cont'd on Sheet No. 6-10)

DATE OF ISSUE: December 23, 2014

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

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**TARIFF R.S. - T.O.D. (Cont'd)**  
**(Residential Service Time-of-Day)**

**DELAYED PAYMENT CHARGE.**

Bills under this tariff are due and payable within fifteen (15) days of the mailing date. On all accounts not paid in full by the next billing date, an additional charge of 5% of the unpaid portion will be made.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

This tariff is available for single-phase, residential service. Where the residential customer requests three-phase service, this tariff will apply if the residential customer pays to the Company the difference between constructing single-phase service and three-phase service. Where motors or heating equipment are used for commercial or industrial purposes, the applicable general service tariff will apply to such service.

Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or by special agreement with the Company.

(Cont'd on Sheet No. 6-11)

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

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**TARIFF R.S. – T.O.D.2**  
**(Experimental Residential Service Time-of-Day 2)**

**AVAILABILITY OF SERVICE.**

Available on a voluntary, experimental basis to individual residential customers for residential electric service through a multi-register meter capable of measuring electrical energy consumption during variable pricing periods. Availability is limited to the first 500 customers applying for service under this tariff.

**RATE.** (Tariff Code 027)

|   |                   |
|---|-------------------|
| Service Charge .....                                    | \$18.70 per month |
| Energy Charge:  |                   |
| All KWH used during Summer on-peak billing period ..... | 10.885¢ per KWH   |
| All KWH used during Winter on-peak billing period ..... | 12.132¢ per KWH   |
| All KWH used during off-peak billing period .....       | 8.309¢ per KWH    |

For the purpose of this tariff, the on-peak and off-peak billing periods shall be defined as follows:

| <u>Months</u>                                   | <u>On-Peak</u>                                     | <u>Off-Peak</u>                                    |
|---|--|--|
| Approximate Percent (%)<br>Of Annual Hours      | 16%  | 84%  |
| <u>Winter Period:</u><br>November 1 to March 31 | 7:00 A.M. to 11:00 A.M.<br>6:00 P.M. to 10:00 P.M. | 11:00 A.M. to 6:00 P.M.<br>10:00 P.M. to 7:00 A.M. |
| <u>Summer Period:</u><br>May 15 to September 15 | Noon to 6:00 P.M.                                  | 6:00 P.M. to Noon                                  |
| <u>All Other Calendar Periods</u>               | None   | Midnight to Midnight                               |

NOTE: All KWH consumed during Saturday and Sunday are billed at the off-peak level.

**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the Service Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

(Cont'd on Sheet No. 6-12)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF R.S.-T.O.D.2 (Cont'd)**  
**(Experimental Residential Service Time-of-Day 2)**

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment actor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.

**BIG SANDY I OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy I Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy I Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of the Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-1 of this Tariff Schedule.

**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

(Cont'd on Sheet No. 6-13)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF R.S.-T.O.D.2 (Cont'd)**  
**(Experimental Residential Service Time-of-Day 2)**

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.

**DELAYED PAYMENT CHARGE.**

Bills under this tariff are due and payable within fifteen (15) days of the mailing date. On all accounts not paid in full by the next billing date, an additional charge of 5% of the unpaid portion will be made.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

This tariff is available for single-phase, residential service. Where the residential customer requests three-phase service, this tariff will apply if the residential customer pays to the Company the difference between constructing single-phase service and three-phase service. Where motors or heating equipment are used for commercial or industrial purposes, the applicable general service tariff will apply to such service.

Customers with PURPA Section 210 qualifying cogeneration and/or small power productions facilities shall take service under Tariff COGEN/SPP I or by special agreement with the Company.

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DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

TARIFF S.G.S.  
(Small General Service)

**AVAILABILITY OF SERVICE.**

Available for general service to customers with average monthly demands less than 10 KW and maximum monthly demands of less than 15 KW (excluding the demand served by the Load Management Time-of-Day provisions). Service will be provided at Secondary voltage metering only.

N

Customers not meeting the requirements for availability under this tariff will only be permitted to continue service under this tariff at the premise occupied for continuous service beginning no later than January 22, 2015.

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**RATE.** (Tariff Codes 211, 212)

|                                 |                   |
|---------------------------------|-------------------|
| Service Charge.....             | \$19.50 per month |
| Energy Charge:                  |                   |
| First 500 KWH per month.....    | 11.500¢ per KWH   |
| All Over 500 KWH per month..... | 7.057¢ per KWH    |

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**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the Service Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rate set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

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**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

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**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.

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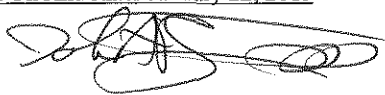
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(Cont'd on Sheet No. 7-2)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF S.G.S. (Cont'd.)  
(Small General Service)**

**BIG SANDY I OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy I Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy I Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**


Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.

**DELAYED PAYMENT CHARGE.**

This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

(Cont'd. on Sheet 7-3)

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF S.G.S. (Cont'd.)  
(Small General Service)**

**LOAD MANAGEMENT TIME-OF-DAY PROVISION.**

Available to customers who use energy storage devices with time-differentiated load characteristics approved by the Company which consume electrical energy only during off-peak hours specified by the Company and store energy for use during on-peak hours, and who desire to receive service under this provision for their total requirements.

Customers who desire to separately wire their load management load to a time-of-day meter and their general-use load to a standard meter shall receive service for both under the appropriate provision of this tariff.

**RATE.** (Tariff Code 225)

|   |                   |
|---|-------------------|
| Service Charge.....                               | \$19.50 per month |
| Energy Charge:                                    |                   |
| All KWH used during on-peak billing period.....   | 13.755¢ per KWH   |
| All KWH used during off-peak billing period ..... | 5.216¢ per KWH    |

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**OPTIONAL UNMETERED SERVICE PROVISION.**

Available to customers who qualify for Tariff SGS and use the Company's service for commercial purposes consisting of small fixed electric loads such as traffic signals and signboards which can be served by a standard service drop from the Company's existing secondary distribution system. This service will be furnished at the option of the Company.

Each separate service delivery point shall be considered a contract location and shall be separately billed under the service contract. In the event one Customer has several accounts for like service, the Company may meter one account to determine the appropriate kilowatt-hour usage applicable for each of the accounts.

The Customer shall furnish switching equipment satisfactory to the Company. The Customer shall notify the Company in advance of every change in connected load, and the Company reserves the right to inspect the customer's equipment at any time to verify the actual load. In the event of the customer's failure to notify the Company of an increase in load, the Company reserves the right to refuse to serve the contract location thereafter under this provision, and shall be entitled to bill the customer retroactively on the basis of the increased load for the full period such load was connected or the earliest date allowed by Kentucky statute whichever is applicable.

Calculated energy use per month shall be equal to the contract capacity specified at the contract location times the number of days in the billing period times the specified hours of operation. Such calculated energy shall then be billed at the following rates:

**RATE.** (Tariff Codes 204 (Metered), 213 (Unmetered))

|                                 |                   |
|---------------------------------|-------------------|
| Customer Charge.....            | \$15.50 per month |
| Energy Charge:                  |                   |
| First 500 KWH per month.....    | 11.500¢ per KWH   |
| All Over 500 KWH per month..... | 7.057¢ per KWH    |

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**TERM OF CONTRACT.**

The Company shall have the right to require contracts for a period of one (1) year or longer.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

Customer with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or by special agreement with the Company.

(Cont'd on Sheet No. 7-4)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission  
In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF S.G.S. – T.O.D.**  
**(Experimental Small General Service Time-of-Day Service)**

**AVAILABILITY OF SERVICE.**

Available on a voluntary, basis for general service to customers being served at secondary distribution voltage with one single-phase, multi-register meter capable of measuring electrical energy consumption during variable pricing periods. Availability is limited to the first 500 customers applying for service under this tariff.

Customers not meeting the requirements for availability under this tariff will only be permitted to continue service under this tariff at the premise occupied for continuous service beginning no later than January 22, 2015.

**RATE.** (Tariff Code 227)

|   |                   |
|---|-------------------|
| Service Charge .....                                    | \$19.50 per month |
| Energy Charge:  |                   |
| All KWH used during Summer on-peak billing period ..... | 11.126¢ per KWH   |
| All KWH used during Winter on-peak billing period ..... | 12.020¢ per KWH   |
| All KWH used during off-peak billing period .....       | 8.476¢ per KWH    |

For the purpose of this tariff, the on-peak and off-peak billing periods shall be defined as follows:

| <u>Months</u>                                   | <u>On-Peak</u>                                     | <u>Off-Peak</u>                                    |
|---|--|--|
| Approximate Percent (%)<br>Of Annual Hours      | 16%  | 84%  |
| <u>Winter Period:</u><br>November 1 to March 31 | 7:00 A.M. to 11:00 A.M.<br>6:00 P.M. to 10:00 P.M. | 11:00 A.M. to 6:00 P.M.<br>10:00 P.M. to 7:00 A.M. |
| <u>Summer Period:</u><br>May 15 to September 15 | Noon to 6:00 P.M.                                  | 6:00 P.M. to Noon                                  |
| <u>All Other Calendar Periods</u>               | None   | Midnight to Midnight                               |

NOTE: All KWH consumed during weekends are billed at the off-peak level.

**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the Service Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.  
(Cont'd on Sheet No. 7-5)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF S.G.S.-T.O.D. (Cont'd)**  
**(Small General Service Time-of-Day)**

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased by a Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 and 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.

**BIG SANDY I OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy I Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy I Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of the Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.


**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.

(Cont'd on Sheet No. 7-6)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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(Small General Service Time-of-Day)

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule

**DELAYED PAYMENT CHARGE.**

Bills under this tariff are due and payable within fifteen (15) days of the mailing date. On all accounts not paid in full by the next billing date, an additional charge of 5% of the unpaid portion will be made

**SPECIAL TERMS AND CONDITIONS.**


This tariff is subject to the Company's Terms and Conditions of Service. Existing customers may initially choose to take service under this tariff without satisfying any requirements to remain on their current tariff for at least 12 months.

Customer with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or by special agreement with the Company.

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DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission  
In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF M.G.S.**  
**(Medium General Service)**

**AVAILABILITY OF SERVICE.**

Available for general service to customers with average monthly demands greater than 10 KW or maximum monthly demands greater than 15 KW, but not more than 100 KW (excluding the demand served by the Load Management Time-of-Day provision). Except as provided below, customers receiving service on or before January 22, 2015 at a secondary voltage and with average monthly demand below 10 KW will be served under the S.G.S. tariff.

Existing customers not meeting the above criteria will be permitted to continue service under present conditions only for continuous service at the premises occupied on or prior to December 5, 1984.

**RATE.**

| Tariff Code  | Service Voltage            |                     |                        |
|--|----------------------------|---------------------|------------------------|
|  | Secondary<br>215, 216, 218 | Primary<br>217, 220 | Subtransmission<br>236 |
| Service Charge per Month                                   | \$ 19.50                   | \$ 50.00            | \$ 364.00              |
| Demand Charge per KW                                       | \$ 2.05                    | \$ 1.99             | \$ 1.96                |
| Energy Charge:   |                            |                     |                        |
| KWH equal to 200 times KW of<br>monthly billing demand     | 10.072¢                    | 9.245¢              | 8.538¢                 |
| KWH in excess of 200 times KW<br>of monthly billing demand | 8.639¢                     | 8.270¢              | 8.018¢                 |

**MINIMUM CHARGE.**

This tariff is subject to a minimum charge equal to the sum of the service charge plus the demand charge multiplied by 6 KW. The minimum monthly charge for industrial and coal mining customers contracting for 3-phase service after October 1, 1959 shall be \$ 8.55 per KW of monthly billing demand.

**RECREATIONAL LIGHTING SERVICE PROVISION.**

Available for service to customers with demands of 5 KW or greater and who own and maintain outdoor lighting facilities and associated equipment utilized at baseball diamonds, football stadiums, parks and other similar recreational areas. This service is available only during the hours between sunset and sunrise. Daytime use of energy under this rate is strictly forbidden except for the sole purpose of testing and maintaining the lighting system. All Terms and Conditions of Service applicable to Tariff M.G.S. customers will also apply to recreational lighting customers except for the Availability of Service.

**RATE.** (Tariff Code 214)

|                      |                    |
|----------------------|--------------------|
| Service Charge ..... | \$ 19.50 per month |
| Energy Charge .....  | 10.000¢ per KWH    |

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule.

(Cont'd on Sheet No. 8-2)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Of Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-Xxxx Dated Xxxxxxxx

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**TARIFF M.G.S. (Cont'd.)  
(Medium General Service)**

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.

**BIG SANDY I OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy 1 Operation Rider Adjustment Factor per kW and/or kWh calculated in compliance with the Big Sandy 1 Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rate set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kW and/or kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.


**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

(Cont'd on Sheet No. 8-3)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

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**TARIFF M.G.S (Cont'd)**  
**(Medium General Service)****HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kW and/or kWh calculated in compliance with the NERC Compliance Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.

**DELAYED PAYMENT CHARGE.**

This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

**METERED VOLTAGE.**

The rates set forth in this tariff are based upon the delivery and measurements of energy at the same voltage, thus measurement will be made at or compensated to the delivery voltage. At the sole discretion of the Company, such compensation may be achieved through the use of loss compensating equipment, the use of formulas to calculate losses or the application of multipliers to the metered quantities. In such cases, the metered KWH and KW values will be adjusted for billing purposes. If the Company elects to adjust KWH and KW based on multipliers, the adjustment shall be in accordance with the following:

- (1) Measurements taken at the low-side of a Customer-owned transformer will be multiplied by 1.01.
- (2) Measurements taken at the high-side of a Company-owned transformer will be multiplied by 0.98.

**MONTHLY BILLING DEMAND.**

Energy supplied hereunder will be delivered through not more than one single phase and/or polyphase meter. Customer's demand will be taken monthly to be the highest registration of a 15-minute integrating demand meter or indicator, or the highest registration of a thermal type demand meter. The minimum monthly billing demand shall not be less than (a) the minimum billing demand of 6 KW, or (b) 60% of the greater of (1) the customer's contract capacity in excess of 100 KW or (2) the customer's highest previously established monthly billing demand during the past 11 months in excess of 100 KW.

(Cont'd on Sheet No. 8-4)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

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**TARIFF M.G.S (Cont'd)**  
**(Medium General Service)**

**LOAD MANAGEMENT TIME-OF-DAY PROVISION.** (Tariff Code 223)

Available to customers who use energy storage devices with time-differentiated load characteristics approved by the Company which consume electrical energy only during off-peak hours specified by the Company and store energy for use during on-peak hours, and who desire to receive service under this provision for their total requirements.

Customers who desire to separately wire their load management load to a time-of-day meter and their general-use load to a standard meter shall receive service for both under the appropriate provision of this tariff.

**RATE.**

|   |                   |   |
|---|-------------------|---|
| Service Charge .....                              | \$ 3.85 per month | I |
| Energy Charge:                                    |                   |   |
| All KWH used during on-peak billing period .....  | \$15.757¢ per KWH | I |
| All KWH used during off-peak billing period ..... | 5.491¢ per KWH    | I |

For the purpose of this tariff, the on-peak billing period is defined as 7:00 A.M. to 9:00 P.M. for all weekdays, Monday through Friday. The off-peak billing period is defined as 9:00 P.M. to 7:00 A.M. for all weekdays and all hours of Saturday and Sunday.

**TERM OF CONTRACT.**

Contracts under this tariff will *may* be required of customers. Contracts under this tariff will be made for an initial period of not less than 1 (one) year and shall remain in effect thereafter until either party shall give at least 6 months' written notice to the other of the intention to terminate the contract. The Company will have the right to make contracts for periods of longer than 1 (one) year. T  
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**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

This tariff is also available to Customers having other source of energy supply but who desire to purchase standby or back-up electric service from the Company. Where such conditions exist the Customer shall contract for the maximum demand in KW which the Company might be required to furnish, but no less than 10 KW. The Company shall not be obligated to supply demands in excess of that contracted for. Where service is supplied under the provisions of this paragraph, the billing demand each month shall be the highest determined for the current and previous two billing periods, and the minimum charge shall be as set forth under paragraph "Minimum Charge" above.

This tariff is available for resale service to mining and industrial customers who furnish service to customer-owned camps or villages where living quarters are rented to employees and where the Customer purchases power at a single point of both their power and camp requirements.

Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or II or by special agreement with the Company.

(Cont'd on Sheet No. 8-5)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX



**TARIFF M.G.S.-T.O.D. (Cont'd)**  
**(Medium General Service Time-of-Day)**

**BIG SANDY I OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy 1 Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy 1 Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of the Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

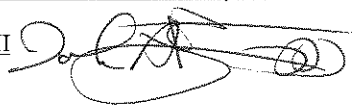
Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.

(Cont'd on Sheet No. 8-7)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 8-7  
CANCELLING P.S.C. KY. NO. 10 \_\_\_\_\_ SHEET NO. 8-7

**TARIFF M.G.S.-T.O.D. (Cont'd)**  
**(Medium General Service Time-of-Day)**

**DELAYED PAYMENT CHARGE.**

This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service

Customers with PURPA Section 210 qualifying cogeneration and/or small power productions facilities shall take service under Tariff COGEN/SPP I or by special agreement with the Company.

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF L.G.S.  
(Large General Service)**

**AVAILABILITY OF SERVICE.**

Available for general service to customers with normal maximum demands greater than 100 KW but not more than 1,000 KW (excluding the demand served by the Load Management Time-of-Day provision).

Existing customers not meeting the above criteria will be permitted to continue service under present conditions only for continuous service at the premises occupied on or prior to December 5, 1984.

**RATE.**

| Tariff Code                    | Service Voltage       |                     |                        |                     |
|--------------------------------|-----------------------|---------------------|------------------------|---------------------|
|                                | Secondary<br>240, 242 | Primary<br>244, 246 | Subtransmission<br>248 | Transmission<br>250 |
| Service Charge per Month       | \$ 85.00              | \$ 127.50           | \$ 661.65              | \$ 661.65           |
| Demand Charge per KW           | \$ 5.03               | \$ 4.89             | \$ 4.83                | \$ 4.75             |
| Excess Reactive Charge per KVA | \$ 3.46               | \$ 3.46             | \$ 3.46                | \$ 3.46             |
| Energy Charge per KWH          | 8.056¢                | 6.851¢              | 4.670¢                 | 4.579¢              |

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**MINIMUM CHARGE.**

Bills computed under the above rate are subject to a monthly minimum charge comprised of the sum of the service charge and the minimum demand charge. The minimum demand charge is the product of the demand charge per KW and the monthly billing demand.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

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**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

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(Cont'd. On Sheet No. 9-2)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF L.G.S. (Cont'd.)  
(Large General Service)**

**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.

**BIG SANDY I OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy I Operation Rider Adjustment Factor per kW and/or kWh calculated in compliance with the Big Sandy I Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge Adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kW and/or kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**


Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kW and/or kWh calculated in compliance with the NERC Compliance Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.

(Cont'd on Sheet No. 9-3)

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DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX



**TARIFF L.G.S. (Cont'd)**  
**(Large General Service)**

**DELAYED PAYMENT CHARGE.**

This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

**METERED VOLTAGE.**

The rates set forth in this tariff are based upon the delivery and measurement of energy at the same voltage, thus measurement will be made at or compensated to the delivery voltage. At the sole discretion of the Company, such compensation may be achieved through the use of loss compensating equipment, the use of formulas to calculate losses or the application of multipliers to the metered quantities. In such cases, the metered KWH and KW values will be adjusted for billing purposes. If the Company elects to adjust KWH and KW based on multipliers, the adjustment shall be in accordance with the following:

- (1) Measurements taken at the low-side of a customer-owned transformer will be multiplied by 1.01.
- (2) Measurements taken at the high-side of a Company-owned transformer will be multiplied by 0.98.

**MONTHLY BILLING DEMAND.**

Billing demand in KW shall be taken each month as the highest 15-minute integrated peak in kilowatts as registered during the month by a 15-minute integrating demand meter or indicator, or at the Company's option as the highest registration of a thermal type demand meter or indicator. The monthly billing demand so established shall in no event be less than 60% of the greater of (a) the customer's contract capacity or (b) the customer's highest previously established monthly billing demand during the past 11 months.

**DETERMINATION OF EXCESS KILOVOLT-AMPERE (KVA) DEMAND.**

The maximum KVA demand shall be determined by the use of a multiplier equal to the reciprocal of the average power factor recorded during the billing month, leading or lagging, applied to the metered demand. The excess KVA demand, if any, shall be the amount by which the maximum KVA demand established during the billing period exceeds 115% of the kilowatts of metered demand.

**LOAD MANAGEMENT TIME-OF-DAY PROVISION.**

Available to customers who use energy storage devices with time-differentiated load characteristics approved by the Company which consume electrical energy only during off-peak hours specified by the Company and store energy for use during on-peak hours, and who desire to receive service under this provision for their total requirements.

Customers who desire to separately wire their load management load to a time-of-day meter and their general-use load to a standard meter shall receive service for both under the appropriate provision of this tariff.

**RATE.** (Tariff Code 251)

|   |                    |   |
|---|--------------------|---|
| Service Charge .....                              | \$ 85.00 per month | I |
| Energy Charge:                                    |                    |   |
| All KWH used during on-peak billing period .....  | 13.164¢ per KWH    | I |
| All KWH used during off-peak billing period ..... | 5.471¢ per KWH     | I |

For the purpose of this tariff, the on-peak billing period is defined as 7:00 A.M. to 9:00 P.M. for all weekdays, Monday through Friday. The off-peak billing period is defined as 9:00 P.M. to 7:00 A.M. for all weekdays and all hours of Saturday and Sunday.

(Cont'd on Sheet No. 9-4)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF L.G.S. (Cont'd)**  
**(Large General Service)**

**TERM OF CONTRACT.**

Contracts under this tariff will be made for customers requiring a normal maximum monthly demand between 500 KW and 1,000 KW and be made for an initial period of not less than 1 (one) year and shall remain in effect thereafter until either party shall give at least 6 months written notice to the other of the intention to terminate the contract. The Company reserves the right to require initial contracts or periods greater than 1 (one) year. For customers with demands less than 500 KW, a contract may, at the Company's option, be required.

Where new Company facilities are required, the Company reserves the right to require initial contracts for periods greater than one year for all customers served under this tariff.

A new initial contract period will not be required for existing customers who change their contract requirements after the original initial period unless new or additional facilities are required.

**CONTRACT CAPACITY.**

The Customer shall set forth the amount of capacity contracted for (the "contract capacity") in an amount up to 1,000 KW. Contracts will be made in multiples of 25 KW. The Company is not required to supply capacity in excess of such contract capacity except with express written consent of the Company.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

This tariff is also available to Customers having other sources of energy supply but who desire to purchase standby or back-up electric service from the Company. Where such conditions exist the customer shall contract for the maximum amount of demand in KW, which the Company might be required to furnish, but not less than 100 KW nor more than 1,000 KW. The Company shall not be obligated to supply demands in excess of the contract capacity. Where service is supplied under the provisions of this paragraph, the billing demand each month shall be the highest determined for the current and previous two billings periods, and the minimum charge shall be as set forth under paragraph "Minimum Charge" above.

This tariff is available for resale service to mining and industrial customers who furnish service to customer-owned camps or villages where living quarters are rented to employees and where the customer purchases power at a single point for both his power and camp requirements.

Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or II or by special agreement with the Company.

(Cont'd on Sheet No. 9-4)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF L.G.S. – T.O.D.**  
**(Large General Service – Time of Day)**

**AVAILABILITY OF SERVICE.**

Available for general service customers with normal maximum demands of 100 KW or greater. Customers may continue to qualify for service under this tariff until their 12-month average demand exceeds 1,000 KW. Availability is limited to the first 500 customers applying for service under this tariff.

**RATE.**

| Tariff Code                       | Service Voltage  |                |                        |                     |
|-----------------------------------|------------------|----------------|------------------------|---------------------|
|                                   | Secondary<br>256 | Primary<br>257 | Subtransmission<br>258 | Transmission<br>259 |
| Service Charge per Month          | \$ 85.00         | \$ 127.50      | \$ 661.65              | \$ 661.65           |
| Demand Charge per KW              | \$ 10.20         | \$ 7.35        | \$ 1.08                | \$ 1.07             |
| Excessive Reactive Charge per KVA | \$ 3.46          | \$ 3.46        | \$ 3.46                | \$ 3.46             |
| On-Peak Energy Charge per KWH     | 8.481¢           | 8.187¢         | 8.098¢                 | 8.002¢              |
| Off-Peak Energy Charge per KWH    | 4.533¢           | 4.411¢         | 4.374¢                 | 4.334¢              |

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For the purpose of this tariff, the on-peak billing period is defined as 7:00 A.M. to 9:00 P.M., for all weekdays Monday through Friday. The off-peak billing period is defined as 9:00 P.M. to 7:00 A.M. for all weekdays and all hours of Saturday and Sunday.

**MINIMUM CHARGE.**

Bills computed under the above rate are subject to a monthly minimum charge comprised of the sum of the service charge and the minimum demand charge. The minimum demand charge is the product of the demand charge per KW and the monthly billing demand.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

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**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

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(Cont'd on Sheet No. 9-6)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNES III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF L.G.S. – T.O.D. (Cont'd.)  
(Large General Service – Time of Day)**

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**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.

**BIG SANDY I OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy 1 Operation Rider Adjustment Factor per kW and/or kWh calculated in compliance with the Big Sandy 1 Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge Adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kW and/or kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

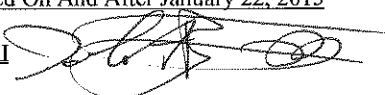
Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kW and/or kWh calculated in compliance with the NERC Compliance Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.

(Cont'd on Sheet 9-7)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF L.G.S. – T.O.D. (Cont'd)**  
**(Large General Service – Time of Day)****DELAYED PAYMENT CHARGE.**

This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional Charge of 5% of the unpaid balance will be made.

**METERED VOLTAGE.**

The rates set forth in this tariff are based upon the delivery and measurement of energy at the same voltage, thus measurement will be made at or compensated to the delivery voltage. At the sole discretion of the Company, such compensation may be achieved through the use of loss compensating equipment, the use of formulas to calculate losses or the application of multipliers to the metered quantities. In such cases, the metered KWH and KW values will be adjusted for billing purposes. If the Company elects to adjust KWH and KW based on multipliers, the adjustment shall be in accordance with the following:

- (1) Measurements taken at the low-side of a customer-owned transformer will be multiplied by 1.01.
- (2) Measurements taken at the high-side of a Company-owned transformer will be multiplied by 0.98.

**MONTHLY BILLING DEMAND.**

Billing demand in KW shall be taken each month as the highest 15-minute integrated peak in kilowatts as registered during the month by a 15-minute integrating demand meter or indicator, or at the Company's option as the highest registration of a thermal type demand meter or indicator. The monthly billing demand so established shall in no event be less than 60% of the greater of (a) the customer's contract capacity or (b) the customer's highest previously established monthly billing demand during the past 11 months.

**DETERMINATION OF EXCESS KILOVOLT-AMPERE (KVA) DEMAND.**

The maximum KVA demand shall be determined by the use of a multiplier equal to the reciprocal of the average power factor recorded during the billing month, leading or lagging, applied to the metered demand. The excess KVA demand, if any, shall be the amount by which the maximum KVA demand established during the billing period exceeds 115% of the kilowatts of metered demand.

**TERM OF CONTRACT.**

Contracts under this tariff will be made for customers requiring a normal maximum monthly demand between 500 KW and 1,000 KW and be made for an initial period of not less than 1 (one) year and shall remain in effect thereafter until either party shall give at least 6 months written notice to the other of the intention to terminate the contract. The Company reserves the right to require initial contracts or periods greater than 1 (one) year. For customers with demands less than 500 KW, a contract may, at the Company's option, be required.

Where new Company facilities are required, the Company reserves the right to require initial contracts for periods greater than one year for all customers served under this tariff.

A new initial contract period will not be required for existing customers who change their contract requirements after the original initial period unless new or additional facilities are required.

(Cont'd on Sheet No. 9-8)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF L.G.S. – T.O.D. (Cont'd)**  
**(Large General Service – Time of Day)**

**CONTRACT CAPACITY.**

The Customer shall set forth the amount of capacity contracted for (the "contract capacity") in an amount up to 1,000 KW. Contracts will be made in multiples of 25 KW. The Company is not required to supply capacity in excess of such contract capacity except with express written consent of the Company.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

This tariff is also available to Customers having other sources of energy supply but who desire to purchase standby or back-up electric service from the Company. Where such conditions exist the customer shall contract for the maximum amount of demand in KW, which the Company might be required to furnish, but not less than 100 KW nor more than 1,000 KW. The Company shall not be obligated to supply demands in excess of the contract capacity. Where service is supplied under the provisions of this paragraph, the billing demand each month shall be the highest determined for the current and previous two billings periods, and the minimum charge shall be as set forth under paragraph "Minimum Charge" above.

This tariff is available for resale service to mining and industrial customers who furnish service to customer-owned camps or villages where living quarters are rented to employees and where the customer purchases power at a single point for both his power and camp requirements.

Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or II or by special agreement with the Company.

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF I.G.S.**  
**(Industrial General Service)**

**AVAILABILITY OF SERVICE.**

Available for commercial and industrial customers with contract demands of at least 1,000 KW. Customers shall contract for a definite amount of electrical capacity in kilowatts, which shall be sufficient to meet normal maximum requirements.

**RATE.**

|                                    | <u>Secondary</u> | <u>Primary</u> | <u>Service Voltage<br/>Subtransmission</u> | <u>Transmission</u> |
|------------------------------------|------------------|----------------|--|---------------------|
| Tariff Code                        | 356              | 358/370        | 359/371                                    | 360/372             |
| Service Charge per month           | \$ 276.00        | \$ 276.00      | \$ 794.00                                  | \$ 1,353.00         |
| Demand Charge per KW               |                  |                |  |                     |
| Of monthly on-peak billing demand  | \$ 20.69         | \$ 17.46       | \$ 10.74                                   | \$ 10.45            |
| Of monthly off-peak billing demand | \$ 1.13          | \$ 1.10        | \$ 1.08                                    | \$ 1.07             |
| Energy Charge per KWH              | 3.398¢           | 3.279¢         | 3.242¢                                     | 3.204¢              |

Reactive Demand Charge for each kilovar of maximum leading or lagging reactive demand in excess of 50 percent of the KW of monthly metered demand ..... \$0.69/ KVAR

For the purpose of this tariff, the on-peak billing period is defined as 7:00 AM to 9:00 PM for all weekdays, Monday through Friday. The off-peak billing period is defined as 9:00 PM to 7:00 AM for all weekdays and all hours of Saturday and Sunday.

**MINIMUM DEMAND CHARGE.**

The minimum demand charge shall be equal to the minimum billing demand times the following minimum demand rates:

| <u>Secondary</u> | <u>Primary</u> | <u>Subtransmission</u> | <u>Transmission</u> |
|------------------|----------------|------------------------|---------------------|
| \$22.06/KW       | \$18.80 /KW    | \$12.07/KW             | \$11.76/KW          |

The minimum billing demand shall be the greater of 60% of the contract capacity set forth on the contract for electric service or 60% of the highest billing demand, on-peak or off-peak, recorded during the previous eleven months.

**MINIMUM CHARGE.**

This tariff is subject to a minimum charge equal to the Service Charge plus the Minimum Demand Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

(Cont'd on Sheet No. 10-2)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF I.G.S.  
(Industrial General Service)**

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**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.

**BIG SANDY I OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy 1 Operation Rider Adjustment Factor per kW and/or kWh calculated in compliance with the Big Sandy 1 Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of the Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kW and/or kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.

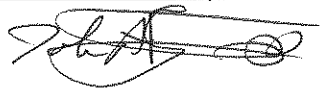
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(Cont'd on Sheet No. 10-3)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX



**TARIFF I.G.S.  
(Industrial General Service)**

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kW and/or kWh calculated in compliance with the NERC Compliance Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.

**DELAYED PAYMENT CHARGE.**

Bills under this tariff are due and payable within fifteen (15) days of the mailing date. On all accounts not paid in full by the next billing date, an additional charge of 5% of the unpaid portion will be made.

**METERED VOLTAGE.**

The rates set forth in this tariff are based upon the delivery and measurement of energy at the same voltage, thus measurement will be made at or compensated to the delivery voltage. At the sole discretion of the Company, such compensation may be achieved through the use of loss compensating equipment, the use of formulas to calculate losses or the application of multipliers to the metered quantities. In such cases, the metered KWH and KVA values will be adjusted for billing purposes. If the Company elects to adjust KWH and KW based on multipliers, the adjustment shall be in accordance with the following:

- (1) Measurements taken at the low-side of a Customer-owned transformer will be multiplied by 1.01.
- (2) Measurements taken at the high-side of a Company-owned transformer will be multiplied by 0.98.

**MONTHLY BILLING DEMAND.**

The monthly on-peak and off-peak billing demands in KW shall be taken each month as the highest single 15-minute integrated peak in KW as registered by a demand meter during the on-peak and off-peak billing periods, respectively.

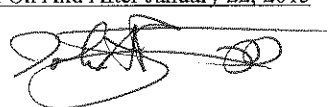
The reactive demand in KVARs shall be taken each month as the highest single 15-minute integrated peak in KVARs as registered during the month by a demand meter or indicator.

(Cont'd on Sheet No. 10-4)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF I.G.S.  
(Industrial General Service)**

**TERM OF CONTRACT.**

Contracts under this tariff will be made for an initial period of not less than two years and shall remain in effect thereafter until either party shall give at least 12 months' written notice to the other of the intention to terminate the contract. The Company reserves the right to require initial contracts for periods greater than two years.

A new initial contract period will not be required for existing customers who change their contract requirements after the original initial period unless new or additional facilities are required.

**CONTRACT CAPACITY**

The Customer shall set forth the amount of capacity contracted for ("the contract capacity") in an amount equal to or greater than 1,000 KW in multiples of 100 KW. The Company is not required to supply capacity in excess of such contract capacity except with express written consent of the Company.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

This tariff is available for resale service to mining and industrial Customers who furnish service to Customer-owned camps or villages where living quarters are rented to employees and where the Customer purchases power at a single point for both the power and camp requirements.

This tariff is also available to Customers having other sources of energy supply, but who desire to purchase standby or back-up electric service from the Company. Where such conditions exist the Customer shall contract for the maximum amount of demand in KW which the Company might be required to furnish, but not less than 1,000 KW. The Company shall not be obligated to supply demands in excess of that contracted capacity. Where service is supplied under the provisions of this paragraph, the billing demand each month shall be the highest determined for the current and previous two billing periods, and the minimum charge shall be as set forth under paragraph "Minimum Charge" above.


A Customer's plant is considered as one or more buildings, which are served by a single electrical distribution system provided and operated by the Customer. When the size of the Customer's load necessitates the delivery of energy to the Customer's plant over more than one circuit, the Company may elect to connect its circuits to different points on the Customer's system irrespective of contrary provisions in Terms and Conditions of Service.

Customer with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP II or by special agreement with the Company.

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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RESERVED FOR FUTURE USE

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Issued By: JOHN A. ROGNESS III



Title: Director Regulatory Services

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF C.S.-I.R.P.**  
**(Contract Service - Interruptible Power)**

**AVAILABILITY OF SERVICE.**

Available for service to customers who contract for service under one of the Company's interruptible service options. The Company reserves the right to limit the total contract capacity for all customers served under this Tariff to 75,000 kW.

Loads of new customers locating within the Company's service area or load expansions by existing customers may be offered interruptible service as part of an economic development incentive. Such interruptible service shall not be counted toward the limitation on total interruptible power contract capacity, as specified above, and will not result in a change to the limitation on total interruptible power contract capacity.

**CONDITIONS OF SERVICE.**

The Company will offer eligible customers the option to receive service from a menu of interruptible power options pursuant to a contract agreed to by the Company and the Customer.

Upon receipt of a request from the Customer for interruptible service, the Company will provide the Customer with a written offer containing the rates and related terms and conditions of service under which such service will be provided by the Company. If the parties reach an agreement based upon the offer provided to the Customer by the Company, such written contract will be filed with the Commission. The contract shall provide full disclosure of all rates, terms and conditions of service under this Tariff, and any and all agreements related thereto, subject to the designation of the terms and conditions of the contract as confidential, as set forth herein.

The Customer shall provide reasonable evidence to the Company that the Customer's electric service can be interrupted in accordance with the provisions of the written agreement including, but not limited to, the specific steps to be taken and equipment to be curtailed upon a request for interruption.

The Customer shall contract for capacity sufficient to meet normal maximum interruptible power requirements, but in no event will the interruptible amount contracted for be less than 1,000 KW at any delivery point.

**RATE.** (Tariff Code 321)

Credits under this tariff of \$3.68/kW/month will be provided for interruptible load that qualifies under PJM's rules as capacity for the purpose of the Company's FRR obligation.

Charges for the service under this tariff will be set forth in the written agreement between the Company and the Customer and will reflect a difference from the firm service rates otherwise available to the Customer.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

(Cont'd on Sheet No. 12-2)

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In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF C.S.-I.R.P.  
(Contract Service - Interruptible Power) (Cont'd.)**

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the Customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.

**BIG SANDY I OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy I Operation Rider Adjustment Factor per kW and/or kWh calculated in compliance with the Big Sandy I Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge Adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rate set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 and 28-2 of this Tariff Schedule.

(Cont'd on Sheet No. 12-3)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated Xxxxxxxx

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**TARIFF C.S.-I.R.P.  
(Contract Service - Interruptible Power) (Cont'd.)**

**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kW and/or kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kW and/or kWh calculated in compliance with the NERC Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.

**DELAYED PAYMENT CHARGE.**

This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

**TERM OF CONTRACT**

The length of the agreement and the terms and conditions of service will be stated in the agreement between the Company and the Customer.

**CONFIDENTIALITY**

All terms and conditions of any written contract under this Tariff shall be protected from disclosure as confidential, proprietary trade secrets, if either the Customer or the Company requests a Commission determination of confidentiality pursuant to 807 KAR5:001, Section 7 and the request is granted.

(Cont'd on Sheet No. 12-4)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF C.S.-I.R.P.**  
**(Contract Service - Interruptible Power) (Cont'd.)**

**SPECIAL TERMS AND CONDITIONS**

Except as otherwise provided in the written agreement, this Tariff is subject to the Company's Terms and Conditions of Service.

A Customer's plant is considered as one or more buildings, which are served by a single electrical distribution system provided and operated by the Customer. When the size of the Customer's load necessitates the delivery of energy to the Customer's plant over more than one circuit, the Company may elect to connect its circuits to different points on the Customer's system irrespective of contrary provisions in Terms and Conditions of Service.

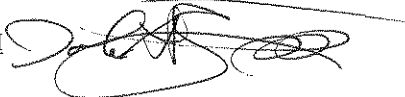
This tariff is also available to Customers having other sources of energy supply, but who desire to purchase standby or back-up electric service from the Company. Where such conditions exist, the Customer shall contract for the maximum amount of demand in KW, which the Company might be required to furnish, but not less than 1,000 KW.

Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP II or by special agreement with the Company

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX



**TARIFF M.W.**  
**(Municipal Waterworks)**

**AVAILABILITY OF SERVICE.**

Available only to incorporated cities and towns and authorized water districts and to utility companies operating under the jurisdiction of Public Service Commission of Kentucky for the supply of electric energy to waterworks systems and sewage disposal systems served under this tariff on September 1, 1982, and only for continuous service at the premises occupied by the Customer on this date. If service hereunder is discontinued, it shall not again be available.

Customer shall contract with the Company for a reservation in capacity in kilovolt-amperes sufficient to meet with the maximum load, which the Company may be required to furnish.

**RATE.** (Tariff Code 540)

|                              |          |           |
|------------------------------|----------|-----------|
| Service Charge .....         | \$ 22.90 | per month |
| Energy Charge:               |          |           |
| All KWH Used Per Month ..... | 8.601¢   | per KWH   |

**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the sum of the service charge plus \$ 8.20 per KVA as determined from customer's total connected load.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

**ASSET TRANSFER RIDER.**

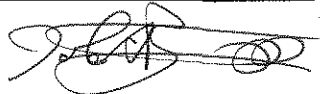
Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

(Cont'd on Sheet No. 13-2)

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In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF M.W. (Cont'd)**  
**(Municipal Waterworks)**

**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.

**BIG SANDY I OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy I Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy I Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of the Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 and 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission

(Cont'd on Sheet No. 13-3)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF M.W. (Cont'd)**  
**(Municipal Waterworks)**

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.

**PAYMENT.**

Bills will be rendered monthly and will be due and payable on or before the due date stated on the bill.

**TERM OF CONTRACT.**

Contracts under this tariff will be made for not less than (1) one year with self-renewal provisions for successive periods of (1) one year each until either party shall give at least 60 days' written notice to the other of the intention to discontinue at the end of any yearly period. The Company will have the right to require contracts for periods of longer than (1) one year.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

This tariff is not available to customers having other sources of energy supply.

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DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF O.L.**  
**(Outdoor Lighting)**

**AVAILABILITY OF SERVICE.**

Available for outdoor lighting to individual customers in locations where municipal street lighting is not applicable.

**RATE.**

A. OVERHEAD LIGHTING SERVICE

Tariff  
Code

|                         |                                  |          |          |
|-------------------------|----------------------------------|----------|----------|
| 1. High Pressure Sodium |                                  |          |          |
| 094                     | 100 watts ( 9,500 Lumens) .....  | \$ 9.65  | per lamp |
| 113                     | 150 watts ( 16,000 Lumens) ..... | \$ 10.95 | per lamp |
| 097                     | 200 watts ( 22,000 Lumens) ..... | \$ 13.45 | per lamp |
| 103                     | 250 watts ( 28,000 Lumens) ..... | \$ 8.10  | per lamp |
| 098                     | 400 watts ( 50,000 Lumens) ..... | \$ 21.05 | per lamp |
| 2. Mercury Vapor        |                                  |          |          |
| 093*                    | 175 watts ( 7,000 Lumens) .....  | \$ 10.75 | per lamp |
| 095*                    | 400 watts ( 20,000 Lumens) ..... | \$ 18.60 | per lamp |

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Company will provide lamp, photo-electric relay control equipment, luminaries and upsweep arm not over six feet in length, and will mount same on an existing pole carrying secondary circuits.

B. POST-TOP LIGHTING SERVICE

Tariff  
Code

|                         |   |          |          |
|-------------------------|---|----------|----------|
| 1. High Pressure Sodium |   |          |          |
| 111                     | 100 watts (9,500 Lumens) .....            | \$ 14.45 | per lamp |
| 122                     | 150 watts (16,000 Lumens) .....           | \$ 23.70 | per lamp |
| 121                     | 100 watts Shoe Box ( 9,500 Lumens).....   | \$ 33.50 | per lamp |
| 120                     | 250 watts Shoe Box ( 28,000 Lumens) ..... | \$ 50.05 | per lamp |
| 126                     | 400 watts Shoe Box ( 50,000 Lumens) ..... | \$ 44.10 | per lamp |
| 2. Mercury Vapor        |   |          |          |
| 099*                    | 175 watts (7,000 Lumens).....             | \$ 12.30 | per lamp |

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\*Effective June 29, 2010 and thereafter these lamps are not available for new installations

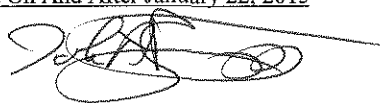
Company will provide lamp photo-electric relay control equipment, luminaries, post, and installation including underground wiring for a distance of thirty feet from the Company's existing secondary circuits.

(Cont'd on Sheet 14-2)

DATE OF ISSUE: December 23, 2014

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

TARIFF O.L. (Cont'd.)  
(Outdoor Lighting)

RATE. (Cont'd.)

C. FLOOD LIGHTING SERVICE

Tariff  
Code

|     |    |  |          |          |
|-----|----|--|----------|----------|
|     | 1. | High Pressure Sodium                     |          |          |
| 107 |    | 200 watts (22,000 Lumens).....           | \$ 15.00 | per lamp |
| 109 |    | 400 watts (50,000 Lumens).....           | \$ 20.80 | per lamp |
|     | 2. | Metal Halide                             |          |          |
| 110 |    | 250 watts (20,500 Lumens).....           | \$ 20.10 | per lamp |
| 116 |    | 400 watts (36,000 Lumens).....           | \$ 26.60 | per lamp |
| 131 |    | 1000 watts (110,000 Lumens) .....        | \$ 67.35 | per lamp |
| 130 |    | 250 watts Mongoose (19,000 Lumens) ..... | \$ 25.30 | per lamp |
| 136 |    | 400 watts Mongoose (40,000 Lumens) ..... | \$ 30.30 | per lamp |

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Company will provide lamp, photoelectric relay control equipment, luminaries, mounting bracket, and mount same on an existing pole carrying secondary circuits.

When new or additional facilities, other than those specified in Paragraphs A, B, and C, are to be installed by the Company, the customer in addition to the monthly charges, shall pay in advance the installation cost (labor and material) of such additional facilities extending from the nearest or most suitable pole of the Company to the point designated by the customer for the installation of said lamp, except that customer may, for the following facilities only, elect, in lieu of such payment of the installation cost to pay:

|   |         |           |
|---|---------|-----------|
| Wood pole.....                                  | \$ 3.15 | per month |
| Overhead wire span not over 150 feet .....      | \$ 1.75 | per month |
| Underground wire lateral not over 50 feet ..... | \$ 6.90 | per month |

(Price includes pole riser and connections)

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(Cont'd on Sheet No. 14-3)

DATE OF ISSUE: December 23, 2014

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF O.L. (Cont'd.)  
(Outdoor Lighting)**

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule. The monthly kilowatt-hours for Fuel Adjustment Clause, System Sales Clause and the Capacity Charge computations are as follows:

|              | <u>METAL HALIDE</u> |                  |                   | <u>MERCURY VAPOR</u> |                  | <u>HIGH PRESSURE SODIUM</u> |                  |                  |                  |                  |
|--------------|---------------------|------------------|-------------------|----------------------|------------------|-----------------------------|------------------|------------------|------------------|------------------|
|              | <u>250 WATTS</u>    | <u>400 WATTS</u> | <u>1000 WATTS</u> | <u>175 WATTS</u>     | <u>400 WATTS</u> | <u>100 WATTS</u>            | <u>150 WATTS</u> | <u>200 WATTS</u> | <u>250 WATTS</u> | <u>400 WATTS</u> |
| JAN          | 127                 | 199              | 477               | 91                   | 199              | 51                          | 74               | 106              | 130              | 210              |
| FEB          | 106                 | 167              | 400               | 76                   | 167              | 43                          | 62               | 89               | 109              | 176              |
| MAR          | 106                 | 167              | 400               | 76                   | 167              | 43                          | 62               | 89               | 109              | 176              |
| APR          | 90                  | 142              | 340               | 65                   | 142              | 36                          | 53               | 76               | 93               | 150              |
| MAY          | 81                  | 127              | 304               | 58                   | 127              | 32                          | 47               | 68               | 83               | 134              |
| JUNE         | 72                  | 114              | 272               | 52                   | 114              | 29                          | 42               | 61               | 74               | 120              |
| JULY         | 77                  | 121              | 291               | 55                   | 121              | 31                          | 45               | 65               | 79               | 128              |
| AUG          | 88                  | 138              | 331               | 63                   | 138              | 35                          | 51               | 74               | 90               | 146              |
| SEPT         | 96                  | 152              | 363               | 69                   | 152              | 39                          | 57               | 81               | 99               | 160              |
| OCT          | 113                 | 178              | 427               | 81                   | 178              | 45                          | 66               | 95               | 116              | 188              |
| NOV          | 119                 | 188              | 449               | 86                   | 188              | 48                          | 70               | 100              | 122              | 198              |
| DEC          | 129                 | 203              | 486               | 92                   | 203              | 52                          | 75               | 108              | 132              | 214              |
| <b>TOTAL</b> | <b>1204</b>         | <b>1896</b>      | <b>4540</b>       | <b>864</b>           | <b>1896</b>      | <b>484</b>                  | <b>704</b>       | <b>1012</b>      | <b>1236</b>      | <b>2000</b>      |

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.

**BIG SANDY I OPERATION RIDER.**


Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy I Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy I Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.

(Cont'd. on Sheet No. 14-4)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF O.L. (Cont'd.)  
(Outdoor Lighting)**

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.

**OWNERSHIP OF FACILITIES.**

All facilities necessary for service including fixtures, controls, poles, transformers, secondaries, lamps and other appurtenances shall be owned and maintained by the Company. All service and necessary maintenance will be performed only during the regular scheduled working hours of the Company.

The Company shall be allowed 3 working days after notification by the customer to replace all burned-out lamps.

**TERM OF INITIAL SERVICE.**

Term of initial service shall be required for a period of one year. If early termination is requested, the customer will be billed for the remainder of the 12 month period.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

The Company shall have the option of rendering monthly or bimonthly bills.

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

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**TARIFF S.L.**  
**(Street Lighting)**

**AVAILABILITY OF SERVICE.**

Available for lighting service for all the lighting of public streets, public highways and other public outdoor areas in municipalities, counties, and other governmental subdivisions where such service can be supplied from the existing general distribution systems.

**RATE.** (Tariff Code 528)

A. Overhead Service on Existing Distribution Poles

|                                 |                   |
|---------------------------------|-------------------|
| 1. High Pressure Sodium         |                   |
| 100 watts ( 9,500 lumens) ..... | \$ 8.05 per lamp  |
| 150 watts (16,000 lumens) ..... | \$ 9.25 per lamp  |
| 200 watts (22,000 lumens) ..... | \$ 11.45 per lamp |
| 400 watts (50,000 lumens) ..... | \$ 17.80 per lamp |

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B. Service on New Wood Distribution Poles

|                                  |                   |
|----------------------------------|-------------------|
| 1. High Pressure Sodium          |                   |
| 100 watts ( 9,500 lumens) .....  | \$ 11.35 per lamp |
| 150 watts (16,000 lumens) .....  | \$ 12.60 per lamp |
| 200 watts ( 22,000 lumens) ..... | \$ 14.60 per lamp |
| 400 watts (50,000 lumens) .....  | \$ 20.45 per lamp |

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C. Service on New Metal or Concrete Poles\*

|                                 |                   |
|---------------------------------|-------------------|
| 1. High Pressure Sodium         |                   |
| 100 watts ( 9,500 lumens) ..... | \$ 20.95 per lamp |
| 150 watts (16,000 lumens) ..... | \$ 22.00 per lamp |
| 200 watts (22,000 lumens) ..... | \$ 28.00 per lamp |
| 400 watts (50,000 lumens) ..... | \$ 30.45 per lamp |

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\*Effective June 29, 2010 and thereafter these lamps are not available for new installations

Lumen rating is based on manufacturer's rated lumen output for new lamps.

**FUEL ADJUSTMENT CLAUSE.**

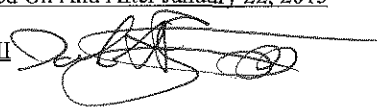
Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule. The monthly kilowatt-hours for Fuel Adjustment Clause, System Sales Clause and the Capacity Charge computations are as follows:

(Cont'd on Sheet No. 15-2)

DATE OF ISSUE: December 23, 2014

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX



**TARIFF S.L. (Cont'd.)  
(Street Lighting)**

**FUEL ADJUSTMENT CLAUSE. (Cont'd.)**

| <u>MONTH</u> | <u>HIGH PRESSURE SODIUM</u> |                      |                      |                      |
|--------------|-----------------------------|----------------------|----------------------|----------------------|
|              | <u>100<br/>WATTS</u>        | <u>150<br/>WATTS</u> | <u>200<br/>WATTS</u> | <u>400<br/>WATTS</u> |
| JAN          | 51                          | 74                   | 106                  | 210                  |
| FEB          | 43                          | 62                   | 89                   | 176                  |
| MAR          | 43                          | 62                   | 89                   | 176                  |
| APR          | 36                          | 53                   | 76                   | 150                  |
| MAY          | 32                          | 47                   | 68                   | 134                  |
| JUNE         | 29                          | 42                   | 61                   | 120                  |
| JULY         | 31                          | 45                   | 65                   | 128                  |
| AUG          | 35                          | 51                   | 74                   | 146                  |
| SEPT         | 39                          | 57                   | 81                   | 160                  |
| OCT          | 45                          | 66                   | 95                   | 188                  |
| NOV          | 48                          | 70                   | 100                  | 198                  |
| DEC          | <u>52</u>                   | <u>75</u>            | <u>108</u>           | <u>214</u>           |
| TOTAL        | 484                         | 704                  | 1012                 | 2000                 |

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge Adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of this Tariff Schedule.

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.

**BIG SANDY RETIREMENT RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.

**BIG SANDY I OPERATION RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy 1 Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy 1 Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.

(Cont'd On Sheet No. 15-3)

DATE OF ISSUE: December 23, 2014

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TITLE: Director Regulatory Services

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In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF S.L. (Cont'd.)  
(Street Lighting)**

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.

**SPECIAL FACILITIES.**

When a customer requests street lighting service which requires special poles or fixtures, underground street lighting, or a line extension of more than one span of approximately 150 feet, the customer will be required to pay, in advance, an aid-to-construction in the amount of the installed cost of such special facilities

**PAYMENT.**

Bills are due and payable within ten (10) days of the mailing date.

**HOURS OF LIGHTING.**

All lamps shall burn from one-half hour after sunset until one-half hour before sunrise every night and all night, burning approximately 4,000 hours per annum.

**TERM OF CONTRACT.**

Contracts under this tariff will ordinarily be made for an initial term of one year with self-renewal provisions for successive periods of one year each until either party shall give at least 60 days' notice to the other of the intention to discontinue at the end of the initial term or any yearly period. The Company may have the right to require contracts for periods of longer than one year if new or additional facilities are required.

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF C. A. T. V.**  
**(Cable Television Pole Attachment)**

**AVAILABILITY OF SERVICE.**

Available to operators of cable television systems (Operators) furnishing cable television service in the operating area of Kentucky Power Company (Company) for attachments of aerial cables, wires and associated appliances (attachments) to certain distribution poles of Kentucky Power Company.

As used in this Tariff, an "attachment" shall mean the physical connection of (a) a messenger strand supporting the wires, cables or stand-mounted associated facilities and equipment of a cable system or (b) service drops affixed to the pole and located more than one vertical foot away from the point at which the messenger strand is attached to the pole (but not a strand originating or mid-span service drop) or (c) service drops located on a dedicated service, drop or lift pole. An attachment shall consume no more than one foot (1') of vertical space on any distribution pole owned by the Company.

**RATE.**

Charge for attachments on a two-user pole ..... \$ 7.21 per-attachment per year  
Charge for attachments on a three-user pole ..... \$ 4.47 per attachment per year

The above rate was calculated in accordance with the following formula:

$$\begin{matrix} \text{Weighted Average} & & \text{Usage} & & \text{Carrying} & & \\ \text{Bare Pole Cost} & \times & \text{Factor} & \times & \text{Charge} & = & \text{Rate Per Pole} \end{matrix}$$

A two-user pole is a pole being used, by actual occupation or reservation, by the Operator and the Company. A three-user pole is a pole being used by actual occupation or reservation, by the Operator, the Company, and a third party.

**DELAYED PAYMENT CHARGE.**

This Tariff is net if account is paid in full within 30 days of date of bill. On all accounts not so paid an additional charge of 5% of the unpaid balance will be made.


**POLE SUBJECT TO ATTACHMENT.**

When an Operator proposes to furnish cable television service within the Company's operating area and desires to make attachments on certain distribution poles of Company, Operator shall make written application, on a form furnished by Company, to install attachments specifying the location of each pole in question, the character of its proposed attachments and the amount and location of space desired, and any other information necessary to calculate the transverse and vertical load placed upon the pole as a result of the proposed attachment and any other facilities attached to the pole. Within forty-five (45) days after receipt of the application, Company shall notify Operator whether and to what extent any special conditions will be required to permit the use by Operator of each such pole. Operator shall reimburse Company for any expenses incurred in reviewing such written applications for attachment. Operator shall have a non-exclusive right to use such poles of Company as may be used or reserved for use by Operator and any other poles of Company when brought hereunder in accordance with the procedure hereinafter provided. Company shall have the right to grant, by contract or otherwise to others rights or privileges to use any poles of the Company and Company shall have the right to continue and extend any such rights or privileges heretofore granted. All poles shall be and remain the property of Company regardless of any payment by Operator toward their cost and Operator shall, except for the rights provided hereunder, acquire no right, title or interest in or to any such pole.

(Cont'd on Sheet No. 16-2)

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In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF C.A.T.V. (Cont'd.)  
(Cable Television Pole Attachment)**

**STANDARDS FOR INSTALLATION.**

All attachments and associated equipment of Operator (including without limitation, power supplies) shall be installed in a manner satisfactory to Company and so as not to interfere with the present or any future use which Company may desire to make of the poles covered by this Tariff. All such attachments and equipment shall be installed and at all times maintained by Operator so as to comply at least with the minimum requirements of the National Electrical Safety Code and any other applicable regulations or codes promulgated by state, local or other governmental authority having jurisdiction there over. Power supply apparatus having as its largest dimension more than sixteen inches must be placed on a separate pole to be installed by Operator. Operator shall take necessary precautions by the installation of protective equipment or other means, to protect all persons and property of all kinds against injury or damage occurring by reason of Operator's attachments.

**POLE INSTALLATION OR REPLACEMENT; REARRANGEMENTS; GUYING.**

In any case Operator proposes to install attachments on a pole to be erected by Company in a new location, and to provide adequate space or strength to accommodate such attachments (either at the request of Operator to comply with the aforesaid codes and regulations) such pole must, in Company's judgment, be taller and/or stronger than would be necessary to accommodate the facilities of Company and of other persons who have previously indicated that they desire to make attachments on such pole or with whom Company has an agreement providing for joint or share ownership of poles, the cost of such extra height and/or strength shall be paid to Company by Operator. Such cost shall be the difference between the cost in place of the new pole and the current cost in place of a pole considered by Company to be adequate for the facilities of Company and the attachments of such other persons.

Where in Company's judgment a new pole must be erected to replace an existing pole solely to adequately provide for Operator's proposed attachments, Operator agrees to pay Company for the entire cost of the new pole necessary to accommodate the existing facilities on the pole and Operator's proposed attachments, plus the cost of removal of the in-place pole, minus the salvage value, if any, of the removed pole. Title to the new pole shall remain with the Company. Operator shall also pay to Company and to any other owner of existing attachments on the pole the cost of removing each of their respective facilities or attachments from the existing pole and reestablishing the same or like facilities or attachments on the newly-installed pole.

If Operator's desired attachments can be accommodated on existing poles of Company by rearranging facilities of Company thereon of any other person, or if because of Operator's proposed attachments it is necessary for Company to rearrange its facilities on any pole not owned by it, then in any such case, Operator shall reimburse Company and any such other person for the respective expense incurred in making such rearrangement.

If because of the requirements of its business, Company proposed to replace an existing pole on which Operator has any attachment, or Company proposed to change the arrangements of its facilities on any such pole in such manner as to necessitate a rearrangement of Operator's attachment, or if as a result of any inspection of Operator's attachments Company determines that any such attachments are not in accordance with applicable codes or the provisions of this Tariff or are otherwise hazards Company shall give Operator not less than 48 hours notice of such proposed replacement or change, or any such violation or hazard, unless an emergency requires a shorter period. In such event, Operator shall at its expense relocate, rearrange or modify its attachments at the time specified by Company. If Operator fails to do so, or if any such emergency makes notice impractical, Company shall perform such relocation or rearrangement and Operator shall reimburse Company for the reasonable cost thereof.

Any additional guying or anchors required by reason of the attachments of Operator shall be provided at the expense of Operator and shall meet the requirements of all applicable codes or regulations and Company's generally applicable guying standards.

(Cont'd on Sheet No. 16-3)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF C.A.T.V. (Cont'd.)  
(Cable Television Pole Attachment)**

**POLE INSPECTION.**

Company may make periodic inspections, as conditions may warrant, for the purpose of determining compliance with the provisions of this Tariff. Company reserves the right to inspect each new or proposed installation of Operator on Company's poles. In addition, Company's right to make any inspections and any inspection made pursuant to such right shall not relieve Operator of any responsibility, obligation or liability assumed under this Tariff.

**UNAUTHORIZED ATTACHMENTS.**

Operator shall make no attachment to or other use of any pole of Company or any facilities of Company thereon, except as authorized. The company reserves the right to make periodic inspections. Should such unauthorized attachment or use be made, Operator shall pay to the Company on demand two times the charges and fees, including but not limited to, any payable under the headings "RATES" and "POLE INSTALLATION OR REPLACEMENT; REARRANGEMENTS; GUYING" that would have been payable had such attachment been made on the date following the date of the last previous inspection required to be made by Company under applicable regulations of the Kentucky Public Service Commission.

**ABANDONMENT BY OPERATOR.**

Operator may at any time abandon the use of a pole hereunder by removing therefrom all of its attachments and by giving written notice thereof, on a form provided by the Company, and no pole shall be considered abandoned until such notice is received.

**INDEMNITY.**

Operator hereby agrees to indemnify, hold harmless, and defend Company from and against any and all loss, damage, cost or expense which Company may suffer or for which Company may be held liable because of interruption of Operator's service to its subscribers or because of interference with television reception of said subscribers or others, or by reason of bodily injury, including death, to any person, or damage to or destruction of any property, including loss of use thereof, arising out of or in any manner connected with the attachment, operation, and maintenance of the facilities of Operator on the poles of Company under this Tariff, when due to any act, omission or negligence of Operator, or to any such act, omission or negligence of Operator's respective representatives, employees, agents or contractors.

**INSURANCE.**

Operator agrees to obtain and maintain at all times policies of insurance as follows:

- (a) Comprehensive bodily injury liability insurance in an amount not less than \$1,000,000 for any one occurrence
- (b) Comprehensive property damage liability insurance in an amount not less than \$500,000 for any one occurrence.
- (c) Contractual liability insurance in an amount not less than the foregoing minimums to cover the liability assumed by the Operator under the agreement or indemnity set forth above.


Prior to making attachments at Company's poles, Operator shall furnish to Company two copies of a certificate, from an insurance carrier licensed to do business in Kentucky, stating that policies of insurance have been issued by it to Operator providing for the insurance listed above and that such policies are in force. Such certificate shall state that the insurance carrier will give Company thirty (30) days' prior written notice of any cancellation of or material change in such policies.

(Cont'd on Sheet 16-4)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF C.A.T.V. (Cont'd.)  
(Cable Television Pole Attachment)**

**EASEMENTS.**

Operator shall secure any right, license or permit from any governmental body, authority or other person or persons which may be required for the construction or maintenance of attachments of Operator. Company does not convey nor guarantee any easements, rights-of-way or franchises for the construction and maintenance of said attachments. Operator hereby agrees to indemnify and save harmless Company from any and all claims, including the expenses incurred by Company to defend itself against such claims, resulting from or arising out of the failure of Operator to secure such right, license, permit or easement for the construction or maintenance of said attachments on Company's poles.

**CHARGES AND FEES.**

Operator agrees to pay Company an annual charge per attachments set forth on Tariff Sheet No. 16-1 in advance, and such other charges as may be provided for herein, for the use of each of Company's poles, any portion of which is occupied by, or reserved at Operator's request for the attachments of Operator.

Operator agrees to reimburse Company for all reasonable non-recurring expenses caused by or attributable to Operator's initial attachments including without limitation the amounts set forth herein before and the expenses of Company in examining poles used but not owned by Company to which Operator proposes to make attachments.

**FEES FOR ADDITIONAL ATTACHMENTS OR REMOVALS.**

For attachments made or removed which are reported to the Company between billing dates, Operator shall be billed or credited a prorated amount of the annual charge effective with the date of attachment or removal on the Operator's next bill.

**ADVANCE BILLING**

Payment of amounts due hereunder is due on the dates or at the times indicated with respect to each such payment. In the event the time for any payment is not specified, such payment shall be due thirty (30) days from the date of the invoice therefore. In all amounts not so paid an addition charge of five percent (5%) will be assessed. Where the provisions of the Tariff require any payment by Operator to the Company other than for attachment charges, Company may, at its option, require that the estimated amount thereof be paid in advance of permission to use any pole or the performance by company of any work. In such a case, Company shall invoice any deficiency or refund any excess to Operator after the current amount of such payment has been determined.

**DEFAULT OR NON-COMPLIANCE.**

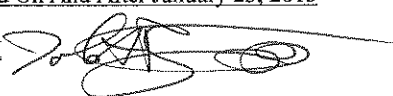
If Operator fails to comply with any of the provisions of this Tariff or defaults in the performance of any of its obligations under this Tariff and fails within thirty (30) days, after written notice from Company to correct such default or non-compliance, Company may, in addition to all other remedies under this tariff forthwith take any one or more of the following actions: terminate the specific permit or permits covering the poles to which such default or non-compliance is applicable; remove, relocate or rearrange attachments of Operator to which such default or non-compliance relates, all at Operator's expense; decline to permit additional attachments hereunder until such default is cured; or in the event of any failure to pay any of the charges, fees or amounts provided in this Tariff or any other substantial default, or of repeated defaults terminate Operator's right of attachment. No liability shall be incurred by Company because of any or all such actions except for negligent destruction by the Company of CATV equipment in any relocation or removal of such equipment. The remedies provided herein are cumulative and in addition to any other remedies available to Company.

(Cont'd on Sheet No. 16-5)

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By Authority Of Order By The Public Service Commission

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**TARIFF C. A. T. V. (Cont'd)**  
**(Cable Television Pole Attachment)**

**PRIOR AGREEMENTS.**

This Tariff terminates and supersedes any previous agreement, license or joint use affecting Company's poles and Operator's attachments covered herein.

**ASSIGNMENT.**

This Tariff shall be binding upon and inure to the benefits of the parties hereto, their respective successors and/or assigns, but Operator shall not assign, transfer or sublet any of the rights hereby granted without the prior written consent of the Company, which shall not be unreasonably withheld, and any such purported assignment, transfer or subletting without such consent shall be void.

**PERFORMANCE WAIVER.**

Neither party shall be considered in default in the performance of its obligations herein, or any of them, to the extent that performance is delayed or prevented due to causes beyond the control of said party, including but not limited to, Acts of God or the public enemy, war, revolution, civil commotion, blockade or embargo, acts of government, any law, order, proclamation, regulation, ordinance, demand, or requirement of any government, fires, explosions, cyclones, floods, unavoidable casualties, quarantine, restrictions, strikes, labor disputes, lock-outs, and other causes beyond the reasonable control of either of the parties.

**PRESERVATION OF REMEDIES.**

No delay or omission in the exercise of any power or remedy herein provided or otherwise available to the Company shall impair or affect its right thereafter to exercise the same.

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF COGEN/SPP I**  
**(Cogeneration and/or Small Power Production--100 KW or Less)**

**AVAILABILITY OF SERVICE.**

This tariff is available to customers with cogeneration and/or small power production (COGEN/SPP) facilities which qualify under Section 210 of the Public Utility Regulatory Policies Act of 1978, and which have a total design capacity of 100 KW or less. Such facilities shall be designed to operate properly in parallel with the Company's system without adversely affecting the operation of equipment and services of the Company and its customers, and without presenting safety hazards to the Company and customer personnel.

The customer has the following options under this tariff, which will affect the determination of energy and capacity and the monthly metering charges:

- Option 1 - The customer does not sell any energy or capacity to the Company, and purchases from the Company its net load requirements, as determined by appropriate meters located at one delivery point.
- Option 2 - The customer sells to the Company the energy and average on-peak capacity produced by the customer's qualifying COGEN/SPP facilities in excess of the customer's total load, and purchases from the Company its net load requirements, as determined by appropriate meters located at one delivery point.
- Option 3 - The customer sells to the Company the total energy and average on-peak capacity produced by the customer's qualifying COGEN/SPP facilities, while simultaneously purchasing from the Company its total load requirements, as determined by appropriate meters located at one delivery point.

**MONTHLY CHARGES FOR DELIVERY FROM THE COMPANY TO THE CUSTOMER.**

Such charges for energy, and demand where applicable, to serve the customer's net or total load shall be determined according to the tariff appropriate for the customer, except that Option 1 and Option 2 customers with cogeneration and/or small power production facilities having a total design capacity of more than 10 KW shall be served under demand-metered tariffs, and except that the monthly billing demand under such tariffs shall be the highest determined for the current and previous two billing periods. The above three-month billing demand provision shall not apply under Option 3.

**ADDITIONAL CHARGES.**

There shall be additional charges to cover the cost of special metering, safety equipment and other local facilities installed by the Company due to COGEN/SPP facilities, as follows:

**Monthly Metering Charge**

The additional monthly charge for special metering facilities shall be as follows:

- Option 1 - Not Applicable.

(Cont'd on Sheet No. 17-2)

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**TARIFF COGEN/SPP I (Cont'd.)  
(Cogeneration and/or Small Power Production--100 KW or Less)**

**ADDITIONAL CHARGES. (Cont'd.)**

**Monthly Metering Charge (Cont'd.)**

Options 2 & 3 - Where meters are used to measure the excess or total energy and average on-peak capacity purchased by the Company:

|                      | <u>Single Phase</u> | <u>Polyphase</u> |
|----------------------|---------------------|------------------|
| Standard Measurement | \$ 8.50             | \$ 11.10         |
| T.O.D. Measurement   | \$ 9.05             | \$ 11.40         |

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Under Option 3, when metering voltage for COGEN/SPP facilities is the same as the Company's delivery voltage, the customer shall, at his option, either route the COGEN/SPP totalized output leads through the metering point, or make available at the metering point for the use of the Company and, as specified by the Company, metering current leads which will enable the Company to measure adequately the total electrical energy and average capacity produced by the qualifying COGEN/SPP facilities, as well as to measure the electrical energy consumption and capacity requirements of the customer's total load. When metering voltage for COGEN/SPP facilities is different from the Company's delivery voltage, metering requirements and charges shall be determined specifically for each use.

**Local Facilities Charge**

Additional charges to cover "interconnection costs" incurred by the Company shall be determined by the Company for each case and collected from the customer. For Options 2 and 3, the cost of metering facilities shall be covered by the Monthly Metering Charge and shall not be included in the Local Facilities Charge. The customer shall make a one-time payment for the Local Facilities Charge at the time of installation of the required additional facilities, or, at his option, up to 12 consecutive equal monthly payments reflecting an annual interest charge as determined by the Company, but not to exceed the cost of the Company's most recent issue of long-term debt. If the customer elects the installment payment option, the Company may require a reasonable security deposit.

**MONTHLY CREDITS OR PAYMENTS FOR ENERGY AND CAPACITY DELIVERIES.**

**Energy Credit**

The following credits or payments from the Company to the customer shall apply for the electrical energy delivered to the Company:

|                               |           |
|-------------------------------|-----------|
| Standard Meter - All KWH..... | 3.79¢ KWH |
| T.O.D. Meter                  |           |
| On-Peak KWH .....             | 4.64¢ KWH |
| Off-Peak KWH .....            | 3.18¢ KWH |

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**Capacity Credit**

If the customer contracts to deliver or produce a specified excess or total average capacity during the monthly billing period (monthly contract capacity), or a specified excess or total average capacity during the on-peak monthly billing period (on-peak contract capacity), then the following capacity credits or payment from the Company to the customer shall apply:

(Cont'd on Sheet No. 17-3)

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**TARIFF COGEN/SPP I (Cont'd.)**  
**(Cogeneration and/or Small Power Production--100 KW or Less)**

**MONTHLY CREDITS OR PAYMENTS FOR ENERGY AND CAPACITY DELIVERIES. (Cont'd.)**

**Capacity Credit (Cont'd.)**

If standard energy meters are used,

A. \$ 3.70 KW/month, times the lowest of:

- (1) monthly contract capacity, or
- (2) current month metered average capacity, i.e., KWH delivered to the Company or produced by COGEN/SPP facilities divided by 730, or
- (3) lowest average capacity metered during the previous two months if less than monthly contract capacity.

If T.O.D. energy meters are used,

B. \$8.87 KW/month, times the lowest of:

- (1) on-peak contract capacity, or
- (2) current month on-peak metered average capacity, i.e., on-peak KWH delivered to the Company or produced by COGEN/SPP facilities divided by 305 or
- (3) lowest on-peak average capacity metered during the previous two months, if less than on-peak contract capacity.

The above energy and capacity credit rates are subject to revisions from time to time as approved by the Commission.

**ON-PEAK AND OFF-PEAK PERIODS.**

The on-peak period shall be defined as starting at 7:00A.M. and ending at 9:00 P.M., local time, Monday through Friday.

The off-peak period shall be defined as starting at 9:00 P.M. and ending at 7:00A.M. local time, Monday through Friday, and all hours of Saturday and Sunday.

**CHARGES FOR CANCELLATION OR NON PERFORMANCE CONTRACT.**

If the customer should, for a period in excess of six months, discontinue or substantially reduce for any reason the operation of cogeneration and/or small power production facilities which were the basis for the monthly contract capacity or the on-peak contract capacity, the customer shall be liable to the Company for an amount equal to the total difference between the actual payments for capacity paid to the customer and the payments for capacity that would have been paid to the customer pursuant to this Tariff COGEN/SPP I or any successor tariff. The Company shall be entitled to interest on such amount at the rate of the Company's most recent issue of long-term debt at the effective date of the contract.

**TERM OF CONTRACT.**

Contracts under this tariff shall be made for a period not less than one year.

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF COGEN/SPP II**  
**(Cogeneration and/or Small Power Production--Over 100 KW)**

**AVAILABILITY OF SERVICE.**

This tariff is available to customers with cogeneration and/or small power production (COGEN/SPP) facilities which qualify under Section 210 of the Public Utility Regulatory Policies Act of 1978, and which have a total design capacity of over 100 KW but less than 20,000 KW. Such facilities shall be designed to operate properly in parallel with the Company's system without adversely affecting the operation of equipment and services of the Company and its customers, and without presenting safety hazards to the Company and customer personnel.

The customer has the following options under this tariff, which will affect the determination of energy and capacity and the monthly metering charges:

- Option 1 - The customer does not sell any energy or capacity to the Company, and purchases from the Company its net load requirements, as determined by appropriate meters located at one delivery point.
- Option 2 - The customer sells to the Company the energy and average on-peak capacity produced by the customer's qualifying COGEN/SPP facilities in excess of the customer's total load, and purchases from the Company its net load requirements, as determined by appropriate meters located at one delivery point.
- Option 3 - The customer sells to the Company the total energy and average on-peak capacity produced by the customer's qualifying COGEN/SPP facilities, while simultaneously purchasing from the Company its total load requirements, as determined by appropriate meters located at one delivery point.

**MONTHLY CHARGES FOR DELIVERY FROM THE COMPANY TO THE CUSTOMER.**

Such charges for energy, and demand where applicable, to serve the customer's net or total load shall be determined according to the tariff appropriate for the customer, except that Option 1 and Option 2 customers shall be served under demand-metered tariffs, and except that the monthly billing demand under such tariffs shall be the highest determined for the current and previous two billing periods. The above three-month billing demand provision shall not apply under Option 3.

**ADDITIONAL CHARGES.**

There shall be additional charges to cover the cost of special metering, safety equipment and other local facilities installed by the Company due to COGEN/SPP facilities, as follows:

Monthly Metering Charge

The additional monthly charge for special metering facilities shall be as follows:

- Option 1 - Not Applicable.

(Cont'd on Sheet No. 18-2)

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**TARIFF COGEN/SPP II (Cont'd.)**  
**(Cogeneration and/or Small Power Production--Over 100 KW)**

**ADDITIONAL CHARGES. (Cont'd.)**

**Monthly Metering Charge (Cont'd)**

Options 2 & 3- Where meters are used to measure the excess or total energy and average on peak capacity purchased by the Company:

|                      | <u>Single Phase</u> | <u>Polyphase</u> |
|----------------------|---------------------|------------------|
| Standard Measurement | \$ 8.50             | \$ 11.10         |
| T.O.D. Measurement   | \$ 9.05             | \$ 11.40         |

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Under Option 3, when metering voltage for COGEN/SPP facilities is the same as the Company's delivery voltage, the customer shall, at his option, either route the COGEN/SPP totalized output leads through the metering point, or make available at the metering point for the use of the Company and, as specified by the Company, metering current leads which will enable the Company to measure adequately the total electrical energy and average capacity produced by the qualifying COGEN/SPP facilities, as well as to measure the electrical energy consumption and capacity requirements of the customer's total load. When metering voltage for COGEN/SPP facilities is different from the Company's delivery voltage, metering requirements and charges shall be determined specifically for each case.

**Local Facilities Charge**

Additional charges to cover "interconnection costs" incurred by the Company shall be determined by the Company for each case and collected from the customer. For Options 2 and 3, the cost of metering facilities shall be covered by the Monthly Metering Charge and shall not be included in the Local Facilities Charge. The customer shall make a one-time payment for the Local Facilities Charge at the time of installation of the required additional facilities, or, at his option, up to 12 consecutive equal monthly payments reflecting an annual interest charge as determined by the Company, but not to exceed the cost of the Company's most recent issue of long-term debt. If the customer elects the installment payment option, the Company may require a reasonable security deposit.

**MONTHLY CREDITS OR PAYMENTS FOR ENERGY AND CAPACITY DELIVERIES.**

**Energy Credit**

The following credits or payments from the Company to the customer shall apply for the electrical energy delivered to the Company:

|                               |           |
|-------------------------------|-----------|
| Standard Meter - All KWH..... | 3.79¢ KWH |
| T.O.D. Meter                  |           |
| On-Peak KWH .....             | 4.64¢ KWH |
| Off-Peak KWH .....            | 3.18¢ KWH |

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In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF COGEN/SPP II (Cont'd.)**  
**(Cogeneration and/or Small Power Production--Over 100 KW)**

**MONTHLY CREDITS OR PAYMENTS FOR ENERGY AND CAPACITY DELIVERIES. (Cont'd.)**

**Capacity Credit**

If the customer contracts to deliver or produce a specified excess or total average capacity during the monthly billing period (monthly contract capacity), or a specified excess or total average capacity during the on-peak monthly billing period (on-peak contract capacity), then the following capacity credits or payment from the Company to the customer shall apply:

If standard energy meters are used,

A. \$3.70/KW/ month, times the lowest of:

- (1) monthly contract capacity, or
- (2) current month metered average capacity, i.e., KWH delivered to the Company or produced by COGEN/SPP facilities divided by 730, or
- (3) lowest average capacity metered during the previous two months if less than monthly contract capacity.

If T.O.D. energy meters are used,

B. \$8.87/KW/month, times the lowest of:

- (1) on-peak contract capacity, or
- (2) current month on-peak metered average capacity, i.e., on-peak KWH delivered to the Company or produced by COGEN/SPP facilities divided by 305, or
- (3) lowest on-peak average capacity metered during the previous two months, if less than on-peak contract capacity.

The above energy and capacity credit rates are subject to revisions from time to time as approved by the Commission.

**ON-PEAK AND OFF-PEAK PERIODS.**

The on-peak period shall be defined as starting at 7:00 A.M. and ending at 9:00 P.M., local time, Monday through Friday.

The off-peak period shall be defined as starting at 9:00 P.M. and ending at 7:00 A.M., local time, Monday through Friday, and all hours of Saturday and Sunday.

**CHARGES FOR CANCELLATION OR NON PERFORMANCE CONTRACT.**

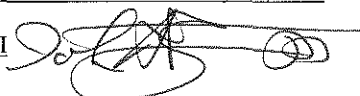
If the customer should, for a period in excess of six months, discontinue or substantially reduce for any reason the operation of cogeneration and/or small power production facilities which were the basis for the monthly contract capacity or the on-peak contract capacity, the customer shall be liable to the Company for an amount equal to the total difference between the actual payments for capacity paid to the customer and the payments for capacity that would have been paid to the customer pursuant to this Tariff COGEN/SPP II or any successor tariff. The Company shall be entitled to interest on such amount at the rate of the Company's most recent issue of long-term debt at the effective date of the contract.

**TERM OF CONTRACT.**

Contracts under this tariff shall be made for a period not less than one year.

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**TARIFF S. S. C.**  
**(System Sales Clause)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D.2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., J.G.S., C.S.- I.R.P., M.W., O.L. and S.L.

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**RATE.**

1. When the monthly net revenues from system sales are above or below the monthly base net revenues from system sales, as provided in paragraph 2 below, an additional credit or charge equal to the product of the KWHs and a system sales adjustment factor (A) shall be made, where "A", calculated to the nearest 0.0001 mill per kilowatt-hour, is defined as set forth below.

$$\text{System Sales Adjustment Factor (A)} = (.6 [T_m - T_b]) / S_m$$

In the above formulas "T" is Kentucky Power Company's (KPCo) monthly net revenues from system sales in the current (m) and base (b) periods, and "S" is the KWH sales in the current (m) period, all defined below.

2. The net revenue from KPCo's sales to non-associated companies as reported in the FERC Energy Regulatory Commission's Uniform System of Accounts under Account 447, Sales for Resale, shall consist of and be derived as follows:

N

- a. KPCo's total revenues from system sales as recorded in Account 447, less b. and c. below.
- b. KPCo's total out-of-pocket costs incurred in supplying the power and energy for the sales in a. above.  
  
The out-of-pocket costs include all operating, maintenance, tax, transmission losses and other expenses that would not have been incurred if the power and energy had not been supplied for such sales, including demand and energy charges for power and energy supplied by Third Parties.
- c. KPCo's environmental costs allocated to non-associated utilities in the Company's Environmental Surcharge Report.

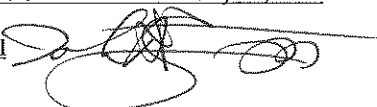
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**TARIFF S. S. C. (Cont'd.)  
(System Sales Clause)**

3. The base monthly net revenues from system sales are as follows:

| <u>Billing<br/>Month</u> | <u>System Sales<br/>(Total Company Basis)</u> |
|--------------------------|---|
| January                  | \$ 1,560,360                                  |
| February                 | 1,335,811                                     |
| March                    | 1,296,845                                     |
| April                    | 1,152,503                                     |
| May                      | 1,170,480                                     |
| June                     | 1,106,499                                     |
| July                     | 1,322,384                                     |
| August                   | 1,031,319                                     |
| September                | 1,038,816                                     |
| October                  | 1,088,125                                     |
| November                 | 1,123,099                                     |
| December                 | <u>1,073,722</u>                              |
|                          | <u>\$14,299,964</u>                           |

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4. Sales (S) shall be equated to the sum of (a) generation (including energy produced by generating plant during the construction period), (b) purchase, and (c) interchange-in, less (d) energy associated with pumped storage operations, less (e) inter-system sales and less (f) total system losses.
5. The system sales adjustment factor shall be based upon estimated monthly revenues and costs for system sales, subject to subsequent adjustment upon final determination of actual revenues and costs.
6. The monthly System Sales Clause shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustments, which shall include data, and information as may be required by the Commission.
7. Copies of all documents required to be filed with the Commission under this regulation shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF F.T.  
(Franchise Tariff)**

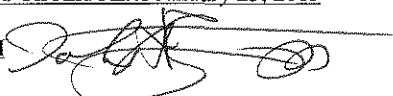
**AVAILABILITY OF SERVICE.**

Where a city or town within Kentucky Power's service territory requires the Company to pay a percentage of revenues from certain customer classifications collected within such city or town of the right to erect the Company's poles, conductors, or other apparatus along, over, under, or across such city's or town's streets, alleys, or public grounds, the Company shall increase the rates and charges to such customer classifications within such city or town by a like percentage. The aforesaid charge shall be separately stated and identified on each affected customer's bill.

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In Case No. 2014-00396 Dated XXXXXXXX



**TARIFF T. S.  
(Temporary Service)**

**AVAILABILITY OF SERVICE.**

Where capacity is available, Company will install service for temporary lighting and power service. Residential customers will be supplied with 100 amp service. All other customer classes will be supplied at voltage levels applicable to the class of business.

**RATE.** (Tariff Code 019)

Temporary service will be supplied under any published tariff applicable to the class of business of the Customer, when the Company has available unsold capacity of lines, transforming and generating equipment, with an additional charge of the total cost of connection and disconnection.

**MINIMUM CHARGE.**

The same minimum charge as provided for in any applicable tariff shall be applicable to such temporary service and for not less than one full monthly minimum.

**TERM.**

Variable. Initial period of 180 days. The Company may extend for an additional 90 day period.

**SPECIAL TERMS AND CONDITIONS.**

A deposit equal to the full estimated amount of the bill and/or construction costs under this tariff may be required.

This tariff is not available to customers permanently located, whose energy requirements are of a seasonal nature.

See Terms and Conditions of Service.

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF D.S.M.C.**  
(Demand-Side Management Adjustment Clause)

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D. 2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., J.G.S., C.S.-I.R.P., and M.W.

**RATE.**

1. The Demand-Side Management (DSM) clause shall provide for periodic adjustment per KWH of sales equal to the DSM costs per KWH by customer sector according to the following formula:

$$\text{Adjustment Factor} = \frac{\text{DSM (c)}}{\text{S(c)}}$$

Where DSM is the cost by customer sector of demand-side management programs, net lost revenues, incentives, and any over/under recovery balances; (c) is customer sector; and S is the adjusted KWH sales by customer sector.

2. Demand-Side Management (DSM) costs shall be the most recent forecasted cost plus any over/under recovery balances recorded at the end of the previous period.
- a. Program costs are any costs the Company incurred associated with demand-side management which were approved by the Kentucky Power Company DSM Collaborative. Examples of costs to be included are contract services, allowances, promotion, expenses, evaluation, lease expense, etc. by customer sector.
  - b. Net lost revenues are the calculated net lost revenues by customer sector resulting from the implementation of the DSM programs.
  - c. Incentives are a shared-savings incentive plan consisting of one of the following elements: The efficiency incentive, which is defined as 15 percent of the estimated net savings associated with the programs. Estimated net savings are calculated based on the California Standard Practice Manual's definition of the Total Resources Cost (TRC) test, or the maximizing incentive which is defined as 5 percent of actual program expenditures if program savings cannot be measured.
  - d. Over/ Under recovery balances are the total of the differences between the following:
    - (i) the actual program costs incurred versus the program costs recovered through DSM adjustment clause, and
    - (ii) the calculated net lost revenues realized versus the net lost revenues recovered through the DSM adjustment clause, and
    - (iii) the calculated incentive to be recovered versus the incentive recovered through the DSM adjustment clause.
3. Sales (S) shall be the total ultimate KWH sales by customer sector less non-metered, opt-out and lost revenue impact KWHs by customer sector.
4. The provisions of the Demand-Side Management Adjustment Clause will be effective for the period ending December 31, 2011.

(Cont'd on Sheet No. 22-2)

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In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**RATE. (Cont'd.)**

5. The DSM adjustment shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustments, which shall include data, and information as may be required by the Commission.
6. Copies of all documents required to be filed with the Commission under this regulation shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.
7. The resulting range for each customer sector per KWH during the three-year Experimental Demand-Side Management Plan is as follows:

CUSTOMER SECTOR

|                  | <u>RESIDENTIAL</u><br>(\$ Per KWH) | <u>COMMERCIAL</u><br>(\$ Per KWH) | <u>INDUSTRIAL*</u> |
|------------------|------------------------------------|-----------------------------------|--------------------|
| Floor Factor =   | 0.000614                           | 0.000326                          | - 0 -              |
| Ceiling Factor = | 0.002279                           | 0.001645                          | - 0 -              |

8. The DSM Adjustment Clause factor (\$ Per KWH) for each customer sector which fall within the range defined in Item 7 above is as follows:

CUSTOMER SECTOR

|                   | <u>RESIDENTIAL</u> | <u>COMMERCIAL</u> | <u>INDUSTRIAL*</u> |
|-------------------|--------------------|-------------------|--------------------|
| <u>DSM (c)</u>    | 1,681,109          | 651,981           | - 0 -              |
| <u>S (c)</u>      | 1,161,789,200      | 661,238,700       | - 0 -              |
| Adjustment Factor | \$ 0.001447        | \$ 0.000986       | - 0 -              |

\* The Industrial Sector has been discontinued pursuant to the Commission's Order dated September 28, 1999.

**PROGRAM DESCRIPTIONS.**

The D.S.M.C. program availability, program, rate, and equipment descriptions follow:

(Cont'd on Sheet 22-3)

DATE OF ISSUE: December 23, 2014

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: TEE – Targeted Energy Efficiency**

**AVAILABILITY OF SERVICE**

Available on a voluntary basis to individual residential customers receiving retail electric service from the Company, who have primary electric heat and use an average of 700 kWh per month. Residential customers without primary electric heating may also be eligible for limited efficiency measures if they have electric water heating and use an average of 700 kWh from November through March. To qualify, the household's income cannot exceed the designated poverty guidelines as administered by your community action agency. The household must also qualify according to the guidelines for the Weatherization Assistance Programs administered by the communication community action agencies.

**PROGRAM DESCRIPTION**

The Kentucky Power Targeted Energy Efficiency Program (TEE) provides weatherization and energy efficiency services to qualifying residential customers who need help reducing their energy bills. The Company provides funding for this program through the Kentucky Community Action network of not-for-profit community action agencies. The program funding and service is supplemental to the Weatherization Assistance Programs offered by your community action agency. This program provides energy saving improvements to your existing home. Program services can include these items, as applicable and per program guidelines:

- Energy audit
- Air infiltration diagnostic test to find air leaks
- Air leakage sealing
- Attic, floor, side-wall insulation
- Duct sealing and insulation
- High efficiency compact fluorescent light bulbs (CFLs)
- Domestic hot water heating insulation (electric)
- Customer education on home energy efficiency
- Partial funding High efficiency heat pump (restrictions apply)

**RATE**

No rate applies for this program.

**EQUIPMENT**

The Kentucky Community Action network of not-for-profit community action agencies will furnish and install, in the customer's presence, the equipment as provided by this program.

( Cont'd on Sheet No. 22-4)

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: MEF – Modified Energy Fitness**

**AVAILABILITY OF SERVICE**

Available on a voluntary basis to individual residential customers living in a single-family residence, who receive retail all-electric service from the Company and use an average of 1,000 kWh per month over the last twelve months. Customers living in site built homes and mobile homes are eligible.

**PROGRAM DESCRIPTION**

The Kentucky Power Modified Energy Fitness Program (MEF) provides weatherization and energy efficiency services to qualifying residential customers who need help reducing their energy bills. This program provides energy saving improvements to a customer's existing home. Program services may include these items, as applicable and per program guidelines:

- Complete energy audit with customized report
- Air infiltration diagnostic test to find air leaks
- Energy savings booklet
- Energy conservation measures installed (per program guidelines)

**RATE**

No rate applies for this program.

**EQUIPMENT**

The Company, or its authorized agents, will furnish and install, in the customer's presence, the energy conservation measures as provided by this program.

(Cont'd on Sheet No. 22-5)

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: EEFS – Energy Education for Students**

**AVAILABILITY OF SERVICE**

All schools within Kentucky Power's service territory are eligible to participate. The program targets 7<sup>th</sup> grade students.

**PROGRAM DESCRIPTION**

The Kentucky Power Student Energy Education Program (EEFS) targets 7<sup>th</sup> grade students at participating schools within the Kentucky Power Company service territory. The program introduces them to various aspects of responsible energy use and conservation. With this program, students use math and science skills to learn how energy is produced and used, and methods to conserve energy that can easily be applied in their own homes.

The Company partners with the National Energy Education Development Project (NEED) to implement this program. NEED is an established and respected energy education organization that has been presenting programs for teachers and students in Eastern Kentucky for many years. The program, provided at no cost to participating school systems, includes:

- Professional development for teachers where they will receive classroom curriculum and educational materials on energy, electricity, economics and the environment
- Each Student receives compact fluorescent lights (CFLs) to help students apply their classroom learning at home
- An opportunity for participating students and their families to make the ENERGY STAR® Pledge

**RATE**

No rate applies for this program.

**EQUIPMENT**

The CFLs furnished by the Company are delivered to the schools for delivery to students. The CFLs will not be installed by the Company, or its authorized agents.

(Cont'd on Sheet No. 22-6)

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In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: COCFL – Community Outreach CFL**

**AVAILABILITY OF SERVICE**

All residential retail customers of Kentucky Power are eligible for the program.

**PROGRAM DESCRIPTION**

Through the CFL Outreach Program, Kentucky Power distributes compact fluorescent lights (CFLs) to customers at company-sponsored community events. The program aims to educate and encourage customers to save money by using energy efficient lighting. The company sponsors community distribution events throughout the year where a package of CFLs is distributed to each qualifying residential customer. Customer energy education is also provided at these events.

**RATE**

No rate applies for this program.

**EQUIPMENT**

The CFLs furnished by the Company are delivered to the community events and provided to customers having an active electric account. The CFLs will not be installed by the Company, or its authorized agents.

(Cont'd on Sheet No. 22-7)

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**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: REP - Residential Efficient Products**

**AVAILABILITY OF SERVICE**

All Kentucky Power residential customers are eligible to participate.

**PROGRAM DESCRIPTION**

The Kentucky Power Residential Efficient Products Program (REP) offers residential customers instant rebates on ENERGY STAR lighting products at participating retail stores across our service territory. The program targets the purchase of lighting products through in-store promotion as well as special sales events. Customer incentives facilitate the increased purchase of high efficiency products while in-store signage, sales associate training and support makes provider participation easier.

A convenient online store where customers can shop for energy efficient lighting and get immediate discounts is also available, including specialty and hard-to-find CFLs, LED holiday lights, LED nightlights, and ENERGY STAR® ceiling fans.

**RATE**

Vendor controlled and adjusted in-store rebates can range from \$1.00 per single pack up to \$3.00 per multi pack, for up to a 12-bulb limit per purchase are available while funds last.

**EQUIPMENT**

No equipment required to participate in this program will be furnished or installed by the Company, or its authorized agents. It is the customer's responsibility to purchase and install the required equipment.

(Cont'd on Sheet No. 22-8)

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In Case No. 2014-00396 Dated XXXXXXXX



**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: HEHP – High Efficiency Heat Pump**

**AVAILABILITY OF SERVICE**

Available on a voluntary basis to individual residential customers who live in site built homes with a central electric resistance heating system or an existing less efficient heat pump system and have received retail electric service from the Company for the past twelve months at that residence.

**PROGRAM DESCRIPTION**

The Kentucky Power High Efficiency Heat Pump (HEHP) offers an incentive to residential customers who upgrade their central electric resistance heating system or existing less efficient heat pump system to a new, high efficiency heat pump unit. To qualify, the new heat pump unit must have a minimum rating of 13 SEER (Seasonal Energy Efficiency Ratio) and 7.7 HSPF (Heating Seasonal Performance Factor) for resistance heat upgrade, or 14 SEER and 8.2 HSPF for upgrading from a less efficient existing heat pump to a high efficiency heat pump unit.

**RATE**

A \$400 incentive is offered to residential customers that qualify.

**EQUIPMENT**

No equipment required to participate in this program will be furnished or installed by the Company, or its authorized agents. It is the customer's responsibility to purchase and install the required equipment by an approved HVAC dealer participating in the program.

( Cont'd on Sheet No. 22-9)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: MHHP – Mobile Home High Efficiency Heat Pump**

**AVAILABILITY OF SERVICE**

Available on a voluntary basis to individual residential customers who live in a mobile home with a central electric resistance heating system and have received retail electric service from the Company for the past twelve months at that residence.

**PROGRAM DESCRIPTION**

The Kentucky Power Mobile Home High Efficiency Heat Pump (MHHP) offers an incentive to residential customers who live in a mobile home and upgrade their central electric resistance heating system with a new, high efficiency heat pump unit. To qualify, the new heat pump unit must have a minimum rating of 13 SEER (Seasonal Energy Efficiency Ratio) and 7.7 HSPF (Heating Seasonal Performance Factor).

**RATE**

A \$400 incentive is offered to residential customers that qualify.

**EQUIPMENT**

No equipment required to participate in this program will be furnished or installed by the Company, or its authorized agents. It is the customer's responsibility to purchase and install the required equipment by an approved HVAC dealer participating in the program.

( Cont'd on Sheet No. 22-10)

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**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: MHNC – Mobile Home New Construction**

**AVAILABILITY OF SERVICE**

Available on a voluntary basis to individual residential customers who purchase a new mobile home built with Zone 3 insulation and a high efficiency heat pump.

**PROGRAM DESCRIPTION**

The Kentucky Power Mobile Home New Construction (MHNC) offers an incentive to residential customers who purchase a new mobile home having an insulation upgrade and a high efficiency heat pump unit. To qualify, the new heat pump unit must have a minimum rating of 13 SEER (Seasonal Energy Efficiency Ratio) and 7.7 HSPF (Heating Seasonal Performance Factor).

**RATE**

A \$500 incentive is offered to residential customers that qualify.

**EQUIPMENT**

No equipment required to participate in this program will be furnished or installed by the Company, or its authorized agents. It is the customer's responsibility to purchase the new mobile home from a manufactured housing dealer participating in the program and who can administer an upgrade for required equipment.

( Cont'd on Sheet No. 22-11)

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KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 22-11  
CANCELLING P.S.C. KY. NO. 10 \_\_\_\_\_ SHEET NO. 22-11

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: Residential & Commercial HVAC Diagnostic and Tune-up**

**AVAILABILITY OF SERVICE**

Available to Kentucky Power residential customers and small commercial customers using less than 100 kW peak demand having unitary central heat pump systems. The Kentucky Power Small Commercial HVAC Program encourages small commercial customers to keep their heating, ventilation and air conditioning (HVAC) equipment operating at peak efficiency, by way of a simple tune-up. The program is not applicable for customers seeking repair of non-operational units.

**PROGRAM DESCRIPTION – HVAC Diagnostic and Tune-up Program**

The residential and commercial customer will be offered an incentive when receiving this Diagnostic and Tune-up service from a participating, state licensed contractor. It will help extend the life of the system, reduce energy costs and improve the interior comfort of your business. The diagnostic and tune-up service includes testing for inefficiencies in air conditioning and heat pump systems due to air-restricted indoor or outdoor coils and over or under refrigerant charge.

**RATE**

A \$50 incentive is offered to residential customers and commercial customers that qualify.

**EQUIPMENT**

No equipment required to participate in this program will be furnished or installed by the Company, or its authorized agents. It is the customer's responsibility to contact a participating state licensed program dealer who can administer the diagnostic service.

(Cont'd on Sheet No. 22-12)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXXX

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: Small Commercial HVAC Programs**

**AVAILABILITY OF SERVICE**

Available to Kentucky Power commercial customers using less than 100 kW peak demand whose primary heat source is electricity. The Kentucky Power Small Commercial HVAC Program encourages small commercial customers to keep their heating, ventilation, and air conditioning (HVAC) equipment operating at peak efficiency by an equipment upgrade.

**PROGRAM DESCRIPTION – High Efficiency Heat Pump/Air Conditioner Program**

The commercial customer will receive financial incentives for upgrading to a new qualifying central air conditioning or heat pump system (up to a five-ton unit with a Consortium for Energy Efficiency (CEE) Tier I rating). The incentive helps offset the cost of the investment, and the improved efficiency can give long-term savings.

**RATE**

The following incentives are offered for qualifying purchases:

|   |                   |
|---|-------------------|
| Air Conditioner - 36,000 Btu/h or lower | Incentive = \$250 |
| Air Conditioner - 36,000 – 65,000 Btu/h | Incentive = \$400 |
| Heat Pump - 36,000 Btu/h or lower       | Incentive = \$300 |
| Heat Pump - 36,000 – 65,000 Btu/h       | Incentive = \$450 |

**EQUIPMENT**

No equipment required to participate in this program will be furnished or installed by the Company, or its authorized agents. It is the customer's responsibility to purchase the high efficiency heat pump or air conditioner from a participating program dealer who can administer an upgrade for required equipment.

(Cont'd on Sheet No. 22-13)

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In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: CIP – Commercial Incentive Program**

**AVAILABILITY OF SERVICE**

All commercial (non-industrial) customers in Kentucky Power's service territory are eligible to participate.

**PROGRAM DESCRIPTION**

The Kentucky Power Commercial Incentive Program (CIP) offers a convenient way to receive funding for common energy efficiency projects. The Commercial Incentive Program provides financial incentives to business customers who implement qualified energy-efficient improvements and technologies.

Incentives are available for a variety of energy-saving technologies in existing buildings and new construction projects. Choose from a menu of prescriptive measures with standardized incentives. The program menu includes, but is not limited to, incentives for:

- Lighting
- Heating, ventilation, and air conditioning (HVAC)
- Food Service and Refrigeration

A complete list of the eligible equipment and incentive amounts can be found in the Program Application located at [KentuckyPower.com/save/programs](http://KentuckyPower.com/save/programs).

**RATE**

The maximum payout is 50% of incremental equipment costs, up to \$20,000 annually per customer account is offered to qualifying commercial customers that qualify.

The Company, or its authorized agents, will administer the evaluation of customer installed energy measures. The Company, or its authorized agents, may provide support for the installation services through approved program contractors.

**AGREEMENT**

A customer program application agreement is required to participate in this program.

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF B.E.R.  
(Biomass Energy Rider)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D.2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S.,L.G.S.O.D., I.G.S., C.S.-I.R.P., M.W., O.L. and S.L.

T

**RATE.**

1. When energy is generated and sold to the Company from the ecopower biomass facility, an additional charge equal to the product of the kWh of sales and a biomass adjustment factor (A) shall be made, where, "A", calculated to the nearest 0.0001 mil per kilowatt=hour, is defined as set forth below.

$$\text{Biomass Adjustment Factor (A)} = (R * P_m) / S_m$$

In the above formulas "R" is the rate for the current calendar year approved by this commission in the REPA between ecopower and Kentucky Power Company, "P" is the amount of Kwh purchased by Kentucky Power in the current (m) period, and "S" is the kWh sales in the current (m) period, all defined below.

2. Rate (R) shall be the dollar per MWh as defined in the REPA between ecopower and Kentucky Power Company, including any applicable escalation factor as defined in the REPA.
3. Produced energy (P) shall be the MWh produced and sold to Kentucky Power Company.
4. Sales (S) shall be all KWh sold, excluding intersystem sales. Utility used energy shall not be excluded in the determination of sales (S).
5. Any over/under recovery will be reflected in the monthly filing for the second billing month following the month the cost is incurred.
6. The monthly bio mass energy rider shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustment, which shall include data, and information as may be required by the Commission.
7. Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS61.870 to 61.884.

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 23-2  
CANCELLING P.S.C. KY. NO. 10 \_\_\_\_\_ SHEET NO. 23-2

RESERVED FOR FUTURE USE

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KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 23-3  
CANCELLING P.S.C. KY. NO. 10 \_\_\_\_\_ SHEET NO. 23-3

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF P.J.M.R.  
(PJM RIDER)**

**APPLICABLE:**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D. 2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S., C.S.-I.R.P., M.W., O.L., and S.L.

**RATES:** (Tariff Code 390)

| Tariff Class  | ¢/kWh  | \$/kW |
|---|--------|-------|
| R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., and Experimental R.S.-T.O.D. 2 | 0.0000 | --    |
| S.G.S. and S.G.S.-T.O.D.  | 0.0000 | --    |
| M.G.S.  | 0.0000 | 0.00  |
| M.G.S. Recreational Lighting, M.G.S.-L.M.-T.O.D., and M.G.S.-T.O.D. | 0.0000 | --    |
| L.G.S. and L.G.S.-T.O.D.  | 0.0000 | 0.00  |
| L.G.S.-L.M.-T.O.D.  | 0.0000 | 0.00  |
| I.G.S. and C.S.-I.R.P   | 0.0000 | 0.00  |
| M.W.  | 0.0000 | --    |
| O.L.  | 0.0000 | --    |
| S.L.  | 0.0000 | --    |

The kWh adjustment factor as calculated above will be applied to all billing kilowatt-hours for those tariff classes listed above. The kW adjustment factor as calculated above will be applied to all on-peak and minimum billing demand kW for the MGS, LGS and IGS tariff classes.

The PJM Rider adjustment factor shall be modified annually to reflect the difference between the approved base level of PJM charges and credits and the PJM charges and credits actually experienced.

The PJM Rider adjustment factor shall be determined as follows:

For all tariff classes without demand billing:

$$\text{kWh Adjustment Factor} = \frac{\text{PJME} \times (\text{BE}_{\text{Class}} / \text{BE}_{\text{Total}}) + \text{PJMD} \times (\text{CP}_{\text{Class}} / \text{CP}_{\text{Total}})}{\text{BE}_{\text{Class}}}$$

$$\text{kW Adjustment Factor} = 0$$

For all tariff classes with demand billing:

$$\text{kWh Adjustment Factor} = \frac{\text{PJME} \times (\text{BE}_{\text{Class}} / \text{BE}_{\text{Total}})}{\text{BE}_{\text{Class}}}$$

$$\text{kW Adjustment Factor} = \frac{\text{PJMD} \times (\text{CP}_{\text{Class}} / \text{CP}_{\text{Total}})}{\text{BD}_{\text{Class}}}$$

(Cont'd on Sheet 24-2)

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**PJM RIDER (Cont'd)**  
**(P.J.M.R.)**

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**RATES: (Cont'd)**

Where:

1. "PJMD" is the actual (over)/under recovery of annual retail PJM demand-related net costs; calculated by comparing the amount of PJM demand-related net costs in base rates to those retail PJM demand-related net costs actually incurred during the review period.
2. "PJME" is the actual (over)/under recovery of annual retail PJM energy-related net costs; calculated by comparing the amount of PJM energy-related net costs in base rates to those retail PJM energy-related net costs actually incurred during the review period.
3. "BE<sub>Class</sub>" is the historic annual retail jurisdictional billing kWh for each tariff class for the current year.
4. "BD<sub>Class</sub>" is the historic annual retail jurisdictional billing kW for each applicable tariff class for the current year.
5. "CP<sub>Class</sub>" is the coincident peak demand for each tariff class estimated as follows:

| Tariff Class  | BE <sub>Class</sub> | CP/kWh Ratio | CP <sub>Class</sub> |
|---|---------------------|--------------|---------------------|
| (1)   | (2)                 | (3)          | (4)=(2)x(3)         |
| R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., and Experimental R.S.-T.O.D. 2 |                     | 0.0236060%   |                     |
| S.G.S. and S.G.S.-T.O.D.  |                     | 0.0163937%   |                     |
| M.G.S.  |                     | 0.0177002%   |                     |
| M.G.S. Recreational Lighting, M.G.S.-L.M.-T.O.D., and M.G.S.-T.O.D. |                     | 0.0177002%   |                     |
| L.G.S. and L.G.S.-T.O.D.  |                     | 0.0169381%   |                     |
| L.G.S.-L.M.-T.O.D.  |                     | 0.0169381%   |                     |
| I.G.S. and C.S.-I.R.P   |                     | 0.0130626%   |                     |
| M.W.  |                     | 0.0134057%   |                     |
| O.L.  |                     | 0.0009431%   |                     |
| S.L.  |                     | 0.0009890%   |                     |
|   | BE <sub>Total</sub> |              | CP <sub>Total</sub> |

6. "BE<sub>Total</sub>" is the sum of the BE<sub>Class</sub> for all tariff classes.
7. "CP<sub>Total</sub>" is the sum of the CP<sub>Class</sub> for all tariff classes.

The adjustment factor as computed above shall be further modified to allow the recovery of Uncollectible Accounts Expense of 0.3% and the KPSC Maintenance Fee of 0.1952% and other similar revenue based taxes or assessments occasioned by the PJM Rider adjustment revenues.

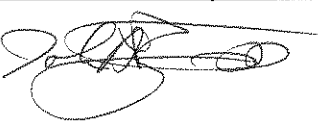
(Cont'd on Sheet 24-3)

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P.J.M. RIDER (Cont'd)  
P.J.M.R.

The annual PJM Rider shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all necessary supporting data to justify the amount of the adjustments, which shall include data and information as may be required by the Commission.

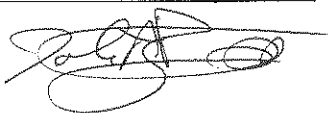
Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.

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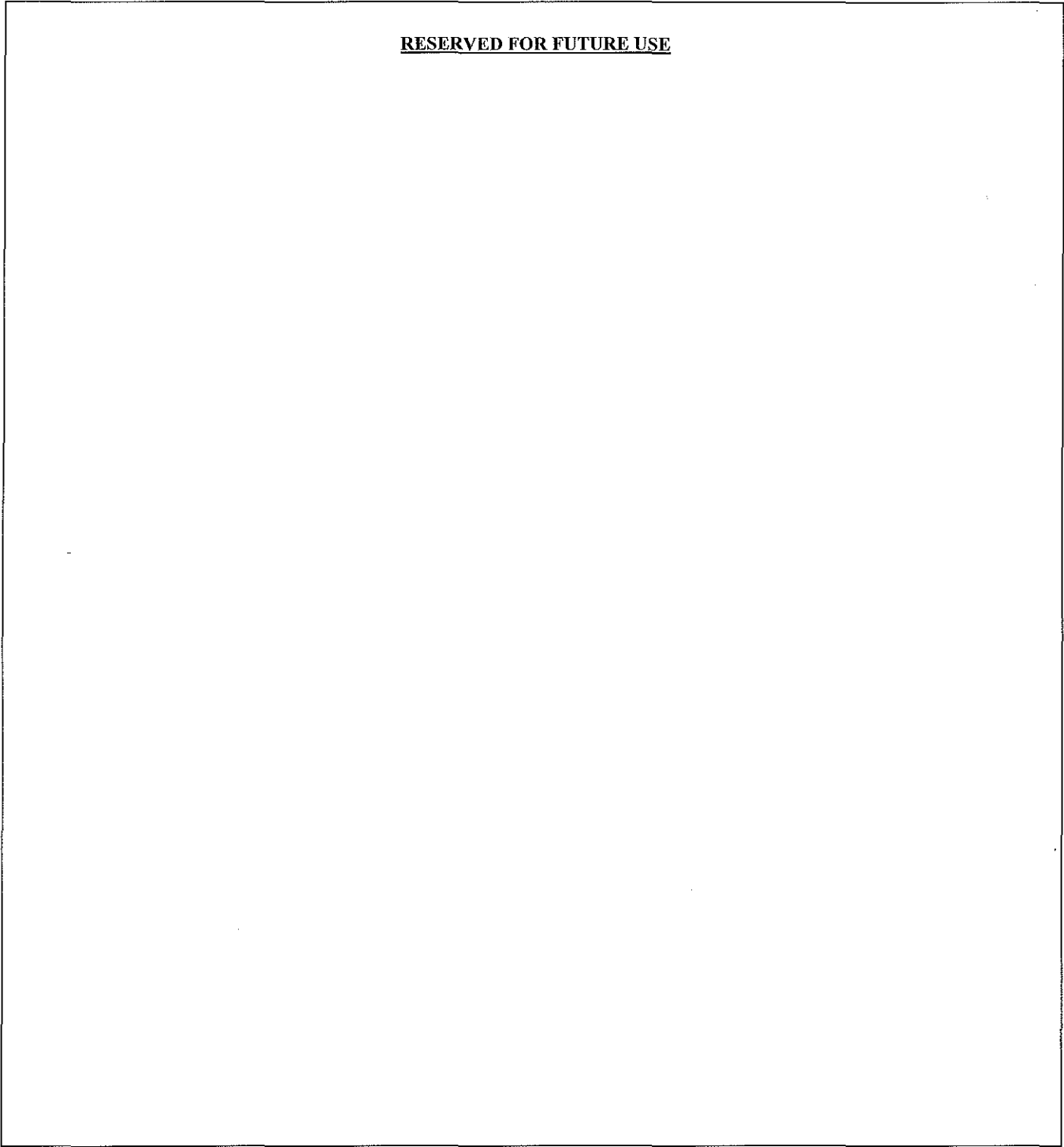
TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 25-3  
CANCELLING P.S.C. KY. NO. 10 \_\_\_\_\_ SHEET NO. 25-3



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A handwritten signature in black ink, appearing to read 'John A. Rogness III', is written over the printed name.

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.U.G.  
(Non-Utility Generator)**

**AVAILABILITY OF SERVICE.**

This tariff is applicable to customers with generation facilities which have a total design capacity of over 1,000 kW that intends to schedule, deliver and sell the net electric output of the facility at wholesale, and who require Commissioning Power, Startup Power and/or Station Power service from the Company.

Service to any load that is electrically isolated from the Customer's generator shall be separately metered and provided in accordance with the generally available demand-metered tariff appropriate for such service to the Customer.

This tariff is not available for standby, backup, maintenance, or supplemental service for wholesale or retail loads served by customer's generator.

**DEFINITIONS.**

1. **Commissioning Power** - The electrical energy and capacity supplied to the customer prior to the commercial operation of the customer's generator, including initial construction and testing phases.
2. **Station Power** - The electrical energy and capacity supplied to the customer to serve the auxiliary loads at the customer's generation facilities, usually when the customer's generator is not operating. Station Power does not include Startup Power.
3. **Startup Power** - The electrical energy and capacity supplied to the customer following a planned or forced outage of the customer's generator for the purpose of returning the customer's generator to synchronous operation.

**COMMISSIONING POWER SERVICE.**

Customers requiring Commissioning Power shall take service under Tariff T.S. or by special agreement with the Company.

The Customer shall coordinate its construction and testing with the Company to ensure that the customer's operations do not cause any undue interference with the Company's obligations to provide service to its other customers or impose a burden on the Company's system or any system interconnected with the Company.

**STATION POWER SERVICE.**

Customers requiring Station Power shall take service under the generally available demand-metered tariff appropriate for the customer's Station Power requirements.

**Station Contract Capacity** – The Customer shall contract for a definite amount of electrical capacity in kW sufficient to meet the maximum Station Power requirements that the Company is expected to supply under the generally available demand-metered tariff appropriate for the customer.

**STARTUP POWER SERVICE.**

Customers requiring Startup Power have the option of contracting for such service under the terms of this tariff or under the generally available demand-metered tariff appropriate for the customer's Startup Power requirements.

**Startup Contract Capacity** – The Customer shall contract for a definite amount of electrical capacity in kW sufficient to meet the maximum Startup Power requirements that the Company is expected to supply.

**Startup Duration** – The Customer shall contract for a definite number of hours sufficient to meet the maximum period of time for which the Company is expected to supply Startup Power.

(Cont'd on Sheet No. 26-2)

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**TARIFF N.U.G. (Cont'd)  
(Non-Utility Generator)**

**STARTUP POWER SERVICE. (cont'd)**

**Startup Duration** – The Customer shall contract for a definite number of hours sufficient to meet the maximum period of time for which the Company is expected to supply Startup Power.

**Startup Frequency** – The Customer shall contract for a definite number of startup events sufficient to meet the maximum number of times per year that the Company is expected to supply Startup Power.

**Other Startup Characteristics** – The customer shall provide to the Company other information regarding the customer's Startup Power requirements, including, but not limited to, anticipated time-of-use and seasonal characteristics.

**Notification Requirement** - Whenever Startup Power is needed, the Customer shall provide advance notice to the Company.

Upon receipt of a request from the Customer for Startup Power Service under the terms of this tariff, the Company will provide the Customer a written offer containing the Notification Requirement, generation, transmission and distribution rates (including demand and energy charges) and related terms and conditions of service under which service will be provided by the Company. Such offer shall be based upon the Startup Contract Capacity, Startup Duration, Startup Frequency, and Other Startup Characteristics as specified by the customer. In no event shall the rates be less than the sum of the Tariff I.G.S. Energy Charge, the Fuel Adjustment Clause, the System Sales clause, the Demand-Side Management Adjustment Clause, Asset Transfer Rider, Big Sandy Retirement Rider, Big Sandy 1 Operation Rider, Purchase Power Rider, P.J.M. Rider, KY Economic Development Surcharge, Environmental Surcharge, the Capacity Charge and NERC Compliance and Cybersecurity Rider.

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If the parties reach an agreement based upon the offer provided to the customer by the Company, a contract shall be executed that provides full disclosure of all rates, terms and conditions of service under this tariff, and any and all agreements related thereto.

**DELAYED PAYMENT CHARGE.**

This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

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**TARIFF N.U.G. (Cont'd)**  
**(Non-Utility Generator)**

**MONTHLY BILLING DEMAND.**

The monthly billing demand in kW shall be taken each month as the highest single 15-minute integrated peak in kW as registered by a demand meter or indicator, less the Station Contract Capacity. The monthly billing demand so established shall in no event be less than the greater of (a) the Startup Contract Capacity or b) the customer's highest previously established monthly billing demand during the past 11 months.

**MONTHLY BILLING ENERGY.**

Interval billing energy shall be measured each 15-minute interval of the month as the total KWH registered by an energy meter or meters less the quotient of the Station Contract Capacity and four (4). In no event shall the interval billing energy be less than zero (0). Monthly billing energy shall be the sum of the interval billing energy for all intervals of the billing month.

**TRANSMISSION SERVICE.**

**Transmission Provider** – The entity providing transmission service to customers in the Company's service territory. Such entity may be the Company or a regional transmission entity.

Prior to taking service under this tariff, the Customer must have a fully executed Interconnection and Operation Agreement with the Company and/or the Transmission Provider or an unexecuted agreement filed with the Federal Energy Regulatory Commission under applicable procedures.

Should the Transmission Provider implement charges for Transmission Congestion, the Company shall provide 30 days written notice to the customer. Upon the expiration of such notice period, should the customer's use of Startup Power result in any charges for Transmission Congestion from the Transmission Provider, such charges, including any applicable taxes or assessments, shall be paid by or passed through to the customer without markup. Transmission Congestion is the condition that exists when market participants seek to dispatch in a pattern that would result in power flows that cannot be physically accommodated by the system.

**TERM OF CONTRACT.**

Contracts under this tariff will be made for an initial period of not less than one year and shall remain in effect thereafter until either party shall give at least 6 months' written notice to the other of the intention to terminate the contract. The Company reserves the right to require initial contracts for periods greater than one year.

A new initial contract period will not be required for existing customers who change their contract requirements after the original initial period unless new or additional facilities are required.

The Company may not be required to supply capacity in excess of that contracted for except by mutual agreement. Contracts will be made in multiples of 100 kW.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.


This tariff shall not obligate the Company to purchase or pay for any capacity or energy produced by the Customer's generator.

Customers desiring to provide Startup and Station Power from commonly owned generation facilities that are not located on the site of the customer's generator (remote self-supply), shall take service under the terms and conditions contained within the applicable Open Access Transmission Tariff as filed with and accepted by the Federal Energy Regulatory Commission.

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In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**AVAILABILITY OF SERVICE.**

Net Metering is available to eligible customer-generators in the Company's service territory, upon request, and on a first-come, first-served basis up to a cumulative capacity of one percent (1%) of the Company's single hour peak load in Kentucky during the previous year. If the cumulative generating capacity of net metering systems reaches 1% of the Company's single hour peak load during the previous year, upon Commission approval, the Company's obligation to offer net metering to a new customer-generator may be limited. An eligible customer-generator shall mean a retail electric customer of the Company with a generating facility that:

- (1) Generates electricity using solar energy, wind energy, biomass or biogas energy, or hydro energy;
- (2) Has a rated capacity of not greater than thirty (30) kilowatts;
- (3) Is located on the customer's premises;
- (4) Is owned and operated by the customer;
- (5) Is connected in parallel with the Company's electric distribution system; and
- (6) Has the primary purpose of supplying all or part of the customer's own electricity requirements.

At its sole discretion, the Company may provide Net Metering to other customer-generators not meeting all the conditions listed above on a case-by-case basis.

The term "Customer" hereinafter shall refer to any customer requesting or receiving Net Metering services under this tariff.

**METERING.**

Net energy metering shall be accomplished using a standard kilowatt-hour meter capable of measuring the flow of electricity in two (2) directions. If the existing electrical meter installed at the customer's facility is not capable of measuring the flow of electricity in two directions, the Company will provide the customer with the appropriate metering at no additional cost to the customer. If the customer requests any additional meter or meters or if distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the customer's expense.

**BILLING/MONTHLY CHARGES.**


Monthly charges for energy, and demand where applicable, to serve the customer's net or total load shall be determined according to the Company's standard service tariff under which the customer would otherwise be served, absent the customer's electric generating facility. Energy charges under the customer's standard tariff shall be applied to the customer's net energy for the billing period to the extent that the net energy exceeds zero. If the customer's net energy is zero or negative during the billing period, the customer shall pay only the non-energy charge portions of the standard tariff bill. If the customer's net energy is negative during a billing period, the customer shall be credited in the next billing period for the kWh difference. If time-of-day metering is used, energy flows in both directions shall be netted and accounted for at the specific time-of-use in accordance with the provisions of the customer's standard tariff and this Net Metering Service Tariff. When the customer elects to no longer take service under this Net Metering Service Tariff, any unused credit shall revert to the Company. Excess electricity credits are not transferable between customers or locations.

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In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S. (Cont'd)**  
**(Net Metering Service)**

**APPLICATION AND APPROVAL PROCESS.**

The Customer shall submit an Application for Interconnection and Net Metering ("Application") and receive approval from the Company prior to connecting the generator facility to the Company's system.

Applications will be submitted by the Customer and reviewed and processed by the Company according to either Level 1 or Level 2 processes defined below.

The Company may reject an Application for violations of any code, standard, or regulation related to reliability or safety; however, the Company will work with the Customer to resolve those issues to the extent practicable.

Customers may contact the Company to check on the status of an Application or with questions prior to submitting an Application. Company contact information can be found on Kentucky Power Company's Application Form or on the Company's website.

**LEVEL 1 AND LEVEL 2 DEFINITIONS.**

**LEVEL 1**

A Level 1 Application shall be used if the generating facility is inverter-based and is certified by a nationally recognized testing laboratory to meet the requirements of Underwriters Laboratories Standard 1741 "Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources" (UL 1741).

The Company will approve the Level 1 Application if the generating facility also meets all of the following conditions:

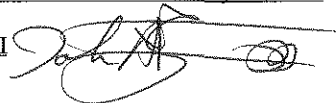
- (1) For interconnection to a radial distribution circuit, the aggregated generation on the circuit, including the proposed generating facility, will not exceed 15% of the Line Section's most recent annual one hour peak load. A line section is the smallest part of the primary distribution system the generating facility could remain connected to after operation of any sectionalizing devices.
- (2) If the proposed generating facility is to be interconnected on a single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed generating facility, will not exceed the smaller of 20 kVA or the nameplate rating of the transformer.
- (3) If the proposed generating facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
- (4) If the generating facility is to be connected to three-phase, three wire primary Company distribution lines, the generator shall appear as a phase-to-phase connection at the primary Company distribution line.
- (5) If the generating facility is to be connected to three-phase, four wire primary Company distribution lines, the generator shall appear to the primary Company distribution line as an effectively grounded source.
- (6) The interconnection will not be on an area or spot network.
- (7) The Company does not identify any violations of any applicable provisions of IEEE 1547, "Standard for Interconnecting Distributed Resources with Electric Power Systems."
- (8) No construction of facilities by the Company on its own system will be required to accommodate the generating facility.

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**TARIFF N.M.S. (Cont'd)**  
**(Net Metering Service)**

**LEVEL 1, continued**

If the generating facility does not meet all of the above listed criteria, the Company, in its sole discretion, may either: 1) approve the generating facility under the Level 1 Application if the Company determines that the generating facility can be safely and reliably connected to the Company's system; or 2) deny the Application as submitted under the Level 1 Application.

The Company shall notify the customer within 20 business days whether the Application is approved or denied, based on the criteria provided in this section.

If the Application lacks complete information, the Company shall notify the customer that additional information is required, including a list of such additional information. The time between notification and receipt of required additional information will add to the time to process the Application.

When approved, the Company will indicate by signing the approval line on the Level 1 Application Form and returning it to the customer. The approval will be subject to successful completion of an initial installation inspection and witness test if required by the Company. The Company's approval section of the Application will indicate if an inspection and witness test are required. If so, the customer shall notify the Company within 3 business days of completion of the generating facility installation and schedule an inspection and witness test with the Company to occur within 10 business days of completion of the generator facility installation or as otherwise agreed to by the Company and the customer. The customer may not operate the generating facility until successful completion of such inspection and witness test, unless the Company expressly permits operational testing not to exceed two hours. If the installation fails the inspection or witness test due to noncompliance with any provision in the Application and Company approval, the customer shall not operate the generating facility until any and all noncompliance is corrected and re-inspected by the Company.

If the Application is denied, the Company will supply the customer with reasons for denial. The customer may resubmit under Level 2 if appropriate.

**LEVEL 2**

A Level 2 Application is required under any of the following:

- (1) The generating facility is not inverter based;
- (2) The generating facility uses equipment that is not certified by a nationally recognized testing laboratory to meet the requirements of UL 1741; or
- (3) The generating facility does not meet one or more of the additional conditions under Level 1.

The Company will approve the Level 2 Application if the generating facility meets the Company's technical interconnection requirements, which are based on IEEE 1547. The Company shall make its technical interconnection requirements available online and upon request.

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**TARIFF N.M.S. (Cont'd)**  
**(Net Metering Service)**

**LEVEL 2, continued**

The Company will process the Level 2 Application within 30 business days of receipt of a complete Application. Within that time the Company will respond in one of the following ways:

- (1) The Application is approved and the Company will provide the customer with an Interconnection Agreement to sign.
- (2) If construction or other changes to the Company's distribution system are required, the cost will be the responsibility of the customer. The Company will give notice to the customer and offer to meet to discuss estimated costs and construction timeframe. Should the customer agree to pay for costs and proceed, the Company will provide the customer with an Interconnection Agreement to sign within a reasonable time.
- (3) The Application is denied. The Company will supply the customer with reasons for denial and offer to meet to discuss possible changes that would result in Company approval. Customer may resubmit Application with changes.

If the Application lacks complete information, the Company shall notify the customer that additional information is required, including a list of such additional information. The time between notification and receipt of required additional information will add to the 30-business-day target to process the Application.

The Interconnection Agreement will contain all the terms and conditions for interconnection consistent with those specified in this tariff, inspection and witness test requirements, description of and cost of construction or other changes to the Company's distribution system required to accommodate the generating facility, and detailed documentation of the generating facilities which may include single line diagrams, relay settings, and a description of operation.

The customer may not operate the generating facility until an Interconnection Agreement is signed by the customer and Company and all necessary conditions stipulated in the agreement are met.

**APPLICATION, INSPECTION AND PROCESSING FEES.**

No application fee or other review, study, or inspection or witness test fees will be charged by the company for Level I application.

The Company will require each customer to submit with each Level 2 Application a non-refundable application, inspection and processing fee of \$50. In the event the Company determines an impact study is necessary with respect to a Level 2 Application, the customer shall be responsible for any reasonable costs up to \$1,000 for the initial impact study. The Company shall provide documentation of the actual cost of the impact study. Any other studies requested by the customer shall be at the customer's sole expense.

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In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF N.M.S. (Cont'd)**  
**(Net Metering Service)**

**TERMS AND CONDITIONS FOR INTERCONNECTION.**

To interconnect to the Company's distribution system, the customer's generating facility shall comply with the following terms and conditions:

- (1) The Company shall provide the customer net metering services, without charge for standard metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. If the customer requests any additional meter or meters or distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the customer's expense.
- (2) The customer shall install, operate, and maintain, at customer's sole cost and expense, any control, protective, or other equipment on the customer's system required by the Company's technical interconnection requirements based on IEEE 1547, the NEC, accredited testing laboratories such as Underwriters Laboratories, and the manufacturer's suggested practices for safe, efficient and reliable operation of the generating facility in parallel with Company's electric system. Customer shall bear full responsibility for the installation, maintenance and safe operation of the generating facility. Upon reasonable request from the Company, the customer shall demonstrate generating facility compliance.
- (3) The generating facility shall comply with, and the customer shall represent and warrant its compliance with:  
(a) any applicable safety and power quality standards established by IEEE and accredited testing laboratories such as Underwriters Laboratories; (b) the NEC as may be revised from time to time; (c) Company's rules, regulations, and Company's Terms and Conditions of Service as contained in Company's Retail Electric Tariff as may be revised from time to time with the approval of the Kentucky Public Service Commission (Commission); (d) the rules and regulations of the Commission, as such rules and regulations may be revised from time to time by the Commission; and (e) all other applicable local, state, and federal codes and laws, as the same may be in effect from time to time. Where required by law, customer shall pass an electrical inspection of the generating facility by a local authority having jurisdiction over the installation.
- (4) Any changes or additions to the Company's system required to accommodate the generating facility shall be considered excess facilities. Customer shall agree to pay Company for actual costs incurred for all such excess facilities prior to construction.
- (5) Customer shall operate the generating facility in such a manner as not to cause undue fluctuations in voltage, intermittent load characteristics or otherwise interfere with the operation of Company's electric system. At all times when the generating facility is being operated in parallel with Company's electric system, customer shall so operate the generating facility in such a manner that no adverse impacts will be produced thereby to the service quality rendered by Company to any of its other customers or to any electric system interconnected with Company's electric system. Customer shall agree that the interconnection and operation of the generating facility is secondary to, and shall not interfere with, Company's ability to meet its primary responsibility of furnishing reasonably adequate service to its customers.

(Cont'd on Sheet No. 27-6)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

TARIFF N.M.S.  
(Net Metering Service)

TERMS AND CONDITIONS FOR INTERCONNECTION, continued

- (6) Customer shall be responsible for protecting, at customer's sole cost and expense, the generating facility from any condition or disturbance on Company's electric system, including, but not limited to, voltage sags or swells, system faults, outages, loss of a single phase of supply, equipment failures, and lightning or switching surges, except that the Company shall be responsible for repair of damage caused to the generating facility resulting solely from the negligence or willful misconduct on the part of the Company.
- (7) After initial installation, Company shall have the right to inspect and/or witness commissioning tests, as specified in the Level 1 or Level 2 Application and approval process. Following the initial testing and inspection of the generating facility and upon reasonable advance notice to customer, Company shall have access at reasonable times to the generating facility to perform reasonable on-site inspections to verify that the installation, maintenance, and operation of the generating facility comply with the requirements of this tariff.
- (8) For Level 1 and 2 generating facilities, where required by the Company, an eligible customer shall furnish and install on customer's side of the point of common coupling a safety disconnect switch which shall be capable of fully disconnecting the customer's energy generating equipment from Company's electric service under the full rated conditions of the customer's generating facility. The external disconnect switch (EDS) shall be located adjacent to Company's meters or the location of the EDS shall be noted by placing a sticker on the meter, and shall be of the visible break type in a metal enclosure which can be secured by a padlock. If the EDS is not located directly adjacent to the meter, the customer shall be responsible for ensuring that the location of the EDS is properly and legibly identified for so long as the generating facility is operational. The disconnect switch shall be accessible to Company personnel at all times. The Company may waive the requirement for an EDS for a generating facility at its sole discretion, and on a case-by-case basis, upon review of the generating facility operating parameters and if permitted under the Company's safety and operating protocols.

The Company shall establish a training protocol for line workers on the location and use of the EDS, and shall require that the EDS be used when appropriate, and that the switch be turned back on once the disconnection is no longer necessary.

- (9) Company shall have the right and authority at Company's sole discretion to isolate the generating facility or require the customer to discontinue operation of the generating facility if Company believes that: (a) continued interconnection and parallel operation of the generating facility with Company's electric system creates or contributes (or may create or contribute) to a system emergency on either Company's or customer's electric system; (b) the generating facility is not in compliance with the requirements of this tariff, and the noncompliance adversely affects the safety, reliability, or power quality of Company's electric system; or (c) the generating facility interferes with the operation of Company's electric system. In non-emergency situations, Company shall give customer notice of noncompliance including a description of the specific noncompliance condition and allow customer a reasonable time to cure the noncompliance prior to isolating the generating facilities. In emergency situations, when the Company is unable to immediately isolate or cause the customer to isolate only the generating facility, the Company may isolate the customer's entire facility.

(Cont'd on Sheet No. 27-7)

DATE OF ISSUE: December 23, 2014

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX



**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR INTERCONNECTION, continued**

- (10) Customer shall agree that, without the prior written permission from Company, no changes shall be made to the generating facility as initially approved. Increases in generating facility capacity will require a new "Application for Interconnection and Net Metering" which will be evaluated on the same basis as any other new application. Repair and replacement of existing generating facility components with like components that meet UL 1741 certification requirements for Level 1 facilities and not resulting in increases in generating facility capacity is allowed without approval.
- (11) To the extent permitted by law, the customer shall protect, indemnify, and hold harmless the Company and its directors, officers, employees, agents, representatives and contractors against and from all loss, claims, actions or suits, including costs and attorneys fees, for or on account of any injury or death of persons or damage to property caused by the customer or the customer's employees, agents, representatives and contractors in tampering with, repairing, maintaining, or operating the customer's generating facility or any related equipment or any facilities owned by the Company except where such injury, death or damage was caused or contributed to by the fault or negligence of the Company or its employees, agents, representatives, or contractors.
- The liability of the Company to the customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the customer is taking service.
- (12) The customer shall maintain general liability insurance coverage (through a standard homeowner's, commercial, or other policy) for both Level 1 and Level 2 generating facilities. Customer shall, upon request, provide Company with proof of such insurance at the time that application is made for net metering.
- (13) By entering into an Interconnection Agreement, or by inspection, if any, or by non-rejection, or by approval, or in any other way, Company does not give any warranty, express or implied, as to the adequacy, safety, compliance with applicable codes or requirements, or as to any other characteristics, of the generating facility equipment, controls, and protective relays and equipment.
- (14) A customer's generating facility is transferable to other persons or service locations only after notification to the Company has been made and verification that the installation is in compliance with this tariff. Upon written notification that an approved generating facility is being transferred to another person, customer, or location, the Company will verify that the installation is in compliance with this tariff and provide written notification to the customer(s) within 20 business days. If the installation is no longer in compliance with this tariff, the Company will notify the customer in writing and list what must be done to place the facility in compliance.
- (15) The customer shall retain any and all Renewable Energy Credits (RECs) that may be generated by their generating facility.

(Cont'd on Sheet No. 27-8)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.**  
**(Net Metering Service)**

**TERM OF CONTRACT.**

Any contract required under this tariff shall become effective when executed by both parties and shall continue in effect until terminated. The contract may be terminated as follows: (a) Customer may terminate the contract at any time by giving the Company at least sixty (60) days' written notice; (b) Company may terminate upon failure by the customer to continue ongoing operation of the generating facility; (c) either party may terminate by giving the other party at least thirty (30) days prior written notice that the other party is in default of any of the terms and conditions of the contract or the rules or any rate schedule, tariff, regulation, contract, or policy of the Company, so long as the notice specifies the basis for termination and there is opportunity to cure the default; (d) the Company may terminate by giving the customer at least thirty (30) days notice in the event that there is a material change in an applicable law, regulation or statute affecting this Agreement or which renders the system out of compliance with the new law or statute.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service and all provisions of the standard service tariff under which the customer takes service. This tariff is also subject to the applicable provisions of the Company's Technical Requirements for Interconnection.

(Cont'd on Sheet No. 27-9)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

# Application For Interconnection And Net Metering – Level 1

*Use this Application only for: 1.) a generating facility that is inverter based and certified by a nationally recognized testing laboratory to meet the requirements of UL 1741, 2.) less than or equal to 30 kW generation capacity and 3.) connecting to Kentucky Power distribution system.*

Submit this Application to:

**D.G. Coordinator**  
American Electric Power  
1 Riverside Plaza  
Columbus, Ohio 43215-2373  
614-716-4020 Office / 614-716-1414 Fax  
dgcoordinator@aep.com

(Contact person listed is subject to change.  
Please visit our website for up-to-date  
information <http://www.kentuckypower.com>)

**Applicant**

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: (\_\_\_\_) \_\_\_\_\_ Phone: (\_\_\_\_) \_\_\_\_\_

E-mail address: \_\_\_\_\_

**Service Location**

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Electric Service Account Number: \_\_\_\_\_

**Alternate Contacts**

*Provide names and contact information for other contractors, installers, or engineering firms involved in the design and installation of the generating facilities:*

| <u>Name</u> | <u>Company</u> | <u>Telephone/Email</u> |
|-------------|----------------|------------------------|
| _____       | _____          | _____                  |
| _____       | _____          | _____                  |
| _____       | _____          | _____                  |

(Cont'd on Sheet No. 27-10)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

***APPLICATION FOR INTERCONNECTION AND NET METERING,  
LEVEL 1 – CONTINUED***

**Equipment Qualifications**

Energy Source: ( ) Solar ( ) Wind ( ) Hydro ( ) Biogas ( ) Biomass

Inverter Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_

Inverter Power Rating: \_\_\_\_\_ Voltage Rating: \_\_\_\_\_

Power Rating of Energy Source (i.e., solar panels, wind turbine): \_\_\_\_\_

Battery Storage: ( ) Yes ( ) No If Yes, Battery Power Rating: \_\_\_\_\_

*Attach documentation showing that inverter is certified by a nationally recognizes testing laboratory to meet the requirements of UL 1741.*

*Attach site drawing or sketch showing locations of Kentucky Power Company meter, energy source, accessible disconnect switch and inverter.*

*Attach single line drawing showing all electrical equipment from the metering location to the energy source including switches, fuses, breakers, panels, transformers, inverters, energy source, wire size, equipment ratings, and transformer connections.*

**Expected Start-up Date:** \_\_\_\_\_

(Cont'd on Sheet No. 27-11)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.**  
**(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 1:**

- 1 Kentucky Power Company (Company) shall provide customer net metering services, without charge for standard metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. If the customer requests any additional meter or meters or distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the customer's expense.
- 2 Customer shall install, operate, and maintain, at customer's sole cost and expense, any control, protective, or other equipment on the customer's system required by the Company's technical interconnection requirements based on IEEE 1547, the NEC, accredited testing laboratories such as Underwriters Laboratories, and the manufacturer's suggested practices for safe, efficient, and reliable operation of the generating facility in parallel with Company's electric system. Customer shall bear full responsibility for the installation, maintenance, and safe operation of the generating facility. Upon reasonable request from the Company, customer shall demonstrate generating facility compliance.
- 3 The generating facility shall comply with, and the customer shall represent and warrant its compliance with: (a) any applicable safety and power quality standards established by the Institute of Electrical and Electronics Engineers (IEEE) and accredited testing laboratories such as Underwriters Laboratories (UL); (b) the National Electrical Code (NEC) as may be revised from time to time; (c) Company's rules, regulations, and Company's Terms and Conditions of Service as contained in Company's Retail Electric Tariff as may be revised from time to time with the approval of the Kentucky Public Service Commission (Commission); (d) the rules and regulations of the Commission, as such rules and regulations may be revised from time to time by the Commission; and (e) all other applicable local, state, and federal codes and laws, as the same may be in effect from time to time. Where required by law, customer shall pass an electrical inspection of the generating facility by a local authority having jurisdiction over the installation.
- 4 Any changes or additions to the Company's system required to accommodate the generating facility shall be considered excess facilities. Customer shall agree to pay Company for actual costs incurred for all such excess facilities prior to construction.
- 5 Customer shall operate the generating facility in such a manner as not to cause undue fluctuations in voltage, intermittent load characteristics, or otherwise interfere with the operation of Company's electric system. At all times when the generating facility is being operated in parallel with Company's electric system, customer shall so operate the generating facility in such a manner that no adverse impacts will be produced thereby to the service quality rendered by Company to any of its other customers or to any electric system interconnected with Company's electric system. Customer shall agree that the interconnection and operation of the generating facility is secondary to, and shall not interfere with, Company's ability to meet its primary responsibility of furnishing reasonably adequate service to its customers.
- 6 Customer shall be responsible for protecting, at customer's sole cost and expense, the generating facility from any condition or disturbance on Company's electric system, including, but not limited to, voltage sags or swells, system faults, outages, loss of a single phase of supply, equipment failures, and lightning or switching surges, except that the Company shall be responsible for repair of damage caused to the generating facility resulting solely from the negligence or willful misconduct on the part of the Company.

(Cont'd on Sheet No. 27-12)

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ISSUED BY: JOHN A. ROGNESS III

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 1, continued**

- 7 After initial installation, Company shall have the right to inspect and/or witness commissioning tests, as specified in the Level 1 or Level 2 Application and approval process. Following the initial testing and inspection of the generating facility and upon reasonable advance notice to customer, Company shall have access at reasonable times to the generating facility to perform reasonable on-site inspections to verify that the installation, maintenance and operation of the generating facility comply with the requirements of this tariff.
- 8 For Level 1 generating facilities, where required by the Company, an eligible customer shall furnish and install on customer's side of the point of common coupling a safety disconnect switch which shall be capable of fully disconnecting the customer's energy generating equipment from Company's electric service under the full rated conditions of the customer's generating facility. The external disconnect switch (EDS) shall be located adjacent to Company's meters or the location of the EDS shall be noted by placing a sticker on the meter, and shall be of the visible break type in a metal enclosure which can be secured by a padlock. If the EDS is not located directly adjacent to the meter, the customer shall be responsible for ensuring the location of the EDS is properly and legibly identified for so long as the generating facility is operational. The disconnect switch shall be accessible to Company personnel at all times. The Company may waive the requirement for an EDS for a generating facility at its sole discretion, and on a case-by-case basis, upon review of the generating facility operating parameters and if permitted under the Company's safety and operating protocols.
- The Company shall establish a training protocol for line workers on the location and use of the EDS, and shall require that the EDS be used when appropriate, and that the switch be turned back on once the disconnection is no longer necessary.
- 9 Company shall have the right and authority at Company's sole discretion to isolate the generating facility or require the customer to discontinue operation of the generating facility if Company believes that: (a) continued interconnection and parallel operation of the generating facility with Company's electric system creates or contributes (or may create or contribute) to a system emergency on either Company's or customer's electric system; (b) the generating facility is not in compliance with the requirements of this tariff, and the noncompliance adversely affects the safety, reliability or power quality of Company's electric system; or (c) the generating facility interferes with the operation of Company's electric system. In non-emergency situations, Company shall give customer notice of noncompliance including a description of the specific noncompliance condition and allow customer a reasonable time to cure the noncompliance prior to isolating the generating facilities. In emergency situations, when the Company is unable to immediately isolate or cause the customer to isolate only the generating facility, the Company may isolate the customer's entire facility.
- 10 Customer shall agree that, without the prior written permission from Company, no changes shall be made to the generating facility as initially approved. Increases in generating facility capacity will require a new "Application for Interconnection and Net Metering" which will be evaluated on the same basis as any other new application. Repair and replacement of existing generating facility components with like components that meet UL 1741 certification requirements for Level 1 facilities and not resulting in increases in generating facility capacity is allowed without approval.

(Cont'd on Sheet No. 27-13)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 1, continued**

- 11 To the extent permitted by law, the customer shall protect, indemnify, and hold harmless the Company and its directors, officers, employees, agents, representatives and contractors against and from all loss, claims, actions or suits, including costs and attorneys fees, for or on account of any injury or death of persons or damage to property caused by the customer or the customer's employees, agents, representatives and contractors in tampering with, repairing, maintaining or operating the customer's generating facility or any related equipment or any facilities owned by the Company except where such injury, death or damage was caused or contributed to by the fault or negligence of the Company or its employees, agents, representatives, or contractors.
- The liability of the Company to the customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the customer is taking service.
- 12 The Customer shall maintain general liability insurance coverage (through a standard homeowner's, commercial, or other policy) for Level 1 generating facilities. Customer shall, upon request, provide Company with proof of such insurance at the time that application is made for net metering.
- 13 By entering into an Interconnection Agreement, or by inspection, if any, or by non-rejection, or by approval, or in any other way, Company does not give any warranty, express or implied, as to the adequacy, safety, compliance with applicable codes or requirements, or as to any other characteristics, of the generating facility equipment, controls, and protective relays and equipment.
- 14 Customer's generating facility is transferable to other persons or service locations only after notification to the Company has been made and verification that the installation is in compliance with this tariff. Upon written notification that an approved generating facility is being transferred to another person, customer, or location, the Company will verify that the installation is in compliance with this tariff and provide written notification to the Customer(s) within 20 business days. If the installation is no longer in compliance with this tariff, the Company will notify the customer in writing and list what must be done to place the facility in compliance.
- 15 The customer shall retain any and all Renewable Energy Credits (RECs) that may be generated by their generating facility.

(Cont'd on Sheet No. 27-14)

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 1, continued**

**Effective Term and Termination Rights**

This Agreement becomes effective when executed by both parties and shall continue in effect until terminated. This Agreement may be terminated as follows: (a) Customer may terminate this Agreement at any time by giving the Company at least sixty (60) days' written notice; (b) Company may terminate upon failure by the Customer to continue ongoing operation of the generating facility; (c) either party may terminate by giving the other party at least thirty (30) days prior written notice that the other party is in default of any of the terms and conditions of the Agreement or the Rules or any rate schedule, tariff, regulation, contract, or policy of the Company, so long as the notice specifies the basis for termination and there is opportunity to cure the default; (d) the Company may terminate by giving the Customer at least thirty (30) days notice in the event that there is a material change in an applicable law, regulation or statute affecting this Agreement or which renders the system out of compliance with the new law or statute. I hereby certify that, to the best of my knowledge, all of the information provided in this Application is true, and I agree to abide by all the Terms and Conditions included in this Application for Interconnection and Net Metering and Company's Net Metering Tariff.

**Customer Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**COMPANY APPROVAL SECTION**

When signed below by a Company representative, Application for Interconnection and Net Metering is approved subject to the provisions contained in this Application and as indicated below.

**Company inspection and witness test:  Required  Waived**

If Company inspection and witness test is required, Customer shall notify the Company within three (3) business days of completion of the generating facility installation and schedule an inspection and witness test with the Company to occur within ten (10) business days of completion of the generating facility installation or as otherwise agreed to by the Company and the Customer. Unless indicated below, the Customer may not operate the generating facility until such inspection and witness test is successfully completed. Additionally, the Customer may not operate the generating facility until all other terms and conditions in the Application have been met.

Call: \_\_\_\_\_ to schedule an inspection and witness test.

**Pre-Inspection operational testing not to exceed two (2) hours:  Allowed  Not Allowed**

If Company inspection and witness test is waived, operation of the generating facility may begin when installation is complete, and all other terms and conditions in the Application have been met.

Additions, Changes, or Clarifications to Application Information:  None  As specified here:

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

(Cont'd on Sheet No. 27-15)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX



**TARIFF N.M.S.  
(Net Metering Service)**

**Application for Interconnection and Net Metering – Level 2**

*Use this Application form for connecting to the Kentucky Power distribution system and: 1.) the generating facility is not inverter based or is not certified by a nationally recognized testing laboratory to meet the requirements of UL 1741 or 2.) does not meet any of the additional conditions under a Level 1 Application (inverter based and less than or equal to 30kW generation).*

Submit this Application (along with the application fee of \$100) to:

**DG Coordinator**  
**American Electric Power**  
**1 Riverside Plaza**  
**Columbus, Ohio 43215-2373**  
**614-716-4020 Office / 614-716-1414 Fax**  
**dgcoordinator@aep.com**

**(Contact person listed is subject to change.**  
**Please visit our website for up-to-date**  
**information <http://www.kentuckypower.com>)**

**Applicant**

Name: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Project Contact Person: \_\_\_\_\_  
Phone: (\_\_\_\_) \_\_\_\_\_ Phone: (\_\_\_\_) \_\_\_\_\_  
E-mail Address: \_\_\_\_\_

**Service Location**

Street Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Electric Service Account Number: \_\_\_\_\_

**Alternate Contacts**

*Provide names and contact information for other contractors, installers, or engineering firms involved in the design and installation of the generating facilities:*

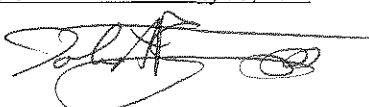
| <u>Name</u> | <u>Company</u> | <u>Telephone/Email</u> |
|-------------|----------------|------------------------|
| _____       | _____          | _____                  |
| _____       | _____          | _____                  |

(Cont'd on Sheet No. 27-16)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF N.M.S.  
(Net Metering Service)**

**APPLICATION FOR INTERCONNECTION AND NET METERING,  
LEVEL 2 - CONTINUED**

**Equipment Qualifications**

Total Generating Capacity (kW) of the Generating Facility: \_\_\_\_\_

Type of Generator: ( ) Inverter-Based ( ) Synchronous ( ) Induction

Energy Source: ( ) Solar ( ) Wind ( ) Hydro ( ) Biogas ( ) Biomass

*Attach documentation showing that inverter is certified by a nationally recognizes testing laboratory to meet the requirements of UL 1741.*

*Attach site drawing or sketch showing locations of Kentucky Power Company meter, energy source, accessible disconnect switch and inverter.*

*Attach single line drawing showing all electrical equipment from the metering location to the energy source including switches, fuses, breakers, panels, transformers, inverters, energy source, wire size, equipment ratings, and transformer connections.*

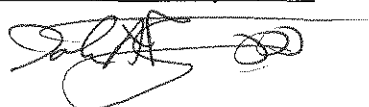
Expected Start-up Date: \_\_\_\_\_

(Cont'd on Sheet No. 27-17)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**Interconnection Agreement – Level 2**

**This Interconnection Agreement** (Agreement) is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between Kentucky Power Company (Company), and \_\_\_\_\_ (Customer). Company and Customer are hereinafter sometimes referred to individually as “Party” or collectively as “Parties”

**Witnesseth:**

**Whereas**, Customer is installing, or has installed, generating equipment, controls, and protective relays and equipment (Generating Facility) used to interconnect and operate in parallel with Company’s electric system, which Generating Facility is more fully described in Exhibit A, attached hereto and incorporated herein by this Agreement, and as follows:

Location: \_\_\_\_\_

Generator Size and Type: \_\_\_\_\_

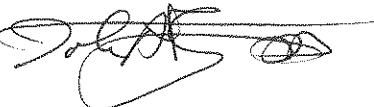
**Now, Therefore**, in consideration thereof, Customer and Company agree as follows:

Company agrees to allow Customer to interconnect and operate the generating Facility in parallel with the Company’s electric system and Customer agrees to abide by Company’s Net Metering Tariff and all Terms and Conditions listed in this Agreement including any additional conditions listed in Exhibit A.

(Cont’d on Sheet No. 27-18)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 2:**

To interconnect to the Kentucky Power Company (Company) distribution system, the customer's generating facility shall comply with the following terms and conditions:

- 1 Company shall provide customer net metering services, without charge for standard metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. If the customer requests any additional meter/meters or distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the customer's expense.
- 2 Customer shall install, operate, and maintain, at customer's sole cost and expense, any control, protective, or other equipment on the customer's system required by the Company's technical interconnection requirements based on IEEE 1547, the NEC, accredited testing laboratories such as Underwriters Laboratories, and the manufacturer's suggested practices for safe, efficient, and reliable operation of the generating facility in parallel with Company's electric system. Customer shall bear full responsibility for the installation, maintenance, and safe operation of the generating facility. Upon reasonable request from the Company, customer shall demonstrate generating facility compliance.
- 3 The generating facility shall comply with, and the customer shall represent and warrant its compliance with: (a) any applicable safety and power quality standards established by the Institute of Electrical and Electronics Engineers (IEEE) and accredited testing laboratories such as Underwriters Laboratories (UL); (b) the National Electrical Code (NEC) as may be revised from time to time; (c) Company's rules, regulations, and Company's Terms and Conditions of Service as contained in Company's Retail Electric Tariff as may be revised from time to time with the approval of the Kentucky Public Service Commission (Commission); (d) the rules and regulations of the Commission, as such rules and regulations may be revised from time to time by the Commission; and (e) all other applicable local, state, and federal codes and laws, as the same may be in effect from time to time. Where required by law, customer shall pass an electrical inspection of the generating facility by a local authority having jurisdiction over the installation.
- 4 Any changes or additions to the Company's system required to accommodate the generating facility shall be considered excess facilities. Customer shall agree to pay Company for actual costs incurred for all such excess facilities prior to construction.
- 5 Customer shall operate the generating facility in such a manner as not to cause undue fluctuations in voltage, intermittent load characteristics, or otherwise interfere with the operation of Company's electric system. At all times when the generating facility is being operated in parallel with Company's electric system, customer shall so operate the generating facility in such a manner that no adverse impacts will be produced thereby to the service quality rendered by Company to any of its other customers or to any electric system interconnected with Company's electric system. Customer shall agree that the interconnection and operation of the generating facility is secondary to, and shall not interfere with, Company's ability to meet its primary responsibility of furnishing reasonably adequate service to its customers.

(Cont'd on Sheet No. 27-19)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 2, continued**

- 6 Customer shall be responsible for protecting, at Customer's sole cost and expense, the generating facility from any condition or disturbance on Company's electric system, including, but not limited to, voltage sags or swells, system faults, outages, loss of a single phase of supply, equipment failures, and lightning or switching surges, except that the Company shall be responsible for repair of damage caused to the generating facility resulting solely from the negligence or willful misconduct on the part of the Company.
- 7 After initial installation, Company shall have the right to inspect and/or witness commissioning tests, as specified in the Level 1 or Level 2 Application and approval process. Following the initial testing and inspection of the generating facility and upon reasonable advance notice to customer, Company shall have access at reasonable times to the generating facility to perform reasonable on-site inspections to verify that the installation, maintenance and operation of the generating facility comply with the requirements of this tariff.
- 8 For Level 2 generating facilities, where required by the Company, an eligible customer shall furnish and install on customer's side of the point of common coupling a safety disconnect switch which shall be capable of fully disconnecting the customer's energy generating equipment from Company's electric service under the full rated conditions of the customer's generating facility. The external disconnect switch (EDS) shall be located adjacent to Company's meters or the location of the EDS shall be noted by placing a sticker on the meter, and shall be of the visible break type in a metal enclosure which can be secured by a padlock. If the EDS is not located directly adjacent to the meter, the customer shall be responsible for ensuring the location of the EDS is properly and legibly identified for so long as the generating facility is operational. The disconnect switch shall be accessible to Company personnel at all times. The Company may waive the requirement for an EDS for a generating facility at its sole discretion, and on a case-by-case basis, upon review of the generating facility operating parameters and if permitted under the Company's safety and operating protocols.

The Company shall establish a training protocol for line workers on the location and use of the EDS, and shall require that the EDS be used when appropriate, and that the switch be turned back on once the disconnection is no longer necessary.

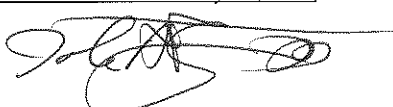
- 9 Company shall have the right and authority at Company's sole discretion to isolate the generating facility or require the customer to discontinue operation of the generating facility if Company believes that: (a) continued interconnection and parallel operation of the generating facility with Company's electric system creates or contributes (or may create or contribute) to a system emergency on either Company's or customer's electric system; (b) the generating facility is not in compliance with the requirements of this tariff, and the noncompliance adversely affects the safety, reliability or power quality of Company's electric system; or (c) the generating facility interferes with the operation of Company's electric system. In non-emergency situations, Company shall give customer notice of noncompliance including a description of the specific noncompliance condition and allow customer a reasonable time to cure the noncompliance prior to isolating the generating facilities. In emergency situations, when the Company is unable to immediately isolate or cause the customer to isolate only the generating facility, the Company may isolate the customer's entire facility.

(Cont'd on Sheet No. 27-20)

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 2, continued**

- 10 Customer shall agree that, without the prior written permission from Company, no changes shall be made to the generating facility as initially approved. Increases in generating facility capacity will require a new "Application for Interconnection and Net Metering" which will be evaluated on the same basis as any other new application. Repair and replacement of existing generating facility components with like components not resulting in increases in generating facility capacity is allowed without approval.
- 11 To the extent permitted by law, the customer shall protect, indemnify, and hold harmless the Company and its directors, officers, employees, agents, representatives and contractors against and from all loss, claims, actions or suits, including costs and attorneys fees, for or on account of any injury or death of persons or damage to property caused by the customer or the customer's employees, agents, representatives and contractors in tampering with, repairing, maintaining or operating the customer's generating facility or any related equipment or any facilities owned by the Company except where such injury, death or damage was caused or contributed to by the fault or negligence of the Company or its employees, agents, representatives, or contractors.
- The liability of the Company to the customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the customer is taking service.
- 12 The customer shall maintain general liability insurance coverage (through a standard homeowner's, commercial, or other policy). Customer shall provide Company with proof of such insurance at the time that application is made for net metering.
- 13 By entering into an Interconnection Agreement, or by inspection, if any, or by non-rejection, or by approval, or in any other way, Company does not give any warranty, express or implied, as to the adequacy, safety, compliance with applicable codes or requirements, or as to any other characteristics, of the generating facility equipment, controls, and protective relays and equipment.
- 14 Customer's generating facility is transferable to other persons or service locations only after notification to the Company has been made and verification that the installation is in compliance with this tariff. Upon written notification that an approved generating facility is being transferred to another person, customer, or location, the Company will verify that the installation is in compliance with this tariff and provide written notification to the customer(s) within 20 business days. If the installation is no longer in compliance with this tariff, the Company will notify the customer in writing and list what must be done to place the facility in compliance.
- 15 The customer shall retain any and all Renewable Energy Credits (RECs) that may be generated by their generating facility.

(Cont'd on Sheet No. 27-21)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 2, continued**

**Effective Term and Termination Rights**

This Agreement becomes effective when executed by both parties and shall continue in effect until terminated. This Agreement may be terminated as follows: (a) Customer may terminate this Agreement at any time by giving the Company at least sixty (60) days' written notice; (b) Company may terminate upon failure by the Customer to continue ongoing operation of the generating facility; (c) either party may terminate by giving the other party at least thirty (30) days prior written notice that the other party is in default of any of the terms and conditions of the Agreement or the Rules or any rate schedule, tariff, regulation, contract, or policy of the Company, so long as the notice specifies the basis for termination and there is opportunity to cure the default; (d) the Company may terminate by giving the Customer at least thirty (30) days notice in the event that there is a material change in an applicable law, regulation or statute affecting this Agreement or which renders the system out of compliance with the new law or statute.

IN WITNESS WHEREOF, the Parties have executed this Agreement, effective as of the date first above written.

**Customer Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Printed Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Company Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Printed Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

(Cont'd on Sheet No. 27-22)

DATE OF ISSUE: December 23, 2014

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

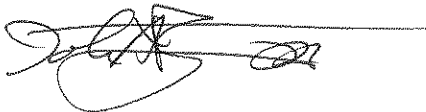
**Interconnection Agreement – Level 2  
Exhibit A**

- Exhibit A will contain additional detailed information about the Generating Facility such as a single line diagram, relay settings, and a description of operation.
- When construction of the Company’s facilities is required, Exhibit A will also contain a description and associated cost.
- Exhibit A will also specify requirements for a Company inspection and witness test and when limited operation for testing or full operation may begin.

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX



**TARIFF C.C.**  
**(Capacity Charge)**

**AVAILABILITY OF SERVICE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D. 2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S. C.S.-I.R.P., M.W., O.L. and S.L.

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**RATE.**

|                                 | <u>All Other</u> | <u>Service Tariff</u> | <u>I.G.S.</u> |
|---------------------------------|------------------|-----------------------|---------------|
| Energy Charge per KWH per month | \$ 0.001182      | \$ 0.000659           |               |

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**RATE CALCULATION.**

1. Pursuant to the final order of the Kentucky Public Service Commission in Case No. 2004-00420 and the Settlement and Stipulation Agreement dated October 20, 2004 as filed and approved by the Commission, Kentucky Power Company is to recover from retail ratepayers the supplemental annual payments tied to the 18-year extension of the Rockport Unit Power Service Agreement (UPSA). Kentucky Power will apply surcharges designed to enable recovery from each tariff class of customers, an annual supplemental payment of \$5.1 million annually in Years 2005 through 2009, and then increases to \$6.2 million annually in Years 2010 through 2021, and then decreases to \$5,792,329 in Year 2022.
2. Kentucky Power will be entitled to receive these annual supplemental payments in addition to the base retail rates established by the Commission. The costs associated with the underlying Rockport Unit 1 and 2 UPSA will continue to be included in base rates.
3. The increased annual revenues will be generated by two different KWH rates, one for I.G.S. tariff customers and one for All Other tariff customers.
4. The allocation of the additional revenues to be collected from the I.G.S. tariff customers and All Other tariff customers will be based upon the total annual revenue of each of the two-customer classes. Once the additional revenues have been allocated between the two customer classes based upon total annual Kentucky retail revenue, the additional revenue will be collected within the two customer classes (I.G.S. and All Other tariffs) on a KWH basis. The KWH rate to be applied to each of these two customer class groups shall be sufficient to generate that portion of the total increase in annual revenues equal to the percentage of total annual revenues produced by each of the two customer class groups (I.G.S. and All Other tariffs).
5. The Stipulation and Settlement Agreement is made upon the express agreement by the Parties that the receipt by Kentucky Power of the additional revenues called for by Section III(1)(a) and III(1)(b) shall be accorded the ratemaking treatment set out in Section III. In any proceeding affecting the rates of Kentucky Power during the extension of the UPSA under this Stipulation and Settlement Agreement, the provisions of Section III are an express exception to Section VI(4) of the Stipulation and Settlement Agreement.
6. The Capacity Charge factors will be applied to bills monthly and will be shown on the Customer's bill as a separate line item.

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(Cont'd on Sheet No. 28-2)

DATE OF ISSUE: December 23, 2014

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

TARIFF C.C.  
(Capacity Charge) Cont'd

RATE CALCULATION. (Cont'd)

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7. The capacity charge will be adjusted annually to recover amounts authorized by the Commission.

The annual adjustment shall be determined as follows:

- A. Calculate the revenue over / under collection for the previous 12 month period,  $REV_{billed} - REV_{settlement} = REV_{diff}$
- B. Calculate the revenue requirement for the upcoming 12 month period,  $REV_{settlement} + REV_{diff} = REV_{authorized}$
- C. Calculate Capacity Charge Rates for the upcoming 12 month period,

$$IGS \text{ Capacity Charge} = \frac{REV_{authorized} \times (REV_{IGS} / REV_{Total})}{kWh_{IGS}}$$

$$\text{All Other Capacity Charge} = \frac{REV_{authorized} \times (REV_{All \text{ Other}} / REV_{Total})}{kWh_{All \text{ Other}}}$$

Where:

“REV<sub>Total</sub>” is the total revenue billed during the most recently available 12 month period.

“REV<sub>IGS</sub>” is the total IGS customer class revenue billed during the most recently available 12 month period.

“REV<sub>All Other</sub>” is the revenue billed from all other customer classes during the most recently available 12 month period.

“kWh<sub>IGS</sub>” is the IGS customer class total kWh billed during the most recently available 12 month period.

“kWh<sub>All Other</sub>” is the total kWh billed to all customer classes other than IGS during the most recently available 12 month period.

“REV<sub>billed</sub>” is the total capacity charge revenue billed during the most recently available 12 month period.

“REV<sub>settlement</sub>” is the \$6.2 million amount authorized to be billed during the 12 month period.

“REV<sub>diff</sub>” is the difference between capacity charge revenues billed and what the Company is authorized to collect in a 12 month period.

“REV<sub>authorized</sub>” is the capacity charge amount to be billed over the upcoming 12 month period.

8. The annual Capacity Charge Adjustment shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all necessary supporting data to justify the amount of the adjustments, which shall include data and information as may be required by the Commission.

Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF E.S.**  
**(Environmental Surcharge)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D. 2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S., C.S.- I.R.P., M.W., O.L., and S.L.

**RATE.**

The environmental surcharge shall provide for monthly adjustments based on a percent of revenues, equal to the difference between the environmental compliance costs in the base period as provided in Paragraph 3 2 below and in the current period as provided in Paragraph 3 below.

The retail share of the revenue requirement will be allocated between residential and non-residential retail customers based upon their respective total revenues during the previous calendar year. The Environmental Surcharge will be implemented as a percentage of total revenues for the residential class and as a percentage of non-fuel revenues for all other customers.

1. Monthly Environmental Surcharge Gross Revenue Requirement, E(m)

Where: E(m) = CRR - BRR  
 CRR = Current Period Revenue Requirement for the Expense Month.  
 BRR = Base Period Revenue Requirement.

2. Base Period Revenue Requirement, BRR

BRR = The Following Monthly Amounts:

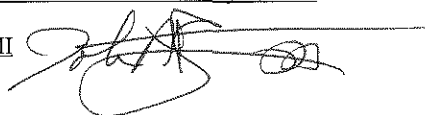
| <u>Billing Month</u> | <u>Base Net<br/>Environmental Costs</u> |
|----------------------|---|
| JANUARY              | \$ 2,750,919                            |
| FEBRUARY             | 2,738,884                               |
| MARCH                | 2,851,531                               |
| APRIL                | 2,909,965                               |
| MAY                  | 2,897,250                               |
| JUNE                 | 2,835,973                               |
| JULY                 | 3,567,407                               |
| AUGUST               | 3,319,549                               |
| SEPTEMBER            | 3,378,515                               |
| OCTOBER              | 3,097,929                               |
| NOVEMBER             | 2,994,579                               |
| DECEMBER             | <u>2,996,160</u>                        |
|                      | <u>\$ 36,338,660</u>                    |

(Continued on Sheet 29-2)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 2, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF E.S. (Cont'd)**  
**(Environmental Surcharge)**

**RATE (Cont'd)**

4. Revenue Allocation

$$\text{Residential Allocation RA(m)} = \frac{\text{KY Residential Retail Revenue RR(b)}}{\text{KY Retail Revenue R(b)}}$$

$$\text{All Other Allocation OA(m)} = \frac{\text{KY All Other Classes Retail Revenue OR(b)}}{\text{KY Retail Revenue R(b)}}$$

Where:

- (m) = the expense month
- (b) = most recent calendar year revenues

5. Environmental Surcharge Factor

$$\text{Residential Monthly Environmental Surcharge Factor} = \frac{\text{Net KY Retail E(m)} * \text{RA(m)}}{\text{KY RR(m)}}$$

$$\text{All Other Monthly Environmental Surcharge Factor} = \frac{\text{Net KY Retail E(m)} * \text{AO(m)}}{\text{KY OR(m) - KY OF(m)}}$$

Where:

Net KY Retail E(m) = Monthly E(m) allocated to Kentucky Retail Customers, net of Over/ (Under) Recovery Adjustment; Allocation based on Percentage of Kentucky Retail Revenues to Total Company Revenues in the Expense Month.

(For purposes of this formula, Total Company Revenues do not include Non -Physical Revenues.)

RR(m) = Kentucky Residential Retail Revenues for the Expense Month.

OR(m) = Kentucky All Other Classes Retail Revenues for the Expense Month

OF(m) = Kentucky All Other Classes Fuel Revenues for the Expense Month

(Cont'd on Sheet No. 29-4)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF E.S. (Cont'd)**  
**(Environmental Surcharge)**

**RATE (Cont'd)**

6. Environmental costs "E" shall be the Company's costs of compliance with the Clean Air Act and those environmental requirements that apply to coal combustion wastes and by-products, as follows:

Total Company:

- return on Title IV and CASPR SO<sub>2</sub> allowance inventory
- over/under recovery balances between the actual costs incurred less the amount collected through the environmental surcharge
- costs associated with any Commission's consultant approved by the Commission
- costs associated with the consumption Title IV and CSAPR of SO<sub>2</sub> allowances
- costs associated with the consumption of NO<sub>x</sub> allowances
- return on NO<sub>x</sub> allowance inventory
- costs associated with maintaining approved pollution control equipment including material and contract labor (excluding plant labor)
- Costs associated with consumables used in conjunction with approved environmental projects.

The Company's share of costs associated with the following environmental equipment at the Rockport Plant:

- Continuous Emissions Monitors
- Air Emission Fees
- Costs Associated with the Rockport Unit Power Agreement
- Activated Carbon Injection
- Mercury Monitoring
- Precipitator Modifications
- Dry Sorbent Injection
- Coal Combustion Waste Landfill
- Low NOx burners, over-fire air, Landfill

(Cont'd on Sheet No. 29-5)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

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**TARIFF E.S. (Cont'd)**  
**(Environmental Surcharge)**

**RATE (Cont'd)**

The Company's share of costs associated with the following environmental equipment at the Mitchell Plant:

- Mitchell Unit Nos 1 and 2 Water Injection, Low NO<sub>x</sub> burners, Low NO<sub>x</sub> burner Modification, SCR, FGD, Landfill, Coal Blending Facilities and SO<sub>2</sub> Mitigation
- Mitchell Plant Common CEMS, Replace Burner Barrier Valves and Gypsum Material Handling Facilities
  - Air Emission Fees
  - Precipitator Modifications and Upgrades
  - Coal Combustion Waste Landfill
  - Bottom Ash and Fly Ash Handling
  - Mercury Monitoring (MATS)
  - Dry Fly Ash Handling Conversion

7. The monthly environmental surcharge shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all necessary supporting data to justify the amount of the adjustments which shall include data and information as may be required by the Commission.

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ISSUED BY: JOHN A. ROGNESS III

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 DATED XXXXXXXX

RESERVED FOR FUTURE USE

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DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

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In Case No. 2014-00396 Dated XXXXXXXX



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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 30-3  
CANCELLING P.S.C. KY. NO. 10 SHEET NO. 30-3

RESERVED FOR FUTURE USE

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 30-4  
CANCELLING P.S.C. KY. NO. 10 \_\_\_\_\_ SHEET NO. 30-4



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DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III

A handwritten signature in black ink, appearing to read "John A. Rogness III", is written over the printed name. The signature is stylized and includes a horizontal line extending to the right.

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**RIDER G.P.O.**  
**(Green Pricing Option Rider)**

**AVAILABILITY OF SERVICE.**

Available to customers taking metered service under the Company's R.S., R.S.-L.M.-T.O.D., Experimental R.S.-T.O.D.2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S., C.S.-I.R.P. and M.W. tariffs.

Participation in this program may be limited by the ability of the Company to procure renewable energy certificates (RECs) from Renewable Resources. If the total of all kWh under contract under this Rider equals or exceeds the Company's ability to procure RECs, the Company may suspend the availability of this Rider to new participants.

**CONDITIONS OF SERVICE.**

Customers who wish to support the generation of electricity by Renewable Resources may contract to purchase each month a specific number of fixed kWh blocks, where each block equals 100 kWh. Customers may elect to purchase a minimum of one (1) block per month and a maximum of 500 blocks per month.

Renewable Resources shall be defined as Wind, Solar Photovoltaic, Biomass Co-Firing of Agricultural crops and all energy crops, Hydro (as certified by the Low Impact Hydro Institute), Incremental Improvements in Large Scale Hydro, Coal Mine Methane, Landfill Gas, Biogas Digesters, Biomass Co-Firing of All Woody Waste including mill residue, but excluding painted or treated lumber. Only Renewable Resources brought into service on or after January 1, 1997 shall qualify.

**RATE.**

In addition to the monthly charges determined according to the Company's tariff under which the customer takes metered service, the customer shall also pay the following rate for each fixed kWh block under contract regardless of the customer's actual energy consumption during that month. The charge will be applied to the customer's bill as a separate line item.

The Company will provide customers at least 30-days' advance notice of any change in the Rate. At such time, the customer may modify or cancel their automatic monthly purchase agreement. Any cancellation will be effective at the end of the current billing period when notice is provided.

Charge (\$ per 100 kWh block): \$ 2.00/month

**TERM.**

This is a voluntary program. Customers may participate through a one-time purchase, or establish an automatic monthly purchase agreement. Any payments under this program are nonrefundable.

**SPECIAL TERMS AND CONDITIONS.**

This Rider is subject to the Company's Terms and Conditions of Service and all provisions of the tariff under which the customer takes service, including all payment provisions. The Company may deny or terminate service under this Rider to customers who are delinquent in payment to the Company.

Funds collected under this Green Pricing Option Rider will be used solely to purchase RECs for the program.

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TITLE: Director Regulatory Services

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In Case No. 2014-00396 Dated XXXXXXXX

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**RIDER A.F.S.**  
**(Alternate Feed Service Rider)**

**AVAILABILITY OF SERVICE.**

Standard Alternate Feed Service (AFS) is a premium service providing a redundant distribution service provided through a redundant distribution line and distribution station transformer, with automatic or manual switch-over and recovery, which provides increased reliability for distribution service. Rider AFS applies to those customers requesting new or upgraded AFS after the effective date of this rider. Rider AFS also applies to existing customers that desire to maintain redundant service when the Company must make expenditures in order to continue providing such service.

Rider AFS is available to customers who request a primary voltage alternate feed and who normally take service under Tariffs M.G.S., M.G.S. TOD, L.G.S., L.G.S.-TOD, I.G.S., or M.W. for their basic service requirements, provided that the Company has adequate capacity in existing distribution facilities, as determined by the Company, or if changes can be made to make capacity available. AFS provided under this rider may not be available at all times, including emergency situations.

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**SYSTEM IMPACT STUDY CHARGE.**

The Company shall charge the customer for the actual cost incurred by the Company to conduct a system impact study for each site reviewed. The study will consist of, but is not limited to, the following: (1) identification of customer load requirements, (2) identification of the potential facilities needed to provide the AFS, (3) determination of the impact of AFS loading on all electrical facilities under review, (4) evaluation of the impact of the AFS on system protection and coordination issues including the review of the transfer switch, (5) evaluation of the impact of the AFS request on system reliability indices and power quality, (6) development of cost estimates for any required system improvements or enhancements required by the AFS, and (7) documentation of the results of the study. The Company will provide to the customer an estimate of charges for this study.

**EQUIPMENT AND INSTALLATION CHARGE.**

The customer shall pay, in advance of construction, a nonrefundable amount for all equipment and installation costs for all dedicated and/or local facilities provided by the Company required to furnish either a new or upgraded AFS. The payment shall be grossed-up for federal and state taxes, assessment fees and gross receipts taxes. The customer will not acquire any title in said facilities by reason of such payment. The equipment and installation charge shall be determined by the Company and shall include, but not be limited to, the following: (1) all costs associated with the AFS dedicated and/or local facilities provided by the Company and (2) any costs or modifications to the customer's basic service facilities.

The customer is responsible for all costs associated with providing and maintaining phone service for use with metering to notify the Company of a transfer of service to the AFS or return to basic service.

**TRANSFER SWITCH PROVISION.**

In the event the customer receives basic service at primary voltage, the customer shall install, own, maintain, test, inspect, operate and replace the transfer switch. Customer-owned switches are required to be at primary voltage and must meet the Company's engineering, operational and maintenance specifications. The Company reserves the right to inspect the customer-owned switches periodically and to disconnect the AFS for adverse impacts on reliability or safety.

(Cont'd on Sheet No. 32-2)

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**RIDER A.F.S.  
(Alternate Feed Service Rider)**

**TRANSFER SWITCH PROVISION (CONTINUED).**

Existing AFS customers, who receive basic service at primary voltage and are served via a Company-owned transfer switch and control module, may elect for the Company to continue ownership of the transfer switch. When the Company-owned transfer switch and/or control module requires replacement, and the customer desires to continue the AFS, the customer shall pay the Company the total cost to replace such equipment which shall be grossed up for federal and state taxes, assessment fees and gross receipts taxes. In addition, the customer shall pay a monthly rate of \$14.25 for the Company to annually test the transfer switch / control module and the customer shall reimburse the Company for the actual costs involved in maintaining the Company-owned transfer switch and control module.

In the event a customer receives basic service at secondary voltage and requests AFS, the Company will provide the AFS at primary voltage. The Company will install, own, maintain, test, inspect and operate the transfer switch and control module. The customer shall pay the Company a nonrefundable amount for all costs associated with the transfer switch installation. The payment shall be grossed-up for federal and state taxes, assessment fees and gross receipts taxes. In addition, the customer is required to pay the monthly rate for testing and ongoing maintenance costs defined above. When the Company-owned transfer switch and/or control module requires replacement, and the customer desires to continue the AFS, customer shall pay the Company the total cost to replace such equipment which shall be grossed up for federal and state taxes, assessment fees and gross receipts taxes.

After a transfer of service to the AFS, a customer utilizing a manual or semi-automatic transfer switch shall return to the basic service within one (1) week or as mutually agreed to by the Company and customer. In the event system constraints require a transfer to be expedited, the Company will endeavor to provide as much advance notice as possible to the customer. However, the customer shall accomplish the transfer back to the basic service within ten minutes if notified by the Company of system constraints. In the event the customer fails to return to basic service within 12 hours, or as mutually agreed to by the Company and customer, or within ten minutes of notification of system constraints, the Company reserves the right to immediately disconnect the customer's load from the AFS source. If the customer does not return to the basic service as agreed to, or as requested by the Company, the Company may also provide 30 days' notice to terminate the AFS agreement with the customer.

The customer shall make a request to the Company for approval three days in advance for any planned switching.

**MONTHLY AFS CAPACITY RESERVATION DEMAND CHARGE.**

Monthly AFS charges will be in addition to all monthly basic service charges paid by the customer under the applicable tariff.

The Monthly AFS Capacity Reservation Demand Charge for the reservation of distribution station and primary lines is \$6.25 per kW.

**AFS CAPACITY RESERVATION.**

The customer shall reserve a specific amount of AFS capacity equal to, or less than, the customer's normal maximum requirements, but in no event shall the customer's AFS capacity reservation under this rider exceed the capacity reservation for the customer's basic service under the appropriate tariff. The Company shall not be required to supply AFS capacity in excess of that reserved except by mutual agreement.

(Cont'd on Sheet No. 32-3)

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**RIDER A.F.S.**  
**(Alternate Feed Service Rider)**

**AFS CAPACITY RESERVATION (continued).**

If the customer plans to increase the AFS demand at anytime in the future, the customer shall promptly notify the Company of such additional demand requirements. The customer's AFS capacity reservation and billing will be adjusted accordingly. The customer will pay the Company the actual costs of any and all additional dedicated and/or local facilities required to provide AFS in advance of construction and pursuant to an AFS construction agreement. If customer exceeds the agreed upon AFS capacity reservation, the Company reserves the right to disconnect the AFS. If the customer's AFS metered demand exceeds the agreed upon AFS capacity reservation, which jeopardizes company facilities or the electrical service to other customers, the Company reserves the right to disconnect the AFS immediately. If the Company agrees to allow the customer to continue AFS, the customer will be required to sign a new AFS agreement reflecting the new AFS capacity reservation. In addition, the customer will promptly notify AEP regarding any reduction in the AFS capacity reservation.

The customer may reserve partial-load AFS capacity, which shall be less than the customer's full requirements for basic service subject to the conditions in this provision. Prior to the customer receiving partial-load AFS capacity, the customer shall be required to demonstrate or provide evidence to the Company that they have installed demand-controlling equipment that is capable of curtailing load when a switch has been made from the basic service to the AFS. The Company reserves the right to test and verify the customer's ability to curtail load to meet the agreed upon partial-load AFS capacity reservation.

**DETERMINATION OF BILLING DEMAND.**

**Full-Load Requirement:**

For customers requesting AFS equal to their load requirement for basic service, the AFS billing demand shall be taken each month as the single-highest 15-minute integrated peak as registered during the month by a demand meter or indicator, but the monthly AFS billing demand so established shall in no event be less than the greater of (a) the customer's AFS capacity reservation, or (b) the customer's highest previously established monthly billing demand on the AFS during the past 11 months, or (c) the customer's basic service capacity reservation, or (d) the customer's highest previously established monthly billing demand on the basic service during the past 11 months.

**Partial-Load Requirement:**

For customers requesting partial-load AFS capacity reservation that is less than the customer's full requirements for basic service, the AFS billing demand shall be taken each month as the single-highest 15-minute integrated peak on the AFS as registered during the month by a demand meter or indicator, but the monthly AFS billing demand so established shall in no event be less than the greater of (a) the customer's AFS capacity reservation, or (b) the customer's highest previously established monthly metered demand on the partial-load AFS during the past 11 months.

**DELAYED PAYMENT CHARGE.**

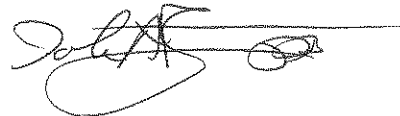
This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

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**RIDER A.F.S.  
(Alternate Feed Service Rider)**

**TERMS OF CONTRACT.**

The AFS agreement under this rider will be made for a period of not less than one year and shall remain in effect thereafter until either party shall give at least six months' written notice to the other of the intention to discontinue service under the terms of this rider.

Disconnection of AFS under this rider due to reliability or safety concerns associated with customer-owned transfer switches will not relieve the customer of payments required hereunder for the duration of the agreement term.

**SPECIAL TERMS AND CONDITIONS.**

This rider is subject to the Company's Terms and Conditions of Service.

Upon receipt of a request from the customer for non-standard AFS (AFS which includes unique service characteristics different from standard AFS), the Company will provide the customer with a written estimate of all costs, including system impact study costs, and any applicable unique terms and conditions of service related to the provision of the non-standard AFS. An AFS agreement will be filed with the Commission under the 30-day filing procedures. The AFS agreement shall provide full disclosure of all rates, terms and conditions of service under this rider, and any and all agreements related thereto.


The Company will have sole responsibility for determining the basic service circuit and the AFS circuit.

The Company assumes no liability should the AFS circuit, transfer switch, or other equipment required to provide AFS fail to operate as designed, is unsatisfactory, or is not available for any reason.

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In Case No. 2014-00396 Dated XXXXXXXX



KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 33-1  
CANCELLING P.S.C. KY. NO. 10 \_\_\_\_\_ SHEET NO. 33-1

**U.G.R.T.  
(Utility Gross Receipts Tax)  
(School Tax)**

**APPLICABLE.**

To all Tariff Schedules.

**RATE.**

This tariff schedule is applied as a rate increase pursuant to KRS 160.617 to all other tariff schedules for the recovery by the utility of the utility gross receipts license tax imposed by the applicable school district pursuant to KRS 160.613 with respect to the customer's bill. The current utility gross receipts license tax for school imposed by a school district may not exceed 3%. The utility gross receipts license tax shall appear on the customer's bill as a separate line item.

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KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 34-1  
CANCELLING P.S.C. KY. NO. 10 \_\_\_\_\_ SHEET NO. 34-1

**K.S.T.**  
**(Kentucky Sales Tax)**

**APPLICABLE.**

To all Tariff Schedules.

**RATE.**

This tariff schedule is applied as a rate increase to all other applicable tariff schedules for the recovery by the utility pursuant to KRS 139.210 of the Kentucky Sales Tax imposed by KRS 139.200 for all customers not exempted by KRS 139.470(8). For any other exempt customers, an exemption certification must be received and on file with the Company. The Kentucky Sales Tax rate is currently imposed by the Commonwealth of Kentucky at the rate of 6%. The Kentucky Sales Tax shall appear on the customer's bill as a separate line item.

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**TARIFF P.P.A.**  
**(Purchase Power Adjustment)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D.2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S., C.S.-I.R.P., M.W., O.L. and S.L.

**RATE.**

1. In accordance with the Stipulation and Settlement Agreement approved as modified by the Commission by its Order dated October 7, 2013 in Case No. 2012-00578, the purchase power adjustment shall provide for monthly adjustments based on a percent of revenues, calculated to six decimal places and equal to the net costs of any power purchases in the current period according to the following formula:

$$\text{Monthly Purchase Power Adjustment Factor} = \frac{\text{Net KY Retail P(m)}}{\text{KY Retail R(m)}}$$

Where:

Net KY Retail P(m) = Monthly P(m) allocated to Kentucky Retail Customers, net of Over/(Under) Recovery Adjustment; Allocation based on Percentage of Kentucky Retail Revenues to Total Company Revenues in the Expense Month (m). (For purposes of this formula, Total Company Revenues include only Retail and Full-Requirements Wholesale revenues.)

KY Retail R(m) = Kentucky Retail Revenues for the Expense Month (m).

2. The net costs of any power purchased shall exclude costs recovered through the Fuel Adjustment Clause and shall be computed as the sum of the following items:
  - a. PPA(m) = The cost of power purchased by the Company through new Purchase Power Agreements (PPAs). All new PPAs shall be approved by the Commission to the extent required by KRS 278.300.
  - b. RP(m) = The cost of fuel related substitute generation less the cost of fuel which would have been used in plants suffering forced generation or transmission outages.
  - c. PE(m) = The cost of power purchased unrelated to forced generation or transmission outages that are calculated in accordance with the peaking unit equivalent methodology.
  - d. CSIRP(m) = The cost of any credits provided to customers under Tariff C.S.-I.R.P. for interruptible service.


$$\text{Monthly P(m)} = \text{PPA(m)} + \text{RP(m)} + \text{PE(m)} + \text{CSIRP(m)}$$

3. The monthly purchase power adjustment shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustment, which shall include data, and information as may be required by the Commission.
4. Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.

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**TARIFF A.T.R.  
(Asset Transfer Rider)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D.2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S., C.S.-I.R.P., M.W., O.L. and S.L.

**RATE.**

In accordance with the Stipulation and Settlement Agreement approved as modified by the Commission by its Order dated October 7, 2013 in Case No. 2012-00578, Kentucky Power Company is to recover from retail ratepayers \$44 million annually beginning January 1, 2014.

Recovery under Tariff A.T.R. shall terminate on the effective date of new base rates for the Company that include Mitchell Units 1 and 2, except that the Company shall recover through the Residential Asset Transfer Adjustment and the All Other Classes Transfer Adjustment such amounts as required to ensure the Company recovers in the year new base rates for the Company are established that include Mitchell Units 1 and 2 a pro rata share (computed on a 365-day annual basis) of the \$44 million annual revenue requirement under Tariff A.T.R..

1. The allocation of the \$44 million revenue requirement between residential and all other customers shall be based upon their respective contribution to total retail revenues for the twelve month period ended September 30, 2013, according to the following formula:

$$\text{Residential Allocation RA(m)} = \frac{\$44,000,000}{12 \text{ months}} \times \frac{\text{KY Residential Retail Revenue RR(b)}}{\text{KY Retail Revenue R(b)}} = \$1,541,861$$

$$\text{All Other Allocation OA(m)} = \frac{\$44,000,000}{12 \text{ months}} \times \frac{\text{KY All Other Classes Retail Revenue OR(b)}}{\text{KY Retail Revenue R(b)}} = \$2,124,806$$

Where:

(m) = the expense month;

(b) = twelve month period ended September 30, 2013.

RR(b) = \$214,421,664

OR(b) = \$295,489,874

R(b) = \$509,911,538

2. The Residential Asset Transfer Adjustment shall provide for monthly adjustments based on a percent of total revenues, calculated to six decimal places according to the following formula:

$$\text{Residential Asset Transfer Adjustment Factor} = \frac{\text{Net Monthly Residential Allocation NRA(m)}}{\text{Residential Retail Revenue RR(m)}}$$

Where:

Net Monthly Residential Allocation NRA(m)

= Monthly Residential Allocation RA(m), net of Over/(Under) Recovery Adjustment;

Residential Retail Revenue RR(m)

= Monthly Retail Revenue for all KY residential classes for the expense month (m).

3. The All Other Classes Asset Transfer Adjustment shall provide for monthly adjustments based on a percent of non-fuel revenues, calculated to six decimal places according to the following formula:

$$\text{All Other Classes Asset Transfer Adjustment Factor} = \frac{\text{Net Monthly All Other Allocation NOA(m)}}{\text{All Other Classes Non-Fuel Retail Revenue ONR(m)}}$$

Where:

Net Monthly All Other Allocation NOA(m)

= Monthly All Other Allocation OA(m), net of Over/(Under) Recovery Adjustment;

All Other Classes Non-Fuel Retail Revenue ONR(m)

= Monthly Non-Fuel Retail Revenue for all classes other than residential for the expense month (m).

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**TARIFF A.T.R.  
(Asset Transfer Rider)**

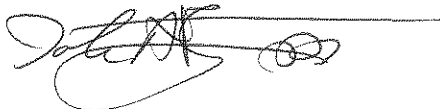
**RATE. (Cont'd)**

5. The monthly asset transfer rider adjustments shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustments, which shall include data, and information as may be required by the Commission.
6. Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.

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**TARIFF E.D.R.  
 (Economic Development Rider)**

**AVAILABILITY OF SERVICE.**

To encourage economic development in the Company's service territory, limited-term reductions in billing demand charges described herein are offered to qualifying new and existing retail customers who make application for service under this Rider.

Service under this Economic Development Rider (EDR) is intended for specific types of commercial and industrial customers whose operations, by their nature, will promote sustained economic development based on plant and facilities investment and job creation. Availability is limited to customers on a first-come, first-served basis until such time as a total of 250 MW of new load has been added to Kentucky Power's system under the EDR. The EDR is available to commercial and industrial customers served under Tariffs L.G.S., Q.P. or C.I.P.-T.O.D. who meet the following requirements:

- (1) A new customer must have at least a monthly maximum billing demand of 500 kW. An existing customer must increase its monthly maximum billing demand by at least 500 kW over the current Base Maximum Billing Demand in order to receive the Incremental Billing Demand Discount (IBDD).
- (2) A new customer, or the business expansion by an existing customer, will receive a Supplemental Billing Demand Discount (SBDD) for creating and sustaining at least 25 new permanent full time jobs over the contract term at the service location. The Company reserves the right to verify job counts. Failure to demonstrate the creation of new employment positions or to maintain the employment during the contract term will result in the termination of the supplemental discount.
- (3) The customer must demonstrate to the Company's satisfaction that, absent the availability of this EDR, the qualifying new or increased electrical demand would be located outside of the Company's service territory or would not be placed in service.

**TERMS AND CONDITIONS.**

- (1) The Company will offer the EDR to qualifying customers with new or increased load when the Company has sufficient generating capacity available. When sufficient generating capacity is not available, the Company will procure the additional capacity on the customer's behalf. The cost of capacity procured on behalf of the customer shall reduce on a dollar-for-dollar basis the customer's IBDD and SBDD. Such reduction shall be capped so that the customer's maximum demand charge shall be the non-discounted tariff demand charge. The reduction will be applied in reverse chronological order beginning with the most recent customer to receive discounted service under this tariff. Last customer to sign up for the EDR tariff would be the first customer responsible for paying the cost of incremental capacity purchases. In any year during the discount period in which the customer pays the full tariff demand charge for all twelve months, the Company will reduce the term of the contract by one year.
- (2) The new or increased load cannot accelerate the Company's plans for additional generating capacity during the period for which the customer receives a demand discount. Customers receiving Temporary Service are not eligible for this EDR.
- (3) To receive service under this EDR, the customer shall make written application to the Company with sufficient information contained therein to determine the customer's eligibility for service. At a minimum, such information will include:

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**TARIFF E.D.R. (Cont'd)**  
**(Economic Development Rider)**

**TERMS AND CONDITIONS-(Cont'd).**

- a. A description and good faith estimate of the new or increased load to be served during each year of the contract,
  - b. The number of new employees or jobs that will be added as a result of the new load,
  - c. A description of the anticipated capital investment, and
  - d. A description of all other federal, state or local economic development tax incentives, grants, or any other incentives / assistance associated with the new or expanded project.
  - e. A statement that without the EDR discount, the customer would locate elsewhere or chose not to expand within Kentucky Power's service territory.
- (3) For new and existing customers, billing demands for which reductions will be for service at a new service location or expanded production at an existing facility and not merely the result of a change of ownership. Relocation of the delivery point of the Company's service, moving existing equipment from another KPCo-served location or load transfers from another KPCo-served location do not qualify as a new service location. Relocating existing facilities from within the Company's service territory shall not disqualify the customer from the IBDD as long as the new relocated facility exceeds the Base Maximum Billing Demand of the previous facility by the minimum required amount.
- (4) For existing customers, billing demands for which deductions will be applicable under this EDR shall be the result of an increase in business activity and not merely the result of resumption of normal operations following a force majeure, strike, equipment failure, renovation or refurbishment, or other such abnormal operating condition. In the event that such an occurrence has taken place prior to the date of the application by the customer for service under this EDR, the monthly Base Maximum Billing Demand shall be adjusted as appropriate for this analysis to eliminate the effects of such occurrence.
- (5) Service under the EDR will be offered under the applicable Tariff L.G.S., Q.P. or C.I.P.-T.O.D schedule. An EDR will be filed as a Special Contract and must be approved by the Kentucky Public Service Commission before it can be implemented. The total contract period is equal to twice the number of years for which the customer receives a demand discount. The special contract term will be for two (2), four (4), six (6), eight (8), and (ten) 10 years only.
- (6) The IBDD and the SBDD, if applicable, begin when the customer's new or expanded operations are billed for service under this Rider. Temporary jobs created during the construction of new facilities or the expansion phase of existing operations are not eligible to be counted as permanent jobs for the purposes of this EDR.
- (7) If construction of new or expanded local distribution and/or transmission related facilities by the Company is required in order to provide the additional service, the customer may be required to make a contribution-in-aid of construction (CIAC) for the installed cost of such facilities pursuant to the provisions of the Company's Terms and Conditions of Service. The total cost of the CIAC, including gross-up by the effect of applicable taxes, will be recovered over the life of the EDR contract period, with no less than 80% recovered during the period for which the customer receives a demand discount. If the customer breaches the terms of the contract or ends the contract prematurely, any unpaid contribution-in-aid of construction must be paid to the Company and any EDR discounts provided to the customer must be repaid to the Company. CIAC payment provided under this Rider supersedes the other payment provisions only in the Company's Terms and Conditions Sheet 2-5 Section 9.

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**TARIFF E.D.R. (Cont'd)**  
**(Economic Development Rider)**

**TERMS AND CONDITIONS (Cont'd).**

- (8) The L.G.S., Q.P. and CIP-TOD tariffs each contain a monthly minimum billing demand charge provision. The minimum demand charge provision is waived for EDR customers for up to 36 months depending upon the length of the contract. The provision is waived for the first 36 months of a 10 year contract, the first 24 months of an 8 year contract and the first 12 months of a 6 year contract. If during the special contract discount period, the customer's monthly demand falls below the minimum billing demand level for four (4) consecutive months or six (6) months total in a contract year, then the EDR discount will not be applied and the appropriate tariff minimum billing demand charge provision will be in force until the customer achieves the minimum billing demand level. Applicable EDR discounts will be applied to the qualifying incremental maximum billing demand only and will appear as a separate line item on the customer's bill.

**DETERMINATION OF MONTHLY QUALIFYING INCREMENTAL BILLING DEMAND.**

For the purposes of this Rider, the monthly qualifying incremental billing demand will be calculated in the following manner:

Where the new qualifying incremental demand resides in new facilities (or separate facilities for existing customers), those facilities may be metered on a separate meter according to Tariffs L.G.S., Q.P. or C.I.P.-T.O.D. for the current billing period and the incremental billing demand will be calculated based upon that facility's meter readings.

Where the new qualifying incremental demand resides in a customer's existing facility with sufficient service and metering capability to accommodate the business expansion, the qualifying incremental billing demand is equal to demand in excess of the Base Maximum Billing Demand. The Base Maximum Billing Demand for each billing month will be calculated by the Company as the average of the previous three years, corresponding month maximum billing demands, subject to Terms and Conditions Items (3) and (4), and will be agreed to by the customer in advance.

**DETERMINATION OF INCREMENTAL BILLING DEMAND DISCOUNT.**

Customers meeting all Availability of Service and Terms and Conditions above may contract for service for a period of up to ten (10) years, with a commensurate discount period of up to five (5) years. The (IBDD) for a ten (10) year contract follows:

- (a) For the twelve consecutive monthly billings of the first contract year, the qualifying incremental billing demand charge shall be reduced by 50% from the applicable tariff L.G.S., Q.P. or C.I.P.-T.O.D. demand charge;
- (b) For the twelve consecutive monthly billings of the second contract year, the qualifying incremental billing demand charge shall be reduced by 40% from the applicable tariff L.G.S., Q.P. or C.I.P.-T.O.D. demand charge;
- (c) For the twelve consecutive monthly billings of the third contract year, the qualifying incremental billing demand charge shall be reduced by 30% from the applicable tariff L.G.S., Q.P. or C.I.P.-T.O.D. demand charge;

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**TARIFF E.D.R. (Cont'd)**  
**(Economic Development Rider)**

**DETERMINATION OF INCREMENTAL BILLING DEMAND DISCOUNT (Cont'd).**

- (d) For the twelve consecutive monthly billings of the fourth contract year, the qualifying incremental billing demand charge shall be reduced by 20% from the applicable tariff L.G.S., Q.P. or C.I.P.-T.O.D. charge, but shall not be less than the applicable tariff rate schedule minimum billing demand;
- (e) For the twelve consecutive monthly billings of the fifth contract year, the qualifying incremental billing demand charge shall be reduced by 10% from the applicable tariff L.G.S., Q.P. or C.I.P.-T.O.D. demand charge, but shall not be less than the applicable tariff rate schedule minimum billing demand; and
- (f) All subsequent monthly billings shall be at the full charges stated in the applicable tariff rate schedule for contract years six (6) through ten (10).

The starting point for the IBDD is dependent upon the length of contract: i.e., an eight (8) year contract will have four (4) years of discount beginning with the IBDD of 40% in year one (1). Similarly, a six (6) year contract will have three (3) years of discount beginning with the IBDD of 30% in year one (1).

**DETERMINATION OF SUPPLEMENTAL BILLING DEMAND DISCOUNT.**


At the Company's discretion, a (SBDD) which is applicable to the monthly incremental billing demand charge is available to customers meeting all Availability of Service and Terms and Conditions above, and that create at least twenty five (25) new permanent job opportunities in the facility and that maintain those job opportunities in each discount year. The amount of additional discount is determined by the actual number of jobs maintained in each year. The SBDD for a ten (10) year contract follows:

- (a) For the twelve consecutive monthly billings of the first contract year, the qualifying incremental billing demand charge shall be reduced an additional 5% for an increase of at least 50 jobs or 2.5% for an increase of at least 25 jobs;
- (b) For the twelve consecutive monthly billings of the second contract year, the qualifying incremental billing demand charge shall be reduced 4.5% for at least 50 jobs or 2.0% for at least 25 jobs.
- (c) For the twelve consecutive monthly billings of the third contract year, the qualifying incremental billing demand charge shall be reduced an additional 4% for an increase of at least 50 jobs or 1.5% for an increase of at least 25 jobs;
- (d) For the twelve consecutive monthly billings of the fourth contract year, the qualifying incremental billing demand charge shall be reduced an additional 3.5% for an increase of at least 50 jobs or 1.0% for an increase of at least 25 jobs;

(Cont'd on Sheet 37-5)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF E.D.R. (Cont'd)**  
**(Economic Development Rider)**

**DETERMINATION OF SUPPLEMENTAL BILLING DEMAND DISCOUNT (Cont'd).**

- (e) For the twelve consecutive monthly billings of the fifth contract year, the qualifying incremental billing demand charge shall be reduced an additional 3% for an increase of at least 50 jobs or 0.5% for an increase of at least 25 jobs; and
- (f) All subsequent monthly billing shall be at the full charges stated in the applicable tariff rate schedule for contract years six (6) through ten (10)

The length of the SBDD shall be identical to the length of the IBDD. The starting point for the discount will be commensurate with the contract length, i.e., an eight (8) year contract will have four (4) years of discount with the SBDD of either 4.5% or 2.0% as appropriate in year one (1).

The appropriate discount(s) shall be applicable over a period of up to 60 consecutive billing months beginning with the first such month following the end of the start-up period. The start-up period shall commence with the effective date of the contract addendum for service under this EDR and shall terminate by mutual agreement between the Company and the customer. In no event shall the start-up period exceed 12 months.

**TERMS OF CONTRACT.**

A contract or agreement addendum for service under this Rider, in addition to service under Tariffs L.G.S., Q.P. or C.I.P.-T.O.D., shall be executed by the customer and the Company for the time period which includes the start-up period and the multi-year period during which a Total Demand Charge discount is in effect and an equal multi-year period during which the customer agrees to pay the full rates in the applicable Tariff rate schedule.

At a minimum, the contract or agreement addendum shall specify the Base Maximum Billing Demand, the anticipated annual total qualifying demand, the Adjustment Factor and related provisions to be applicable under this Rider, and the effective date for the contract addendum.

The customer may discontinue service under this Rider before the end of the contract or agreement addendum only by reimbursing the Company for any and all demand reductions received under this Rider when billed at the applicable tariff schedule rate.

**SPECIAL TERMS AND CONDITIONS.**

Except as otherwise provided in this Rider, written agreements shall remain subject to all of the provisions of the applicable tariffs. This Rider is subject to the Company's Terms and Conditions of Service.

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**BIG SANDY RETIREMENT RIDER  
(B.S.R.R.)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D.2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S., C.S.-I.R.P., M.W., O.L. and S.L.

**RATE.**

- Pursuant to the final order of the Kentucky Public Service Commission in Case No. 2012-00578 and the Stipulation and Settlement Agreement dated July 2, 2013 as filed and approved by the Commission, Kentucky Power Company is to recover from retail ratepayers the coal-related retirement costs of Big Sandy Unit 1, the retirement costs of Big Sandy Unit 2 and other site-related retirement costs that will not continue in use on a levelized basis, including a weighted average cost of capital (WACC) carrying cost over a 25 year period beginning when new base rates are set for the Company that include Mitchell Units 1 and 2. The term "Retirement Costs" as used in this agreement are defined as and shall include the net book value, materials and supplies that cannot be used economically at other plants owned by Kentucky Power, and removal costs and salvage credits, net of related ADIT. Related ADIT shall include the tax benefits from tax abandonment losses.
- The allocation of the levelized revenue requirement (LRR) between residential and all other customers shall be based upon their respective contribution to total retail revenues for the most recent calendar twelve month period, according to the following formula:

$$\text{Residential Allocation RA(m)} = \text{LRR(m)} \times \frac{\text{KY Residential Retail Revenue RR(b)}}{\text{KY Retail Revenue R(b)}}$$

$$\text{All Other Allocation OA(m)} = \text{LRR(m)} \times \frac{\text{KY All Other Classes Retail Revenue OR(b)}}{\text{KY Retail Revenue R(b)}}$$

Where:

(m) = the expense month;

(b) = Most recent available twelve calendar-month period ended December 31.

- The Residential Asset Transfer Adjustment shall provide for monthly adjustments based on a percent of total revenues, according to the following formula:

$$\text{Residential Asset Transfer Adjustment Factor} = \frac{\text{Net Monthly Residential Allocation NRA(m)}}{\text{Residential Retail Revenue RR(m)}}$$

Where:

$$\text{Net Monthly Residential Allocation NRA(m)} = \text{Monthly Residential Allocation RA(m), net of Over/(Under) Recovery Adjustment;}$$


$$\text{Residential Retail Revenue RR(m)} = \text{Monthly Retail Revenue for all KY residential classes for the expense month (m).}$$

(Cont'd on Sheet No. 38-2)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**BIG SANDY RETIREMENT RIDER(CONT'D)  
(B.S.R.R.)**

**RATE. (Cont'd)**

4. The All Other Classes Asset Transfer Adjustment shall provide for monthly adjustments based on a percent of non-fuel revenues, according to the following formula:

$$\text{All Other Classes Asset Transfer Adjustment Factor} = \frac{\text{Net Monthly All Other Allocation NOA(m)}}{\text{All Other Classes Non-Fuel Retail Revenue ONR(m)}}$$

Where:

$$\text{Net Monthly All Other Allocation NOA(m)} = \text{Monthly All Other Allocation OA(m), net of Over/(Under) Recovery Adjustment;}$$

$$\text{All Other Classes Non-Fuel Retail Revenue ONR(m)} = \text{Monthly Non-Fuel Retail Revenue for all classes other than residential for the expense month (m).}$$

5. The monthly Big Sandy Retirement Rider adjustments shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustments, which shall include data, and information as may be required by the Commission.
6. Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS61.870 to 61.884.

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**BIG SANDY UNIT 1 OPERATION RIDER  
(B.S.I.O.R.)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D. 2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S., C.S.-I.R.P., M.W., O.L., and S.L.

**RATES.**

| Tariff Class  | \$/kWh    | \$/kW  |
|---|-----------|--------|
| R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., and Experimental R.S.-T.O.D. 2 | \$0.00330 | --     |
| S.G.S. and S.G.S.-T.O.D.  | \$0.00272 | --     |
| M.G.S.  | \$0.00141 | \$0.34 |
| M.G.S. Recreational Lighting, M.G.S.-L.M.-T.O.D., and M.G.S.-T.O.D. | \$0.00283 | --     |
| L.G.S. and L.G.S.-T.O.D.  | \$0.00139 | \$0.45 |
| L.G.S.-L.M.-T.O.D.  | \$0.00276 | --     |
| I.G.S. and C.S.-I.R.P.  | \$0.00139 | \$0.55 |
| M.W.  | \$0.00248 | --     |
| O.L.  | \$0.00147 | --     |
| S.L.  | \$0.00147 | --     |

Tariff BS1OR includes all non-fuel operating expenses related to Big Sandy Unit 1 not otherwise included in Tariff S.S.C. or Tariff FAC. Tariff BS1OR shall also include a return on and of Big Sandy Unit 1 gas conversion capital when placed in service.

The kWh factor as calculated above will be applied to all billing kilowatt-hours for those tariff classes listed above. The kW factor as calculated above will be applied to all on-peak and minimum billing demand kW for the MGS, LGS and IGS tariff classes.

The Big Sandy Unit 1 Operation Rider factors shall be modified annually to collect the approved annual level of Kentucky retail jurisdictional Big Sandy Unit 1 revenue requirement and any prior review period (over)/under recovery.

The Big Sandy Unit 1 Operation Rider factors shall be determined as follows:

For all tariff classes without demand billing:

$$\text{kWh Factor} = \frac{\text{BS1E} \times (\text{BE}_{\text{Class}} / \text{BE}_{\text{Total}}) + \text{BS1D} \times (\text{CP}_{\text{Class}} / \text{CP}_{\text{Total}})}{\text{BE}_{\text{Class}}}$$

$$\text{kW Factor} = 0$$

For all tariff classes with demand billing:

$$\text{kWh Factor} = \frac{\text{BS1E} \times (\text{BE}_{\text{Class}} / \text{BE}_{\text{Total}})}{\text{BE}_{\text{Class}}}$$

$$\text{kW Factor} = \frac{\text{BS1D} \times (\text{CP}_{\text{Class}} / \text{CP}_{\text{Total}})}{\text{BD}_{\text{Class}}}$$

(Cont'd on Sheet No.39-2)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**BIG SANDY UNIT 1 OPERATION RIDER (CONT'D)**  
**(B.S.I.O.R)**

**RATES. (Cont'd)**

Where:

1. "BSID" is the actual annual retail Big Sandy Unit 1 demand-related costs, plus any prior review period (over)/under recovery.
2. "BSIE" is the actual annual retail Big Sandy Unit 1 energy-related costs, plus any prior review period (over)/under recovery.
3. "BE<sub>Class</sub>" is the historic annual retail jurisdictional billing kWh for each tariff class for the current year.
4. "BD<sub>Class</sub>" is the historic annual retail jurisdictional billing kW for each applicable tariff class for the current year.
5. "CP<sub>Class</sub>" is the coincident peak demand for each tariff class estimated as follows:

| Tariff Class  | BE <sub>Class</sub> | CP/kWh Ratio | CP <sub>Class</sub> |
|---|---------------------|--------------|---------------------|
| (1)   | (2)                 | (3)          | (4)=(2)x(3)         |
| R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., and Experimental R.S.-T.O.D.   |                     | 0.0236060%   |                     |
| 2   |                     |              |                     |
| S.G.S and S.G.S.-T.O.D.   |                     | 0.0163937%   |                     |
| M.G.S.  |                     | 0.0177002%   |                     |
| M.G.S. Recreational Lighting, M.G.S.-L.M.-T.O.D., and M.G.S.-T.O.D. |                     | 0.0177002%   |                     |
| L.G.S. and L.G.S.-T.O.D.  |                     | 0.0169381%   |                     |
| L.G.S.-L.M.-T.O.D.  |                     | 0.0169381%   |                     |
| I.G.S. and C.S.-I.R.P   |                     | 0.0130626%   |                     |
| M.W.  |                     | 0.0134057%   |                     |
| O.L.  |                     | 0.0009431%   |                     |
| S.L.  |                     | 0.0009890%   |                     |
|   | BE <sub>Total</sub> |              | CP <sub>Total</sub> |

6. "BE<sub>Total</sub>" is the sum of the BE<sub>Class</sub> for all tariff classes.
7. "CP<sub>Total</sub>" is the sum of the CP<sub>Class</sub> for all tariff classes.

The factors as computed above are calculated to allow the recovery of Uncollectible Accounts Expense of 0.3% and the KPSC Maintenance Fee of 0.1952% and other similar revenue based taxes or assessments occasioned by the Big Sandy Unit 1 Operation Rider revenues.

The annual Big Sandy Unit 1 Operation Rider factors shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all necessary supporting data to justify the amount of the adjustments, which shall include data and information as may be required by the Commission.

Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.

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TITLE: Director Regulatory Services

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In Case No. 2014-00396 Dated XXXXXXXXX

**NERC COMPLIANCE AND CYBERSECURITY RIDER  
(N.C.C.R.)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D. 2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S., C.S.-I.R.P., M.W., O.L., and S.L.

**RATES.**

| Tariff Class  | ¢/kWh  | \$/kW |
|---|--------|-------|
| R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., and Experimental R.S.-T.O.D. 2 | 0.0000 | --    |
| S.G.S. and S.G.S.-T.O.D.  | 0.0000 | --    |
| M.G.S.  | 0.0000 | 0.00  |
| M.G.S. Recreational Lighting, M.G.S.-L.M.-T.O.D., and M.G.S.-T.O.D. | 0.0000 | --    |
| L.G.S. and L.G.S.-T.O.D.  | 0.0000 | 0.00  |
| L.G.S.-L.-M.T.O.D.  | 0.0000 | 0.00  |
| I.G.S. and C.S.-I.R.P.  | 0.0000 | 0.00  |
| M.W.  | 0.0000 | --    |
| O.L.  | 0.0000 | --    |
| S.L.  | 0.0000 | --    |

The kWh adjustment factor as calculated above will be applied to all billing kilowatt-hours for those tariff classes listed above. The kW adjustment factor as calculated above will be applied to all on-peak and minimum billing demand kW for the MGS, LGS and IGS tariff classes.

The NERC Compliance and Cybersecurity Rider adjustment factors shall be modified annually to collect the Commission's approved annual level of Kentucky retail jurisdictional NERC Compliance and Cybersecurity expenses and any prior review period (over)/under recovery.

The NERC Compliance and Cybersecurity Rider adjustment factors shall be determined as follows:

For all tariff classes without demand billing:

$$\text{kWh Adjustment Factor} = \frac{\text{NCE} \times (\text{BE}_{\text{Class}} / \text{BE}_{\text{Total}}) + \text{NCD} \times (\text{CP}_{\text{Class}} / \text{CP}_{\text{Total}})}{\text{BE}_{\text{Class}}}$$

$$\text{kW Adjustment Factor} = 0$$

For all tariff classes with demand billing:

$$\text{kWh Adjustment Factor} = \frac{\text{NCE} \times (\text{BE}_{\text{Class}} / \text{BE}_{\text{Total}})}{\text{BE}_{\text{Class}}}$$

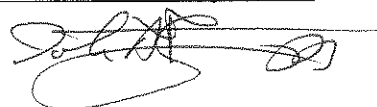
$$\text{kW Adjustment Factor} = \frac{\text{NCD} \times (\text{CP}_{\text{Class}} / \text{CP}_{\text{Total}})}{\text{BD}_{\text{Class}}}$$

(Cont'd on Sheet No. 40-2)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

NERC COMPLIANCE AND CYBERSECURITY RIDER (CONT'D)  
(N.C.C.R.)

**RATES: (Cont'd)**

Where:

1. "NCD" is the actual annual retail NERC Compliance and Cybersecurity demand-related costs, plus any prior review period (over)/under recovery.
2. "NCE" is the actual annual retail NERC Compliance and Cybersecurity energy-related costs, plus any prior review period (over)/under recovery.
3. "BE<sub>Class</sub>" is the historic annual retail jurisdictional billing kWh for each tariff class for the current year.
4. "BD<sub>Class</sub>" is the historic annual retail jurisdictional billing kW for each applicable tariff class for the current year.
5. "CP<sub>Class</sub>" is the coincident peak demand for each tariff class estimated as follows:

| Tariff Class  | BE <sub>Class</sub> | CP/kWh Ratio | CP <sub>Class</sub> |
|---|---------------------|--------------|---------------------|
| (1)   | (2)                 | (3)          | (4)=(2)x(3)         |
| R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., and Experimental R.S.-T.O.D.   |                     | 0.0236060%   |                     |
| S.G.S. and S.G.S.-T.O.D.  |                     | 0.0163937%   |                     |
| M.G.S.  |                     | 0.0177002%   |                     |
| M.G.S. Recreational Lighting, M.G.S.-L.M.-T.O.D., and M.G.S.-T.O.D. |                     | 0.0177002%   |                     |
| L.G.S. and L.G.S.-T.O.D.  |                     | 0.0169381%   |                     |
| L.G.S.-L.M.-T.O.D.  |                     | 0.0169381%   |                     |
| I.G.S. and C.S.-I.R.P.  |                     | 0.0130626%   |                     |
| M.W.  |                     | 0.0134057%   |                     |
| O.L.  |                     | 0.0009431%   |                     |
| S.L.  |                     | 0.0009890%   |                     |
|   | BE <sub>Total</sub> |              | CP <sub>Total</sub> |

6. "BE<sub>Total</sub>" is the sum of the BE<sub>Class</sub> for all tariff classes.
7. "CP<sub>Total</sub>" is the sum of the CP<sub>Class</sub> for all tariff classes.

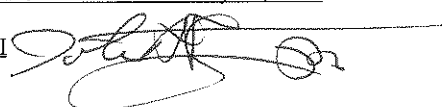
The adjustment factor as computed above shall be further modified to allow the recovery of Uncollectible Accounts Expense of 0.3% and the KPSC Maintenance Fee of 0.1952% and other similar revenue based taxes or assessments occasioned by the NERC Compliance and Cybersecurity Rider adjustment revenues.

(Cont'd on Sheet No. 40-3)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX



NERC COMPLIANCE AND CYBERSECURITY RIDER (CONT'D)  
(N.C.C.R.)

RATES. (Cont'd)

The initial NERC Compliance and Cybersecurity Rider adjustment factors shall be filed with the Commission six (6) months before the initial rates are scheduled to go into effect and ten (10) days before any subsequent annual rate adjustments are scheduled to go into effect, along with all necessary supporting data to justify the amount of the adjustments, which shall include data and information as may be required by the Commission.

Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**P.S.C KY. NO. 10**

**KENTUCKY POWER COMPANY  
101A ENTERPRISE DRIVE  
P.O. BOX 5190  
FRANKFORT, KY 40602**

**RATES-CHARGES-RULES-REGULATIONS  
FOR FURNISHING**

**ELECTRIC SERVICE**

**IN THE KENTUCKY TERRITORY SERVED  
BY KENTUCKY POWER COMPANY  
AS STATED ON SHEET NO. 1**

**FILED WITH THE PUBLIC SERVICE COMMISSION  
OF  
KENTUCKY**

**DATE OF ISSUE: December 23, 2014  
DATE EFFECTIVE: January 23, 2015  
ISSUED BY: John A. Rogness III  
TITLE: Director Regulatory Services**

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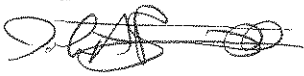
By Authority Of Order By The Public Service Commission

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| Tariff F.T.                         | Franchise Tariff   | 20-1                      |   |
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| Tariff D.S.M.C.                     | Demand-Side Management Adjustment Clause                       | 22-1 thru 22-13           |   |
| Tariff B.E.R.                       | Biomass Energy Rider   | 23-1                      |   |
| Rider <del>E.C.S. C. &amp; E.</del> | <del>Emergency Curtailable Service—Capacity &amp; Energy</del> | <del>24-1 thru 24-6</del> | D |
| <i>Tariff P.J.M.</i>                | <i>P.J.M.R.</i>  | <i>24-1 thru 24-3</i>     | N |
| Rider <del>E.P.C.S.</del>           | <del>Energy Price Curtailable Service Rider</del>              | <del>25-1 thru 25-3</del> | D |
| <i>Tariff</i>                       | <i>Reserved for future use</i>                                 | <i>25-1</i>               | T |
| Tariff N.U.G.                       | Non-Utility Generator  | 26-1 thru 26-3            |   |
| Tariff N.M.S.                       | Net Metering Service   | 27-1 thru 27-22           |   |
| Tariff C.C.                         | Capacity Charge  | 28-1 thru 28-2            |   |
| Tariff E.S.                         | Environmental Surcharge  | 29-1 thru 29-7            |   |
| <del>Tariff R.T.P.</del>            | <del>Experimental Real-Time Pricing</del>                      | <del>30-1 thru 30-4</del> | D |
| <i>Tariff</i>                       | <i>Reserved for future use</i>                                 | <i>30-1</i>               | T |
| Rider G.P.O.                        | Green Pricing Option Rider                                     | 31-1                      |   |
| Rider A.F.S.                        | Alternate Feed Service Rider                                   | 32-1 thru 32-4            |   |
| Tariff U.G.R.T.                     | Utility Gross Receipts Tax (School Tax)                        | 33-1                      |   |
| Tariff K.S.T.                       | Kentucky Sales Tax   | 34-1                      |   |
| Tariff P.P.A.                       | Purchase Power Adjustment                                      | 35-1                      |   |
| Tariff A.T.R.                       | Asset Transfer Rider   | 36-1 thru 36-2            |   |
| <i>Tariff E.D.R.</i>                | <i>Economic Development Rider</i>                              | <i>37-1 thru 37-5</i>     | N |

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|--------------------------|--|----------------------|---|
| <i>Rider B.S.R.R.</i>    | <i>Big Sandy Retirement Rider</i>        | <i>38-1thru 38-2</i> | N |
| <i>Rider B.S.I. O.R.</i> | <i>Big Sandy 1 Operation Rider</i>       | <i>39-1thru 39-2</i> | N |
| <i>Rider N.C.C.R.</i>    | <i>NERC Compliance and Cybersecurity</i> | <i>40-1thru 40-3</i> | N |

**THE ABOVE TARIFFS ARE APPLICABLE TO THE ENTIRE TERRITORY SERVED BY KENTUCKY POWER COMPANY IN BOYD, BREATHITT, CARTER, CLAY, ELLIOTT, FLOYD, GREENUP, JOHNSON, KNOTT, LAWRENCE, LESLIE, LETCHER, LEWIS, MAGOFFIN, MARTIN, MORGAN, OWSLEY, PERRY, PIKE AND ROWAN COUNTIES.**

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**TERMS AND CONDITIONS OF SERVICE**

**1. APPLICATION.**

A copy of the tariffs and standard terms and conditions under which service is to be rendered to the Customer will be furnished upon request and the Customer shall elect upon which tariff applicable to his service his application shall be based. *A copy of the tariff is also available on-line at [www.kentuckypower.com](http://www.kentuckypower.com).*

If the Company requires a written agreement from a Customer before service will be commenced, a copy of the agreement will be furnished to the Customer upon request.

When the Customer desires delivery of energy at more than one point, a separate agreement may be required for each separate point of delivery. Service delivered at each point of delivery will be billed separately under the applicable tariff.

**2. INSPECTION.**

The Customer is responsible for the proper installation and maintenance of the customer's wiring and electrical equipment and the customer shall at all times be responsible for the character and condition thereof. The Company has no obligation to undertake inspection thereof and in no event shall be responsible therefore. However, the Company may refuse to connect to the customer's system if such connection is deemed unsafe by the Company.

Where a Customer's premises are located in a municipality or other governmental subdivision where inspection laws or ordinances are in effect, the Company may withhold furnishing service to new installations until the Company has received evidence that the inspection laws or ordinances have been complied with.

Where a Customer's premises are located outside of an area where inspection service is in effect, the Company may require the delivery by the Customer to the Company of an agreement duly signed by the owner and/or tenant of the premises authorizing the connection to the wiring system of the Customer and assuming responsibility therefore. No responsibility shall attach to the Company because of any waiver of this requirement.

**3. SERVICE CONNECTIONS.**

Service connections will be provided in accordance with 807 KAR 5:041, Section 10.

The Customer should in all cases consult the Company before the Customer's premises are wired to determine the location of Company's point of service connection.

The Company will, when requested to furnish service, designate the location of its service connection. The Customer's wiring must, except for those cases listed below, be brought outside the building wall nearest the Company's service wires so as to be readily accessible thereto. When service is from an overhead system, the Customer's wiring must extend at least 18 inches beyond the building. Where Customers install service entrance facilities which have capacity and layout specified by the Company and/or install and use certain equipment specified by the Company, the Company may supply or offer to own certain facilities on the Customer's side of the point where the service wires attach to the building.

All inside wiring must be grounded in accordance with the requirements of the National Electrical Code or the requirements of any local inspection service authorized by a state or local authority.

When a Customer desires that energy be delivered at a point or in a manner other than that designated by the Company, the Customer shall pay the additional cost of same.

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TERMS AND CONDITIONS OF SERVICE (Cont'd)

4. DEPOSITS.

Prior to providing service or at any time thereafter, the Company may require a cash deposit or other guaranty *acceptable to the Company* to secure payment of bills except for customers qualifying for service reconnection pursuant to 807 KAR 5:006, Section 16, Winter Hardship Reconnection. Service may be refused or discontinued for failure to pay the requested deposit. Upon request from a residential customer the deposit will be returned after 18 months if the customer has established a satisfactory payment record; but commercial deposits will be retained *by the Company* during the entire time that the account remains active.

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A. Interest

Interest will be paid on all sums held on deposit at the rate indicated in KRS 278.460. The interest will be applied by the Company as a credit to the Customer's bill or will be paid to the Customer on an annual basis. If the deposit is refunded or credited to the Customer's bill prior to the deposit anniversary date, interest will be paid or credited to the Customer's bill on a pro-rated basis.

The Company will not pay interest on deposits after discontinuance of service to the Customer. Retention of any deposit or guaranty by the Company prior to final settlement is not a payment or partial payment of any bill for service. The Company shall have a reasonable time in which to obtain a final reading and to ascertain that the obligations of the Customer have been fully performed before being required to return any deposits.

B. Criteria for Waiver of Deposit Requirement

The Company may waive any deposit requirement based upon the following criteria, which shall *may* be considered by the Company cumulatively.

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1. ~~Satisfactory payment history.~~ *Satisfactory payment criteria, which may be established by paying all bills rendered, having no disconnections for nonpayment, having no late notices, having no defaulted credit arrangements, having no returned payments and having no meter diversion or theft of service.*
2. ~~Statement from another utility showing satisfactory payment history.~~ *Meeting satisfactory credit criteria. Satisfactory credit for customers will be determined by utilizing independent credit sources as well as historic and ongoing payment and credit history with Company.*
3. Another customer with satisfactory payment history is willing to sign as a guarantor for an amount equal to the required deposit.
4. Providing evidence of other collateral acceptable to Company. ~~such as Surety Bond.~~
5. ~~Checkless Payment Plan (CPP)~~

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C. Method of Determination

1. Calculated Deposits

- a. Deposit amounts paid by residential customers shall not exceed a calculated amount based upon actual usage data of the Customer at the same or similar premises for the most recent 12-month period, if such information is available. If the actual usage data is not available, the deposit amount shall be based on the average bills of similar customers and premises in the customer class. The deposit shall not exceed 2/12 of the Customer's actual or estimated annual bill.
- b. Deposit amounts paid by commercial and industrial customers shall not exceed a calculated amount based upon actual usage data of the customer at the same or similar premises for the most recent 12-month period, if such information is available. If the actual usage data is not available, the deposit amount shall be based on the typical bills of similar customers and premises in the customer class. The deposit shall not exceed 2/12 of the customer's actual or estimated annual bill.

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TERMS AND CONDITIONS OF SERVICE (Cont'd)

4. DEPOSITS, (Cont'd.)

D. Additional or Supplemental Deposit Requirement

If a deposit has been waived or returned and the Customer fails to maintain satisfactory payment criteria, the Customer may be required to pay an additional or supplemental deposit. Except for residential customers, An additional or supplemental deposit may be required if the Customer does not maintain a satisfactory credit criteria or *payment history*. If a change in usage or classification of service has occurred, the customer may be required to pay an additional deposit up to 2/12 of the annual usage. The Customer will receive a message on the bill informing the Customer that if the account is not current by the specified date listed an additional or supplement deposit will be charged to the account the next time the account is billed.

1. *Satisfactory payment criteria is defined as paying all bills rendered, having no disconnections for nonpayment, having no late notices, having no defaulted credit arrangements, having no returned payments and having no meter diversion or theft of service.*
2. *A nonresidential customer does not maintain satisfactory credit criteria when its credit score at any national independent credit rating service falls to a level that is deemed to be vulnerable to nonpayment, including but not limited to: "C" level at Valueline, a "BB+" level at Standard and Poor's or Fitch, "Ba3" at Moody's. If a nonresidential customer is not rated by a national independent credit rating service, its credit may be evaluated by using credit scoring services, public record financial information, or financial scoring and modeling services, and if it is deemed that the customer is vulnerable to nonpayment, a deposit may be required.*

E. Recalculation of Customers Deposit

When a deposit is held longer than 18 months, the Customer may request that the deposit be recalculated based on the Customer's actual usage. If the amount of deposit on the account differs from the recalculated amount by more than \$10.00 for a residential Customer or 10 percent for a non-residential Customer, the Company may collect any underpayment and shall refund any overpayment by check or credit to the Customer's bill. No refund will be made if the Customer's bill is delinquent at the time of the recalculation.

5. PAYMENTS,

Bills will be rendered by the Company to the Customer monthly or in accordance with the tariff selected applicable to the Customer's service.

A. Equal Payment Plan

Residential Customers have the option of paying a fixed amount each month under the Company's Equal Payment Plan. The monthly payment amount will be based on one-twelfth of the Customers' estimated annual usage. The payment amount is subject to periodic review and adjustment during the budget year to more accurately reflect actual usage. The normal plan period is 12 months, which may commence in any month.

In the last month of the plan, if the actual usage during the plan period exceeds the amount billed, the Customer will be billed for the balance due. If an overpayment exists, the amount of overpayment will either be refunded to the Customer or credited to the last bill of the period. If a Customer discontinues service with the Company under the Equal Payment Plan, any amounts not yet paid shall become payable immediately.

If a Customer fails to pay bills as rendered under the Equal Payment Plan, the Company reserves the right to revoke the plan, restore the Customer to regular billing, require immediate payment of any deficiency, and require a cash deposit or other guaranty to secure payment of bills.

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**B. Average Monthly Payment Plan (Amp)**

The Average Monthly Payment Plan (AMP Plan) is available to the following applicable tariffs; R.S.; R.S.-L.M.-T.O.D.; ~~Experimental~~ R.S.-T.O.D 2.; S.G.S., and S.G.S.-T.O.D. When mutually agreeable the AMP Plan may be offered by the Company to Customers serviced under other tariffs.

The AMP Plan is designed to allow the Customer to pay an average amount each month based upon the actual billed amounts during the past twelve (12) months. The average payment amount is based upon the current month's total bill plus the eleven (11) preceding months. That result is divided by the total billing days associated with the billings to determine a per day average. The daily average amount is multiplied by thirty (30) to determine the current month's payment under the AMP Plan. At the next billing period, the oldest month's billing history is removed, the current month's billing is added and the total is again divided by the total billing days associated with the billings to determine a per day average. Again the daily average amount is multiplied by thirty (30) to find the new average payment amount. The average monthly payment amount is calculated each and every month in this manner.

The difference between the actual billings and the AMP Plan billings will be carried in a deferred balance. Both the debit and credit differences will accumulate in the deferred balance for the duration of the AMP Plan year, which is twelve consecutive billings months. At the end of the AMP Plan year (anniversary month), the current month's billing plus the eleven (11) preceding month's billing is summed and divided by the total billing days associated with the billings to determine a per day average. That result is multiplied by thirty (30) to calculate the AMP Plan's monthly payment amount. In addition, the net accumulated deferred balance is divided by 12. This result is added or subtracted to the calculated average payment amount starting with the next billing of the new AMP plan year and will be used in the average payment amount calculation for the remaining AMP plan year. Settlement occurs only when participation in the AMP Plan is terminated. This happens if any account is final billed, if the customer requests termination, or at the Company's discretion when the customer fails to make two or more consecutive monthly payments on an account by the due date. The deferred balance (debit or credit) is then applied to the billing now due.

In such instances where sufficient billing history is not available, an AMP Plan may be established by using the actual billing history available throughout the first AMP Plan year.

**C. All Payments.**

All bills are payable at the business offices or authorized collection agencies of the Company within the time limits specified in the tariff. Failure to receive a bill will not entitle a Customer to any discount or to the remission of any charges for non-payment within the time specified. The word "month" as used herein and in the tariffs is hereby defined to be the elapsed time between 2 successive meter readings approximately 30 days apart.

In the event of the stoppage of or the failure of any meter to register the full amount of energy consumed, the Customer will be billed for the period based on an estimated consumption of energy in a similar period of like use.

The tariffs of the Company are met if the account of the Customer is paid within the time limit specified in the tariff applicable to the Customer's service. To discourage delinquency and encourage prompt payment within the specified time limit, certain tariffs contain a delayed payment charge, which may be added in accordance with the tariff under which service is provided. Any one delayed payment charge billed against the Customer for non-payment of bill or any one forfeited discount applied against the Customer for non-payment of bill may be remitted, provided the Customer's previous accounts are paid in full and provided no delayed payment charge or forfeited discount has been remitted under this clause during the preceding 6 months.

**6. UNDERGROUND SERVICE.**

When a real estate developer desires an underground distribution system within the property which he is developing or when a Customer desires an underground service, the real estate developer or the Customer, as the case may be, shall pay the Company the difference between the anticipated cost of the underground facilities so requested and the cost of the overhead facilities which would ordinarily be installed in accordance with 807 KAR 5:041, Section 21, and the Company's underground service plan as filed with the Public Service Commission. Upon receipt of payment, the Company will install the underground facilities and will own, operate and maintain the same.

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**7. COMPANY'S LIABILITY**

The Company will use reasonable diligence in furnishing a regular and uninterrupted supply of energy, but does not guarantee uninterrupted service. The Company shall not be liable for damages in case such supply should be interrupted or fail by reason of an event of Force Majeure. Force Majeure consists of an event or circumstance which prevents Company from providing service, which event or circumstance was not anticipated, which is not in the reasonable control of, or the result of negligence of, the Company, and which, by the exercise of due diligence, Company is unable to overcome or avoid or causes to be avoided. Force Majeure events includes act of God, the public enemy, accidents, labor disputes, orders or acts of civil or military authority, breakdowns or injury to the machinery, transmission lines, distribution lines or other facilities of the Company, or extraordinary repairs.

Unless otherwise provided in a contract between the Company and Customer, the point at which service is delivered by Company to Customer, to be known as "delivery point," shall be the point at which the Customer's facilities are connected to the Company's facilities. The metering device is the property of the Company. The meter base, connection, grounds and all associated internal parts inside the meter base are customer owned and are the responsibility of the customer to install and maintain. The Company shall not be liable for any loss, injury, or damage resulting from the Customer's use of their equipment or occasioned by the energy furnished by the Company beyond the delivery point.

Beginning September 1, 2014 and thereafter, any new installation, upgrade or other modification of an existing meter installation shall be made using only Company supplied or approved meter bases. A list of Company-approved meter bases and specifications can be found on the Company's website at: [www.kentuckypower.com](http://www.kentuckypower.com).

The Customer shall provide and maintain suitable protective devices on their equipment to prevent any loss, injury or damage that might result from single phasing conditions or any other fluctuation or irregularity in the supply of energy. The Company shall not be liable for any loss, injury or damage resulting from a single phasing condition or any other fluctuation or irregularity in the supply of energy which could have been prevented by the use of such protective devices. The Company shall not be liable for any damages, whether direct, incidental or consequential, including, without limitation, loss of profits, loss of revenue, or loss of production capacity occasioned by interruptions, fluctuations, or irregularity in the supply of energy.

The Company is not responsible for loss or damage caused by the disconnection or reconnection of its facilities. The Company is not responsible for loss or damages caused by the theft or destruction of Company facilities by a third party.

The Company will provide and maintain the necessary line or service connections, transformers (when same are required by conditions of contract between the parties thereto), meters and other apparatus, which may be required for the proper measurement of and protection to its service. All such apparatus shall be and remain the property of the Company.

**8. CUSTOMER'S LIABILITY**

In the event of loss or injury to the property of the Company through misuse by, or the negligence of, the Customer or the employees of the same, the cost of the necessary repairs or replacement thereof shall be paid to the Company by the Customer.

Customers will be responsible for tampering with, interfering with, or breaking of seals of meters, or other equipment of the Company installed on the Customer's premises. The Customer hereby agrees that no one except the employees of the Company shall be allowed to make any internal or external adjustments of any meter or any other piece of apparatus, which shall be the property of the Company.

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**8. CUSTOMER'S LIABILITY (Cont'd)**

The Company shall have the right at all reasonable hours to enter the premises of the Customer for the purpose of installing, reading, removing, testing, replacing or otherwise disposing of its apparatus and property, and the right of entire removal of the Company's property in the event of the termination of the contract for any cause.

**9. EXTENSION OF SERVICE.**

The electric facilities of the Company shall be extended or expanded to supply electric service to all residential Customers and small commercial Customers which require single phase line where the installed transformer capacity does not exceed 25 KVA in accordance with 807 KAR 5:041, Section 11.

The electric facilities of the Company shall be extended or expanded to supply electric service to Customers other than those named in the above paragraph when the estimated revenue is sufficient to justify the estimated cost of making such extensions or expansions as set forth below.

For service to be delivered to Commercial, Industrial, Mining and multiple housing project Customers up to and including estimated demands of 500 KW requiring new facilities, the Company will: (a) where the estimated revenue for one year exceeds the estimated installed cost of new local facilities required, provide such new facilities at no cost to the Customer; (b) where the estimated revenue for one year is less than the installed cost of new local facilities required, the Customer will be required to pay a contribution in aid of construction equal to the difference between the installed cost of the new facilities required to serve the load and the estimated revenue for one year; (c) if the Company has reason to question the financial stability of the Customer and/or the life of the operation is uncertain or temporary in nature, such as construction projects, oil and gas well drilling, sawmills and mining operations, the Customer shall pay a contribution in aid of construction, consisting of the estimated labor cost to install and remove the facilities required plus the cost of unsalvageable material, before the facilities are installed.

For service to be delivered to Customers with demand levels higher than those specified above, the annual cost to serve the Customer's requirements shall be compared with the estimated revenue for one year to determine if a contribution in aid of construction, and/or a special minimum and/or other arrangement may be necessary. The annual cost to serve shall be the sum of the following components:

1. The annual fixed costs of the generation, transmission and distribution facilities related to the Customer's requirements. These fixed costs will be calculated at 21.95% of the value to be based on the year-end embedded investment depreciated in all similar facilities of the Company.
2. The annual energy costs based on the latest available production costs related to the Customer's estimated annual energy use requirements.
3. The annual fixed costs of the new local facilities necessary to provide the service requested calculated at 21.95% of the installed cost of such facilities.

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

9. **EXTENSION OF SERVICE (Cont'd)**

If the estimated revenue for one year is greater than the cost to serve as described herein, the Company may provide any new local facilities required at no cost to the Customer. If the estimated revenue for one year is less than the cost to serve as described herein, the Company will require the Customer to pay a contribution in aid of construction equal to the difference between the annual cost to serve as calculated and the estimated revenue for one year divided by 21.95%, but in no case to exceed the installed cost of the new facilities required. If, however, the annual cost to serve excluding the cost of new facilities paid for by the Customer exceeds the estimated revenue for one year, the Company, will, in addition to a contribution in aid of construction, require a special minimum or other arrangement to compensate the Company for such deficiency in revenue.

Except where service is rendered in accordance with 807 KAR 5:041, Section 11, as described herein, the company may require the Customer to execute an Advance and Refund Agreement where the Company reasonably questions the longevity of the service or the estimated energy use and demand requirements provided by the Customer. Under the Advance and Refund Agreement, the Customers shall pay the company the estimated total installed cost of the required new facilities which advance could be refunded over a five year period under certain circumstances. Over the five year period the Customer' electric bill would be credited each month up to the amount of 1/60<sup>th</sup> of the total amount advanced.

10. **EXTENSION OF SERVICE TO MOBILE HOME.**

The electrical facilities of the Company will be extended or expanded to supply electric service to mobile homes in accordance with 807 KAR 5:041, Section 12.

11. **LOCATION AND MAINTENANCE OF COMPANY'S EQUIPMENT.**

The Company shall have the right to construct its poles, lines and circuits on the property, and to place its transformers and other apparatus on the property or within the building of the Customer, at a point or points convenient for such purposes, as required to serve such Customer, and the Customer shall provide suitable space for the installation of necessary measuring instruments so that the latter may be protected from injury by the elements or through the negligence or deliberate acts of the Customer or of any employee of the same.

12. **BILLING FORM.**

Pursuant to 807 KAR 5:006, Section 7 (3) copies of the billing forms used by the Company are shown on Sheet Nos. 2-12 thru 2-17.

13. **RATE SCHEDULE SELECTION.**

The Company will explain to the Customer, at the beginning of service or upon request the Company's rates available to the Customer. Company will assist Customer in the selection of the rate schedule best adapted to Customer's service requirements, provided, however, that Company does not assume responsibility for the selection or that Customer will at all times be served under the most favorable rate schedule.


Customer may change their initial rate schedule selection to another applicable rate schedule at any time by either written notice to Company and/or by executing a new contract for the rate schedule selected, provided that the application of such subsequent selection shall continue for 12 months before any other selection may be made. In no case will the Company refund any monetary difference between the rate schedule under which service was billed in prior periods and the newly selected rate schedule.

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**14. MONITORING USAGE.**

At least once ~~annually~~ *quarterly* the Company will monitor the usage of each customer according to the following procedure:

1. The Customer's monthly usage will be compared with the usage of the corresponding period of the previous year.
2. If the monthly usage for the two periods is substantially the same or if any difference is known to be attributed to unique circumstances, such as unusual weather conditions, common to all customers, no further review will be made.
3. If the monthly usage is not substantially the same and cannot be attributed to a readily identified common cause, the Company will compare the Customer's monthly usage records for the 12-month period with the monthly usage for the same months of the preceding year.
4. If the cause for the usage deviation cannot be determined from analysis of the Customer's meter reading and billing records, the Company will contact the Customer to determine whether there have been changes that explain the increased or decreased usage.
5. Where the deviation is not otherwise explained, the Company will test the Customer's meter to determine whether it shows an average error greater than 2 percent fast or slow.
6. The Company will notify the customers of the investigation, its findings, and any refunds or back billing in accordance with 807 KAR 5:006, Section 11(4) and (5).

In addition to the ~~annually~~ *quarterly* monitoring, the Company will immediately investigate usage deviations brought to its attention as a result of its on-going meter reading, billing processes, or customer inquiry.

**15. USE OF ENERGY BY CUSTOMER.**

The tariffs for electric energy given herein are classified by the character of use of such energy and are not available for service except as provided herein.

Upon the expiration of an electric service contract, if required by the terms of the tariff, the Customer may elect to renew the contract upon the same or another tariff published by the Company available to the Customer and applicable to the Customer's requirements, except that in no case shall the Company be required to maintain transmission, switching or transformation equipment different from or in addition to that generally furnished to other Customers receiving electrical supply under the terms of the tariff elected by the Customer.

The service connections, transformers, meters and appliances supplied by the Company for each Customer have a definite capacity and no additions to the equipment, or load connected thereto, will be allowed except by consent of the Company.

The Customer shall install only motors, apparatus or appliances which are suitable for operation with the character of the service supplied by the Company, and which shall not be detrimental to same, and the electric energy must not be used in such a manner as to cause unprovided for voltage fluctuations or disturbances in the Company's transmission or distribution system. The Company shall be the sole judge as to the suitability of apparatus or appliances, and also as to whether the operation of such apparatus or appliances is or will be detrimental to its general service.

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**15. USE OF ENERGY BY CUSTOMER. (Cont'd)**

No attachment of any kind whatsoever may be made to the Company's lines, poles, cross arms, structures or other facilities without the express written consent of the Company.

All apparatus used by the Customer shall be of such type as to secure the highest practicable commercial efficiency, power factor and the proper balancing of phases. Motors which are frequently started or motors arranged for automatic control must be of a type to give maximum starting torque with minimum current flow, and must be of a type, and equipped with controlling devices, approved by the Company. The Customer agrees to notify the Company of any increase or decrease in his connected load.

The Company will not supply service to Customers who have other sources of electrical energy supply except under tariffs, which specifically provide for same.

The Customer shall not be permitted to operate generating equipment in parallel with the Company's service except with express written consent of the Company.

Resale of energy will be permitted only with express written consent by the Company.

**16. RESIDENTIAL SERVICE.**

~~Individual~~ Except as otherwise provided in these tariffs, individual residences shall be served individually with single-phase service under the applicable residential service tariff. Customer may not take service for 2 or more separate residences through a single point of delivery under any tariff. Exclusions may be allowed pursuant to 807 KAR 5:046 (Prohibition of master metering).

The residential service tariff shall cease to apply to that portion of a residence which becomes regularly used for business, professional, institutional or gainful purposes, which requires three phase service or which requires service to motors in excess of 10 HP each. Under these circumstances, Customer shall have the choice of: (1) separating the wiring so that the residential portion of the premises is served through a separate meter under the residential service tariff and the other uses as enumerated above are served through a separate meter or meters under the applicable general service tariff; or (2) taking the entire service under the applicable general service tariff.

Detached building or buildings, actually appurtenant to the residence, such as a garage, stable or barn, may be served by an extension of the Customer's residence wiring through the residence meter and under the applicable residential service tariff.

**17. DENIAL OR DISCONTINUANCE OF SERVICE.**

The Company reserves the right to refuse to or discontinue service to any applicant or customer for service or to discontinue to serve any Customer if the applicant or customer is indebted to the Company for any service theretofore rendered at any location; provided however, the applicant or customer shall be notified in writing in accordance with 807 KAR 5:006, Section 15, before disconnection of service.

Any discontinuance of service shall not terminate the contract for electric service between the Company and the applicant or customer nor shall it abrogate any minimum charge, which may be effective.

(Cont'd on Sheet No. 2-10)

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TERMS AND CONDITIONS OF SERVICE (Cont'd)

18. EMPLOYEE'S DISCOUNT.

Regular employees who have been in the Company's employ for 6 months or more may, at the discretion of the Company, receive a reduction in their residence electric bills for the premises occupied by the employee.

19. SPECIAL CHARGES.

A. Reconnection and Disconnect Charges

In cases where the Company has discontinued service as herein provided for, the Company reserves the right to assess a reconnection charge pursuant to 807 KAR 5:006, Section 9 (3)(b), payable in advance, in accordance with the following schedule. However, those Customers qualifying for Winter Hardship Reconnection under 807 KAR 5:006 Section 16 shall be exempt from the reconnect charges.

- 1. Reconnect for nonpayment during regular hours.....\$ ~~12.94~~ \$ 21.00
- 2. Reconnect at the end of the day (No "Call Out" required)..... \$ ~~17.26~~ \$ 30.00
- 3. Reconnect for nonpayment when a "Call Out" is required *prior to 10:00 PM*  
(A "Call Out" is when an employee must be called in to work on an overtime basis to make the reconnect trip. *Reconnection for nonpayment will not be made when a "Call Out" after 10:00 p.m. is required*)..... \$ ~~35.95~~ \$ 95.00
- 4. Reconnect for nonpayment when double time is required  
(Sunday and Holiday)..... \$ ~~44.58~~ \$124.00
- 5. Termination or field trip..... \$ ~~8.63~~ \$ 13.00

The reconnection charge for all Customers where service has been disconnected for fraudulent use of electricity will be the actual cost of the reconnection.

B. Meter Reading Check

*Pursuant to 807 KAR 5:006, Section 9 (3) (d) in cases where a customer requests a meter be reread, and the second reading shows the original reading was correct, the Customer will be charged a fee of \$21.00 to cover the handling cost.*

C. Returned Check Charge

In cases where a customer pays by check, which is later returned as unpaid by the bank for any reason, the Customer will be charged a fee of ~~\$7.00~~ \$ 18.00 to cover the handling costs.

D. Meter Test Charge

Where test of a meter is made upon written request of the Customer pursuant to 807 KAR 5:006, Section 19, the Customer will be charged ~~\$14.38~~ \$ 48.00 if such test shows that the meter was not more than two percent (2%) fast.

(Cont'd on Sheet No. 2-11)

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**Residential Bill Form \_ Page 2**

Homeserve USA is optional. Homeserve USA is not the same as KPCO and is not regulated by the KY Public Service Commission. A customer does not have to buy the Warranty Service in order to continue to receive quality regulated service from KPCO.

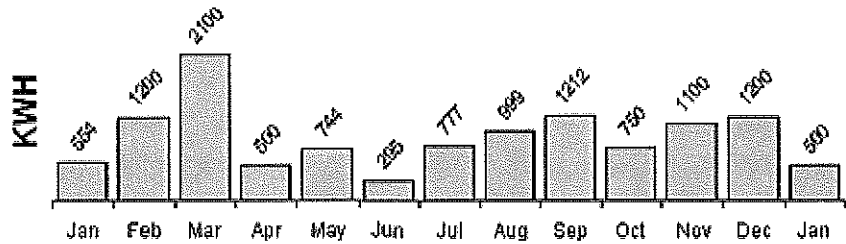
www.kyelectricalprotectionplan.com

Visit us at www.KentuckyPower.com  
 Rates available on request  
 See other side for Important Information



| Meter Number   | Service Period |       | Meter Reading Detail    |        |         |        |
|--|----------------|-------|-------------------------|--------|---------|--------|
| 999999999  | From           | To    | Previous                | Code   | Current | Code   |
|  | MM/DD          | MM/DD | XXXXX                   | Actual | XXXXX   | Actual |
| Multiplier X.XXXX  |                |       | Metered Usage X,XXX KWH |        |         |        |
| Next scheduled read date should be between MM/DD and MM/DD |                |       |                         |        |         |        |

**13 Month Usage History** **Total KWH for Past 12 Months is XX,XXX**



| Month                                 | Total KWH | Days | KWH Per Day | Cost Per Day | Average Temperature |
|---------------------------------------|-----------|------|-------------|--------------|---------------------|
| Current                               | XXX       | XX   | X,XXX       | \$XXX.XX     | 66° F               |
| Previous                              | XXX       | XX   | X,XXX       | \$XXX.XX     | 66° F               |
| One Year Ago                          | XXX       | XX   | X,XXX       | \$XXX.XX     | 48° F               |
| Your Average Monthly Usage: X,XXX KWH |           |      |             |              |                     |

(Cont'd on Sheet No. 2-14)

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

**Small Commercial Bill Form – Page 2**

Having a phone number for this address can help us serve you better, especially when storms cause service interruptions.

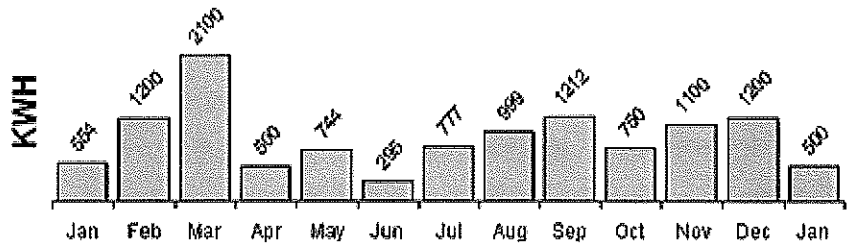
Visit us at [www.KentuckyPower.com](http://www.KentuckyPower.com)  
 Rates available on request  
 See other side for Important Information



| Meter  | Service Period |       | Meter Reading Detail    |        |         |        |
|--|----------------|-------|-------------------------|--------|---------|--------|
| Number   | From           | To    | Previous                | Code   | Current | Code   |
| 999999999  | MM/DD          | MM/DD | XXXX                    | Actual | XXXX    | Actual |
| Multiplier X.XXXX  |                |       | Metered Usage X,XXX KWH |        |         |        |
| Next scheduled read date should be between MM/DD and MM/DD |                |       |                         |        |         |        |

**13 Month Usage History**

**Total KWH for Past 12 Months is XX,XXX**



| Month        | Total KWH | Days | KWH Per Day | Cost Per Day | Average Temperature |
|--------------|-----------|------|-------------|--------------|---------------------|
| Current      | XXX       | XX   | X,XXX       | \$XXX.XX     | 66° F               |
| Previous     | XXX       | XX   | X,XXX       | \$XXX.XX     | 66° F               |
| One Year Ago | XXX       | XX   | X,XXX       | \$XXX.XX     | 48° F               |

Your Average Monthly Usage: X,XXX KWH

(Cont'd on Sheet No. 2-16)

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**TERMS AND CONDITIONS OF SERVICE (Cont'd)**

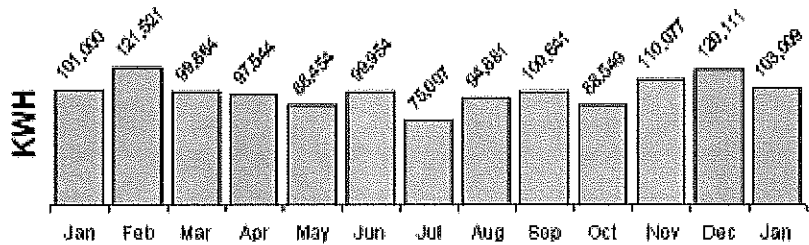
**Large Commercial and Industrial Bill Form – Page 2**

Send Inquiries To:  
 PO BOX 24401  
 CANTON, OH 44701-4401  
 R-00-99999999

Service Address:  
 KPC LARGE POWER CUSTOMER  
 123 ANY STREET  
 ANY CITY, KY 99999-9999

| Meter               | Service Period |       | Meter Reading Detail          |        |         |        |
|---------------------|----------------|-------|-------------------------------|--------|---------|--------|
| Number              | From           | To    | Previous                      | Code   | Current | Code   |
| 999999999           | MM/DD          | MM/DD | XXXX                          | Actual | XXXXXX  | Actual |
| Multiplier XXXXXXXX |                |       | Metered Usage XXXXXXXX KWH    |        |         |        |
| 999999999           | MM/DD          | MM/DD | XXXX                          | Actual | XXXXXX  | Actual |
| Multiplier XXXXXXXX |                |       | Metered Usage XXXXXXXX KW     |        |         |        |
| 999999999           | MM/DD          | MM/DD | XXXX                          | Actual | XXXXXX  | Actual |
| Multiplier XXXXXXXX |                |       | Metered Usage XXXXXXXX KVAR H |        |         |        |

Next Scheduled read date should be between MM/DD and MM/DD  
 13 Month Usage History Total KWH for Past 12 Months is X,XXX,XXX



Stealing copper is illegal and can have deadly consequences. Reporting copper theft could save a life. If you have any information, please call 1-800-747-5845.

Having a phone number for this address can help us serve you better, especially when storms cause service interruptions.

Visit us at [www.KentuckyPower.com](http://www.KentuckyPower.com)  
 Rates available on request  
 See other side for important information



| Meter Number | Cycle-Route | Bill Date |
|--------------|-------------|-----------|
| 999999999    | 99-99       | MM/DD/YY  |

| Month        | Total KWH | Days | KWH Per Day | Cost Per Day | Average Temperature |
|--------------|-----------|------|-------------|--------------|---------------------|
| Current      | XXX,XXX   | XX   | X,XXX       | \$XXX.XX     | 66° F               |
| Previous     | XXX,XXX   | XX   | X,XXX       | \$XXX.XX     | 66° F               |
| One Year Ago | XXX,XXX   | XX   | X,XXX       | \$XXX.XX     | 49° F               |

Your Average Monthly Usage: XXX,XXX KWH

| Adjusted Usage MM/YY |        |              |                |
|----------------------|--------|--------------|----------------|
|                      | Power  | Power Factor | Comp. Meter    |
|                      | Factor | Constant     | Multiplier     |
| Metered Usage        | {XX.X} | {XXX.XXXX}   |                |
| XXX,XXX              |        |              | Billing Usage  |
| XXX,XXX              |        |              | XXX,XXX KWH    |
| XXX,XXX              |        |              | XXX,XXX KW     |
|                      |        |              | XXX,XXX KVAR H |

Contract Capacity = XXXXXX High Prev Demand = X,XXX.X On-Pk  
 High Prev Demand = X,XXX.X Off-Pk

**Additional Messages**

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**CAPACITY AND ENERGY CONTROL PROGRAM**

The Company's Capacity and Energy Control Program consists of:

- I. Procedures During Abnormal System Frequency
- II. Capacity Deficiency Program
- III. Energy Emergency Control Program

A copy of the Company's Emergency Operating Plan was filed with the Kentucky Public Service Commission on May 1, 2008 2014 in Administrative Case No. ~~353~~ 345 in compliance with the Commission's Order dated ~~January 20, 1995~~ May 18, 1993.

**I. PROCEDURES DURING ABNORMAL SYSTEM FREQUENCY**

**A. INTRODUCTION**

Precautionary procedures are required to meet emergency conditions such as system separation and operation at subnormal frequency. In addition, the coordination of these emergency procedures with neighboring companies is essential. The AEP program, which is in accordance with ECAR Document 3, is noted below.

**B. PROCEDURES AEP/PJM**

- 1. From 59.8 – 60.2 Hz to the extent practicable utilize all operating and emergency reserves. The manner of utilization of these reserves will depend greatly on the behavior of the System during the emergency. For rapid frequency decline, only that capacity on-line and automatically responsive to frequency (spinning reserve), and such items as interconnection assistance and load reductions by automatic means are of assistance in arresting the decline in frequency.

If the frequency decline is gradual, the Generation/Production Optimization Group, particularly in the deficient area, should invoke non-automatic procedures involving operating and emergency reserves. These efforts should continue until the frequency decline is arrested or until automatic load-shedding devices operate at subnormal frequencies.

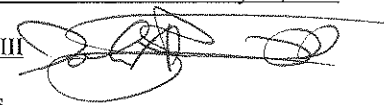
- 2. At 59.75 Hz
  - a. Suspend Automatic Generation Control (AGC)
  - b. Notify Interruptible Customers to drop load
- 3. At 59.5 Hz automatically shed 5% of System internal load, excluding interruptibles, by relay action. (25 cycle, .42 sec. delay)
- 4. At 59.4 Hz automatically shed an additional 5% of System internal load, excluding interruptibles, by relay action. (25 cycle, .42 sec. delay)
- 5. At 59.3 Hz automatically shed an additional 5% of System internal load, excluding interruptibles, by relay action. (25 cycle, .42 sec. delay)
- 6. At 59.1 Hz automatically shed an additional 5% of System internal load, excluding interruptibles, by relay action. (25 cycle, .42 sec. delay)
- 7. At 59.0 Hz automatically shed an additional 5% of System internal load, excluding interruptibles, by relay action. (25 cycle, .42 sec. delay)
- 8. At 58.9 Hz automatically shed an additional 5% of System internal load, excluding interruptibles, by relay action. (25 cycle, .42 sec. delay)

(Cont'd on Sheet 3-2)

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**CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)**

**PROCEDURES DURING ABNORMAL SYSTEM FREQUENCY (cont'd)**

- 9. At 58.2 Hz automatically trip the D.C. Cook Nuclear Units 1 and 2.
- 10. At 58.0 Hz or at generator minimum turbine off-frequency value, isolate generating unit without time delay.

If at any time in the above procedure the decline in area frequency is arrested below 59.0 Hz, that part of the System in the low frequency area should shed an additional 10% of its initial load. If, after five minutes, this action has not returned the area frequency to 59.0 Hz or above, that part of the System shall shed an additional 10% of its remaining load and continue to repeat in five-minute intervals until 59.0 Hz is reached. These steps must be completed within the time constraints imposed upon the operation of generating units.

**II. CAPACITY DEFICIENCY PROGRAM**

A. PURPOSE

To provide a plan for full utilization of emergency capacity resources and for orderly reduction in the aggregate customer demand on the American Electric Power (AEP) East/PJM Eastern System in the event of a capacity deficiency.

B. CRITERIA

The goals of AEP are to safely and reliably operate the interconnected network in order to avoid widespread system outages as a consequence of a major disturbance. Precautionary procedures including maintaining Daily Operating Reserves, as specified in ECAR document 2, and PJM Manual M13, will assist in avoiding serious emergency conditions such as system separation and operation at abnormal frequency. However, adequate Daily Operating Reserves cannot always be maintained, so the use of additional emergency measures may be required. A Capacity Deficiency is a shortage of generation versus load and can be caused by generating unit outages and/or extreme internal load requirements.

C. AEP EAST/PJM PROCEDURES

(note: the following section contains excerpts from PJM Manual – M13)

OVERVIEW

PJM is responsible for determining and declaring that an Emergency is expected to exist, exists, or has ceased to exist in any part of the PJM RTO or in any other Control Area that is interconnected directly or indirectly with the PJM RTO. PJM directs the operations of the PJM Members as necessary to manage, allocate, or alleviate an emergency.

- ~~PJM RTO~~ PJM RTO Reserve Deficiencies — If PJM determines that PJM-scheduled resources available for an Operating Day in combination with Capacity Resources operating on a self-scheduled basis are not sufficient to maintain appropriate reserve levels for the PJM RTO, PJM performs the following actions:
- Recalls energy from Capacity Resources that otherwise deliver to loads outside the Control Area and dispatches that energy to serve load in the Control Area.
- Purchases capacity or energy from resources outside the Control Area. PJM uses its best efforts to purchase capacity or energy at the lowest prices available at the time such capacity or energy is needed. The price of any such capacity or energy is not considered in determining Locational Marginal Prices in the PJM Energy Market. The cost of capacity or energy is allocated among the Market Buyers as described in the PJM Manual for Operating Agreement Accounting (M-28)

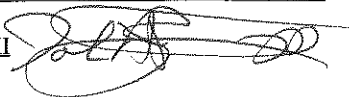
The AEP System Control Center will be referred to as SCC and the AEP Production Optimization Group will be referred to as POG.

(Cont'd on Sheet No. 3-3)

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**CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)****AEP EAST/PJM PROCEDURES (cont'd)****CAPACITY SHORTAGES**

PJM is responsible for monitoring the operation of the PJM RTO, for declaring the existence of an Emergency, and for directing the operations of the PJM Member as necessary to manage, alleviate, or end an Emergency. PJM also is responsible for transferring energy on the PJM Members behalf to meet an Emergency. PJM is also responsible for agreements with other Control Areas interconnected with the PJM RTO for the mutual provision of service to meet an Emergency.

Exhibit 1 illustrates that there are three general levels of emergency actions for capacity shortages:

- alerts
- warnings
- actions

**ALERTS**

The intent of the alerts is to keep all affected system personnel aware of the forecast and/or actual status of the PJM RTO. All alerts and cancellation thereof are broadcast on the "ALL-CALL" system and posted to selected PJM web sites to assure that all members receive the same information.

Alerts are issued in advance of a scheduled load period to allow sufficient time for members to prepare for anticipated initial capacity shortages.

**Maximum Emergency Generation Alert**

The purpose of the Maximum Emergency Generation Alert is to provide an early alert that system conditions may require the use of the PJM emergency procedures. It is implemented when Maximum Emergency Generation is called into the operating capacity.

**Primary Reserve Alert**

The purpose of the Primary Reserve Alert is to alert members of the anticipated shortage of operating reserve capacity for a future critical period. It is implemented when estimated operating reserve capacity is less than the forecast primary reserve requirement.

**Voltage Reduction Alert**

The purpose of the Voltage Reduction Alert is to alert members that a voltage reduction may be required during a future critical period. It is implemented when the estimated operating reserve capacity is less than the forecast spinning reserve requirement.

**Voluntary Customer Load Curtailment Alert**

The purpose of the Voluntary Customer Load Curtailment Alert is to alert members of the probable future need to implement a voluntary customer load curtailment. It is implemented whenever the estimated operating reserve capacity indicates a probable future need for voluntary customer load curtailment.

**Warnings**

Warnings are issued during present operations to inform members of actual capacity shortages or contingencies that may jeopardize the reliable operation of the PJM RTO. The intent of warnings is to keep all affected system personnel aware of the forecast and/or actual status of the PJM RTO. All warnings and cancellations are broadcast on the "ALL-CALL" system and posted to selected PJM web sites to assure that all members receive the same information.

**Primary Reserve Warning**

The purpose of the Primary Reserve Warning is to warn members that the available primary reserve is less than required and present operations are becoming critical. It is implemented when available primary reserve capacity is less than the primary reserve requirement, but greater than the spinning reserve requirement, after all available secondary reserve capacity (except restricted maximum emergency capacity) is brought to a primary reserve status and emergency operating capacity is scheduled from adjacent systems.

(Cont'd on Sheet 3-4)

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**CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)****AEP EAST/PJM PROCEDURES (cont'd)****Voltage Reduction Warning & Reduction of Non-Critical Plant Load**

The purpose of the Voltage Reduction Warning & Reduction of Non-Critical Plant Load is to warn members that the available spinning reserve is less than the Spinning Reserve Requirement and that present operations have deteriorated such that a voltage reduction may be required. It is implemented when the available spinning reserve capacity is less than the spinning reserve requirement, after all available secondary and primary reserve capacity (except restricted maximum emergency capacity) is brought to a spinning reserve status and emergency operating capacity is scheduled from adjacent systems.

**Manual Load Dump Warning**

The purpose of the Manual Load Dump Warning is to warn members of the increasingly critical condition of present operations that may require manually dumping load. It is issued when available primary reserve capacity is less than the largest operating generator or the loss of a transmission facility jeopardizes reliable operations after all other possible measures are taken to increase reserve. The amount of load and the location of areas(s) are specified.

**Actions**

The PJM RTO is normally loaded according to bid prices; however, during periods of reserve deficiencies, other measures must be taken to maintain system reliability. These measures involve:

- Loading generation that is restricted for reasons other than cost
- Recalling non-capacity backed off-system sales
- Purchasing emergency energy from participants / surrounding pools
- Load relief measures

The procedures to be used under these circumstances are described in the general order in which they are applied. Due to system conditions and the time required to obtain results, PJM dispatcher may find it necessary to vary the order of application to achieve the best overall system reliability. Issuance and cancellation of emergency procedures are broadcast over the "ALL-CALL" and posted to selected PJM web sites. Only affected systems take action. PJM dispatcher broadcasts the current and projected PJM RTO status periodically using the "ALL-CALL" during the extent of the implementation of the emergency procedures.

**Maximum Emergency Generation**

The purpose of the Maximum Emergency Generation is to increase the PJM RTO generation above the maximum economic level. It is implemented whenever generation is needed that is greater than the highest incremental cost level.

**Load Management Curtailments (ALM)****Steps 1 and 2 (PJM Control)**

The purpose of the Load Management Curtailments, Steps 1 and 2, is to provide additional load relief by using PJM controllable load management programs. Steps 1 and 2 are differentiated only by the expected time to implement. Load relief is required after initiating Maximum Emergency Generation.

**Step 1: Short Time Frame to Implement (1 Hour or Less)**

- PJM dispatcher requests members to implement Load Management Curtailment, Step 1.

**Step 2: Long Time Frame To Implement (Greater Than 1 Hour)**

- PJM dispatcher requests members to implement Load Management Curtailment, Step 2.

**Steps 3 and 4 (SCC Control)**

The purpose of the Local Control Center Programs of Load Management Curtailments, Steps 3 and 4, is to provide additional load relief by requesting use of Local Control Center load management programs.

(Cont'd on Sheet No. 3-5)

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**CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)****Actions (cont'd)****Load Reduction Program**

The purpose of the Load Reduction Action is to request end-use customers to reduce load during emergency conditions.

**Voltage Reduction**

The purpose of Voltage Reduction during capacity deficient conditions is to reduce load to provide a sufficient amount of reserve to maintain tie flow schedules and preserve limited energy sources. A curtailment of non-essential building load is implemented prior to or at this same time as a Voltage Reduction Action. It is implemented when load relief is still needed to maintain tie schedules.

**Note:** Voltage reductions can also be implemented to increase transmission system voltage.

**Note:** Curtailment of non-essential building load may be implemented prior to, but not later than, the same time as a voltage reduction.

**Curtailment of Non-Essential Building Load**

The purpose of the Curtailment of Non-Essential Building Load is to provide additional load relief, to be expedited prior to, but no later than the same time as a voltage reduction.

**Voluntary Customer Load Curtailment**

The purpose of the Voluntary Customer Load Curtailment (VCLC) is to provide further load relief. It is implemented when the estimated peak load minus the relief expected from curtailment of non-essential building load and a 2.5% - 5% voltage reduction is greater than operating capacity.

PJM/SCC – Public Appeal to conserve electricity usage

**Manual Load Dump**

The purpose of the Manual Load Dump is to provide load relief when all other possible means of supplying internal PJM RTO load have been used to prevent a catastrophe within the PJM RTO or to maintain tie schedules so as not to jeopardize the reliability of the other interconnected regions. It is implemented when the PJM RTO cannot provide adequate capacity to meet the PJM RTO's load or critically overloaded transmission lines or equipment cannot be relieved in any other way and/or low frequency operation occurs in the PJM RTO, parts of the PJM RTO, or PJM RTO and adjacent Control Areas that may be separated as an island.

**Addendum to Manual Load Dump Procedures**

AEP understands that PJM intends to implement these curtailment protocols consistent with the agreements that PJM entered into in Kentucky and Virginia, in Stipulations approved by the Kentucky Public Service Commission and Virginia State Corporation Commission (with modifications) in Case No. 2002-00475 and Case No. PUE-2000-00550, respectively.

**Capacity Deficiency Summary**

A summary of the emergency alerts, warning and actions, together with the typical sequence and the method of communication, are presented in the following Table III-2 on Tariff Sheet No. 3-6.

(Cont'd on Sheet No. 3-6)

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**CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)**

|                |  | Communications   | Description   |   |                                     |
|----------------|--|--|---|---|-------------------------------------|
| <b>Alert</b>   | Maximum Emergency Generation                                   | PJM-POG via All-Call<br>PJM-SCC via All-Call<br>SCC-TDC                | SCC/POG review scheduled or actual maintenance affecting capacity or critical transmission to determine if it can be deferred or cancelled          | EEA 1   |                                     |
|                | Primary Reserve  | PJM-POG via All-Call<br>PJM-SCC via All-Call<br>SCC-TDC                | (Same as above)   |   |                                     |
|                | Voltage Reduction  | PJM-SCC via All-Call<br>SCC-TDC  | SCC/TDC to identify stations for Voltage Reduction  |   |                                     |
|                | Voluntary Customer Load Curtailment                            | PJM-POG via All-Call<br>PJM-SCC via All-Call                           | Not Applicable  |   |                                     |
| <b>Warning</b> | Primary Reserve  | PJM-POG via All-Call<br>PJM-SCC via All-Call<br>SCC-TDC                | SCC/POG ensure that all deferrable maintenance or testing affecting capacity or critical transmission is halted.                                    |   |                                     |
|                | Voltage Reduction & Reduction of Non-Critical Plant Load       | PJM-POG via All-Call<br>PJM-SCC via All-Call<br>SCC-TDC                | SCC to inform TDC to man Voltage Reduction Stations & prepare for Voltage Reduction   | POG to reduce plant load. (See Table III-4)   |                                     |
|                | Manual Load Dump   | PJM-SCC via All-Call<br>SCC- POG-Environmental Services<br>SCC-TDC-DDC | Lifting of Environmental Restrictions ( See Table III-5)  | Manual & Automatic Load Shedding  |                                     |
|                |  | Make preparations for a Public Appeal if one becomes necessary.        | Obtain permission to exceed opacity limits<br>Obtain permission to exceed heat input limits<br>Obtain permission to exceed river temperature limits | SCC/TDC will review local computer procedures and man manual load shedding stations |                                     |
| <b>Action</b>  | Maximum Emergency Generation                                   | PJM-POG via All-Call<br>PJM-SCC via All-Call                           | Supplemental Oil & Gas Firing;<br>Operate Generator Peakers;<br>Emergency Hydro;<br>Extra Load Capability   | See Table III-3   |                                     |
|                | Load Management Curtailment (ALM)                              | PJM-SCC via All-Call<br>SCC - POG                                      | Step 3 – 1267 Mws – 1 hr, 249 Mws – 2 hr  | EEA 2 (DOE Report)  |                                     |
|                | Load Reduction Program   | PJM-SCC via All-Call   | Not Applicable  |   |                                     |
|                | Voltage Reduction  | PJM-SCC via All-Call<br>SCC –TDC & SCC - POG                           | Initiate Voltage Reduction - AEP/PJM – 64 Mws   |   |                                     |
|                | Curtailment of Non-Essential Building Load                     | PJM-POG via All-Call<br>PJM-SCC via All-Call<br>SCC- Building Services | Initiate curtailment of AEP building load – 4.4 Mws   | Issued approx. same time as Voltage Reduction                                       |                                     |
|                | Voluntary Customer Load Curtailment                            | PJM-POG via All-Call<br>PJM-SCC via All-Call                           | Not Applicable  | EEA 3 (DOE Report)  |                                     |
|                | Public Appeal (may be issued at any stage of the Action items) | SCC – Corporate Communications   |   | Radio and TV alert to general public  | 2% of AEP Internal Load             |
|                |  | SCC – Customer Services  |   | Call to Industrial and Commercial Customers   | 1276 Mws - 1 hr<br>+ 320 Mws - 2 hr |
|                |  | SCC - POG  |   | Municipal and REMC Customers  | 7% of Cust. Load                    |
|                | Manual Load Dump   | PJM-SCC via All-Call<br>SCC-POG-Environmental Services<br>SCC-TDC-DDC  |   | PJM Allocation based on deficient zones   |                                     |
|                |  |  | Lift Environmental Restrictions on units<br>Selected distribution customers (manual load curtailment)   | (regains curtailed generation)<br>Execute MLD                                       |                                     |

(Cont'd on Sheet No.3-7)

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CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)Energy Emergency Alert Levels (reference NERC Appendix 5C)1. Alert 1 - All available resources in use.

## Circumstances:

- Control Area, Reserve Sharing Group, or Load Serving Entity foresees or is experiencing conditions where all available resources are committed to meet firm load, firm transactions, and reserve commitments, and is concerned about sustaining its required Operating Reserves, and
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

2. Alert 2 - Load management procedures in effect.

## Circumstances:

- Control Area, Reserve Sharing Group, or Load Serving Entity is no longer able to provide its customers' expected energy requirements, and is designated an Energy Deficient Entity.
- Energy Deficient Entity foresees or has implemented procedures up to, but excluding, interruption of firm load commitments. When time permits, these procedures may include, but are not limited to:
  - Voltage reduction
  - Emergency Curtailable Service
  - Public appeals to reduce demand
  - Interruption of non-firm end use loads in accordance with applicable contracts, for emergency, not economic reasons
  - Demand-side management
  - Utility load conservation measures

- During Alert 2, The Reliability Coordinators, Control Areas, and Energy Deficient Entities and AEP have the following responsibilities:

2.1 Notifying other Control Areas and Market Participants.

2.2 Declaration Period. The Energy Deficient Entity shall update the Reliability Coordinator of the situation at a minimum of every hour until the Alert 2 is terminated.

2.3 Share information on resource availability.

2.4 Evaluating and mitigating transmission limitations.

2.4.1 Notification of ATC adjustments.

2.4.2 Availability of generation redispatch options.

2.4.3 Evaluating impact of current Transmission Loading Relief events.

2.4.4 Initiating inquiries on reevaluating Operating Security Limits.

2.5 Coordination of emergency responses. The Reliability Coordinator shall communicate and coordinate the implementation of emergency operating responses.

2.6 Energy Deficient Entity actions. Before declaring an Alert 3, the Energy Deficient Entity must make use of available resources. This includes but is not limited to:

2.6.1 All available generation units are on line. All generation capable of being on line in the time frame of the emergency is on line including quick-start and peaking units, regardless of cost.

(Cont'd on Sheet 3-8)

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**CAPACITY AND ENERGY CONTROL PROGRAM (Cont'd)****Energy Emergency Alert Levels (reference NERC Appendix 5C) (Cont'd)**

- 2.6.2 Purchases made regardless of cost. All firm and non-firm purchases have been made regardless of cost.
- 2.6.2 Non-firm sales recalled and contractually interruptible loads and DSM curtailed. All non-firm sales have been recalled, contractually interruptible retail loads curtailed, and Demand-side Management activated within provisions of the agreements.
- 2.6.3 Operating Reserves. Operating reserves are being utilized such that the Energy Deficient Entity AEP is carrying reserves below the required minimum or has initiated emergency assistance through its operating reserve sharing program.

3. Alert 3 - Firm load interruption imminent or in progress.

## Circumstances:

- Control Area or Load Serving Entity foresees or has implemented firm load obligation interruption. The available energy to the Energy Deficient Entity, as determined from Alert 2, is only accessible with actions taken to increase transmission transfer capabilities.

- 3.1 Continue actions from Alert 2.
- 3.2 Declaration Period. The Energy Deficient Entity shall update the Reliability Coordinator of the situation at a minimum of every hour until the Alert 3 is terminated.
- 3.3 Use of Transmission short-time limits.
- 3.4 Reevaluating and revising Operating Security Limits.
- 3.4.1 AEP Energy Deficient Entity obligations. The deficient Control Area or Load Serving Entity must agree that, upon notification from its Reliability Coordinator of the situation, it will immediately take whatever actions are necessary to mitigate any undue risk to the Interconnection. These actions may include load shedding.
- 3.4.2 Mitigation of cascading failures. The Reliability Coordinator shall use his best efforts to ensure that revising Operating Security Limits would not result in any cascading failures within the Interconnection.
- 3.5 Returning to pre-emergency Operating Security Limits. Whenever energy is made available to an Energy Deficient Entity such that the transmission systems can be returned to their pre-emergency Operating Security Limits, the Control Area Coordinator Energy Deficient Entity shall notify its respective Reliability Coordinator and downgrade the Alert.
- 3.5.1 Notification of other parties. Notifications will be made via Oasis and the RCIS.
- 3.6 Reporting. Any time an Alert 3 is declared, the Control Area Coordinator Energy Deficient Entity shall complete the report listed in NERC Appendix 9B, Section C and submit this report to its respective Reliability Coordinator within two business days of downgrading or termination of the Alert. Upon receiving the report, the Reliability Coordinator shall review it for completeness and immediately forward it to the NERC staff for posting on the NERC web site. The Reliability Coordinator shall present this report to the appropriate NERC Sub-committee Reliability Coordinator Working Group at its next scheduled meeting.
4. Alert 0 - Termination. When the Energy Deficient Entity believes it will be able to supply its customers' energy requirements, it shall request of his Reliability Coordinator that the EEA be terminated.

- 4.1 Notification.

(Cont'd on Sheet No. 3-9)

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CAPACITY AND ENERGY CONTROL PROGRAMIII. ENERGY EMERGENCY CONTROL PROGRAMA. INTRODUCTION

The purpose of this plan is to provide for the reduction of the consumption of electric energy on the American Electric Power Company System in the event of a severe coal fuel shortage, such as might result from a general strike, or severe weather.

B. PROCEDURES

In the event of a potential severe coal shortage, such as one resulting from a general coal strike, the following steps will be implemented. These steps will be carried out to the extent permitted by contractual commitments or by order of the regulatory authorities having jurisdiction.

- A. To be initiated when system fuel supplies are decreased to 70% of normal target days' operation of coal-fired generation and a continued downward trend in coal stocks is anticipated:
1. Optimize the use of non-coal-fired generation to the extent possible.
  2. For individual plants significantly under 750% of normal minimum target days' supply, review the prudence of modifying economic dispatching procedures to conserve coal.
  3. If necessary discontinue all economy sales to neighboring utilities.
  4. Curtail the use of energy in company offices, plants, etc., over and above the reductions already achieved by current in-house conservation measures.
- B. To be initiated when system fuel supplies are decreased to 60% of normal target days' operation of coal-fired generation and a continued downward trend in coal stocks is anticipated:
1. Substitute the use of oil for coal, as permitted by plant design, oil storage facilities, and oil availability.
  2. Discontinue all economy and short-term sales to neighboring utilities.
  3. Limit emergency deliveries to neighboring utilities to situations where regular customers of such utilities would otherwise be dropped or where the receiving utility agrees to return like quantities of energy within 14 days.
  4. Curtail electric energy consumption by customers on Interruptible contracts to a maximum of 132 hours of use at contract demand per week.
  5. Purchase energy from neighboring systems to the extent practicable.
  6. Purchase energy from industrial customers with generation facilities to the extent practicable.
  7. Through the use of news media and direct consumer contact, appeal to all customers (retail as well as wholesale) to reduce their nonessential use of electric energy as much as possible, in any case by at least 25%.
  8. Reduce voltage around the clock to the extent feasible.
  9. The Company will advise customers of the nature of the mandatory program to be introduced in C below, through direct contact and mass media, and establish an effective means of answering specific customer inquiries concerning the impact of the mandatory program on electricity availability.

(Cont'd on Sheet 3-10)

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CAPACITY AND ENERGY CONTROL PROGRAM(Cont'd)III. ENERGY EMERGENCY CONTROL PROGRAM(Cont'd)B. PROCEDURES (Cont'd)

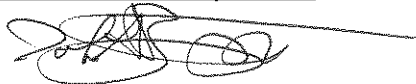
- C. To be initiated -- in the order indicated below -- when system fuel supplies are decreased to 50% of normal target days' operation of coal-fired generation plants and a continued downward trend in coal stocks is anticipated:
1. Discontinue emergency deliveries to neighboring utilities unless the receiving utility agrees to return like quantities of energy within seven days.
  2. Request all customers, retail as well as wholesale, to reduce their nonessential use of electric energy by 100%.
  3. Request, through mass communication media, curtailment by all other customers a minimum of 15% of their electric use. These uses include lighting, air-conditioning, heating, manufacturing processes, cooking, refrigeration, clothes washing and drying and any other loads that can be curtailed.
  4. All customers will be advised of the mandatory program specified below in D.
- D. To be initiated when system fuel supplies are decreased to 40% of normal target days' operation of coal-fired generation and a continued downward trend in coal stocks is anticipated:
1. Implement procedures for curtailment of service to all customers to a minimum service level that is not greater than that required for protection of human life and safety, protection of physical plant facilities and employees' security. This step asks for curtailment of the maximum load possible without endangering life, safety and physical facilities.
  2. All customers will be advised of the mandatory program specified below in E.
- E. To be initiated when system fuel supplies are decreased to 30% of normal target days' operation of coal-fired generation and a continued downward trend in coal stocks is anticipated:
- Implement procedures for interruption of selected distribution circuits on a rotational basis, while minimizing -- to the extent practicable -- interruption to facilities that are essential to the public health and safety. (See Section II, Step 14.)
- F. The Energy Emergency Control Program will be terminated when:
1. The AEP System's remaining days of operation of coal-fired generation is at least 40% of normal target days' operation, and
  2. Coal deliveries have been resumed, and
  3. There is reasonable assurance that the AEP System's coal stocks are being restored to adequate levels.

With regard to mandatory curtailments identified in Items C, D, and E above, the Company proposes to monitor compliance after the fact. A customer exceeding his electric allotment would be warned to curtail his usage or face, upon continuing noncompliance and upon one day's actual written notice, disconnection of electric service for the duration of the energy emergency.

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**STANDARD NOMINAL VOLTAGES**

The voltage available to any individual customer shall depend upon the voltage of the Company's lines serving the area in which customer is provided service.

Electric service provided under the Company's rate schedules will be 60 hertz alternating current delivered from various load centers at nominal voltages and phases as available in a given location as follows:

**SECONDARY DISTRIBUTION VOLTAGES.**

Residential Service

Single phase 120/240 volts three wire or 120/208 volts three wire on network system.

General Service - All Except Residential

Single-phase 120/240 volts three wire or 120/208 volts three wire on network system. Three-phase 120/208 volts four wire on network system, 120/240 volts four wire, 240 volts three wire, 480 volts three wire and 277/480 volts four wire.

**PRIMARY DISTRIBUTION VOLTAGES.**

The Company's primary distribution voltage levels at load centers are 2,400; 4,160Y; 7,200; 12,470Y, 19,900 and 34,500Y.

**SUBTRANSMISSION LINE VOLTAGES.**

The Company's sub transmission voltage levels are 19,900; 34,500; 46,000; and 69,000.

**TRANSMISSION LINE VOLTAGES.**

The Company's transmission voltage levels are 138,000; 161,000; 345,000; and 765,000.

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**TARIFF F.A.C.**  
**(Fuel Adjustment Clause)**

**APPLICABLE.**

To Tariffs R.S., Experimental R.S.T.O.D. 2, R.S.-L.M.-T.O.D. R.S.-T.O.D., S.G.S., Experimental S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S. T.O.D., Q.P., C.I.P.-T.O.D. I.G.S., C.S.-I.R.P., M.W., O.L., and S.L.

T

**RATE.**

1. The fuel clause shall provide for periodic adjustment per kwh of sales equal to the difference between the fuel costs per kwh of sales in the base period and in the current period according to the following formula:

$$\text{Adjustment Factor} = \frac{F(m)}{S(m)} - \frac{F(b)}{S(b)}$$

Where F is the expense of fossil fuel in the base (b) and current (m) periods; and S is sales in the base (b) and current (m) periods, all as defined below:

2. F(b)/S(b) shall be so determined that on the effective date of the Commission's approval of the utility's application of the formula, the resultant adjustment will be equal to zero (0).
3. Fuel costs (F) shall be the most recent actual monthly cost of:
  - a. Fossil fuel consumed in the utility's own plants, and the utility's share of fossil and nuclear fuel consumed in jointly owned or leased plants, plus the cost of fuel which would have been used in plants suffering forced generation or transmission outages, but less the cost of the fuel related substitute generation, plus
  - b. The actual identifiable fossil and nuclear fuel costs [if not known--the month used to calculate fuel (F), shall be deemed to be the same as the actual unit cost of the Company generation in the month said calculations are made. When actual costs become known, the difference, if any, between fuel costs (F) as calculated using such actual unit costs and the fuel costs (F) used in that month shall be accounted for in the current month's calculation of fuel costs (F)] associated with energy purchased for reasons other than identified in paragraph (c) below, but excluding the cost of fuel related to purchases to substitute the forced outages, plus
  - c. The net energy cost of energy purchases, exclusive of capacity or demand charges (irrespective of the designation assigned to such transaction) when such energy is purchased on an economic dispatch basis. Included therein may be such costs as the charges for economy energy purchases and the charges as a result of scheduled outage, all such kinds of energy being purchased by the Company to substitute for its own higher cost energy; and less
  - d. The cost of fossil fuel recovered through intersystem sales including the fuel costs related to economy energy sales and other energy sold on an economic dispatch basis.
  - e. All fuel costs shall be based on weighted average inventory costing.
4. Forced outages are all nonscheduled losses of generation or transmission which require substitute power for a continuous period in excess of six (6) hours. Where forced outages are not as a result of faulty equipment, faulty manufacturer, faulty design, faulty installations, faulty operation, or faulty maintenance, but are Acts of God, riot, insurrection or acts of the public enemy, then the utility may, upon proper showing, with the approval of the Commission, include the fuel costs of substitute energy in the adjustment. Until such approval is obtained, in making the calculations of fuel costs (F) in subsection (3)(a) and (b) above, the forced outage costs to be subtracted shall be no less than the fuel cost related to the lost generation.

(Cont'd on Sheet No. 5-2)

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**TARIFF F.A.C. (Cont'd)**  
**(Fuel Adjustment Clause)**

5. Sales (S) shall be all kwh's sold, excluding intersystem sales. Where, for any reason billed system sales cannot be coordinated with the fuel costs for the billing period, sales may be equated to the sum of (i) generation, (ii) purchases, (iii) interchange in, less (iv) energy associated with pumped storage operations, less (v) intersystem sales referred to in subsection (3)(d) above, less (vi) total system loss. Utility used energy shall not be excluded in the determination of sales (S).
6. The cost of fossil fuel shall include no items other than the invoice price of fuel less any cash or other discounts. The invoice price of fuel includes the cost of the fuel itself and necessary charges for transportation of the fuel from the point of acquisition to the unloading point, as listed in Account 151 of FERC Uniform System of Accounts or Public Utilities and Licensees.
7. At the time the fuel clause is initially filed, the utility shall submit copies of each fossil fuel purchase contract not otherwise on file with the Commission and all other agreements, options or similar such documents, and all amendments and modifications thereof related to the procurement of fuel supply and purchased power. Incorporation by reference is permissible. Any changes in the documents, including price escalations, or any new agreements entered into after the initial submission, shall be submitted at the time they are entered into. Where fuel is purchased from utility-owned or controlled sources, or the contract contains a price escalation clause, those facts shall be noted and the utility shall explain and justify them in writing. Fuel charges, which are unreasonable, shall be disallowed and may result in the suspension of the fuel adjustment clause. The Commission on its own motion may investigate any aspect of fuel purchasing activities covered by this regulation.
8. Any tariff filing which contains a fuel clause shall conform that clause with this regulation within three (3) months of the effective date of this regulation. The tariff filing shall contain a description of the fuel clause with detailed cost support.
9. The monthly fuel adjustment shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustments, which shall include data, and information as may be required by the Commission.
10. Copies of all documents required to be filed with the Commission under this regulation shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS61.870 to 61.884.
11. At six (6) month intervals, the Commission will conduct public hearings on a utility's past fuel adjustments. The Commission will order a utility to charge off and amortize, by means of a temporary decrease of rates, any adjustment it finds unjustified due to improper calculation or application of the charges or improper fuel procurement practice.
12. Every two (2) years following the initial effective date of each utility fuel clause, the Commission in a public hearing will review and evaluate past operations of the clause, disallow improper expenses, and to the extent appropriate, reestablish the fuel clause charge in accordance with Subsection 2.
13. Resulting cost per kilowatt-hour in June 2008 to be used as the base cost in Standard Fuel Adjustment Clause is :

|               |             |                               |
|---------------|-------------|-------------------------------|
| <u>Fuel</u> - | June 2008 = | \$16,138,627 = \$ 0.02840/kwh |
| <u>Sales</u>  | June 2008   | 568,162,000                   |

This, as used in the Fuel Adjustment Clause, is 2.840¢ per kilowatt-hour.

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In Case No. 2014-00396 Dated XXXXXXXXXX

**TARIFF R.S.  
(Residential Service)**

**AVAILABILITY OF SERVICE.**

Available for full domestic electric service through 1 (one) meter to individual residential customers including rural residential customers engaged principally in agricultural pursuits.

**RATE.** (Tariff Codes 015, 017, 022)

|                      |         |         |           |
|----------------------|---------|---------|-----------|
| Service Charge.....  | \$ 8.00 | \$16.00 | per month |
| Energy Charge: ..... | 8.590¢  | 9.035¢  | per KWH   |

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**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the Service Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an ~~Experimental~~ a Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule.

T  
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**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. *The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.*

N  
N

**BIG SANDY RETIREMENT RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.*

N  
N

**BIG SANDY I OPERATION RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy I Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy I Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule*

N  
N

(Cont'd on Sheet No. 6-2)

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**TARIFF R.S. (Cont'd)**  
**(Residential Service)**

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of the Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.*

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

*Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.*

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.*

**DELAYED PAYMENT CHARGE.**

Bills under this tariff are due and payable within fifteen (15) days of the mailing date. On all accounts not paid in full by the next billing date, an additional charge of 5% of the unpaid portion will be made.

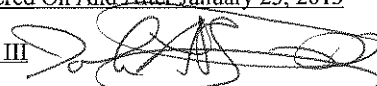
**VOLUNTEER FIRE DEPARTMENTS (Tariff Code 024)**

*Volunteer Fire Departments may qualify pursuant to KRS 278.172 for this tariff but will be required to provide a completed Form 990 and update it annually.*

(Cont'd on Sheet No. 6-3)

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N  
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N  
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N  
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N

**TARIFF R.S.(Cont'd)  
(Residential Service)**

**STORAGE WATER HEATING PROVISION.**

This provision is withdrawn except for the present installations of current customers receiving service hereunder at premises served prior to April 1, 1997.

If the customer installs a Company approved storage water heating system which consumes electrical energy only during off-peak hours as specified by the Company and stores hot water for use during on-peak hours, the following shall apply:

Tariff Code

- 012 (a) For Minimum Capacity of 80 gallons, the last 300 KWH of use in any month shall be billed at 4.940¢ per KWH.
- 013 (b) For Minimum Capacity of 100 gallons, the last 400 KWH of use in any month shall be billed at 4.940¢ per KWH.
- 014 (c) For Minimum Capacity of 120 gallons or greater, the last 500 KWH of use in any month shall be billed at 4.940¢ per KWH.

These provisions, however, shall in no event apply to the first 200 KWH used in any month, which shall be billed in accordance with the "Monthly Rate" as set forth above.

For purpose of this provision, the on-peak billing period is defined as 7:00A.M. to 9:00P.M. for all weekdays, Monday through Friday. The off-peak billing period is defined as 9:00PM to 7:00AM for all weekdays and all hours of Saturday and Sunday.

The Company reserves the right to inspect at all reasonable times the storage water heating system and devices which qualify the residence for service under the storage water heater provision, and to ascertain by any reasonable means that the time-differentiated load characteristics of such devices meet the Company's specifications. If the Company finds that in its sole judgment the availability conditions of this provision are being violated, it may discontinue billing the Customer under this provision and commence billing under the standard monthly rate.

This provision is subject to the Service Charge, the Fuel Adjustment Clause, the System Sales Clause, the Demand-Side Management Clause, the Asset Transfer Rider, *Big Sandy Retirement Rider*, *Big Sandy 1 Operation Rider*, the Purchase Power Adjustment, the Environmental Surcharge, the Capacity Charge, *the P.J.M. Rider*, *the Kentucky Economic Development Rider*, the Residential HEAP Charge, *NERC Compliance and Cybersecurity Rider* factors as stated in the above monthly rate.

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(Cont'd. on Sheet No. 6-4)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF R.S.**  
**(Residential Service)**

**LOAD MANAGEMENT WATER-HEATING PROVISION.** (Tariff Code 011)

For residential customers who install a ~~Company approved~~ load management water-heating system which consumes electrical energy primarily during off-peak hours specified by the Company and stores hot water for use during on-peak hours, of minimum capacity of 80 gallons, the last 250 KWH of use in any month shall be billed at ~~4.940¢~~ 5.216¢ per KWH.

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This provision, however, shall in no event apply to the first 200 KWH used in any month, which shall be billed in accordance with the "Monthly Rate" as set forth above.

For the purpose of this provision, the on-peak billing period is defined as 7:00 A.M. to 9:00 P.M. for all weekdays, Monday through Friday. The off-peak billing period is defined as 9:00 P.M. to 7:00 A.M. for all weekdays and all hours of Saturday and Sunday.

The Company reserves the right to inspect at all reasonable times the load management water-heating system(s) and devices which qualify the residence for service under the Load Management Water-Heating Provision. If the Company finds that, in its sole judgment, the availability conditions of this provision are being violated; it may discontinue billing the Customer under this provision and commence billing under the standard monthly rate.

This provision is subject to the Service Charge, the Fuel Adjustment Clause, the System Sales Clause, the Demand-Side Management Clause, the Asset Transfer Rider, the Purchase Power Adjustment, the Environmental Surcharge, the Capacity Charge and the Residential HEAP Charge factors as stated in the above monthly rate.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

This service is available to rural domestic customers engaged principally in agricultural pursuits where service is taken through one meter for residential purposes as well as for the usual farm uses outside the home, but it is not extended to operations of a commercial nature or operations such as processing, preparing or distributing products not raised or produced on the farm, unless such operation is incidental to the usual residential and farm uses.

~~This tariff is available for single phase service only. Where 3-phase power service is required and/or where motors or heating equipment are used for commercial or industrial purposes, another applicable tariff will apply to such service.~~

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The Company shall have the option of reading meters monthly or bimonthly and rendering bills accordingly. When bills are rendered bimonthly, the minimum charge and the quantity of KWH in each block of the rates shall be multiplied by two.

Pursuant to 807 KAR 5:041, Section 11, paragraph (1), of Public Service Commission Regulations, the Company will make an extension of 1,000 feet or less to its existing distribution line without charge for a prospective permanent residential customer served under this R.S. Tariff. Pursuant to 807 KAR 5:041 Section 12 extensions of up to 150 feet for a mobile home are provided without charge.

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*This tariff is available for single-phase, residential service. Where the residential customer requests three-phase service, this tariff will apply if the residential customer pays to the Company the difference between constructing single-phase service and three-phase service. Where motors or heating equipment are used for commercial or industrial purposes, the applicable general service tariff will apply to such service.*

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Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or by special agreement.

(Cont'd on Sheet No. 6-5)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF R.S.-L.M.-T.O.D.**  
**(Residential Service Load Management Time-of-Day)**

**AVAILABILITY OF SERVICE.**

Available to customers eligible for Tariff R.S. (Residential Service) who use energy storage devices with time-differentiated load characteristics approved by the Company which consume electrical energy only during off-peak hours specified by the Company and store energy for use during on-peak hours.

Households eligible to be served under this tariff shall be metered through one single-phase or multiple-register meter capable of measuring electrical energy consumption during the on-peak and off-peak billing periods.

**RATE.** (Tariff Codes 028, 030, 032, 034)

Service Charge.....\$ ~~10.55~~ 18.70 per month

Energy Charge:

All KWH used during on-peak billing period..... ~~13.227¢~~ 13.879¢ per KWH

All KWH used during off-peak billing period..... 4.940¢ 5.216¢ per KWH

For the purpose of this tariff, the on-peak billing period is defined as 7:00 A.M. to 9:00 P.M. for all weekdays, Monday through Friday. The off-peak period is defined as 9:00 P.M. to 7:00 A.M. for all weekdays and all hours of Saturday and Sunday.

**CONSERVATION AND LOAD MANAGEMENT CREDIT.**

For the combination of an approved electric thermal storage space heating system and water heater, both of which are designed to consume electrical energy only between the hours of 9:00P.M. and 7:00A.M. for all days of the week, each residence will be credited 0.745¢ per KWH for all energy used during the off-peak billing period, for a total of 60 monthly billing periods following the installation and use of these devices in such residence.

**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the Service Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule.

(Cont'd. on Sheet 6-6)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

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**TARIFF R.S.-L.M.-T.O.D. (Cont'd)**  
**(Residential Service Load Management Time-of-Day)**

**ASSET TRANSFER RIDER**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. *The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.*

**BIG SANDY RETIREMENT RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet Nos. 38-1 thru 38-2 of this Tariff Schedule.*

**BIG SANDY 1 OPERATION RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy 1 Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy 1 Operation Rider contained in Sheet No. 39-1 through 39-2 of this Tariff Schedule.*

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 thru 29-5 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 and 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider factor per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 thru 24-3 of this Tariff Schedule.*

(Cont'd on Sheet No. 6-7)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF R.S.-L.M.-T.O.D. (Cont'd)**  
**(Residential Service Load Management Time-of-Day)**

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

*Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.*

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers' bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kW and/or kWh calculated in compliance with the NERC Compliance Cybersecurity Rider contained in Sheet Nos. 40-1 thru 40-3 of this Tariff Schedule.*

**DELAYED PAYMENT CHARGE.**

Bills under this tariff are due and payable within fifteen (15) days of the mailing date. On all accounts not paid in full by the next billing date, an additional charge of 5% of the unpaid portion will be made.

**SEPARATE METERING PROVISION.**

Customers who use electric thermal storage space heating and water heaters which consume energy only during off-peak hours specified by the Company, or other automatically controlled load management devices such as space and/or water heating equipment that use energy only during off-peak hours specified by the Company, shall have the option of having these approved load management devices separately metered. The service charge for the separate meter shall be \$3.00 \$3.85 per month.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

The Company reserves the right to inspect at all reasonable times the energy storage and load management devices which qualify the residence for service and for conservation and load management credits under this tariff, and to ascertain by any reasonable means that the time-differentiated load characteristics of such devices meet the Company's specifications. If the Company finds, that in its sole judgment, the availability conditions of this tariff are being violated, it may discontinue billing the Customer under this tariff and commence billing under the appropriate Residential Service Tariff.

*This tariff is available for single-phase, residential service. Where the residential customer requests three-phase service, this tariff will apply if the residential customer pays to the Company the difference between constructing single-phase service and three-phase service. Where motors or heating equipment are used for commercial or industrial purposes, the applicable general service tariff will apply to such service.*

Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or by special agreement with the Company.

(Cont'd on Sheet 6-8)

DATE OF ISSUE: December 23, 2014

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF R.S. - T.O.D.**  
**(Residential Service Time-of-Day)**

**AVAILABILITY OF SERVICE.**

Available for residential electric service through a one single-phase multiple-register meter capable of measuring electrical energy consumption during the on-peak and off-peak billing periods to individual residential customers, including residential customers engaged principally in agricultural pursuits. Availability is limited to the first 1,000 customers applying for service under this tariff.

**RATE.** (Tariff Code 036)

|  |                                       |
|--|---------------------------------------|
| Service Charge.....                              | \$ <del>10.55</del> \$18.70 per month |
| Energy Charge:                                   |                                       |
| All KWH used during on-peak billing period.....  | <del>13.227¢</del> 13.879¢ per KWH    |
| All KWH used during off-peak billing period..... | <del>4.940¢</del> 5.216¢ per KWH      |

For the purpose of this tariff, the on-peak billing period is defined as 7:00A.M. to 9:00P.M. for all weekdays, Monday through Friday. The off-peak period is defined as 9:00P.M. to 7:00A.M. for all weekdays and all hours of Saturday and Sunday.

**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the Service Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bill computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule.

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment actor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. *The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.*

**BIG SANDY RETIREMENT RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet Nos. 38-1 thru 38-2 of this Tariff Schedule.*

(Cont'd on Sheet No. 6-9)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF R.S. - T.O.D.  
(Residential Service Time-of-Day)**

**BIG SANDY 1 OPERATION RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy 1 Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy 1 Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.*

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 thru 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.*

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

*Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.*

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers' bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.*

(Cont'd on Sheet No. 6-10)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

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**TARIFF R.S. - T.O.D. (Cont'd)**  
**(Residential Service Time-of-Day)**

**DELAYED PAYMENT CHARGE.**

Bills under this tariff are due and payable within fifteen (15) days of the mailing date. On all accounts not paid in full by the next billing date, an additional charge of 5% of the unpaid portion will be made.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

*This tariff is available for single-phase, residential service. Where the residential customer requests three-phase service, this tariff will apply if the residential customer pays to the Company the difference between constructing single-phase service and three-phase service. Where motors or heating equipment are used for commercial or industrial purposes, the applicable general service tariff will apply to such service.*

Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or by special agreement with the Company.

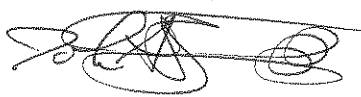
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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF R.S. – T.O.D.2**  
**(Experimental Residential Service Time-of-Day 2)**

**AVAILABILITY OF SERVICE.**

Available on a voluntary, experimental basis to individual residential customers for residential electric service through a ~~one~~ single-phase, multi-register meter capable of measuring electrical energy consumption during variable pricing periods. Availability is limited to the first 500 customers applying for service under this tariff.

**RATE.** (Tariff Code 027)

|   |                                     |
|---|-------------------------------------|
| Service Charge .....                                    | \$ <del>11.45</del> 18.70 per month |
| Energy Charge:  |                                     |
| All KWH used during Summer on-peak billing period ..... | <del>11.406¢</del> 10.885¢ per KWH  |
| All KWH used during Winter on-peak billing period ..... | <del>13.829¢</del> 12.132¢ per KWH  |
| All KWH used during off-peak billing period .....       | <del>7.390¢</del> 8.309¢ per KWH    |

For the purpose of this tariff, the on-peak and off-peak billing periods shall be defined as follows:

| <u>Months</u>                                   | <u>On-Peak</u>                                     | <u>Off-Peak</u>                                    |
|---|--|--|
| Approximate Percent (%)<br>Of Annual Hours      | 16%  | 84%  |
| <u>Winter Period:</u><br>November 1 to March 31 | 7:00 A.M. to 11:00 A.M.<br>6:00 P.M. to 10:00 P.M. | 11:00 A.M. to 6:00 P.M.<br>10:00 P.M. to 7:00 A.M. |
| <u>Summer Period:</u><br>May 15 to September 15 | Noon to 6:00 P.M.                                  | 6:00 P.M. to Noon                                  |
| <u>All Other Calendar Periods</u>               | None   | Midnight to Midnight                               |

NOTE: All KWH consumed during Saturday and Sunday are billed at the off-peak level.

**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the Service Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

(Cont'd on Sheet No. 6-12)

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX



**TARIFF R.S.-T.O.D.2 (Cont'd)**  
**(Experimental Residential Service Time-of-Day 2)****HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.*

**DELAYED PAYMENT CHARGE.**

Bills under this tariff are due and payable within fifteen (15) days of the mailing date. On all accounts not paid in full by the next billing date, an additional charge of 5% of the unpaid portion will be made.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

*This tariff is available for single-phase, residential service. Where the residential customer requests three-phase service, this tariff will apply if the residential customer pays to the Company the difference between constructing single-phase service and three-phase service. Where motors or heating equipment are used for commercial or industrial purposes, the applicable general service tariff will apply to such service.*

Customers with PURPA Section 210 qualifying cogeneration and/or small power productions facilities shall take service under Tariff COGEN/SPP 1 or by special agreement with the Company.

DATE OF ISSUE: December 23, 2014DATE EFFECTIVE: Service Rendered On And After January 23, 2015ISSUED BY: JOHN A. ROGNESS III TITLE: Director Regulatory ServicesBy Authority Of Order By The Public Service CommissionIn Case No. 2014-00396 Dated XXXXXXXXXN  
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**TARIFF S.G.S.**  
**(Small General Service)**

**AVAILABILITY OF SERVICE.**

Available for general service to customers with average monthly demands less than 10 KW and maximum monthly demands of less than 15 KW (excluding the demand served by the Load Management Time-of-Day provisions). *Service will be provided at Secondary voltage metering only.*

*Customers not meeting the requirements for availability under this tariff will only be permitted to continue service under this tariff at the premise occupied for continuous service beginning no later than January 22, 2015.*

**RATE.** (Tariff Codes 211, 212)

|                                 |                    |                    |
|---------------------------------|--------------------|--------------------|
| Service Charge.....             | \$11.50            | \$ 19.50 per month |
| Energy Charge:                  |                    |                    |
| First 500 KWH per month.....    | <del>13.160¢</del> | 11.500¢ per KWH    |
| All Over 500 KWH per month..... | <del>7.116¢</del>  | 7.057¢ per KWH     |

**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the Service Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rate set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. *The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.*

**BIG SANDY RETIREMENT RIDER.**

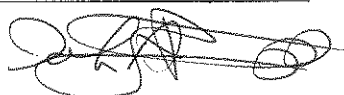
*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.*

(Cont'd on Sheet No. 7-2)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXXX

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**TARIFF S.G.S. (Cont'd.)  
(Small General Service)**

**BIG SANDY I OPERATION RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy I Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy I Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.*

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.*

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

*Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.*

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.*

**DELAYED PAYMENT CHARGE.**

This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

(Cont'd. on Sheet 7-3)

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DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF S.G.S. (Cont'd.)  
(Small General Service)**

**LOAD MANAGEMENT TIME-OF-DAY PROVISION.**

Available to customers who use energy storage devices with time-differentiated load characteristics approved by the Company which consume electrical energy only during off-peak hours specified by the Company and store energy for use during on-peak hours, and who desire to receive service under this provision for their total requirements.

Customers who desire to separately wire their load management load to a time-of-day meter and their general-use load to a standard meter shall receive service for both under the appropriate provision of this tariff.

**RATE.** (Tariff Code 225)

|   |                    |                   |
|---|--------------------|-------------------|
| Service Charge.....                               | \$15.10            | \$19.50 per month |
| Energy Charge:                                    |                    |                   |
| All KWH used during on-peak billing period.....   | <del>15.326¢</del> | 13.755¢ per KWH   |
| All KWH used during off-peak billing period ..... | <del>4.940¢</del>  | 5.216¢ per KWH    |

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**OPTIONAL UNMETERED SERVICE PROVISION.**

Available to customers who qualify for Tariff SGS and use the Company's service for commercial purposes consisting of small fixed electric loads such as traffic signals and signboards which can be served by a standard service drop from the Company's existing secondary distribution system. This service will be furnished at the option of the Company.

Each separate service delivery point shall be considered a contract location and shall be separately billed under the service contract. In the event one Customer has several accounts for like service, the Company may meter one account to determine the appropriate kilowatt-hour usage applicable for each of the accounts.

The Customer shall furnish switching equipment satisfactory to the Company. The Customer shall notify the Company in advance of every change in connected load, and the Company reserves the right to inspect the customer's equipment at any time to verify the actual load. In the event of the customer's failure to notify the Company of an increase in load, the Company reserves the right to refuse to serve the contract location thereafter under this provision, and shall be entitled to bill the customer retroactively on the basis of the increased load for the full period such load was connected or the earliest date allowed by Kentucky statute whichever is applicable.

Calculated energy use per month shall be equal to the contract capacity specified at the contract location times the number of days in the billing period times the specified hours of operation. Such calculated energy shall then be billed at the following rates:

**RATE.** (Tariff Codes 204 (Metered), 213 (Unmetered))

|                                 |                    |                   |
|---------------------------------|--------------------|-------------------|
| Customer Charge.....            | \$7.50             | \$15.50 per month |
| Energy Charge:                  |                    |                   |
| First 500 KWH per month.....    | <del>13.160¢</del> | 11.500¢ per KWH   |
| All Over 500 KWH per month..... | <del>7.116¢</del>  | 7.057¢ per KWH    |

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**TERM OF CONTRACT.**

The Company shall have the right to require contracts for a period of one (1) year or longer.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

Customer with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or by special agreement with the Company.

(Cont'd on Sheet No. 7-4)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission  
In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF S.G.S. – T.O.D.**  
**(Experimental Small General Service Time-of-Day Service)**

**AVAILABILITY OF SERVICE.**

Available on a voluntary, experimental basis for general service to customers being served at secondary distribution voltage with 12-month average demands less than 10 kW through one single-phase, multi-register meter capable of measuring electrical energy consumption during variable pricing periods. Availability is limited to the first 500 customers applying for service under this tariff.

*Customers not meeting the requirements for availability under this tariff will only be permitted to continue service under this tariff at the premise occupied for continuous service beginning no later than January 22, 2015.*

**RATE.** (Tariff Code 227)

|   |         |         |           |
|---|---------|---------|-----------|
| Service Charge .....                                    | \$14.95 | \$19.50 | per month |
| Energy Charge:  |         |         |           |
| All KWH used during Summer on-peak billing period ..... | 13.538¢ | 11.126¢ | per KWH   |
| All KWH used during Winter on-peak billing period ..... | 15.553¢ | 12.020¢ | per KWH   |
| All KWH used during off-peak billing period .....       | 8.700¢  | 8.476¢  | per KWH   |

For the purpose of this tariff, the on-peak and off-peak billing periods shall be defined as follows:

| <u>Months</u>                                   | <u>On-Peak</u>                                     | <u>Off-Peak</u>                                    |
|---|--|--|
| Approximate Percent (%)<br>Of Annual Hours      | 16%  | 84%  |
| <u>Winter Period:</u><br>November 1 to March 31 | 7:00 A.M. to 11:00 A.M.<br>6:00 P.M. to 10:00 P.M. | 11:00 A.M. to 6:00 P.M.<br>10:00 P.M. to 7:00 A.M. |
| <u>Summer Period:</u><br>May 15 to September 15 | Noon to 6:00 P.M.                                  | 6:00 P.M. to Noon                                  |
| <u>All Other Calendar Periods</u>               | None   | Midnight to Midnight                               |

NOTE: All KWH consumed during weekends are billed at the off-peak level.

**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the Service Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

(Cont'd on Sheet No. 7-5)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF S.G.S.-T.O.D. (Cont'd)**  
**(Experimental Small General Service Time-of-Day)**

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased by a Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 and 36-2 of this Tariff Schedule. *The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.*

**BIG SANDY RETIREMENT RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.*

**BIG SANDY I OPERATION RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy 1 Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy 1 Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.*

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of the Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**


*Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.*

(Cont'd on Sheet No. 7-6)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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~~(Experimental-Small General Service Time-of-Day)~~

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule

**DELAYED PAYMENT CHARGE.**

Bills under this tariff are due and payable within fifteen (15) days of the mailing date. On all accounts not paid in full by the next billing date, an additional charge of 5% of the unpaid portion will be made

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service. Existing customers may initially choose to take service under this tariff without satisfying any requirements to remain on their current tariff for at least 12 months.

Customer with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or by special agreement with the Company.

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission  
In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF M.G.S.**  
**(Medium General Service)**

**AVAILABILITY OF SERVICE.**

Available for general service to customers with average monthly demands greater than 10 KW or maximum monthly demands greater than 15 KW, but not more than 100 KW (excluding the demand served by the Load Management Time-of-Day provision). *Except as provided below, customers receiving service on or before January 22, 2015 at a secondary voltage and with average monthly demand below 10 KW will be served under the S.G.S. tariff.*

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Existing customers not meeting the above criteria will be permitted to continue service under present conditions only for continuous service at the premises occupied on or prior to December 5, 1984.

**RATE.**

|   | <u>Service Voltage</u>    |                           |                             |
|---|---------------------------|---------------------------|-----------------------------|
|   | <u>Secondary</u>          | <u>Primary</u>            | <u>Subtransmission</u>      |
| Tariff Code   | 215, 216, 218             | 217, 220                  | 236                         |
| Service Charge per Month                                | \$ <del>13.50</del> 19.50 | \$ <del>25.00</del> 50.00 | \$ <del>182.00</del> 364.00 |
| Demand Charge per KW                                    | \$ <del>1.64</del> 2.05   | \$ <del>1.59</del> 1.99   | \$ <del>1.55</del> 1.96     |
| Energy Charge:  |                           |                           |                             |
| KWH equal to 200 times KW of monthly billing demand     | <del>9.862¢</del> 10.072¢ | <del>9.054¢</del> 9.245¢  | <del>8.361¢</del> 8.538¢    |
| KWH in excess of 200 times KW of monthly billing demand | <del>8.460¢</del> 8.639¢  | <del>8.098¢</del> 8.270¢  | <del>7.851¢</del> 8.018¢    |

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**MINIMUM CHARGE.**

This tariff is subject to a minimum charge equal to the sum of the service charge plus the demand charge multiplied by 6 KW. The minimum monthly charge for industrial and coal mining customers contracting for 3-phase service after October 1, 1959 shall be \$6.84 \$ 8.55 per KW of monthly billing demand.

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**RECREATIONAL LIGHTING SERVICE PROVISION.**

Available for service to customers with demands of 5 KW or greater and who own and maintain outdoor lighting facilities and associated equipment utilized at baseball diamonds, football stadiums, parks and other similar recreational areas. This service is available only during the hours between sunset and sunrise. Daytime use of energy under this rate is strictly forbidden except for the sole purpose of testing and maintaining the lighting system. All Terms and Conditions of Service applicable to Tariff M.G.S. customers will also apply to recreational lighting customers except for the Availability of Service.

**RATE.** (Tariff Code 214)

|                      |                             |           |
|----------------------|-----------------------------|-----------|
| Service Charge ..... | <del>\$13.50</del> \$ 19.50 | per month |
| Energy Charge .....  | <del>9.004¢</del> 10.000¢   | per KWH   |

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**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an ~~Experimental~~ a Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule.

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(Cont'd on Sheet No. 8-2)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Of Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-Xxxx Dated Xxxxxxxx



**TARIFF M.G.S (Cont'd)**  
**(Medium General Service)****HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kW and/or kWh calculated in compliance with the NERC Compliance Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.*

**DELAYED PAYMENT CHARGE.**

This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

**METERED VOLTAGE.**

The rates set forth in this tariff are based upon the delivery and measurements of energy at the same voltage, thus measurement will be made at or compensated to the delivery voltage. At the sole discretion of the Company, such compensation may be achieved through the use of loss compensating equipment, the use of formulas to calculate losses or the application of multipliers to the metered quantities. In such cases, the metered KWH and KW values will be adjusted for billing purposes. If the Company elects to adjust KWH and KW based on multipliers, the adjustment shall be in accordance with the following:

- (1) Measurements taken at the low-side of a Customer-owned transformer will be multiplied by 1.01.
- (2) Measurements taken at the high-side of a Company-owned transformer will be multiplied by 0.98.

**MONTHLY BILLING DEMAND.**

Energy supplied hereunder will be delivered through not more than one single phase and/or polyphase meter. Customer's demand will be taken monthly to be the highest registration of a 15-minute integrating demand meter or indicator, or the highest registration of a thermal type demand meter. The minimum monthly billing demand shall not be less than (a) the minimum billing demand of 6 KW, or (b) 60% of the greater of (1) the customer's contract capacity in excess of 100 KW or (2) the customer's highest previously established monthly billing demand during the past 11 months in excess of 100 KW.

(Cont'd on Sheet No. 8-4)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

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**TARIFF M.G.S (Cont'd)**  
**(Medium General Service)**

**LOAD MANAGEMENT TIME-OF-DAY PROVISION.** (Tariff Code 223)

Available to customers who use energy storage devices with time-differentiated load characteristics approved by the Company which consume electrical energy only during off-peak hours specified by the Company and store energy for use during on-peak hours, and who desire to receive service under this provision for their total requirements.

Customers who desire to separately wire their load management load to a time-of-day meter and their general-use load to a standard meter shall receive service for both under the appropriate provision of this tariff.

**RATE.**

|   |         |         |           |   |
|---|---------|---------|-----------|---|
| Service Charge .....                              | \$ 3.00 | \$ 3.85 | per month | I |
| Energy Charge:                                    |         |         |           |   |
| All KWH used during on-peak billing period .....  | 14.804¢ | 15.757¢ | per KWH   | I |
| All KWH used during off-peak billing period ..... | 5.130¢  | 5.491¢  | per KWH   | I |

For the purpose of this tariff, the on-peak billing period is defined as 7:00 A.M. to 9:00 P.M. for all weekdays, Monday through Friday. The off-peak billing period is defined as 9:00 P.M. to 7:00 A.M. for all weekdays and all hours of Saturday and Sunday.

**TERM OF CONTRACT.**

Contracts under this tariff will ~~may~~ be required of customers with ~~normal maximum demands of 500 KW or greater.~~ Contracts under this tariff will be made for an initial period of not less than 1 (one) year and shall remain in effect thereafter until either party shall give at least 6 months' written notice to the other of the intention to terminate the contract. The Company will have the right to make contracts for periods of longer than 1 (one) year, ~~and to require contracts for Customers with normal maximum demands of less than 500 KW.~~

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

This tariff is also available to Customers having other source of energy supply but who desire to purchase standby or back-up electric service from the Company. Where such conditions exist the Customer shall contract for the maximum demand in KW which the Company might be required to furnish, but no less than 10 KW. The Company shall not be obligated to supply demands in excess of that contracted for. Where service is supplied under the provisions of this paragraph, the billing demand each month shall be the highest determined for the current and previous two billing periods, and the minimum charge shall be as set forth under paragraph "Minimum Charge" above.


This tariff is available for resale service to mining and industrial customers who furnish service to customer-owned camps or villages where living quarters are rented to employees and where the Customer purchases power at a single point of both their power and camp requirements.

Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or II or by special agreement with the Company.

(Cont'd on Sheet No. 8-5)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX



**TARIFF M.G.S.-T.O.D. (Cont'd)**  
**(Medium General Service Time-of-Day)**

**BIG SANDY I OPERATION RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy 1 Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy 1 Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.*

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of the Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.*

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

*Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.*

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.*

(Cont'd on Sheet No. 8-7)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 8-7  
CANCELLING P.S.C. KY. NO. 10 \_\_\_\_\_ SHEET NO. 8-7

**TARIFF M.G.S.-T.O.D. (Cont'd)**  
**(Medium General Service Time-of-Day)**

**DELAYED PAYMENT CHARGE.**

This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service

Customers with PURPA Section 210 qualifying cogeneration and/or small power productions facilities shall take service under Tariff COGEN/SPP I or by special agreement with the Company.

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF L.G.S.  
(Large General Service)**

**AVAILABILITY OF SERVICE.**

Available for general service to customers with normal maximum demands greater than 100 KW but not more than 1,000 KW (excluding the demand served by the Load Management Time-of-Day provision).

Existing customers not meeting the above criteria will be permitted to continue service under present conditions only for continuous service at the premises occupied on or prior to December 5, 1984.

**RATE.**

| Tariff Code                    | Service Voltage          |                          |                             |                             |
|--------------------------------|--------------------------|--------------------------|-----------------------------|-----------------------------|
|                                | Secondary<br>240, 242    | Primary<br>244, 246      | Subtransmission<br>248      | Transmission<br>250         |
| Service Charge per Month       | \$ 85.00                 | \$ 127.50                | \$ <del>535.50</del> 661.65 | \$ <del>535.50</del> 661.65 |
| Demand Charge per KW           | \$ <del>4.02</del> 5.03  | \$ <del>3.89</del> 4.89  | \$ <del>3.80</del> 4.83     | \$ <del>3.76</del> 4.75     |
| Excess Reactive Charge per KVA | \$ 3.46                  | \$ 3.46                  | \$ 3.46                     | \$ 3.46                     |
| Energy Charge per KWH          | <del>7.795¢</del> 8.056¢ | <del>6.514¢</del> 6.851¢ | <del>4.942¢</del> 4.670¢    | <del>4.644¢</del> 4.579¢    |

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**MINIMUM CHARGE.**

Bills computed under the above rate are subject to a monthly minimum charge comprised of the sum of the service charge and the minimum demand charge. The minimum demand charge is the product of the demand charge per KW and the monthly billing demand.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

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**ASSET TRANSFER RIDER.**


Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. *The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.*

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(Cont'd. On Sheet No. 9-2)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF L.G.S. (Cont'd.)  
(Large General Service)**

**BIG SANDY RETIREMENT RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.*

**BIG SANDY I OPERATION RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy 1 Operation Rider Adjustment Factor per kW and/or kWh calculated in compliance with the Big Sandy 1 Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.*

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge Adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kW and/or kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.*

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

*Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.*

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

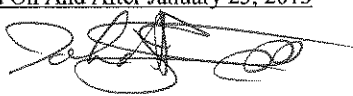
*Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kW and/or kWh calculated in compliance with the NERC Compliance Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.*

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DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF L.G.S. (Cont'd)  
(Large General Service)**

**DELAYED PAYMENT CHARGE.**

This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

**METERED VOLTAGE.**

The rates set forth in this tariff are based upon the delivery and measurement of energy at the same voltage, thus measurement will be made at or compensated to the delivery voltage. At the sole discretion of the Company, such compensation may be achieved through the use of loss compensating equipment, the use of formulas to calculate losses or the application of multipliers to the metered quantities. In such cases, the metered KWH and KW values will be adjusted for billing purposes. If the Company elects to adjust KWH and KW based on multipliers, the adjustment shall be in accordance with the following:

- (1) Measurements taken at the low-side of a customer-owned transformer will be multiplied by 1.01.
- (2) Measurements taken at the high-side of a Company-owned transformer will be multiplied by 0.98.

**MONTHLY BILLING DEMAND.**

Billing demand in KW shall be taken each month as the highest 15-minute integrated peak in kilowatts as registered during the month by a 15-minute integrating demand meter or indicator, or at the Company's option as the highest registration of a thermal type demand meter or indicator. The monthly billing demand so established shall in no event be less than 60% of the greater of (a) the customer's contract capacity or (b) the customer's highest previously established monthly billing demand during the past 11 months.

**DETERMINATION OF EXCESS KILOVOLT-AMPERE (KVA) DEMAND.**

The maximum KVA demand shall be determined by the use of a multiplier equal to the reciprocal of the average power factor recorded during the billing month, leading or lagging, applied to the metered demand. The excess KVA demand, if any, shall be the amount by which the maximum KVA demand established during the billing period exceeds 115% of the kilowatts of metered demand.

**LOAD MANAGEMENT TIME-OF-DAY PROVISION.**

Available to customers who use energy storage devices with time-differentiated load characteristics approved by the Company which consume electrical energy only during off-peak hours specified by the Company and store energy for use during on-peak hours, and who desire to receive service under this provision for their total requirements.

Customers who desire to separately wire their load management load to a time-of-day meter and their general-use load to a standard meter shall receive service for both under the appropriate provision of this tariff.

**RATE.** (Tariff Code 251)

|   |                              |           |   |
|---|------------------------------|-----------|---|
| Service Charge .....                              | \$ <del>81.80</del> \$ 85.00 | per month | I |
| Energy Charge:                                    |                              |           |   |
| All KWH used during on-peak billing period .....  | <del>12.971¢</del> 13.164¢   | per KWH   | I |
| All KWH used during off-peak billing period ..... | <del>5.116¢</del> 5.471¢     | per KWH   | I |

For the purpose of this tariff, the on-peak billing period is defined as 7:00 A.M. to 9:00 P.M. for all weekdays, Monday through Friday. The off-peak billing period is defined as 9:00 P.M. to 7:00 A.M. for all weekdays and all hours of Saturday and Sunday.

(Cont'd on Sheet No. 9-4)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF L.G.S. (Cont'd)**  
**(Large General Service)**

**TERM OF CONTRACT.**

Contracts under this tariff will be made for customers requiring a normal maximum monthly demand between 500 KW and 1,000 KW and be made for an initial period of not less than 1 (*one*) year and shall remain in effect thereafter until either party shall give at least 6 months written notice to the other of the intention to terminate the contract. The Company reserves the right to require initial contracts or periods greater than 1 (*one*) year. For customers with demands less than 500 KW, a contract may, at the Company's option, be required.

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Where new Company facilities are required, the Company reserves the right to require initial contracts for periods greater than one year for all customers served under this tariff.

A new initial contract period will not be required for existing customers who change their contract requirements after the original initial period unless new or additional facilities are required.

**CONTRACT CAPACITY.**

The Customer shall set forth the amount of capacity contracted for (the "contract capacity") in an amount up to 1,000 KW. Contracts will be made in multiples of 25 KW. The Company is not required to supply capacity in excess of such contract capacity except with express written consent of the Company.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

This tariff is also available to Customers having other sources of energy supply but who desire to purchase standby or back-up electric service from the Company. Where such conditions exist the customer shall contract for the maximum amount of demand in KW, which the Company might be required to furnish, but not less than 100 KW nor more than 1,000 KW. The Company shall not be obligated to supply demands in excess of the contract capacity. Where service is supplied under the provisions of this paragraph, the billing demand each month shall be the highest determined for the current and previous two billings periods, and the minimum charge shall be as set forth under paragraph "Minimum Charge" above.

This tariff is available for resale service to mining and industrial customers who furnish service to customer-owned camps or villages where living quarters are rented to employees and where the customer purchases power at a single point for both his power and camp requirements.

Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or II or by special agreement with the Company.

(Cont'd on Sheet No. 9-4)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX



**TARIFF L.G.S. – T.O.D.**  
**(Large General Service – Time of Day)**

**AVAILABILITY OF SERVICE.**

Available for general service customers with normal maximum demands of 100 KW or greater. Customers may continue to qualify for service under this tariff until their 12-month average demand exceeds 1,000 KW. Availability is limited to the first 500 customers applying for service under this tariff.

**RATE.**

|                                   | <u>Service Voltage</u>   |                          |                             |                             |
|-----------------------------------|--------------------------|--------------------------|-----------------------------|-----------------------------|
|                                   | <u>Secondary</u>         | <u>Primary</u>           | <u>Subtransmission</u>      | <u>Transmission</u>         |
| Tariff Code                       | 256                      | 257                      | 258                         | 259                         |
| Service Charge per Month          | \$ 85.00                 | \$ 127.50                | <del>\$ 535.50</del> 661.65 | <del>\$ 535.50</del> 661.65 |
| Demand Charge per KW              | \$ <del>7.64</del> 10.20 | \$ 4.58 7.35             | \$ <del>0.24</del> 1.08     | \$ <del>0.15</del> 1.07     |
| Excessive Reactive Charge per KVA | \$ 3.46                  | \$ 3.46                  | \$ 3.46                     | \$ 3.46                     |
| On-Peak Energy Charge per KWH     | <del>9.778¢</del> 8.481¢ | <del>7.959¢</del> 8.187¢ | <del>7.729¢</del> 8.098¢    | <del>7.655¢</del> 8.002¢    |
| Off-Peak Energy Charge per KWH    | <del>4.116¢</del> 4.533¢ | <del>3.965¢</del> 4.411¢ | <del>3.891¢</del> 4.374¢    | <del>3.854¢</del> 4.334¢    |

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For the purpose of this tariff, the on-peak billing period is defined as 7:00 A.M. to 9:00 P.M., for all weekdays Monday through Friday. The off-peak billing period is defined as 9:00 P.M. to 7:00 A.M. for all weekdays and all hours of Saturday and Sunday.

**MINIMUM CHARGE.**

Bills computed under the above rate are subject to a monthly minimum charge comprised of the sum of the service charge and the minimum demand charge. The minimum demand charge is the product of the demand charge per KW and the monthly billing demand.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

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**ASSET TRANSFER RIDER.**


Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. *The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.*

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(Cont'd on Sheet No. 9-6)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX



**TARIFF L.G.S. – T.O.D. (Cont'd)**  
**(Large General Service – Time of Day)**

**DELAYED PAYMENT CHARGE.**

This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional Charge of 5% of the unpaid balance will be made.

**METERED VOLTAGE.**

The rates set forth in this tariff are based upon the delivery and measurement of energy at the same voltage, thus measurement will be made at or compensated to the delivery voltage. At the sole discretion of the Company, such compensation may be achieved through the use of loss compensating equipment, the use of formulas to calculate losses or the application of multipliers to the metered quantities. In such cases, the metered KWH and KW values will be adjusted for billing purposes. If the Company elects to adjust KWH and KW based on multipliers, the adjustment shall be in accordance with the following:

- (1) Measurements taken at the low-side of a customer-owned transformer will be multiplied by 1.01.
- (2) Measurements taken at the high-side of a Company-owned transformer will be multiplied by 0.98.

**MONTHLY BILLING DEMAND.**

Billing demand in KW shall be taken each month as the highest 15-minute integrated peak in kilowatts as registered during the month by a 15-minute integrating demand meter or indicator, or at the Company's option as the highest registration of a thermal type demand meter or indicator. The monthly billing demand so established shall in no event be less than 60% of the greater of (a) the customer's contract capacity or (b) the customer's highest previously established monthly billing demand during the past 11 months.

**DETERMINATION OF EXCESS KILOVOLT-AMPERE (KVA) DEMAND.**

The maximum KVA demand shall be determined by the use of a multiplier equal to the reciprocal of the average power factor recorded during the billing month, leading or lagging, applied to the metered demand. The excess KVA demand, if any, shall be the amount by which the maximum KVA demand established during the billing period exceeds 115% of the kilowatts of metered demand.

**TERM OF CONTRACT.**

Contracts under this tariff will be made for customers requiring a normal maximum monthly demand between 500 KW and 1,000 KW and be made for an initial period of not less than 1 (one) year and shall remain in effect thereafter until either party shall give at least 6 months written notice to the other of the intention to terminate the contract. The Company reserves the right to require initial contracts or periods greater than 1 (one) year. For customers with demands less than 500 KW, a contract may, at the Company's option, be required.


Where new Company facilities are required, the Company reserves the right to require initial contracts for periods greater than one year for all customers served under this tariff.

A new initial contract period will not be required for existing customers who change their contract requirements after the original initial period unless new or additional facilities are required.

(Cont'd on Sheet No. 9-8)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 22, 2015

ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF L.G.S. – T.O.D. (Cont'd)**  
**(Large General Service – Time of Day)**

**CONTRACT CAPACITY.**

The Customer shall set forth the amount of capacity contracted for (the "contract capacity") in an amount up to 1,000 KW. Contracts will be made in multiples of 25 KW. The Company is not required to supply capacity in excess of such contract capacity except with express written consent of the Company.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

This tariff is also available to Customers having other sources of energy supply but who desire to purchase standby or back-up electric service from the Company. Where such conditions exist the customer shall contract for the maximum amount of demand in KW, which the Company might be required to furnish, but not less than 100 KW nor more than 1,000 KW. The Company shall not be obligated to supply demands in excess of the contract capacity. Where service is supplied under the provisions of this paragraph, the billing demand each month shall be the highest determined for the current and previous two billings periods, and the minimum charge shall be as set forth under paragraph "Minimum Charge" above.

This tariff is available for resale service to mining and industrial customers who furnish service to customer-owned camps or villages where living quarters are rented to employees and where the customer purchases power at a single point for both his power and camp requirements.

Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP I or II or by special agreement with the Company.

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF I.G.S.**  
**(Industrial General Service)**

**AVAILABILITY OF SERVICE.**

Available for commercial and industrial customers with contract demands of at least 1,000 KW. Customers shall contract for a definite amount of electrical capacity in kilowatts, which shall be sufficient to meet normal maximum requirements.

**RATE.**

|                                    | <u>Secondary</u> | <u>Primary</u> | <u>Service Voltage<br/>Subtransmission</u> | <u>Transmission</u> |
|------------------------------------|------------------|----------------|--|---------------------|
| Tariff Code                        | 356              | 358/370        | 359/371                                    | 360/372             |
| Service Charge per month           | \$ 276.00        | \$ 276.00      | \$ 794.00                                  | \$ 1,353.00         |
| Demand Charge per KW               |                  |                |  |                     |
| Of monthly on-peak billing demand  | \$ 20.69         | \$ 17.46       | \$ 10.74                                   | \$ 10.45            |
| Of monthly off-peak billing demand | \$ 1.13          | \$ 1.10        | \$ 1.08                                    | \$ 1.07             |
| Energy Charge per KWH              | 3.398¢           | 3.279¢         | 3.242¢                                     | 3.204¢              |

Reactive Demand Charge for each kilovar of maximum leading or lagging reactive demand in excess of 50 percent of the KW of monthly metered demand ..... \$0.69/ KVAR

For the purpose of this tariff, the on-peak billing period is defined as 7:00 AM to 9:00 PM for all weekdays, Monday through Friday. The off-peak billing period is defined as 9:00 PM to 7:00 AM for all weekdays and all hours of Saturday and Sunday.

**MINIMUM DEMAND CHARGE.**

The minimum demand charge shall be equal to the minimum billing demand times the following minimum demand rates:

| <u>Secondary</u> | <u>Primary</u> | <u>Subtransmission</u> | <u>Transmission</u> |
|------------------|----------------|------------------------|---------------------|
| \$22.06/KW       | \$18.80/KW     | \$12.07/KW             | \$11.76/KW          |

The minimum billing demand shall be the greater of 60% of the contract capacity set forth on the contract for electric service or 60% of the highest billing demand, on-peak or off-peak, recorded during the previous eleven months.

**MINIMUM CHARGE.**

This tariff is subject to a minimum charge equal to the Service Charge plus the Minimum Demand Charge.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

(Cont'd on Sheet No. 10-2)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF I.G.S.**  
**(Industrial General Service)**

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**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.*

**ASSET TRANSFER RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.*

**BIG SANDY RETIREMENT RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.*

**BIG SANDY I OPERATION RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy I Operation Rider Adjustment Factor per kW and/or kWh calculated in compliance with the Big Sandy I Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.*

**PURCHASE POWER ADJUSTMENT.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.*

**ENVIRONMENTAL SURCHARGE.**

*Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of the Tariff Schedule.*

**CAPACITY CHARGE.**

*Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.*

**P.J.M. RIDER.**


*Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kW and/or kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.*

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(Cont'd on Sheet No. 10-3)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF I.G.S.**  
**(Industrial General Service)**

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

*Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.*

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

*Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.*

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kW and/or kWh calculated in compliance with the NERC Compliance Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.*

**DELAYED PAYMENT CHARGE.**

*Bills under this tariff are due and payable within fifteen (15) days of the mailing date. On all accounts not paid in full by the next billing date, an additional charge of 5% of the unpaid portion will be made.*

**METERED VOLTAGE.**

*The rates set forth in this tariff are based upon the delivery and measurement of energy at the same voltage, thus measurement will be made at or compensated to the delivery voltage. At the sole discretion of the Company, such compensation may be achieved through the use of loss compensating equipment, the use of formulas to calculate losses or the application of multipliers to the metered quantities. In such cases, the metered KWH and KVA values will be adjusted for billing purposes. If the Company elects to adjust KWH and KW based on multipliers, the adjustment shall be in accordance with the following:*

- (1) *Measurements taken at the low-side of a Customer-owned transformer will be multiplied by 1.01.*
- (2) *Measurements taken at the high-side of a Company-owned transformer will be multiplied by 0.98.*

**MONTHLY BILLING DEMAND.**

*The monthly on-peak and off-peak billing demands in KW shall be taken each month as the highest single 15-minute integrated peak in KW as registered by a demand meter during the on-peak and off-peak billing periods, respectively.*

*The reactive demand in KVARs shall be taken each month as the highest single 15-minute integrated peak in KVARs as registered during the month by a demand meter or indicator.*

(Cont'd on Sheet No. 10-4)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF I.G.S.**  
**(Industrial General Service)**

**TERM OF CONTRACT.**

*Contracts under this tariff will be made for an initial period of not less than two years and shall remain in effect thereafter until either party shall give at least 12 months' written notice to the other of the intention to terminate the contract. The Company reserves the right to require initial contracts for periods greater than two years.*

*A new initial contract period will not be required for existing customers who change their contract requirements after the original initial period unless new or additional facilities are required.*

**CONTRACT CAPACITY**

*The Customer shall set forth the amount of capacity contracted for ("the contract capacity") in an amount equal to or greater than 1,000 KW in multiples of 100 KW. The Company is not required to supply capacity in excess of such contract capacity except with express written consent of the Company.*

**SPECIAL TERMS AND CONDITIONS.**

*This tariff is subject to the Company's Terms and Conditions of Service.*

*This tariff is available for resale service to mining and industrial Customers who furnish service to Customer-owned camps or villages where living quarters are rented to employees and where the Customer purchases power at a single point for both the power and camp requirements.*

*This tariff is also available to Customers having other sources of energy supply, but who desire to purchase standby or back-up electric service from the Company. Where such conditions exist the Customer shall contract for the maximum amount of demand in KW which the Company might be required to furnish, but not less than 1,000 KW. The Company shall not be obligated to supply demands in excess of that contracted capacity. Where service is supplied under the provisions of this paragraph, the billing demand each month shall be the highest determined for the current and previous two billing periods, and the minimum charge shall be as set forth under paragraph "Minimum Charge" above.*

*A Customer's plant is considered as one or more buildings, which are served by a single electrical distribution system provided and operated by the Customer. When the size of the Customer's load necessitates the delivery of energy to the Customer's plant over more than one circuit, the Company may elect to connect its circuits to different points on the Customer's system irrespective of contrary provisions in Terms and Conditions of Service.*

*Customer with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP II or by special agreement with the Company.*

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX



**RESERVED FOR FUTURE USE**

**TARIFF C.I.P. - T.O.D.  
(Commercial and Industrial Power - Time-of-Day)**

**AVAILABILITY OF SERVICE:**

Available for commercial and industrial customers with normal maximum demands of 7,500 KW and above. Customers shall contract for a definite amount of electrical capacity in kilowatts which shall be sufficient to meet normal maximum requirements, but in no case shall the capacity contracted for be less than 7,500 KW.

**RATE:**

|   | Primary   | Subtransmission | Transmission |
|---|-----------|-----------------|--------------|
| Tariff Code   | 370       | 371             | 372          |
| Service Charge per Month  | \$ 276.00 | \$ 794.00       | \$1,353.00   |
| Demand Charge per KW  |           |                 |              |
| On-peak   | \$ 16.77  | \$ 12.06        | \$ 10.98     |
| Off-peak  | \$ 5.56   | \$ 1.20         | \$ 1.10      |
| Energy Charge per KWH   | 2.962¢    | 2.906¢          | 2.880¢       |
| Reactive Demand Charge for each kilovar of maximum leading or lagging reactive demand in excess of 50 percent of the KW of monthly metered demand |           |                 | \$0.69/KVAR  |

For the purpose of this tariff, the on-peak billing period is defined as 7:00 AM to 9:00 PM for all weekdays, Monday through Friday. The off-peak billing period is defined as 9:00 PM to 7:00 AM for all weekdays and all hours of Saturday and Sunday.

**MINIMUM DEMAND CHARGE:**

The minimum demand charge shall be equal to the minimum billing demand times the following minimum demand rates:

|  | Primary     | Subtransmission | Transmission |
|--|-------------|-----------------|--------------|
|  | \$16.88 /KW | \$12.17/KW      | \$11.09/KW   |

The minimum billing demand shall be the greater of 60% of the contract capacity set forth on the contract for electric service or 60% of the highest billing demand, on-peak or off-peak, recorded during the previous eleven months.

**MINIMUM CHARGE:**

This tariff is subject to a minimum charge equal to the Service Charge plus the Minimum Demand Charge.

**FUEL ADJUSTMENT CLAUSE:**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE:**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE:**

Bills computed according to the rates set forth herein will be increased or by a Demand Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 of this Tariff Schedule, unless the KWH is an industrial who has elected to opt out in accordance with the terms

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**RESERVED FOR FUTURE USE**

**TARIFF C.I.P. - T.O.D. (Cont'd.)  
(Commercial and Industrial Power - Time-of-Day)**

**ASSET TRANSFER RIDER:**

~~Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 of this Tariff Schedule.~~

**PURCHASE POWER ADJUSTMENT:**

~~Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.~~

**ENVIRONMENTAL SURCHARGE:**

~~Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of this Tariff Schedule.~~

**CAPACITY CHARGE:**

~~Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 of this Tariff Schedule.~~

**DELAYED PAYMENT CHARGE:**

~~This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.~~

**METERED VOLTAGE:**

~~The rates set forth in this tariff are based upon the delivery and measurement of energy at the same voltage, thus measurement will be made at or compensated to the delivery voltage. At the sole discretion of the Company, such compensation may be achieved through the use of loss compensating equipment, the use of formulas to calculate losses or the application of multipliers to the metered quantities. In such cases, the metered KWH and KVA values will be adjusted for billing purposes. If the Company elects to adjust KWH and KW based on multipliers, the adjustment shall be in accordance with the following:~~

- ~~(1) — Measurements taken at the low side of a Customer owned transformer will be multiplied by 1.01.~~
- ~~(2) — Measurements taken at the high side of a Company owned transformer will be multiplied by 0.98.~~

**MONTHLY BILLING DEMAND:**

~~The monthly on-peak and off-peak billing demands in KW shall be taken each month as the highest single 15-minute integrated peak in KW as registered by a demand meter during the on-peak and off-peak billing periods, respectively.~~

~~The reactive demand in KVARs shall be taken each month as the highest single 15-minute integrated peak in KVAR's as registered during the month by the demand meter or indicator, or, at the Company's option, as the highest registration of a thermal type demand meter or indicator.~~

~~(Cont'd on Sheet No. 11-3)~~

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RESERVED FOR FUTURE USE

TARIFF C.I.P.—T.O.D. (Cont'd)  
(Commercial and Industrial Power—Time of Day)

TERM OF CONTRACT:

~~Contracts under this tariff will be made for an initial period of not less than two years and shall remain in effect thereafter until either party shall give at least 12 months' written notice to the other of the intention to terminate the contract. The Company reserves the right to require initial contracts for periods greater than two years.~~

~~A new initial contract period will not be required for existing customers who change their contract requirements after the original initial period unless new or additional facilities are required.~~

CONTRACT CAPACITY:

~~The Customer shall set forth the amount of capacity contracted for (the "contract capacity") in an amount equal to or greater than 7,500 KW, in multiples of 100 KW. The Company is not required to supply capacity in excess of such contract capacity except with express written consent of the Company.~~

SPECIAL TERMS AND CONDITIONS:

~~This tariff is subject to the Company's Terms and Conditions of Service.~~

~~This tariff is also available to customers having other sources of energy supply, but who desire to purchase standby or back-up electric service from the Company. Where such conditions exist the customer shall contract for the maximum amount of demand in KW which the Company might be required to furnish, but not less than 7,500 KW. The Company shall not be obligated to supply demands in excess of the contract for capacity. Where service is supplied under the provisions of this paragraph, the billing demand each month shall be the highest determined for the current and previous two billing periods, and the minimum charge shall be as set forth under paragraph "Minimum Charge" above.~~

~~A customer's plant is considered as one or more buildings, which are served by a single electrical distribution system provided and operated by customer. When the size of the customer's load necessitates the delivery of energy to the customer's plant over more than one circuit, the Company may elect to connect its circuits to different points on the customer's system irrespective of contrary provisions in Terms and Conditions of Service.~~

~~This tariff is available for resale service to mining and industrial customers who furnish service to customer-owned camps or villages where living quarters are rented to employees and where the customer purchases power at a single point for both his power and camp requirements.~~

~~Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP-II or by special agreement with the Company.~~

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In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF C.S.-I.R.P.**  
**(Contract Service - Interruptible Power)**

**AVAILABILITY OF SERVICE.**

Available for service to customers who contract for service under one of the Company's interruptible service options. The Company reserves the right to limit the total contract capacity for all customers served under this Tariff to ~~60,000~~ 75,000 kW.

Loads of new customers locating within the Company's service area or load expansions by existing customers may be offered interruptible service as part of an economic development incentive. Such interruptible service shall not be counted toward the limitation on total interruptible power contract capacity, as specified above, and will not result in a change to the limitation on total interruptible power contract capacity.

**CONDITIONS OF SERVICE.**

The Company will offer eligible customers the option to receive service from a menu of interruptible power options pursuant to a contract agreed to by the Company and the Customer.

Upon receipt of a request from the Customer for interruptible service, the Company will provide the Customer with a written offer containing the rates and related terms and conditions of service under which such service will be provided by the Company. If the parties reach an agreement based upon the offer provided to the Customer by the Company, such written contract will be filed with the Commission. The contract shall provide full disclosure of all rates, terms and conditions of service under this Tariff, and any and all agreements related thereto, subject to the designation of the terms and conditions of the contract as confidential, as set forth herein.

The Customer shall provide reasonable evidence to the Company that the Customer's electric service can be interrupted in accordance with the provisions of the written agreement including, but not limited to, the specific steps to be taken and equipment to be curtailed upon a request for interruption.

The Customer shall contract for capacity sufficient to meet normal maximum interruptible power requirements, but in no event will the interruptible amount contracted for be less than 1,000 KW at any delivery point.

**RATE.** (Tariff Code 321)

*Credits under this tariff of \$3.68/kW/month will be provided for interruptible load that qualifies under PJM's rules as capacity for the purpose of the Company's FRR obligation.*

Charges for the service under this tariff will be set forth in the written agreement between the Company and the Customer and will reflect a difference from the firm service rates otherwise available to the Customer.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

(Cont'd on Sheet No. 12-2)

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**TARIFF C.S.-I.R.P.  
(Contract Service - Interruptible Power) (Cont'd.)**

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the Customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. *The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.*

**BIG SANDY RETIREMENT RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.*

**BIG SANDY I OPERATION RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy I Operation Rider Adjustment Factor per kW and/or kWh calculated in compliance with the Big Sandy I Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.*

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge Adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rate set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 and 28-2 of this Tariff Schedule.

(Cont'd on Sheet No. 12-3)

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**TARIFF C.S.-I.R.P.  
(Contract Service - Interruptible Power) (Cont'd.)**

**P.J.M.RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kW and/or kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.*

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

*Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.*

**HOME ENERGY ASSISTANCE PROGRAM (HEAP) CHARGE.**

*Applicable to all residential customers. Bills computed according to the rates set forth herein shall be increased by a HEAP charge of 15¢ per meter per month and shall be shown on the residential customers bill as a separate line item. The Home Energy Assistance Program charge will be applied to all residential electric bills rendered during the billing cycles commencing July 2010 and continue until otherwise directed by the Public Service Commission.*

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kW and/or kWh calculated in compliance with the NERC Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.*

**DELAYED PAYMENT CHARGE.**

*This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.*

**TERM OF CONTRACT**

*The length of the agreement and the terms and conditions of service will be stated in the agreement between the Company and the Customer.*

**CONFIDENTIALITY**

*All terms and conditions of any written contract under this Tariff shall be protected from disclosure as confidential, proprietary trade secrets, if either the Customer or the Company requests a Commission determination of confidentiality pursuant to 807 KAR5:001, Section 7 and the request is granted.*

(Cont'd on Sheet No. 12-4)

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**TARIFF C.S.-I.R.P.**  
**(Contract Service - Interruptible Power) (Cont'd.)**

**SPECIAL TERMS AND CONDITIONS**

Except as otherwise provided in the written agreement, this Tariff is subject to the Company's Terms and Conditions of Service.

A Customer's plant is considered as one or more buildings, which are served by a single electrical distribution system provided and operated by the Customer. When the size of the Customer's load necessitates the delivery of energy to the Customer's plant over more than one circuit, the Company may elect to connect its circuits to different points on the Customer's system irrespective of contrary provisions in Terms and Conditions of Service.

This tariff is also available to Customers having other sources of energy supply, but who desire to purchase standby or back-up electric service from the Company. Where such conditions exist, the Customer shall contract for the maximum amount of demand in KW, which the Company might be required to furnish, but not less than 1,000 KW.

Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP II or by special agreement with the Company

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**TARIFF M.W.**  
**(Municipal Waterworks)**

**AVAILABILITY OF SERVICE.**

Available only to incorporated cities and towns and authorized water districts and to utility companies operating under the jurisdiction of Public Service Commission of Kentucky for the supply of electric energy to waterworks systems and sewage disposal systems served under this tariff on September 1, 1982, and only for continuous service at the premises occupied by the Customer on this date. If service hereunder is discontinued, it shall not again be available.

Customer shall contract with the Company for a reservation in capacity in kilovolt-amperes sufficient to meet with the maximum load, which the Company may be required to furnish.

**RATE.** (Tariff Code 540)

Service Charge ..... \$ 22.90 per month  
Energy Charge:  
All KWH Used Per Month ..... ~~8.300¢~~ 8.601¢ per KWH

**MINIMUM CHARGE.**

This tariff is subject to a minimum monthly charge equal to the sum of the service charge plus ~~\$4.10~~ \$ 8.20 per KVA as determined from customer's total connected load.

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule.

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Demand-Side Management Adjustment Clause Factor per KWH calculated in compliance with the Demand-Side Management Adjustment Clause contained in Sheet Nos. 22-1 through 22-13 of this Tariff Schedule, unless the customer is an industrial who has elected to opt-out in accordance with the terms pursuant to the Commission's Order in Case No. 95-427.

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. *The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.*

(Cont'd on Sheet No. 13-2)

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**TARIFF M.W. (Cont'd)**  
**(Municipal Waterworks)**

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.*

**PAYMENT.**

Bills will be rendered monthly and will be due and payable on or before the due date stated on the bill.

**TERM OF CONTRACT.**

Contracts under this tariff will be made for not less than (1) one year with self-renewal provisions for successive periods of (1) one year each until either party shall give at least 60 days' written notice to the other of the intention to discontinue at the end of any yearly period. The Company will have the right to require contracts for periods of longer than (1) one year.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

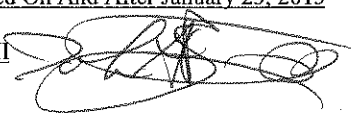
This tariff is not available to customers having other sources of energy supply.

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**TARIFF O.L.  
(Outdoor Lighting)**

**AVAILABILITY OF SERVICE.**

Available for outdoor lighting to individual customers in locations where municipal street lighting is not applicable.

**RATE.**

A. OVERHEAD LIGHTING SERVICE

Tariff  
Code

|      |    |                                  |                     |                |   |
|------|----|----------------------------------|---------------------|----------------|---|
|      | 1. | High Pressure Sodium             |                     |                |   |
| 094  |    | 100 watts ( 9,500 Lumens) .....  | \$ 8.75             | 9.65 per lamp  | I |
| 113  |    | 150 watts ( 16,000 Lumens) ..... | \$ 9.90             | 10.95 per lamp | I |
| 097  |    | 200 watts ( 22,000 Lumens) ..... | \$ <del>12.20</del> | 13.45 per lamp | I |
| 103  |    | 250 watts ( 28,000 Lumens) ..... | \$ <del>13.35</del> | 18.10 per lamp | I |
| 098  |    | 400 watts ( 50,000 Lumens) ..... | \$ 19.15            | 21.05 per lamp | I |
|      | 2. | Mercury Vapor                    |                     |                |   |
| 093* |    | 175 watts ( 7,000 Lumens) .....  | \$ 9.75             | 10.75 per lamp | I |
| 095* |    | 400 watts ( 20,000 Lumens) ..... | \$ 16.85            | 18.60 per lamp | I |

Company will provide lamp, photo-electric relay control equipment, luminaries and upsweep arm not over six feet in length, and will mount same on an existing pole carrying secondary circuits.

B. POST-TOP LIGHTING SERVICE

Tariff  
Code

|      |    |   |                     |                |   |
|------|----|---|---------------------|----------------|---|
|      | 1. | High Pressure Sodium                      |                     |                |   |
| 111  |    | 100 watts (9,500 Lumens) .....            | \$ <del>13.10</del> | 14.45 per lamp | I |
| 122  |    | 150 watts (16,000 Lumens) .....           | \$ 21.45            | 23.70 per lamp | I |
| 121  |    | 100 watts Shoe Box ( 9,500 Lumens) .....  | \$ 20.00            | 33.50 per lamp | I |
| 120  |    | 250 watts Shoe Box ( 28,000 Lumens) ..... | \$ 24.00            | 50.05 per lamp | I |
| 126  |    | 400 watts Shoe Box ( 50,000 Lumens) ..... | \$ 27.90            | 44.10 per lamp | I |
|      | 2. | Mercury Vapor                             |                     |                |   |
| 099* |    | 175 watts (7,000 Lumens) .....            | \$ <del>11.20</del> | 12.30 per lamp | I |

\*Effective June 29, 2010 and thereafter these lamps are not available for new installations

Company will provide lamp photo-electric relay control equipment, luminaries, post, and installation including underground wiring for a distance of thirty feet from the Company's existing secondary circuits.

(Cont'd on Sheet 14-2)

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In Case No. 2014-00396 Dated XXXXXXXXX

TARIFF O.L. (Cont'd.)  
(Outdoor Lighting)

RATE. (Cont'd.)

C. FLOOD LIGHTING SERVICE

Tariff  
Code

|     |   |                                    |
|-----|---|------------------------------------|
| 107 | 1. High Pressure Sodium<br>200 watts (22,000 Lumens)..... | \$ 13.60 15.00 per lamp            |
| 109 | 400 watts (50,000 Lumens).....                            | \$ <del>18.85</del> 20.80 per lamp |
| 110 | 2. Metal Halide<br>250 watts (20,500 Lumens).....         | \$18.20 20.10 per lamp             |
| 116 | 400 watts (36,000 Lumens).....                            | \$ <del>24.10</del> 26.60 per lamp |
| 131 | 1000 watts (110,000 Lumens) .....                         | \$ <del>52.20</del> 67.35 per lamp |
| 130 | 250 watts Mongoose (19,000 Lumens) .....                  | \$ <del>21.80</del> 25.30 per lamp |
| 136 | 400 watts Mongoose (40,000 Lumens) .....                  | \$ <del>25.50</del> 30.30 per lamp |

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Company will provide lamp, photoelectric relay control equipment, luminaries, mounting bracket, and mount same on an existing pole carrying secondary circuits.

When new or additional facilities, other than those specified in Paragraphs A, B, and C, are to be installed by the Company, the customer in addition to the monthly charges, shall pay in advance the installation cost (labor and material) of such additional facilities extending from the nearest or most suitable pole of the Company to the point designated by the customer for the installation of said lamp, except that customer may, for the following facilities only, elect, in lieu of such payment of the installation cost to pay:

|   |                                   |
|---|-----------------------------------|
| Wood pole.....                                  | \$ 2.85 3.15 per month            |
| Overhead wire span not over 150 feet .....      | \$ <del>1.60</del> 1.75 per month |
| Underground wire lateral not over 50 feet ..... | \$ 6.25 6.90 per month            |

(Price includes pole riser and connections)

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(Cont'd on Sheet No. 14-3)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF O.L. (Cont'd.)  
 (Outdoor Lighting)**

**FUEL ADJUSTMENT CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule. The monthly kilowatt-hours for Fuel Adjustment Clause, System Sales Clause and the Capacity Charge computations are as follows:

|       | <u>METAL HALIDE</u> |              |               | <u>MERCURY VAPOR</u> |              | <u>HIGH PRESSURE SODIUM</u> |              |              |              |              |
|-------|---------------------|--------------|---------------|----------------------|--------------|-----------------------------|--------------|--------------|--------------|--------------|
|       | 250<br>WATTS        | 400<br>WATTS | 1000<br>WATTS | 175<br>WATTS         | 400<br>WATTS | 100<br>WATTS                | 150<br>WATTS | 200<br>WATTS | 250<br>WATTS | 400<br>WATTS |
| JAN   | 127                 | 199          | 477           | 91                   | 199          | 51                          | 74           | 106          | 130          | 210          |
| FEB   | 106                 | 167          | 400           | 76                   | 167          | 43                          | 62           | 89           | 109          | 176          |
| MAR   | 106                 | 167          | 400           | 76                   | 167          | 43                          | 62           | 89           | 109          | 176          |
| APR   | 90                  | 142          | 340           | 65                   | 142          | 36                          | 53           | 76           | 93           | 150          |
| MAY   | 81                  | 127          | 304           | 58                   | 127          | 32                          | 47           | 68           | 83           | 134          |
| JUNE  | 72                  | 114          | 272           | 52                   | 114          | 29                          | 42           | 61           | 74           | 120          |
| JULY  | 77                  | 121          | 291           | 55                   | 121          | 31                          | 45           | 65           | 79           | 128          |
| AUG   | 88                  | 138          | 331           | 63                   | 138          | 35                          | 51           | 74           | 90           | 146          |
| SEPT  | 96                  | 152          | 363           | 69                   | 152          | 39                          | 57           | 81           | 99           | 160          |
| OCT   | 113                 | 178          | 427           | 81                   | 178          | 45                          | 66           | 95           | 116          | 188          |
| NOV   | 119                 | 188          | 449           | 86                   | 188          | 48                          | 70           | 100          | 122          | 198          |
| DEC   | 129                 | 203          | 486           | 92                   | 203          | 52                          | 75           | 108          | 132          | 214          |
| TOTAL | 1204                | 1896         | 4540          | 864                  | 1896         | 484                         | 704          | 1012         | 1236         | 2000         |

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. *The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.*

**BIG SANDY RETIREMENT RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.*

**BIG SANDY I OPERATION RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy I Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy I Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.*

(Cont'd. on Sheet No. 14-4)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF O.L. (Cont'd.)  
(Outdoor Lighting)**

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**P.J.M.RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule.*

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.*

**OWNERSHIP OF FACILITIES.**

All facilities necessary for service including fixtures, controls, poles, transformers, secondaries, lamps and other appurtenances shall be owned and maintained by the Company. All service and necessary maintenance will be performed only during the regular scheduled working hours of the Company.

The Company shall be allowed 3 working days after notification by the customer to replace all burned-out lamps.

**TERM OF INITIAL SERVICE.**

Term of initial service shall be required for a period of one year. *If early termination is requested, the customer will be billed for the remainder of the 12 month period.*

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

The Company shall have the option of rendering monthly or bimonthly bills.

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ISSUED BY: JOHN A. ROGNESS III



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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

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**TARIFF S.L.  
(Street Lighting)**

**AVAILABILITY OF SERVICE.**

Available for lighting service for all the lighting of public streets, public highways and other public outdoor areas in municipalities, counties, and other governmental subdivisions where such service can be supplied from the existing general distribution systems.

**RATE.** (Tariff Code 528)

A. Overhead Service on Existing Distribution Poles

|                                |    |                 |                |
|--------------------------------|----|-----------------|----------------|
| 1. High Pressure Sodium        |    |                 |                |
| 100 watts ( 9,500 lumens)..... | \$ | <del>7.25</del> | 8.05 per lamp  |
| 150 watts (16,000 lumens)..... | \$ | 8.30            | 9.25 per lamp  |
| 200 watts (22,000 lumens)..... | \$ | 10.30           | 11.45 per lamp |
| 400 watts (50,000 lumens)..... | \$ | 16.05           | 17.80 per lamp |

B. Service on New Wood Distribution Poles

|                                 |    |       |                |
|---------------------------------|----|-------|----------------|
| 1. High Pressure Sodium         |    |       |                |
| 100 watts ( 9,500 lumens).....  | \$ | 10.25 | 11.35 per lamp |
| 150 watts (16,000 lumens).....  | \$ | 11.40 | 12.60 per lamp |
| 200 watts ( 22,000 lumens)..... | \$ | 13.15 | 14.60 per lamp |
| 400 watts (50,000 lumens).....  | \$ | 18.45 | 20.45 per lamp |

C. Service on New Metal or Concrete Poles\*

|                                |    |                  |                |
|--------------------------------|----|------------------|----------------|
| 1. High Pressure Sodium        |    |                  |                |
| 100 watts ( 9,500 lumens)..... | \$ | 18.90            | 20.95 per lamp |
| 150 watts (16,000 lumens)..... | \$ | 19.85            | 22.00 per lamp |
| 200 watts (22,000 lumens)..... | \$ | <del>25.25</del> | 28.00 per lamp |
| 400 watts (50,000 lumens)..... | \$ | 27.45            | 30.45 per lamp |

\*Effective June 29, 2010 and thereafter these lamps are not available for new installations

Lumen rating is based on manufacturer's rated lumen output for new lamps.

**FUEL ADJUSTMENT CLAUSE.**

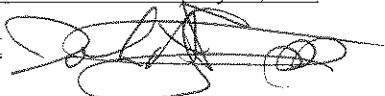
Bills computed according to the rates set forth herein will be increased or decreased by a Fuel Adjustment Factor per KWH calculated in compliance with the Fuel Adjustment Clause contained in Sheet Nos. 5-1 and 5-2 of this Tariff Schedule. The monthly kilowatt-hours for Fuel Adjustment Clause, System Sales Clause and the Capacity Charge computations are as follows:

(Cont'd on Sheet No. 15-2)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF S.L. (Cont'd.)  
(Street Lighting)**

**FUEL ADJUSTMENT CLAUSE. (Cont'd.)**

| <u>MONTH</u> | <u>HIGH PRESSURE SODIUM</u> |                      |                      |                      |
|--------------|-----------------------------|----------------------|----------------------|----------------------|
|              | <u>100<br/>WATTS</u>        | <u>150<br/>WATTS</u> | <u>200<br/>WATTS</u> | <u>400<br/>WATTS</u> |
| JAN          | 51                          | 74                   | 106                  | 210                  |
| FEB          | 43                          | 62                   | 89                   | 176                  |
| MAR          | 43                          | 62                   | 89                   | 176                  |
| APR          | 36                          | 53                   | 76                   | 150                  |
| MAY          | 32                          | 47                   | 68                   | 134                  |
| JUNE         | 29                          | 42                   | 61                   | 120                  |
| JULY         | 31                          | 45                   | 65                   | 128                  |
| AUG          | 35                          | 51                   | 74                   | 146                  |
| SEPT         | 39                          | 57                   | 81                   | 160                  |
| OCT          | 45                          | 66                   | 95                   | 188                  |
| NOV          | 48                          | 70                   | 100                  | 198                  |
| DEC          | <u>52</u>                   | <u>75</u>            | <u>108</u>           | <u>214</u>           |
| TOTAL        | 484                         | 704                  | 1012                 | 2000                 |

**SYSTEM SALES CLAUSE.**

Bills computed according to the rates set forth herein will be increased or decreased by a System Sales Factor per KWH calculated in compliance with the System Sales Clause contained in Sheet Nos. 19-1 and 19-2 of this Tariff Schedule.

**ENVIRONMENTAL SURCHARGE.**

Bills computed according to the rates set forth herein will be increased or decreased by an Environmental Surcharge Adjustment based on a percent of revenue in compliance with the Environmental Surcharge contained in Sheet Nos. 29-1 through 29-5 of this Tariff Schedule.

**ASSET TRANSFER RIDER.**

Bills computed according to the rates set forth herein will be increased or decreased by an Asset Transfer Adjustment Factor based on a percent of revenue in compliance with the Asset Transfer Rider contained in Sheet No. 36-1 through 36-2 of this Tariff Schedule. *The Asset Transfer Adjustment Factor will be applied to bills until such time as the pro rata amount (computed on a 365-day annual basis) authorized to be recovered via Tariff A.T.R. in the Stipulation and Settlement Agreement, approved as modified by the Commission by its order dated October 7, 2013 in Case No. 2012-00578, has been recovered.*

**BIG SANDY RETIREMENT RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy Retirement Rider Adjustment Factor based on a percent of revenue in compliance with the Big Sandy Retirement Rider contained in Sheet No. 38-1 through 38-2 of this Tariff Schedule.*

**BIG SANDY I OPERATION RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a Big Sandy 1 Operation Rider Adjustment Factor per kWh calculated in compliance with the Big Sandy 1 Operation Rider contained in Sheet Nos. 39-1 through 39-2 of this Tariff Schedule.*

(Cont'd On Sheet No. 15-3)

DATE OF ISSUE: December 23, 2014

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF S.L. (Cont'd.)  
(Street Lighting)**

**PURCHASE POWER ADJUSTMENT.**

Bills computed according to the rates set forth herein will be increased or decreased by a Purchase Power Adjustment Factor based on a percent of revenue in compliance with the Purchase Power Adjustment contained in Sheet No. 35-1 of this Tariff Schedule.

**CAPACITY CHARGE.**

Bills computed according to the rates set forth herein will be increased by a Capacity Charge Factor per KWH calculated in compliance with the Capacity Charge Tariff contained in Sheet No. 28-1 through 28-2 of this Tariff Schedule.

**P.J.M.RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a PJM Rider per kWh calculated in compliance with the PJM Rider contained in Sheet Nos. 24-1 through 24-3 of this Tariff Schedule*

**KENTUCKY ECONOMIC DEVELOPMENT SURCHARGE.**

*Applicable to all customers. Bills computed according to the rates set forth herein shall be increased by a KEDS charge of \$0.15 per month and shall be shown on the customers' bills as a separate line item. The KEDS charge will be applied to all customer electric bills rendered during the billing cycles commencing July 2015 and continue until otherwise directed by the Public Service Commission.*

**NERC COMPLIANCE AND CYBERSECURITY RIDER.**

*Bills computed according to the rates set forth herein will be increased or decreased by a NERC Compliance and Cybersecurity Rider Adjustment Factor per kWh calculated in compliance with the NERC Compliance and Cybersecurity Rider contained in Sheet Nos. 40-1 through 40-3 of this Tariff Schedule.*

**SPECIAL FACILITIES.**

When a customer requests street lighting service which requires special poles or fixtures, underground street lighting, or a line extension of more than one span of approximately 150 feet, the customer will be required to pay, in advance, an aid-to-construction in the amount of the installed cost of such special facilities

**PAYMENT.**

Bills are due and payable within ten (10) days of the mailing date.

**HOURS OF LIGHTING.**

All lamps shall burn from one-half hour after sunset until one-half hour before sunrise every night and all night, burning approximately 4,000 hours per annum.

**TERM OF CONTRACT.**

Contracts under this tariff will ordinarily be made for an initial term of one year with self-renewal provisions for successive periods of one year each until either party shall give at least 60 days' notice to the other of the intention to discontinue at the end of the initial term or any yearly period. The Company may have the right to require contracts for periods of longer than one year if new or additional facilities are required.

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF C. A. T. V.**  
**(Cable Television Pole Attachment)**

**AVAILABILITY OF SERVICE.**

Available to operators of cable television systems (Operators) furnishing cable television service in the operating area of Kentucky Power Company (Company) for attachments of aerial cables, wires and associated appliances (attachments) to certain distribution poles of Kentucky Power Company.

*As used in this Tariff, an "attachment" shall mean the physical connection of (a) a messenger strand supporting the wires, cables or stand-mounted associated facilities and equipment of a cable system or (b) service drops affixed to the pole and located more than one vertical foot away from the point at which the messenger strand is attached to the pole (but not a strand originating or mid-span service drop) or (c) service drops located on a dedicated service, drop or lift pole. An attachment shall consume no more than one foot (1') of vertical space on any distribution pole owned by the Company.*

**RATE.**

Charge for attachments on a two-user pole ..... \$ 7.21 per pole/year attachment per year  
Charge for attachments on a three-user pole ..... \$ 4.47 per pole/year attachment per year

The above rate was calculated in accordance with the following formula:

$$\begin{matrix} \text{Weighted Average} \\ \text{Bare Pole Cost} \end{matrix} \times \begin{matrix} \text{Usage} \\ \text{Factor} \end{matrix} \times \begin{matrix} \text{Carrying} \\ \text{Charge} \end{matrix} = \text{Rate Per Pole}$$

*A two-user pole is a pole being used, by actual occupation or reservation, by the Operator and the Company. A three-user pole is a pole being used by actual occupation or reservation, by the Operator, the Company, and a third party.*

**DELAYED PAYMENT CHARGE.**

This Tariff is net if account is paid in full within ~~45~~ 30 days of date of bill. On all accounts not so paid an additional charge of 5% of the unpaid balance will be made.

**POLE SUBJECT TO ATTACHMENT.**

When an Operator proposes to furnish cable television service within the Company's operating area and desires to make attachments on certain distribution poles of Company, Operator shall make written application, on a form furnished by Company, to install attachments specifying the location of each pole in question, the character of its proposed attachments and the amount and location of space desired, and any other information necessary to calculate the transverse and vertical load placed upon the pole as a result of the proposed attachment and any other facilities attached to the pole. Within ~~twenty-one (21)~~ *forty-five (45)* days after receipt of the application, Company shall notify Operator whether and to what extent any special conditions will be required to permit the use by Operator of each such pole. Operator shall reimburse Company for any expenses incurred in reviewing such written applications for attachment. Operator shall have a non-exclusive right to use such poles of Company as may be used or reserved for use by Operator and any other poles of Company when brought hereunder in accordance with the procedure hereinafter provided. Company shall have the right to grant, by contract or otherwise to others rights or privileges to use any poles of the Company and Company shall have the right to continue and extend any such rights or privileges heretofore granted. All poles shall be and remain the property of Company regardless of any payment by Operator toward their cost and Operator shall, except for the rights provided hereunder, acquire no right, title or interest in or to any such pole.

(Cont'd on Sheet No. 16-2)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF C.A.T.V. (Cont'd.)  
(Cable Television Pole Attachment)**

**STANDARDS FOR INSTALLATION.**

All attachments and associated equipment of Operator (including without limitation, power supplies) shall be installed in a manner satisfactory to Company and so as not to interfere with the present or any future use which Company may desire to make of the poles covered by this Tariff. All such attachments and equipment shall be installed and at all times maintained by Operator so as to comply at least with the minimum requirements of the National Electrical Safety Code and any other applicable regulations or codes promulgated by state, local or other governmental authority having jurisdiction there over. Power supply apparatus having as its largest dimension more than sixteen inches must be placed on a separate pole to be installed by Operator. Operator shall take necessary precautions by the installation of protective equipment or other means, to protect all persons and property of all kinds against injury or damage occurring by reason of Operator's attachments.

**POLE INSTALLATION OR REPLACEMENT; REARRANGEMENTS; GUYING.**

In any case Operator proposes to install attachments on a pole to be erected by Company in a new location, and to provide adequate space or strength to accommodate such attachments (either at the request of Operator to comply with the aforesaid codes and regulations) such pole must, in Company's judgment, be taller and/or stronger than would be necessary to accommodate the facilities of Company and of other persons who have previously indicated that they desire to make attachments on such pole or with whom Company has an agreement providing for joint or share ownership of poles, the cost of such extra height and/or strength shall be paid to Company by Operator. Such cost shall be the difference between the cost in place of the new pole and the current cost in place of a pole considered by Company to be adequate for the facilities of Company and the attachments of such other persons.

Where in Company's judgment a new pole must be erected to replace an existing pole solely to adequately provide for Operator's proposed attachments, Operator agrees to pay Company for the entire cost of the new pole necessary to accommodate the existing facilities on the pole and Operator's proposed attachments, plus the cost of removal of the in-place pole, minus the salvage value, if any, of the removed pole. Title to the new pole shall remain with the Company. Operator shall also pay to Company and to any other owner of existing attachments on the pole the cost of removing each of their respective facilities or attachments from the existing pole and reestablishing the same or like facilities or attachments on the newly-installed pole.

If Operator's desired attachments can be accommodated on existing poles of Company by rearranging facilities of Company thereon of any other person, or if because of Operator's proposed attachments it is necessary for Company to rearrange its facilities on any pole not owned by it, then in any such case, Operator shall reimburse Company and any such other person for the respective expense incurred in making such rearrangement.

If because of the requirements of its business, Company proposed to replace an existing pole on which Operator has any attachment, or Company proposed to change the arrangements of its facilities on any such pole in such manner as to necessitate a rearrangement of Operator's attachment, or if as a result of any inspection of Operator's attachments Company determines that any such attachments are not in accordance with applicable codes or the provisions of this Tariff or are otherwise hazards Company shall give Operator not less than 48 hours notice of such proposed replacement or change, or any such violation or hazard, unless an emergency requires a shorter period. In such event, Operator shall at its expense relocate, rearrange or modify its attachments at the time specified by Company. If Operator fails to do so, or if any such emergency makes notice impractical, Company shall perform such relocation or rearrangement and Operator shall reimburse Company for the reasonable cost thereof.

Any additional guying or anchors required by reason of the attachments of Operator shall be provided at the expense of Operator and shall meet the requirements of all applicable codes or regulations and Company's generally applicable guying standards.

(Cont'd on Sheet No. 16-3)

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF C.A.T.V. (Cont'd.)  
(Cable Television Pole Attachment)**

**POLE INSPECTION.**

Company may make periodic inspections, as conditions may warrant, for the purpose of determining compliance with the provisions of this Tariff. Company reserves the right to inspect each new or proposed installation of Operator on Company's poles. In addition, Company's right to make any inspections and any inspection made pursuant to such right shall not relieve Operator of any responsibility, obligation or liability assumed under this Tariff.

**UNAUTHORIZED ATTACHMENTS.**

Operator shall make no attachment to or other use of any pole of Company or any facilities of Company thereon, except as authorized. *The company reserves the right to make periodic inspections.* Should such unauthorized attachment or use be made, Operator shall pay to the Company on demand two times the charges and fees, including but not limited to, any payable under the headings "RATES" and "POLE INSTALLATION OR REPLACEMENT; REARRANGEMENTS; GUYING" that would have been payable had such attachment been made on the date following the date of the last previous inspection required to be made by Company under applicable regulations of the Kentucky Public Service Commission.

**ABANDONMENT BY OPERATOR.**

Operator may at any time abandon the use of a pole hereunder by removing therefrom all of its attachments and by giving written notice thereof, on a form provided by the Company, and no pole shall be considered abandoned until such notice is received.

**INDEMNITY.**

Operator hereby agrees to indemnify, hold harmless, and defend Company from and against any and all loss, damage, cost or expense which Company may suffer or for which Company may be held liable because of interruption of Operator's service to its subscribers or because of interference with television reception of said subscribers or others, or by reason of bodily injury, including death, to any person, or damage to or destruction of any property, including loss of use thereof, arising out of or in any manner connected with the attachment, operation, and maintenance of the facilities of Operator on the poles of Company under this Tariff, when due to any act, omission or negligence of Operator, or to any such act, omission or negligence of Operator's respective representatives, employees, agents or contractors.

**INSURANCE.**

Operator agrees to obtain and maintain at all times policies of insurance as follows:

- (a) Comprehensive bodily injury liability insurance in an amount not less than \$1,000,000 for any one occurrence
- (b) Comprehensive property damage liability insurance in an amount not less than \$500,000 for any one occurrence.
- (c) Contractual liability insurance in an amount not less than the foregoing minimums to cover the liability assumed by the Operator under the agreement or indemnity set forth above.

Prior to making attachments at Company's poles, Operator shall furnish to Company two copies of a certificate, from an insurance carrier licensed to do business in Kentucky, stating that policies of insurance have been issued by it to Operator providing for the insurance listed above and that such policies are in force. Such certificate shall state that the insurance carrier will give Company *thirty (30) fifteen (15) days'* prior written notice of any cancellation of or material change in such policies.

(Cont'd on Sheet 16-4)

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TITLE: Director Regulatory Services

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In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF C.A.T.V. (Cont'd.)  
(Cable Television Pole Attachment)**

**EASEMENTS.**

Operator shall secure any right, license or permit from any governmental body, authority or other person or persons which may be required for the construction or maintenance of attachments of Operator. Company does not convey nor guarantee any easements, rights-of-way or franchises for the construction and maintenance of said attachments. Operator hereby agrees to indemnify and save harmless Company from any and all claims, including the expenses incurred by Company to defend itself against such claims, resulting from or arising out of the failure of Operator to secure such right, license, permit or easement for the construction or maintenance of said attachments on Company's poles.

**CHARGES AND FEES.**

Operator agrees to pay Company *an annual charge per attachments set forth on Tariff Sheet No. 16-1* in advance, ~~semi-annually, charges to be computed as set forth in Tariff,~~ and such other charges as may be provided for herein, for the use of each of Company's poles, any portion of which is occupied by, or reserved at Operator's request for the attachments of Operator.

Operator agrees to reimburse Company for all reasonable non-recurring expenses caused by or attributable to Operator's initial attachments including without limitation the amounts set forth herein before and the expenses of Company in examining poles used but not owned by Company to which Operator proposes to make attachments.

**FEES FOR ADDITIONAL ATTACHMENTS OR REMOVALS.**

For attachments made or removed which are reported to the Company between billing dates, Operator shall be billed or credited a prorated amount of the annual charge effective with the date of attachment or removal on the Operator's next bill.

**ADVANCE BILLING**

Payment of amounts due hereunder is due on the dates or at the times indicated with respect to each such payment. In the event the time for any payment is not specified, such payment shall be due ~~fifteen (15)~~ *thirty (30)* days from the date of the invoice therefore. In all amounts not so paid an addition charge of five percent (5%) will be assessed. Where the provisions of the Tariff require any payment by Operator to the Company other than for attachment charges, Company may, at its option, require that the estimated amount thereof be paid in advance of permission to use any pole or the performance by company of any work. In such a case, Company shall invoice any deficiency or refund any excess to Operator after the current amount of such payment has been determined.


**DEFAULT OR NON-COMPLIANCE.**

If Operator fails to comply with any of the provisions of this Tariff or defaults in the performance of any of its obligations under this Tariff and fails within thirty (30) days, after written notice from Company to correct such default or non-compliance, Company may, *in addition to all other remedies under this tariff as its option* forthwith take any one or more of the following actions: terminate the specific permit or permits covering the poles to which such default or non-compliance is applicable; remove, relocate or rearrange attachments of Operator to which such default or non-compliance relates, all at Operator's expense; decline to permit additional attachments hereunder until such default is cured; or in the event of any failure to pay any of the charges, fees or amounts provided in this Tariff or any other substantial default, or of repeated defaults terminate Operator's right of attachment. No liability shall be incurred by Company because of any or all such actions except for negligent destruction by the Company of CATV equipment in any relocation or removal of such equipment. The remedies provided herein are cumulative and in addition to any other remedies available to Company.

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF C. A. T. V. (Cont'd)**  
**(Cable Television Pole Attachment)**

**PRIOR AGREEMENTS.**

This Tariff terminates and supersedes any previous agreement, license or joint use affecting Company's poles and Operator's attachments covered herein.

**ASSIGNMENT.**

This Tariff shall be binding upon and inure to the benefits of the parties hereto, their respective successors and/or assigns, but Operator shall not assign, transfer or sublet any of the rights hereby granted without the prior written consent of the Company, which shall not be unreasonably withheld, and any such purported assignment, transfer or subletting without such consent shall be void.

**PERFORMANCE WAIVER.**

Neither party shall be considered in default in the performance of its obligations herein, or any of them, to the extent that performance is delayed or prevented due to causes beyond the control of said party, including but not limited to, Acts of God or the public enemy, war, revolution, civil commotion, blockade or embargo, acts of government, any law, order, proclamation, regulation, ordinance, demand, or requirement of any government, fires, explosions, cyclones, floods, unavoidable casualties, quarantine, restrictions, strikes, labor disputes, lock-outs, and other causes beyond the reasonable control of either of the parties.

**PRESERVATION OF REMEDIES.**

No delay or omission in the exercise of any power or remedy herein provided or otherwise available to the Company shall impair or affect its right thereafter to exercise the same.

**HEADINGS.**

Headings used in this Tariff are inserted only for the convenience of the parties and shall not affect the interpretation or construction of this Tariff.

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF COGEN/SPP I**  
**(Cogeneration and/or Small Power Production--100 KW or Less)**

**AVAILABILITY OF SERVICE.**

This tariff is available to customers with cogeneration and/or small power production (COGEN/SPP) facilities which qualify under Section 210 of the Public Utility Regulatory Policies Act of 1978, and which have a total design capacity of 100 KW or less. Such facilities shall be designed to operate properly in parallel with the Company's system without adversely affecting the operation of equipment and services of the Company and its customers, and without presenting safety hazards to the Company and customer personnel.

The customer has the following options under this tariff, which will affect the determination of energy and capacity and the monthly metering charges:

- Option 1 - The customer does not sell any energy or capacity to the Company, and purchases from the Company its net load requirements, as determined by appropriate meters located at one delivery point.
- Option 2 - The customer sells to the Company the energy and average on-peak capacity produced by the customer's qualifying COGEN/SPP facilities in excess of the customer's total load, and purchases from the Company its net load requirements, as determined by appropriate meters located at one delivery point.
- Option 3 - The customer sells to the Company the total energy and average on-peak capacity produced by the customer's qualifying COGEN/SPP facilities, while simultaneously purchasing from the Company its total load requirements, as determined by appropriate meters located at one delivery point.

**MONTHLY CHARGES FOR DELIVERY FROM THE COMPANY TO THE CUSTOMER.**

Such charges for energy, and demand where applicable, to serve the customer's net or total load shall be determined according to the tariff appropriate for the customer, except that Option 1 and Option 2 customers with cogeneration and/or small power production facilities having a total design capacity of more than 10 KW shall be served under demand-metered tariffs, and except that the monthly billing demand under such tariffs shall be the highest determined for the current and previous two billing periods. The above three-month billing demand provision shall not apply under Option 3.

**ADDITIONAL CHARGES.**

There shall be additional charges to cover the cost of special metering, safety equipment and other local facilities installed by the Company due to COGEN/SPP facilities, as follows:

**Monthly Metering Charge**

The additional monthly charge for special metering facilities shall be as follows:

- Option 1 - *Not Applicable.*  
~~Where the customer does not sell electricity to the Company, a detent shall be used on the energy meter to prevent reverse rotation. The cost of such meter alteration shall be paid by the customer as part of the Local Facilities Charge.~~

(Cont'd on Sheet No. 17-2)

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In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF COGEN/SPP I (Cont'd.)**  
**(Cogeneration and/or Small Power Production--100 KW or Less)**

**ADDITIONAL CHARGES. (Cont'd.)**

**Monthly Metering Charge (Cont'd.)**

Options 2 & 3 - Where meters are used to measure the excess or total energy and average on-peak capacity purchased by the Company:

|                      | <u>Single Phase</u> | <u>Polyphase</u> |
|----------------------|---------------------|------------------|
| Standard Measurement | \$-6.75 \$ 8.50     | \$7.75 \$ 11.10  |
| T.O.D. Measurement   | \$ 7.15 \$ 9.05     | \$8.40 \$ 11.40  |

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Under Option 3, when metering voltage for COGEN/SPP facilities is the same as the Company's delivery voltage, the customer shall, at his option, either route the COGEN/SPP totalized output leads through the metering point, or make available at the metering point for the use of the Company and, as specified by the Company, metering current leads which will enable the Company to measure adequately the total electrical energy and average capacity produced by the qualifying COGEN/SPP facilities, as well as to measure the electrical energy consumption and capacity requirements of the customer's total load. When metering voltage for COGEN/SPP facilities is different from the Company's delivery voltage, metering requirements and charges shall be determined specifically for each use.

**Local Facilities Charge**

Additional charges to cover "interconnection costs" incurred by the Company shall be determined by the Company for each case and collected from the customer. For Options 2 and 3, the cost of metering facilities shall be covered by the Monthly Metering Charge and shall not be included in the Local Facilities Charge. The customer shall make a one-time payment for the Local Facilities Charge at the time of installation of the required additional facilities, or, at his option, up to 12 consecutive equal monthly payments reflecting an annual interest charge as determined by the Company, but not to exceed the cost of the Company's most recent issue of long-term debt. If the customer elects the installment payment option, the Company may require a reasonable security deposit.

**MONTHLY CREDITS OR PAYMENTS FOR ENERGY AND CAPACITY DELIVERIES.**

**Energy Credit**

The following credits or payments from the Company to the customer shall apply for the electrical energy delivered to the Company:

|                               |                 |
|-------------------------------|-----------------|
| Standard Meter - All KWH..... | 2.90¢ 3.79¢ KWH |
| T.O.D. Meter                  |                 |
| On-Peak KWH .....             | 3.06¢ 4.64¢ KWH |
| Off-Peak KWH .....            | 2.78¢ 3.18¢ KWH |

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**Capacity Credit**

If the customer contracts to deliver or produce a specified excess or total average capacity during the monthly billing period (monthly contract capacity), or a specified excess or total average capacity during the on-peak monthly billing period (on-peak contract capacity), then the following capacity credits or payment from the Company to the customer shall apply:

(Cont'd on Sheet No. 17-3)

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**TARIFF COGEN/SPP I (Cont'd.)**  
**(Cogeneration and/or Small Power Production--100 KW or Less)**

**MONTHLY CREDITS OR PAYMENTS FOR ENERGY AND CAPACITY DELIVERIES. (Cont'd.)**

**Capacity Credit (Cont'd.)**

If standard energy meters are used,

- A. \$ ~~2.84~~ 3.70 KW/month, times the lowest of:
  - (1) monthly contract capacity, or
  - (2) current month metered average capacity, i.e., KWH delivered to the Company or produced by COGEN/SPP facilities divided by 730, or
  - (3) lowest average capacity metered during the previous two months if less than monthly contract capacity.

If T.O.D. energy meters are used,

- B. \$ ~~6.82~~ 8.87 KW/month, times the lowest of:
  - (1) on-peak contract capacity, or
  - (2) current month on-peak metered average capacity, i.e., on-peak KWH delivered to the Company or produced by COGEN/SPP facilities divided by 327,305 or
  - (3) lowest on-peak average capacity metered during the previous two months, if less than on-peak contract capacity.

The above energy and capacity credit rates are subject to revisions from time to time as approved by the Commission.

**ON-PEAK AND OFF-PEAK PERIODS.**

The on-peak period shall be defined as starting at 7:00A.M. and ending at 9:00 P.M., local time, Monday through Friday.

The off-peak period shall be defined as starting at 9:00 P.M. and ending at 7:00A.M. local time, Monday through Friday, and all hours of Saturday and Sunday.

**CHARGES FOR CANCELLATION OR NON PERFORMANCE CONTRACT.**

If the customer should, for a period in excess of six months, discontinue or substantially reduce for any reason the operation of cogeneration and/or small power production facilities which were the basis for the monthly contract capacity or the on-peak contract capacity, the customer shall be liable to the Company for an amount equal to the total difference between the actual payments for capacity paid to the customer and the payments for capacity that would have been paid to the customer pursuant to this Tariff COGEN/SPP I or any successor tariff. The Company shall be entitled to interest on such amount at the rate of the Company's most recent issue of long-term debt at the effective date of the contract.

**TERM OF CONTRACT.**

Contracts under this tariff shall be made for a period not less than one year.

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**TARIFF COGEN/SPP II**  
**(Cogeneration and/or Small Power Production--Over 100 KW)**

**AVAILABILITY OF SERVICE.**

This tariff is available to customers with cogeneration and/or small power production (COGEN/SPP) facilities which qualify under Section 210 of the Public Utility Regulatory Policies Act of 1978, and which have a total design capacity of over 100 KW but less than 20,000 KW. Such facilities shall be designed to operate properly in parallel with the Company's system without adversely affecting the operation of equipment and services of the Company and its customers, and without presenting safety hazards to the Company and customer personnel.

The customer has the following options under this tariff, which will affect the determination of energy and capacity and the monthly metering charges:

- Option 1 - The customer does not sell any energy or capacity to the Company, and purchases from the Company its net load requirements, as determined by appropriate meters located at one delivery point.
- Option 2 - The customer sells to the Company the energy and average on-peak capacity produced by the customer's qualifying COGEN/SPP facilities in excess of the customer's total load, and purchases from the Company its net load requirements, as determined by appropriate meters located at one delivery point.
- Option 3 - The customer sells to the Company the total energy and average on-peak capacity produced by the customer's qualifying COGEN/SPP facilities, while simultaneously purchasing from the Company its total load requirements, as determined by appropriate meters located at one delivery point.

**MONTHLY CHARGES FOR DELIVERY FROM THE COMPANY TO THE CUSTOMER.**

Such charges for energy, and demand where applicable, to serve the customer's net or total load shall be determined according to the tariff appropriate for the customer, except that Option 1 and Option 2 customers shall be served under demand-metered tariffs, and except that the monthly billing demand under such tariffs shall be the highest determined for the current and previous two billing periods. The above three-month billing demand provision shall not apply under Option 3.

**ADDITIONAL CHARGES.**

There shall be additional charges to cover the cost of special metering, safety equipment and other local facilities installed by the Company due to COGEN/SPP facilities, as follows:

Monthly Metering Charge

The additional monthly charge for special metering facilities shall be as follows:


- Option 1 - *Not Applicable.*  
~~Where the customer does not sell electricity to the Company, a detent shall be used on the energy meter to prevent reverse rotation. The cost of such meter alteration shall be paid by the customer as part of the Local Facilities Charge.~~

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(Cont'd on Sheet No. 18-2)

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**TARIFF COGEN/SPP II (Cont'd.)**  
**(Cogeneration and/or Small Power Production--Over 100 KW)**

**ADDITIONAL CHARGES. (Cont'd.)**

**Monthly Metering Charge (Cont'd)**

|                |  |                         |                          |
|----------------|--|-------------------------|--------------------------|
| Options 2 & 3- | Where meters are used to measure the excess or total energy and average on peak capacity purchased by the Company: |                         |                          |
|                |  | <u>Single Phase</u>     | <u>Polyphase</u>         |
|                | Standard Measurement   | \$ <del>6.75</del> 8.50 | \$ <del>7.75</del> 11.10 |
|                | T.O.D. Measurement   | \$ <del>7.15</del> 9.05 | \$ <del>8.10</del> 11.40 |

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Under Option 3, when metering voltage for COGEN/SPP facilities is the same as the Company's delivery voltage, the customer shall, at his option, either route the COGEN/SPP totalized output leads through the metering point, or make available at the metering point for the use of the Company and, as specified by the Company, metering current leads which will enable the Company to measure adequately the total electrical energy and average capacity produced by the qualifying COGEN/SPP facilities, as well as to measure the electrical energy consumption and capacity requirements of the customer's total load. When metering voltage for COGEN/SPP facilities is different from the Company's delivery voltage, metering requirements and charges shall be determined specifically for each case.

**Local Facilities Charge**

Additional charges to cover "interconnection costs" incurred by the Company shall be determined by the Company for each case and collected from the customer. For Options 2 and 3, the cost of metering facilities shall be covered by the Monthly Metering Charge and shall not be included in the Local Facilities Charge. The customer shall make a one-time payment for the Local Facilities Charge at the time of installation of the required additional facilities, or, at his option, up to 12 consecutive equal monthly payments reflecting an annual interest charge as determined by the Company, but not to exceed the cost of the Company's most recent issue of long-term debt. If the customer elects the installment payment option, the Company may require a reasonable security deposit.

**MONTHLY CREDITS OR PAYMENTS FOR ENERGY AND CAPACITY DELIVERIES.**

**Energy Credit**

The following credits or payments from the Company to the customer shall apply for the electrical energy delivered to the Company:

|                               |                 |
|-------------------------------|-----------------|
| Standard Meter - All KWH..... | 2.90¢ 3.79¢ KWH |
| T.O.D. Meter                  |                 |
| On-Peak KWH .....             | 3.06¢ 4.64¢ KWH |
| Off-Peak KWH .....            | 2.78¢ 3.18¢ KWH |

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**TARIFF COGEN/SPP II (Cont'd.)**  
**(Cogeneration and/or Small Power Production--Over 100 KW)**

**MONTHLY CREDITS OR PAYMENTS FOR ENERGY AND CAPACITY DELIVERIES. (Cont'd.)**

**Capacity Credit**

If the customer contracts to deliver or produce a specified excess or total average capacity during the monthly billing period (monthly contract capacity), or a specified excess or total average capacity during the on-peak monthly billing period (on-peak contract capacity), then the following capacity credits or payment from the Company to the customer shall apply:

If standard energy meters are used,

A. ~~\$2.84~~ 3.70/KW/ month, times the lowest of:

- (1) monthly contract capacity, or
- (2) current month metered average capacity, i.e., KWH delivered to the Company or produced by COGEN/SPP facilities divided by 730, or
- (3) lowest average capacity metered during the previous two months if less than monthly contract capacity.

If T.O.D. energy meters are used,

B. ~~\$6.82~~ 8.87/KW/month, times the lowest of:

- (1) on-peak contract capacity, or
- (2) current month on-peak metered average capacity, i.e., on-peak KWH delivered to the Company or produced by COGEN/SPP facilities divided by ~~730~~ 305, or
- (3) lowest on-peak average capacity metered during the previous two months, if less than on-peak contract capacity.

The above energy and capacity credit rates are subject to revisions from time to time as approved by the Commission.

**ON-PEAK AND OFF-PEAK PERIODS.**

The on-peak period shall be defined as starting at 7:00 A.M. and ending at 9:00 P.M., local time, Monday through Friday.

The off-peak period shall be defined as starting at 9:00 P.M. and ending at 7:00 A.M., local time, Monday through Friday, and all hours of Saturday and Sunday.

**CHARGES FOR CANCELLATION OR NON PERFORMANCE CONTRACT.**

If the customer should, for a period in excess of six months, discontinue or substantially reduce for any reason the operation of cogeneration and/or small power production facilities which were the basis for the monthly contract capacity or the on-peak contract capacity, the customer shall be liable to the Company for an amount equal to the total difference between the actual payments for capacity paid to the customer and the payments for capacity that would have been paid to the customer pursuant to this Tariff COGEN/SPP II or any successor tariff. The Company shall be entitled to interest on such amount at the rate of the Company's most recent issue of long-term debt at the effective date of the contract.

**TERM OF CONTRACT.**

Contracts under this tariff shall be made for a period not less than one year.

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF S. S. C.**  
**(System Sales Clause)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D.2, S.G.S., Experimental-S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., ~~Q.P., C.I.P.-T.O.D., I.G.S.~~, C.S.- I.R.P., M.W., O.L. and S.L.

**RATE.**

~~In accordance with the Stipulation and Settlement Agreement approved as modified by the Commission by its Order dated October 7, 2013 in Case No. 2012-00578, the System Sales Adjustment Factor will be fixed and maintained at 0.0000 mills/kWh until new base rates are first established by Commission after the effective date of this tariff without regard to the calculation of the Monthly System Sales Adjustment Factor under paragraphs 1 through 6 below.~~

1. When the monthly net revenues from system sales are above or below the monthly base net revenues from system sales, as provided in paragraph 2 below, an additional credit or charge equal to the product of the KWHs and a system sales adjustment factor (A) shall be made, where "A", calculated to the nearest 0.0001 mill per kilowatt-hour, is defined as set forth below.

$$\text{System Sales Adjustment Factor (A)} = (.6 [T_m - T_b])/S_m$$

In the above formulas "T" is Kentucky Power Company's (KPCo) monthly net revenues from system sales in the current (m) and base (b) periods, and "S" is the KWH sales in the current (m) period, all defined below.

2. *The net revenue from KPCo's sales to non-associated companies as reported in the FERC Energy Regulatory Commission's Uniform System of Accounts under Account 447, Sales for Resale, shall consist of and be derived as follows:*
  - a. *KPCo's total revenues from system sales as recorded in Account 447, less b. and c. below.*
  - b. *KPCo's total out-of-pocket costs incurred in supplying the power and energy for the sales in a. above.*  
  
*The out-of-pocket costs include all operating, maintenance, tax, transmission losses and other expenses that would not have been incurred if the power and energy had not been supplied for such sales, including demand and energy charges for power and energy supplied by Third Parties.*
  - c. *KPCo's environmental costs allocated to non-associated utilities in the Company's Environmental Surcharge Report.*

(Cont'd on Sheet No. 19-2)

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**TARIFF S. S. C. (Cont'd.)  
(System Sales Clause)**

3. The base monthly net revenues from system sales are as follows:

| <u>Billing Month</u> | <u>System Sales<br/>(Total Company Basis)</u> |                     |
|----------------------|---|---------------------|
| January              | \$ 528,886                                    | 1,560,360           |
| February             | 335,167                                       | 1,335,811           |
| March                | 1,530,489                                     | 1,296,845           |
| April                | 1,371,521                                     | 1,152,503           |
| May                  | 1,307,472                                     | 1,170,480           |
| June                 | 767,124                                       | 1,106,499           |
| July                 | 616,234                                       | 1,322,384           |
| August               | 2,136,652                                     | 1,031,319           |
| September            | 1,850,577                                     | 1,038,816           |
| October              | 1,739,665                                     | 1,088,125           |
| November             | 1,538,455                                     | 1,123,099           |
| December             | 1,568,121                                     | 1,073,722           |
|                      | <u>\$15,290,363</u>                           | <u>\$14,299,964</u> |

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4. Sales (S) shall be equated to the sum of (a) generation (including energy produced by generating plant during the construction period), (b) purchase, and (c) interchange-in, less (d) energy associated with pumped storage operations, less (e) inter-system sales and less (f) total system losses.
5. The system sales adjustment factor shall be based upon estimated monthly revenues and costs for system sales, subject to subsequent adjustment upon final determination of actual revenues and costs.
6. The monthly System Sales Clause shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustments, which shall include data, and information as may be required by the Commission.
7. Copies of all documents required to be filed with the Commission under this regulation shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.

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In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF F.T.**  
**(Franchise Tariff)**

**AVAILABILITY OF SERVICE.**

Where a city or town within Kentucky Power's service territory requires the Company to pay a percentage of revenues from certain customer classifications collected within such city or town of the right to erect the Company's poles, conductors, or other apparatus along, over, under, or across such city's or town's streets, alleys, or public grounds, the Company shall increase the rates and charges to such customer classifications within such city or town by a like percentage. The aforesaid charge shall be separately stated and identified on each affected customer's bill.

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF T. S.  
(Temporary Service)**

**AVAILABILITY OF SERVICE.**

Where capacity is available, *Company will install service for temporary lighting and power service. Residential customers will be supplied with 100 amp service. All other customer classes will be supplied at voltage levels applicable to the class of business.*

**RATE.** *(Tariff Code 019)*

Temporary service will be supplied under any published tariff applicable to the class of business of the Customer, when the Company has available unsold capacity of lines, transforming and generating equipment, with an additional charge of the total cost of connection and disconnection.

**MINIMUM CHARGE.**

The same minimum charge as provided for in any applicable tariff shall be applicable to such temporary service and for not less than one full monthly minimum.

**TERM.**

*Variable. Initial period of 180 days. The Company may extend for an additional 90 day period.*

**SPECIAL TERMS AND CONDITIONS.**

A deposit equal to the full estimated amount of the bill and/or construction costs under this tariff may be required.

This tariff is not available to customers permanently located, whose energy requirements are of a seasonal nature.

See Terms and Conditions of Service.

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In Case No. 2014-00396 Dated XXXXXXXX



**TARIFF D.S.M.C.**  
**(Demand-Side Management Adjustment Clause)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D. 2, S.G.S., Experimental S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., Q.P., C.I.P.-T.O.D., I.G.S., C.S.-I.R.P., and M.W.

**RATE.**

1. The Demand-Side Management (DSM) clause shall provide for periodic adjustment per KWH of sales equal to the DSM costs per KWH by customer sector according to the following formula:

$$\text{Adjustment Factor} = \frac{\text{DSM (c)}}{\text{S(c)}}$$

Where DSM is the cost by customer sector of demand-side management programs, net lost revenues, incentives, and any over/under recovery balances; (c) is customer sector; and S is the adjusted KWH sales by customer sector.

2. Demand-Side Management (DSM) costs shall be the most recent forecasted cost plus any over/under recovery balances recorded at the end of the previous period.
  - a. Program costs are any costs the Company incurred associated with demand-side management which were approved by the Kentucky Power Company DSM Collaborative. Examples of costs to be included are contract services, allowances, promotion, expenses, evaluation, lease expense, etc. by customer sector.
  - b. Net lost revenues are the calculated net lost revenues by customer sector resulting from the implementation of the DSM programs.
  - c. Incentives are a shared-savings incentive plan consisting of one of the following elements: The efficiency incentive, which is defined as 15 percent of the estimated net savings associated with the programs. Estimated net savings are calculated based on the California Standard Practice Manual's definition of the Total Resources Cost (TRC) test, or the maximizing incentive which is defined as 5 percent of actual program expenditures if program savings cannot be measured.
  - d. Over/ Under recovery balances are the total of the differences between the following:
    - (i) the actual program costs incurred versus the program costs recovered through DSM adjustment clause, and
    - (ii) the calculated net lost revenues realized versus the net lost revenues recovered through the DSM adjustment clause, and
    - (iii) the calculated incentive to be recovered versus the incentive recovered through the DSM adjustment clause.
3. Sales (S) shall be the total ultimate KWH sales by customer sector less non-metered, opt-out and lost revenue impact KWHs by customer sector.
4. The provisions of the Demand-Side Management Adjustment Clause will be effective for the period ending December 31, 2011.

(Cont'd on Sheet No. 22-2)

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**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**RATE. (Cont'd.)**

5. The DSM adjustment shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustments, which shall include data, and information as may be required by the Commission.
6. Copies of all documents required to be filed with the Commission under this regulation shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.
7. The resulting range for each customer sector per KWH during the three-year Experimental Demand-Side Management Plan is as follows:

CUSTOMER SECTOR

|                |   | <u>RESIDENTIAL</u><br>(\$ Per KWH) | <u>COMMERCIAL</u><br>(\$ Per KWH) | <u>INDUSTRIAL*</u> |
|----------------|---|------------------------------------|-----------------------------------|--------------------|
| Floor Factor   | = | 0.000614                           | 0.000326                          | - 0 -              |
| Ceiling Factor | = | 0.002279                           | 0.001645                          | - 0 -              |

8. The DSM Adjustment Clause factor (\$ Per KWH) for each customer sector which fall within the range defined in Item 7 above is as follows:

CUSTOMER SECTOR

|                   | <u>RESIDENTIAL</u> | <u>COMMERCIAL</u> | <u>INDUSTRIAL*</u> |
|-------------------|--------------------|-------------------|--------------------|
| <u>DSM (c)</u>    | 1,681,109          | 651,981           | - 0 -              |
| <u>S (c)</u>      | 1,161,789,200      | 661,238,700       | - 0 -              |
| Adjustment Factor | \$ 0.001447        | \$ 0.000986       | - 0 -              |

\* The Industrial Sector has been discontinued pursuant to the Commission's Order dated September 28, 1999.

**PROGRAM DESCRIPTIONS.**

The D.S.M.C. program availability, program, rate, and equipment descriptions follow:

(Cont'd on Sheet 22-3)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: TEE – Targeted Energy Efficiency**

**AVAILABILITY OF SERVICE**

Available on a voluntary basis to individual residential customers receiving retail electric service from the Company, who have primary electric heat and use an average of 700 kWh per month. Residential customers without primary electric heating may also be eligible for limited efficiency measures if they have electric water heating and use an average of 700 kWh from November through March. To qualify, the household's income cannot exceed the designated poverty guidelines as administered by your community action agency. The household must also qualify according to the guidelines for the Weatherization Assistance Programs administered by the communication community action agencies.

**PROGRAM DESCRIPTION**

The Kentucky Power Targeted Energy Efficiency Program (TEE) provides weatherization and energy efficiency services to qualifying residential customers who need help reducing their energy bills. The Company provides funding for this program through the Kentucky Community Action network of not-for-profit community action agencies. The program funding and service is supplemental to the Weatherization Assistance Programs offered by your community action agency. This program provides energy saving improvements to your existing home. Program services can include these items, as applicable and per program guidelines:

- Energy audit
- Air infiltration diagnostic test to find air leaks
- Air leakage sealing
- Attic, floor, side-wall insulation
- Duct sealing and insulation
- High efficiency compact fluorescent light bulbs (CFLs)
- Domestic hot water heating insulation (electric)
- Customer education on home energy efficiency
- Partial funding High efficiency heat pump (restrictions apply)

**RATE**

No rate applies for this program.

**EQUIPMENT**

The Kentucky Community Action network of not-for-profit community action agencies will furnish and install, in the customer's presence, the equipment as provided by this program.

( Cont'd on Sheet No. 22-4)

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**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: MEF – Modified Energy Fitness**

**AVAILABILITY OF SERVICE**

Available on a voluntary basis to individual residential customers living in a single-family residence, who receive retail all-electric service from the Company and use an average of 1,000 kWh per month over the last twelve months. Customers living in site built homes and mobile homes are eligible.

**PROGRAM DESCRIPTION**

The Kentucky Power Modified Energy Fitness Program (MEF) provides weatherization and energy efficiency services to qualifying residential customers who need help reducing their energy bills. This program provides energy saving improvements to a customer's existing home. Program services may include these items, as applicable and per program guidelines:

- Complete energy audit with customized report
- Air infiltration diagnostic test to find air leaks
- Energy savings booklet
- Energy conservation measures installed (per program guidelines)

**RATE**

No rate applies for this program.

**EQUIPMENT**

The Company, or its authorized agents, will furnish and install, in the customer's presence, the energy conservation measures as provided by this program.

(Cont'd on Sheet No. 22-5)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

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**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: EEFS – Energy Education for Students**

**AVAILABILITY OF SERVICE**

All schools within Kentucky Power's service territory are eligible to participate. The program targets 7<sup>th</sup> grade students.

**PROGRAM DESCRIPTION**

The Kentucky Power Student Energy Education Program (EEFS) targets 7<sup>th</sup> grade students at participating schools within the Kentucky Power Company service territory. The program introduces them to various aspects of responsible energy use and conservation. With this program, students use math and science skills to learn how energy is produced and used, and methods to conserve energy that can easily be applied in their own homes.

The Company partners with the National Energy Education Development Project (NEED) to implement this program. NEED is an established and respected energy education organization that has been presenting programs for teachers and students in Eastern Kentucky for many years. The program, provided at no cost to participating school systems, includes:

- Professional development for teachers where they will receive classroom curriculum and educational materials on energy, electricity, economics and the environment
- Each Student receives compact fluorescent lights (CFLs) to help students apply their classroom learning at home
- An opportunity for participating students and their families to make the ENERGY STAR® Pledge

**RATE**

No rate applies for this program.

**EQUIPMENT**

The CFLs furnished by the Company are delivered to the schools for delivery to students. The CFLs will not be installed by the Company, or its authorized agents.

(Cont'd on Sheet No. 22-6)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: COCFL – Community Outreach CFL**

**AVAILABILITY OF SERVICE**

All residential retail customers of Kentucky Power are eligible for the program.

**PROGRAM DESCRIPTION**

Through the CFL Outreach Program, Kentucky Power distributes compact fluorescent lights (CFLs) to customers at company-sponsored community events. The program aims to educate and encourage customers to save money by using energy efficient lighting. The company sponsors community distribution events throughout the year where a package of CFLs is distributed to each qualifying residential customer. Customer energy education is also provided at these events.

**RATE**

No rate applies for this program.

**EQUIPMENT**

The CFLs furnished by the Company are delivered to the community events and provided to customers having an active electric account. The CFLs will not be installed by the Company, or its authorized agents.

(Cont'd on Sheet No. 22-7)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 22-7  
CANCELLING P.S.C. KY. NO. 10 SHEET NO. 22-7

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: REP - Residential Efficient Products**

**AVAILABILITY OF SERVICE**

All Kentucky Power residential customers are eligible to participate.

**PROGRAM DESCRIPTION**

The Kentucky Power Residential Efficient Products Program (REP) offers residential customers instant rebates on ENERGY STAR lighting products at participating retail stores across our service territory. The program targets the purchase of lighting products through in-store promotion as well as special sales events. Customer incentives facilitate the increased purchase of high efficiency products while in-store signage, sales associate training and support makes provider participation easier.

A convenient online store where customers can shop for energy efficient lighting and get immediate discounts is also available, including specialty and hard-to-find CFLs, LED holiday lights, LED nightlights, and ENERGY STAR® ceiling fans.

**RATE**

Vendor controlled and adjusted in-store rebates can range from \$1.00 per single pack up to \$3.00 per multi pack, for up to a 12-bulb limit per purchase are available while funds last.

**EQUIPMENT**

No equipment required to participate in this program will be furnished or installed by the Company, or its authorized agents. It is the customer's responsibility to purchase and install the required equipment.

(Cont'd on Sheet No. 22-8)

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**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: HEHP – High Efficiency Heat Pump**

**AVAILABILITY OF SERVICE**

Available on a voluntary basis to individual residential customers who live in site built homes with a central electric resistance heating system or an existing less efficient heat pump system and have received retail electric service from the Company for the past twelve months at that residence.

**PROGRAM DESCRIPTION**

The Kentucky Power High Efficiency Heat Pump (HEHP) offers an incentive to residential customers who upgrade their central electric resistance heating system or existing less efficient heat pump system to a new, high efficiency heat pump unit. To qualify, the new heat pump unit must have a minimum rating of 13 SEER (Seasonal Energy Efficiency Ratio) and 7.7 HSPF (Heating Seasonal Performance Factor) for resistance heat upgrade, or 14 SEER and 8.2 HSPF for upgrading from a less efficient existing heat pump to a high efficiency heat pump unit.

**RATE**

A \$400 incentive is offered to residential customers that qualify.

**EQUIPMENT**

No equipment required to participate in this program will be furnished or installed by the Company, or its authorized agents. It is the customer's responsibility to purchase and install the required equipment by an approved HVAC dealer participating in the program.

( Cont'd on Sheet No. 22-9)

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DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

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**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: MHHP – Mobile Home High Efficiency Heat Pump**

**AVAILABILITY OF SERVICE**

Available on a voluntary basis to individual residential customers who live in a mobile home with a central electric resistance heating system and have received retail electric service from the Company for the past twelve months at that residence.

**PROGRAM DESCRIPTION**

The Kentucky Power Mobile Home High Efficiency Heat Pump (MHHP) offers an incentive to residential customers who live in a mobile home and upgrade their central electric resistance heating system with a new, high efficiency heat pump unit. To qualify, the new heat pump unit must have a minimum rating of 13 SEER (Seasonal Energy Efficiency Ratio) and 7.7 HSPF (Heating Seasonal Performance Factor).

**RATE**

A \$400 incentive is offered to residential customers that qualify.

**EQUIPMENT**

No equipment required to participate in this program will be furnished or installed by the Company, or its authorized agents. It is the customer's responsibility to purchase and install the required equipment by an approved HVAC dealer participating in the program.

( Cont'd on Sheet No. 22-10)

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**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: MHNC – Mobile Home New Construction**

**AVAILABILITY OF SERVICE**

Available on a voluntary basis to individual residential customers who purchase a new mobile home built with Zone 3 insulation and a high efficiency heat pump.

**PROGRAM DESCRIPTION**

The Kentucky Power Mobile Home New Construction (MHNC) offers an incentive to residential customers who purchase a new mobile home having an insulation upgrade and a high efficiency heat pump unit. To qualify, the new heat pump unit must have a minimum rating of 13 SEER (Seasonal Energy Efficiency Ratio) and 7.7 HSPF (Heating Seasonal Performance Factor).

**RATE**

A \$500 incentive is offered to residential customers that qualify.

**EQUIPMENT**

No equipment required to participate in this program will be furnished or installed by the Company, or its authorized agents. It is the customer's responsibility to purchase the new mobile home from a manufactured housing dealer participating in the program and who can administer an upgrade for required equipment.

( Cont'd on Sheet No. 22-11)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 22-11  
CANCELLING P.S.C. KY. NO. 10 \_\_\_\_\_ SHEET NO. 22-11

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: Residential & Commercial HVAC Diagnostic and Tune-up**

**AVAILABILITY OF SERVICE**

Available to Kentucky Power residential customers and small commercial customers using less than 100 kW peak demand having unitary central heat pump systems. The Kentucky Power Small Commercial HVAC Program encourages small commercial customers to keep their heating, ventilation and air conditioning (HVAC) equipment operating at peak efficiency, by way of a simple tune-up.. The program is not applicable for customers seeking repair of non-operational units.

**PROGRAM DESCRIPTION – HVAC Diagnostic and Tune-up Program**

The residential and commercial customer will be offered an incentive when receiving this Diagnostic and Tune-up service from a participating, state licensed contractor. It will help extend the life of the system, reduce energy costs and improve the interior comfort of your business. The diagnostic and tune-up service includes testing for inefficiencies in air conditioning and heat pump systems due to air-restricted indoor or outdoor coils and over or under refrigerant charge.

**RATE**

A \$50 incentive is offered to residential customers and commercial customers that qualify.

**EQUIPMENT**

No equipment required to participate in this program will be furnished or installed by the Company, or its authorized agents. It is the customer's responsibility to contact a participating state licensed program dealer who can administer the diagnostic service.

(Cont'd on Sheet No. 22-12)

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In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: Small Commercial HVAC Programs**

**AVAILABILITY OF SERVICE**

Available to Kentucky Power commercial customers using less than 100 kW peak demand whose primary heat source is electricity. The Kentucky Power Small Commercial HVAC Program encourages small commercial customers to keep their heating, ventilation, and air conditioning (HVAC) equipment operating at peak efficiency by an equipment upgrade.

**PROGRAM DESCRIPTION – High Efficiency Heat Pump/Air Conditioner Program**

The commercial customer will receive financial incentives for upgrading to a new qualifying central air conditioning or heat pump system (up to a five-ton unit with a Consortium for Energy Efficiency (CEE) Tier 1 rating). The incentive helps offset the cost of the investment, and the improved efficiency can give long-term savings.

**RATE**

The following incentives are offered for qualifying purchases:

|   |                   |
|---|-------------------|
| Air Conditioner - 36,000 Btu/h or lower | Incentive = \$250 |
| Air Conditioner - 36,000 – 65,000 Btu/h | Incentive = \$400 |
| Heat Pump - 36,000 Btu/h or lower       | Incentive = \$300 |
| Heat Pump - 36,000 – 65,000 Btu/h       | Incentive = \$450 |

**EQUIPMENT**


No equipment required to participate in this program will be furnished or installed by the Company, or its authorized agents. It is the customer's responsibility to purchase the high efficiency heat pump or air conditioner from a participating program dealer who can administer an upgrade for required equipment.

(Cont'd on Sheet No. 22-13)

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TITLE: Director Regulatory Services

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In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF D.S.M.C.  
(DEMAND-SIDE MANAGEMENT ADJUSTMENT CLAUSE) (Cont'd.)**

**PROGRAM: CIP – Commercial Incentive Program**

**AVAILABILITY OF SERVICE**

All commercial (non-industrial) customers in Kentucky Power's service territory are eligible to participate.

**PROGRAM DESCRIPTION**

The Kentucky Power Commercial Incentive Program (CIP) offers a convenient way to receive funding for common energy efficiency projects. The Commercial Incentive Program provides financial incentives to business customers who implement qualified energy-efficient improvements and technologies.

Incentives are available for a variety of energy-saving technologies in existing buildings and new construction projects. Choose from a menu of prescriptive measures with standardized incentives. The program menu includes, but is not limited to, incentives for:

- Lighting
- Heating, ventilation, and air conditioning (HVAC)
- Food Service and Refrigeration

A complete list of the eligible equipment and incentive amounts can be found in the Program Application located at [KentuckyPower.com/save/programs](http://KentuckyPower.com/save/programs).

**RATE**

The maximum payout is 50% of incremental equipment costs, up to \$20,000 annually per customer account is offered to qualifying commercial customers that qualify.

The Company, or its authorized agents, will administer the evaluation of customer installed energy measures. The Company, or its authorized agents, may provide support for the installation services through approved program contractors.

**AGREEMENT**

A customer program application agreement is required to participate in this program.

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF B.E.R.  
(Biomass Energy Rider)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D.2, S.G.S., Experimental-S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S.,L.G.S.O.D., ~~Θ.P., C.I.P.-T.O.D.~~ I.G.S., C.S.-I.R.P., M.W., O.L. and S.L.

T

**RATE.**

1. When energy is generated and sold to the Company from the ecopower biomass facility, an additional charge equal to the product of the kWh of sales and a biomass adjustment factor (A) shall be made, where, "A", calculated to the nearest 0.0001 mil per kilowatt=hour, is defined as set forth below.

$$\text{Biomass Adjustment Factor (A)} = (R * P_m) / S_m$$

In the above formulas "R" is the rate for the current calendar year approved by this commission in the REPA between ecopower and Kentucky Power Company, "P" is the amount of Kwh purchased by Kentucky Power in the current (m) period, and "S" is the kWh sales in the current (m) period, all defined below.

2. Rate (R) shall be the dollar per MWh as defined in the REPA between ecopower and Kentucky Power Company, including any applicable escalation factor as defined in the REPA.
3. Produced energy (P) shall be the MWh produced and sold to Kentucky Power Company.
4. Sales (S) shall be all KWh sold, excluding intersystem sales. Utility used energy shall not be excluded in the determination of sales (S).
5. Any over/under recovery will be reflected in the monthly filing for the second billing month following the month the cost is incurred.
6. The monthly bio mass energy rider shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustment, which shall include data, and information as may be required by the Commission.
7. Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS61.870 to 61.884.

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**RESERVED FOR FUTURE USE**

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TITLE: Director Regulatory Services

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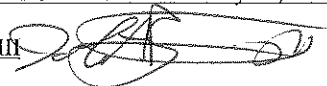
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**RESERVED FOR FUTURE USE**

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In Case No. 2014-00396 Dated XXXXXXXX



**TARIFF P.J.M.R.  
(PJM RIDER)**

**APPLICABLE:**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D. 2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S., C.S.-I.R.P., M.W., O.L., and S.L.

**RATES:** (Tariff Code 390)

| Tariff Class  | ¢/kWh  | \$/kW |
|---|--------|-------|
| R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., and Experimental R.S.-T.O.D. 2 | 0.0000 | --    |
| S.G.S. and S.G.S.-T.O.D.  | 0.0000 | --    |
| M.G.S.  | 0.0000 | 0.00  |
| M.G.S. Recreational Lighting, M.G.S.-L.M.-T.O.D., and M.G.S.-T.O.D. | 0.0000 | --    |
| L.G.S. and L.G.S.-T.O.D.  | 0.0000 | 0.00  |
| L.G.S.-L.M.-T.O.D.  | 0.0000 | 0.00  |
| I.G.S. and C.S.-I.R.P   | 0.0000 | 0.00  |
| M.W.  | 0.0000 | --    |
| O.L.  | 0.0000 | --    |
| S.L.  | 0.0000 | --    |

The kWh adjustment factor as calculated above will be applied to all billing kilowatt-hours for those tariff classes listed above. The kW adjustment factor as calculated above will be applied to all on-peak and minimum billing demand kW for the MGS, LGS and IGS tariff classes.

The PJM Rider adjustment factor shall be modified annually to reflect the difference between the approved base level of PJM charges and credits and the PJM charges and credits actually experienced.

The PJM Rider adjustment factor shall be determined as follows:

For all tariff classes without demand billing:

$$kWh \text{ Adjustment Factor} = \frac{PJME \times (BE_{Class} / BE_{Total}) + PJMD \times (CP_{Class} / CP_{Total})}{BE_{Class}}$$

$$kW \text{ Adjustment Factor} = 0$$

For all tariff classes with demand billing:

$$kWh \text{ Adjustment Factor} = \frac{PJME \times (BE_{Class} / BE_{Total})}{BE_{Class}}$$

$$kW \text{ Adjustment Factor} = \frac{PJMD \times (CP_{Class} / CP_{Total})}{BD_{Class}}$$

(Cont'd on Sheet 24-2)

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**PJM RIDER (Cont'd)**  
**(P.J.M.R.)**

**RATES: (Cont'd)**

Where:

1. "PJMD" is the actual (over)/under recovery of annual retail PJM demand-related net costs; calculated by comparing the amount of PJM demand-related net costs in base rates to those retail PJM demand-related net costs actually incurred during the review period.
2. "PJME" is the actual (over)/under recovery of annual retail PJM energy-related net costs; calculated by comparing the amount of PJM energy-related net costs in base rates to those retail PJM energy-related net costs actually incurred during the review period.
3. "BE<sub>Class</sub>" is the historic annual retail jurisdictional billing kWh for each tariff class for the current year.
4. "BD<sub>Class</sub>" is the historic annual retail jurisdictional billing kW for each applicable tariff class for the current year.
5. "CP<sub>Class</sub>" is the coincident peak demand for each tariff class estimated as follows:

| Tariff Class<br>(1)   | BE <sub>Class</sub><br>(2) | CP/kWh Ratio<br>(3) | CP <sub>Class</sub><br>(4)=(2)x(3) |
|---|----------------------------|---------------------|------------------------------------|
| R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., and Experimental R.S.-T.O.D. 2 |                            | 0.0236060%          |                                    |
| S.G.S. and S.G.S.-T.O.D.  |                            | 0.0163937%          |                                    |
| M.G.S.  |                            | 0.0177002%          |                                    |
| M.G.S. Recreational Lighting, M.G.S.-L.M.-T.O.D., and M.G.S.-T.O.D. |                            | 0.0177002%          |                                    |
| L.G.S. and L.G.S.-T.O.D.  |                            | 0.0169381%          |                                    |
| L.G.S.-L.M.-T.O.D.  |                            | 0.0169381%          |                                    |
| I.G.S. and C.S.-LRP   |                            | 0.0130626%          |                                    |
| M.W.  |                            | 0.0134057%          |                                    |
| O.L.  |                            | 0.0009431%          |                                    |
| S.L.  |                            | 0.0009890%          |                                    |
|   | BE <sub>Total</sub>        |                     | CP <sub>Total</sub>                |

6. "BE<sub>Total</sub>" is the sum of the BE<sub>Class</sub> for all tariff classes.
7. "CP<sub>Total</sub>" is the sum of the CP<sub>Class</sub> for all tariff classes.

The adjustment factor as computed above shall be further modified to allow the recovery of Uncollectible Accounts Expense of 0.3% and the KPSC Maintenance Fee of 0.1952% and other similar revenue based taxes or assessments occasioned by the PJM Rider adjustment revenues.

(Cont'd on Sheet 24-3)

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TITLE: Director Regulatory Services

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P.J.M. RIDER (Cont'd)  
P.J.M.R.

*The annual PJM Rider shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all necessary supporting data to justify the amount of the adjustments, which shall include data and information as may be required by the Commission.*


*Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.*

N  
|  
N

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TITLE: Director Regulatory Services

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In Case No. 2014-00396 Dated XXXXXXXXX

**RESERVE FOR FUTURE USE**  
~~RIDER E.C.S. - C. & E.~~  
**(Emergency Curtailable Service - Capacity & Energy Rider)**

D

AVAILABILITY OF SERVICE.

This rider shall be available through May 31, 2012 for Emergency Curtailable Service (ECS) to Kentucky Power Company (KPCo or the Company) retail customers taking firm service from the Company under Tariffs MGS, MGS-TOD, LGS, LGS-TOD, QP, CIP-TOD or MW. The Company reserves the right to limit the amount of ECS capacity contracted under this Rider. The Company will take ECS requests in the order received. If ECS requests exceed the Company's needs to meet its FRR requirements, the Company will bid the remaining capacity into the PJM RPM auction if the PJM rules permit it, providing those customers the compensation available under this rider. The PJM Demand Response Program shall not be available to customers eligible for this service.

CONDITIONS OF SERVICE.

1. The provisions of this Rider qualify under the PJM Emergency Demand Response Program as of the effective date. If the PJM Tariff is subsequently revised, the Company reserves the right to make comparable changes to this Rider in order to continue to qualify under the PJM Emergency Demand Response Program.
2. The Company reserves the right to call for (request) customers to curtail use of the customer's ECS load when, in the sole judgment of the Company, an emergency condition exists on the American Electric Power (AEP) System or the PJM Interconnection, L.L.C. (PJM) RTO. The Company shall determine that an emergency condition exists if curtailment of load served under this Rider is necessary in order to maintain service to the Company's other firm service customers according to the AEP System Emergency Operating Plan or if PJM issues an Emergency Curtailable Service Notice.
3. The Company will endeavor to provide as much advance notice as possible of curtailments under this Rider including an estimate of the duration of such curtailments. However, the customer's ECS load shall be curtailed within 2 hours if so requested.
4. In no event shall the customer be subject to ECS load curtailment under the provisions of this Rider for more than 60 hours during any year or for more than 10 interruptions per year. However, a customer must agree to be subject to ECS Curtailments of up to 6-hour duration for each curtailment event, on weekdays between 12 noon to 8 pm for the months May through September and between 6 am to 10 pm for the months October through April.
5. The Company will inform the Customer regarding the communication process of notices to curtail. The customer is ultimately responsible for receiving and acting upon a curtailment notification from the Company.
6. No responsibility or liability of any kind shall attach to or be incurred by the company or the AEP system for, or on account of, any loss, cost, expense, or damage caused by or resulting from, either directly or indirectly, any curtailment of service under the provisions of this rider.
7. If no Emergency events are called during the summer of the delivery year, the Company will conduct a test and verify the customer's ability to curtail as required by the PJM RTO. The Company reserves the right to re-test the customer if the Company does not achieve the minimum 80% compliance testing standards for all of the Company's ECS customers as required by PJM. These tests must be conducted for one hour during the on-peak hours from June 1 through September 30 during the delivery year.

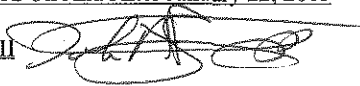
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(Cont'd on Sheet No. 24-2)

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**RESERVE FOR FUTURE USE  
RIDER E.C.S. - C. & E. (Cont'd)  
(Emergency Curtailable Service - Capacity & Energy Rider)**

**CONDITIONS OF SERVICE (Cont.)**

8. The Company reserves the right to discontinue service to the customer under this Rider if the customer fails to curtail under any circumstances as requested by the Company.

**CURTAILED DEMAND:**

The customer's Curtailed Demand is determined based upon which method of measurement the customer chooses. The customer may choose one of two methods to measure the curtailed demand: 1) Guaranteed Load Drop (GLD) or 2) Firm Service Level (FSL). The method chosen shall remain in effect for an entire delivery year, June 1 through May 31 of the following year as defined by PJM.

**Guaranteed Load Drop (GLD) Method**

**GUARANTEED LOAD DROP (GLD):**

Each customer must designate a Guaranteed Load Drop, which amount shall be the minimum demand reduction that the customer will provide for each hour during a curtailment event or during a curtailment test.

**CUSTOMER BASELINE LOAD CALCULATION:**

A Customer Baseline Load (CBL) will be calculated for each hour corresponding to each event hour. Normally, the CBL will be calculated for each hour as the average corresponding hourly demands from the highest 4 out of the 5 most recent similar non-event days in the period preceding the relevant load reduction event. The highest load days are defined as the similar days (Weekday, Saturday, Sunday/Holiday) with the highest energy consumption spanning the event period hours. In cases where the normal calculation does not provide a reasonable representation of normal load conditions, the company and customer may develop an alternative CBL calculation that more accurately reflects the customer's normal consumption pattern.

**CURTAILED ENERGY:**

The Curtailed Energy shall be determined for each event hour, defined as the difference between the customer's CBL for that hour and the customer's metered load for that hour.

**CURTAILMENT CREDITS:**

The Curtailment Energy Credit shall be 80 percent of the AEP East Load Zone hourly Real-Time Locational Marginal Price (LMP) established by PJM (including congestion and marginal losses) for each event hour.

The Curtailment Demand Credit shall be 80 percent of the Reliability Pricing Model (RPM) auction price established by PJM in its Base Residual capacity auction for the current delivery year, expressed in \$/MW day multiplied by the GLD MWs.

(Cont'd on Sheet No. 24-3)

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**RIDER E.C.S.—C. & E. (Cont'd)**  
**(Emergency Curtailable Service—Capacity & Energy Rider)**

**MONTHLY DEMAND CREDIT:**

The Monthly Demand Credit shall be equal to one-twelfth of the product of the Guaranteed Load Drop and the Curtailment Demand Credit times 365. The Monthly Demand Credit shall be applicable to each month the customer is served under this Rider, regardless of whether or not there are any curtailment events during the month.

**MONTHLY EVENT CREDIT:**

An Event Credit shall be calculated for each event hour equal to the product of the Curtailed Energy for that hour and the Curtailment Energy Credit for that hour. The Monthly Event Credit shall be the sum of the hourly event credits for all events occurring in the calendar month, but shall not exceed the customer's monthly energy charge under the applicable tariff. The customer shall not receive event credit for any curtailment periods to the extent that the customer's curtailable load is already reduced due to a planned or unplanned outage as a result of vacation, renovation, repair, refurbishment, force majeure, strike, economic conditions, or any event other than the customer's normal operating conditions.

**NONCOMPLIANCE CHARGE:**

If the customer fails to fully comply with a request for curtailment under the provisions of this Rider, then the Noncompliance Charge shall apply. If a customer does not reduce load by the full GLD, a noncompliance charge shall apply. For this purpose, Actual Load Drop (ALD) is defined as the difference between the customer's CBL (Customer Baseline Load) and their actual hourly load. If the ALD is less than the GLD, the customer will be in non-compliance.

The Noncompliance Demand Charge will be calculated based on the number of events missed because the customer did not curtail and the total number of events called by AEP to date. A penalty will be determined as the non-compliance load times the RPM auction price (\$/MW day) times 365, (e.g. curtailment of only 80 MW of a 100 MW ECS load is non-compliance and counts as a missed event, but the customer's annual payment will be reduced only for the 20 MW non-compliance load times the appropriate percentage from the table below). The penalty will then be multiplied by the percentage of reduction based upon the number of non-compliance events for the customer compared to the number of events called. Below is a table of annual payment reduction percentages.

| <b>Annual Payment Reduction Percentages for Non-compliance</b> |   |             |             |             |                  |
|--|---|-------------|-------------|-------------|------------------|
| <b>Missed Events</b>   | <b>Number of Events Called Annually</b> |             |             |             |                  |
|  | <b>1</b>                                | <b>2</b>    | <b>3</b>    | <b>4</b>    | <b>5 or more</b> |
| <b>1</b>   | <b>100%</b>                             | <b>50%</b>  | <b>33%</b>  | <b>25%</b>  | <b>20%</b>       |
| <b>2</b>   |   | <b>100%</b> | <b>67%</b>  | <b>50%</b>  | <b>40%</b>       |
| <b>3</b>   |   |             | <b>100%</b> | <b>75%</b>  | <b>60%</b>       |
| <b>4</b>   |   |             |             | <b>100%</b> | <b>100%</b>      |

If the customer misses four events, the customer will be charged 100% of the total annual payment amount. The Company and the customer will discuss methods to comply during future events, but ultimately the customer can be dismissed from the program if either party is not satisfied that the problem has been resolved. Further, the customer's service under this Rider may be discontinued pursuant to the Conditions of Service.

(Cont'd on Sheet No. 24-4)

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In Case No. 2014-00396 Dated XXXXXXXX

**RIDER E.C.S. - C. & E. (Cont'd)**  
**(Emergency Curtailable Service - Capacity & Energy Rider)**

**Firm Service Level (FSL) Method**

**PEAK LOAD CONTRIBUTION:**

A Customer's Peak Load Contribution (PLC) will be calculated each year as the average of its load during PJM's five highest peak loads during the twelve month period ended October 31 of the previous year.

**AVAILABLE CURTAILBLE DEMAND (ACD):**

Each customer must designate an Available Curtailable Demand, defined as the difference between the PLC and the Firm Service Level (FSL). The FSL demand is the level to which the customer agrees to reduce load to or below for each hour during a curtailment event.

**CUSTOMER BASELINE LOAD CALCULATION:**

A Customer Baseline Load (CBL) will be calculated for each hour corresponding to each event hour. Normally, the CBL will be calculated for each hour as the average corresponding hourly demands from the highest 4 out of the 5 most recent similar non event days in the period preceding the relevant load reduction event. The highest load days are defined as the similar days (Weekday, Saturday, Sunday/Holiday) with the highest energy consumption spanning the event period hours. In cases where the normal calculation does not provide a reasonable representation of normal load conditions, the company and customer may develop an alternative CBL calculation that more accurately reflects the customer's normal consumption pattern.

**CURTAILED ENERGY:**

The Curtailed Energy shall be determined for each event hour, defined as the difference between the customer's CBL for that hour and the customer's metered load for that hour.

**CURTALMENT CREDITS:**

The Curtailment Demand Credit shall be 80 percent of the Reliability Pricing Model (RPM) auction price established by PJM in its Base Residual capacity auction for the current delivery year, expressed in \$/MW-day multiplied by the Available Curtailable Demand.

**MONTHLY DEMAND CREDIT:**

The Monthly Demand Credit shall be equal to one-twelfth of the product of the Available Curtailable Demand and the Curtailment Demand Credit (\$/MW-day) times 365. The Monthly Demand Credit shall be applicable to each month the customer is served under this Rider, regardless of whether or not there are any curtailment events during the month.

**MONTHLY EVENT CREDIT:**

An Event Credit shall be calculated for each event hour equal to the product of the Curtailed Energy for that hour and the Curtailment Energy Credit for that hour. The Monthly Event Credit shall be the sum of the hourly event credits for all events occurring in the calendar month, but shall not exceed the customer's monthly energy charge under the applicable tariff. The customer shall not receive event credit for any curtailment periods to the extent that the customer's curtailable load is already reduced due to a planned or unplanned outage as a result of vacation, renovation, repair, refurbishment, force majeure, strike, economic conditions, or any event other than the customer's normal operating conditions.

(Cont'd on Sheet No. 24-5)

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**RIDER E.C.S. - C. & E. (Cont'd)**  
**(Emergency Curtailable Service—Capacity & Energy Rider)**

**NONCOMPLIANCE CHARGE.**

If the customer fails to fully comply with a request for curtailment under the provisions of this Rider, then the Noncompliance Charge shall apply. If a customer is operating at or below their designated Firm Service Level during an event, it will be understood that they have no capacity available with which to comply and will not be charged a noncompliance penalty. If the metered demand during the curtailment event is above the designated FSL, the customer will be considered non-compliant. The amount of non-compliance demand is equal to the difference between the customer's metered demand and the designated FSL.

The Noncompliance Demand Charge will be calculated based on the number of events during which the customer was noncompliant and the total number of events called by AEP to date. A penalty will be determined as the amount of non-compliance load times the RPM auction price (\$/MW-day) times 365, (e.g. curtailment of only 80 MW of a 100 MW ECS load is non-compliance and counts as a missed event, but the customer's annual payment will be reduced only for the 20 MW non-compliance load times the appropriate percentage from the table below). The penalty will then be multiplied by the percentage of reduction based upon the number of non-compliance events for the customer compared to the number of events called. Below is a table of annual payment reduction percentages.

| Annual Payment Reduction Percentages for Non-compliance |                                  |      |      |      |           |
|---|----------------------------------|------|------|------|-----------|
| Missed Events   | Number of Events Called Annually |      |      |      |           |
|   | 1                                | 2    | 3    | 4    | 5 or more |
| 1   | 100%                             | 50%  | 33%  | 25%  | 20%       |
| 2   |                                  | 100% | 67%  | 50%  | 40%       |
| 3   |                                  |      | 100% | 75%  | 60%       |
| 4   |                                  |      |      | 100% | 100%      |

If the customer misses four events, the customer will be charged 100% of their total annual payment amount, will be dismissed from the program, and may not be eligible to participate in the program until both parties are satisfied that the problem has been resolved. Further, the customer's service under this Rider may be discontinued pursuant to the Conditions of Service.

**Additional Provisions**

**CUSTOMER CREDIT.**

The monthly credit(s) will be provided to the customer by check within 60 days after the end of the month. A customer may request aggregation of individual customer accounts into a single credit.

**CUSTOMER CHARGE.**

Customers taking service under this Rider shall pay a monthly customer charge of \$10.00 per account to offset the cost of the customer related expenses for additional load determination and billing expenses. If a change in metering equipment or functionality is required, customers taking service under this Rider shall pay the additional cost of installation. The Company will make available to the customer the real time pulse metering data, if requested by the customer, for an additional fee.

(Cont'd on Sheet No. 24-6)

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**RIDER E.C.S. - C. & E. (Cont'd)**  
**(Emergency Curtailable Service - Capacity & Energy Rider)**

**TERM.**

~~Contracts under this Rider shall be made for an initial period of one year, corresponding with the PJM planning year, and shall remain in effect until either party provides to the other at least 30 days' written notice prior to the start of the registration period as provided for in the PJM Tariff for the next planning year of its intention to discontinue service under the terms of this Rider (registration period ends March 31, 2010 for the 2010/11 delivery year). However, this rider shall only be available through May 31, 2012.~~

**SPECIAL TERMS AND CONDITIONS.**

~~Individual customer information, including, but not limited to, ECS Contract Capacity and Curtailment Option, shall remain confidential.~~

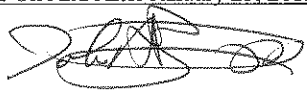
~~If a new peak demand is set by the customer in the hour following the curtailment, due to the customer resuming the level of activity prior to the curtailment, the customer's previous high demand will be adjusted to disregard that new peak.~~

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**RESERVED FOR FUTURE USE**

**RIDER E.P.C.S.  
(Energy Price Curtailable Service Rider)**

**AVAILABILITY OF SERVICE.**

Available for Energy Price Curtailable Service (EPCS) to customers normally taking firm service under Tariffs M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., Q.P. and C.I.P.- T.O.D. I.G.S. for their total capacity requirements from the Company. The Customer must have an on-peak curtailable demand not less than 100 KW and will be compensated for 100 KW curtailed under the provisions of this Rider.

**CONDITIONS OF SERVICE.**

- 1. The Company reserves the right to curtail service to the Customer's EPCS load at the Company's sole discretion.
- 2. The Company will endeavor to provide as much advance notice as possible of curtailments under this Rider including an estimate of the duration of such curtailments. However, the Customer's EPCS load shall be curtailed within 1 (one) hour if so requested.
- 3. For purposes of this Rider, seasons are defined as follows:
 

|        |                                 |
|--------|---------------------------------|
| Winter | December, January and February  |
| Spring | March, April and May            |
| Summer | June, July and August           |
| Fall   | September, October and November |
- 4. The Company and the Customer shall mutually agree upon the method which the Company shall use to notify the Customer of a curtailment under the provisions of this Rider. The method shall specify the means of communicating such curtailment (e.g., the Company's customer communication system, telephone, and pager) and shall designate the Customer's representatives to receive said notification. The Customer is ultimately responsible for receiving and acting upon a curtailment notification from the Company.
- 5. No responsibility or liability of any kind shall attach to or be incurred by the Company or the AEP System for, or on account of, any loss, cost, expense or damage caused by or resulting from, either directly or indirectly, any curtailment of service under the provisions of this Rider.
- 6. The Company reserves the right to test and verify the Customer's ability to curtail. Such test will be limited to one curtailment per contract term. Any failure of the customer to comply with a request to curtail load will entitle the Company to call for one additional test. The Company agrees to notify the Customer as to the month in which the test will take place, and will consider avoiding tests on days, which may cause a unique hardship to the Customer's overall operation. There shall be no credits for test curtailments nor charge for failure to curtail during a test.
- 7. Upon receiving a curtailment notice from the Company, the customer must respond within 45 minutes when the request is made on a day-ahead basis and within 15 minutes when a request is made for the current day if the customer intends to participate in the curtailment event. Customers who fail to respond, or respond that they will not participate in the curtailment event, will receive no payments, nor be subject to any monetary charges described elsewhere under this Rider. However, a customer's failure to respond or a response that the customer will not participate will be considered as a failure to curtail for purposes of Paragraph 8 below.
- 8. The Company reserves the right to discontinue service to the Customer under this Rider if the Customer fails to curtail under any circumstances three or more times during a season as requested by the Company.

(Cont'd on Sheet No. 25-2)

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**RESERVED FOR FUTURE USE**

**RIDER E.P.C.S. (Cont'd)  
(Energy Price Curtailable Service Rider)**

**CONDITIONS OF SERVICE, (Cont'd)**

9. The Customer shall not receive credit for any curtailment periods in which the Customer's curtailable load is already down for an extended period due to a planned or unplanned outage as a result of vacation, renovation, repair, refurbishment, force majeure, strike, or any event other than the customer's normal operating conditions.

**CURTAILMENT OPTION.**

At the time the customer contracts for service under this Rider, the customer shall select one or both of the following Curtailment Notice Types:

- Notice Type 1 Day-ahead Notification
- Notice Type 2 Current Day Notification

At the time the customer selects one or both types of Notice Types above, the Customer shall also select one of the following Curtailment Limits for each Notice Type selected:

|          | <u>Maximum Duration</u> |
|----------|-------------------------|
| Option A | 2 hours                 |
| Option B | 4 hours                 |
| Option C | 8 hours                 |

The Curtailment Limit is the maximum number of hours per curtailment event for which load may be curtailed under the provisions of this Rider. The Customer shall receive credit for a minimum of 2 (two) hours per curtailment event, even if the event is shorter than two hours.

The Customer shall specify the Maximum Number of Days during the season that the Customer may be requested to curtail under each Notice Type chosen. The Customer shall also specify the Minimum Price at which the customer would be willing to curtail under each Notice Type chosen. The Company, at its discretion will determine whether the Customer shall be curtailed give the Customer's specified Curtailment Options.

**EPCS CONTRACT CAPACITY.**

Each Customer shall have an EPCS Contract Capacity to be considered as price curtailable capacity under this Rider. The Customer shall specify the Non-EPCS Demand, which shall be the demand at or below which the Customer will remain during curtailment periods. The EPCS Contract Capacity shall be the difference between the Customer's typical on-peak demand and the Customer's specified Non-EPCS Demand. The Company shall determine the Customer's typical on-peak demand, as agreed upon by the Company and the Customer. For the purpose of this Rider, the on-peak billing period is defined as 7:00 a.m. to 11:00 p.m., local time, for all weekdays, Monday through Friday.

The Customer may modify the amount of EPCS Contract Capacity and/or the Curtailment Options no more than once prior to each season. Modifications must be received by the Company in writing no later than 30 days prior to the beginning of the season.

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**RESERVED FOR FUTURE USE**

**RIDER-E.P.C.S. (Cont'd)**  
**(Energy Price Curtailable Service Rider)**

**CURTAILED DEMAND:**

For each curtailment period, Curtailed Demand shall be defined as the difference between the Customer's typical on-peak demand and the maximum 15-minute integrated demand during each interval of the curtailment period.

**CURTAILMENT CREDIT:**

Hourly PCS Energy shall be defined as the sum of the Curtailed Demand for each 15-minute interval of the hour divided by four (4). The Curtailment credit shall be equal to the product of the Hourly EPCS Energy and the greater of the following: (a) 80% of the AEP East Load Zone Real-Time Locational Marginal Price (LMP) established by PJM (including congestion and marginal losses) (b) the Minimum Price as specified by the Customer or (c) 3.5 cents/kWh.

**MONTHLY CREDIT:**

The Monthly Credit shall be equal to the product of the PCS Energy and the applicable Curtailment Option Credit less any Noncompliance Charges. The Monthly Credit will be provided to the Customer by check within 30 days after the end of the month in which the curtailment occurred. This amount will be recorded in the Federal Energy Regulatory Commission's Uniform System of Accounts under Account 555, Purchased Power, and will be recorded in a subaccount so that the separate identify of this cost is preserved.

**NONCOMPLIANCE CHARGES**

If the Customer responds affirmatively that it will participate in a curtailment event, and subsequently fails to fully comply with a request for curtailment under the provisions of this Rider, then the Noncompliance Demand shall be the difference between the maximum 15-minute integrated demand during each hour of the curtailment period and the Non-EPCS Demand. Noncompliance Demand shall be billed at a rate equal to the applicable Curtailment Credit for the hours during which the Customer failed to fully comply.

**TERM:**

Contracts under this Rider may be made for an initial period of one (1) season and shall remain in effect thereafter until either party provides to the other at least 30 days' written notice prior to the start of the next season of its intention to discontinue service under the terms of this Rider.

**SPECIAL TERMS AND CONDITIONS:**

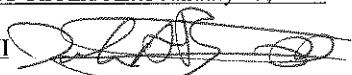
Individual Customer information, including, but not limited to, EPCS Contract Capacity and Curtailment Options, shall remain confidential.

If a change in metering equipment or functionality is required, customers taking service under this Rider shall pay the additional cost of installation. The Company will make available to the customer the real time pulse metering data, if requested by the customer, for an additional fee.

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In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF N.U.G.  
(Non-Utility Generator)**

**AVAILABILITY OF SERVICE.**

This tariff is applicable to customers with generation facilities which have a total design capacity of over 1,000 kW that intends to schedule, deliver and sell the net electric output of the facility at wholesale, and who require Commissioning Power, Startup Power and/or Station Power service from the Company.

Service to any load that is electrically isolated from the Customer's generator shall be separately metered and provided in accordance with the generally available demand-metered tariff appropriate for such service to the Customer.

This tariff is not available for standby, backup, maintenancce, or supplemental service for wholesale or retail loads served by customer's generator.

**DEFINITIONS.**

1. **Commissioning Power** - The electrical energy and capacity supplied to the customer prior to the commercial operation of the customer's generator, including initial construction and testing phases.
2. **Station Power** - The electrical energy and capacity supplied to the customer to serve the auxiliary loads at the customer's generation facilities, usually when the customer's generator is not operating. Station Power does not include Startup Power.
3. **Startup Power** - The electrical energy and capacity supplied to the customer following a planned or forced outage of the customer's generator for the purpose of returning the customer's generator to synchronous operation.

**COMMISSIONING POWER SERVICE.**

Customers requiring Commissioning Power shall take service under Tariff T.S. or by special agreement with the Company.

The Customer shall coordinate its construction and testing with the Company to ensure that the customer's operations do not cause any undue interference with the Company's obligations to provide service to its other customers or impose a burden on the Company's system or any system interconnected with the Company.

**STATION POWER SERVICE.**

Customers requiring Station Power shall take service under the generally available demand-metered tariff appropriate for the customer's Station Power requirements.

**Station Contract Capacity** – The Customer shall contract for a definite amount of electrical capacity in kW sufficient to meet the maximum Station Power requirements that the Company is expected to supply under the generally available demand-metered tariff appropriate for the customer.

**STARTUP POWER SERVICE.**

Customers requiring Startup Power have the option of contracting for such service under the terms of this tariff or under the generally available demand-metered tariff appropriate for the customer's Startup Power requirements.

**Startup Contract Capacity** – The Customer shall contract for a definite amount of electrical capacity in kW sufficient to meet the maximum Startup Power requirements that the Company is expected to supply.

**Startup Duration** – The Customer shall contract for a definite number of hours sufficient to meet the maximum period of time for which the Company is expected to supply Startup Power.

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**TARIFF N.U.G. (Cont'd)  
(Non-Utility Generator)**

**STARTUP POWER SERVICE. (cont'd)**

**Startup Duration** – The Customer shall contract for a definite number of hours sufficient to meet the maximum period of time for which the Company is expected to supply Startup Power.

**Startup Frequency** – The Customer shall contract for a definite number of startup events sufficient to meet the maximum number of times per year that the Company is expected to supply Startup Power.

**Other Startup Characteristics** – The customer shall provide to the Company other information regarding the customer's Startup Power requirements, including, but not limited to, anticipated time-of-use and seasonal characteristics.

**Notification Requirement** - Whenever Startup Power is needed, the Customer shall provide advance notice to the Company.

Upon receipt of a request from the Customer for Startup Power Service under the terms of this tariff, the Company will provide the Customer a written offer containing the Notification Requirement, generation, *transmission and distribution* rates (including demand and energy charges) and related terms and conditions of service under which service will be provided by the Company. Such offer shall be based upon the Startup Contract Capacity, Startup Duration, Startup Frequency, and Other Startup Characteristics as specified by the customer. In no event shall the generation rates be less than the sum of the Tariff C.I.P., T.O.D., I.G.S. Energy Charge, the Fuel Adjustment Clause, the System Sales clause, the Demand-Side Management Adjustment Clause, *Asset Transfer Rider, Big Sandy Retirement Rider, Big Sandy 1 Operation Rider, Purchase Power Rider, P.J.M. Rider, KY Economic Development Surcharge, Environmental Surcharge, the Capacity Charge and NERC Compliance and Cybersecurity Rider.*

If the parties reach an agreement based upon the offer provided to the customer by the Company, a contract shall be executed that provides full disclosure of all rates, terms and conditions of service under this tariff, and any and all agreements related thereto.

**Monthly Transmission and Distribution Rates**

| Tariff Code  | Service Voltage        |                     |
|--|------------------------|---------------------|
|  | <u>Subtransmission</u> | <u>Transmission</u> |
|  | <u>392</u>             | <u>393</u>          |
| Reservation Charge per kW  | -\$3.65                | \$2.30              |
| Reactive Demand Charge for each kiloVAR of maximum leading or lagging reactive demand in excess of 50% of the KW of monthly metered demand | -\$0.69 per KVAR       |                     |


**DELAYED PAYMENT CHARGE.**

This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

(Cont'd on Sheet No. 26-3)

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

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**TARIFF N.U.G. (Cont'd)**  
**(Non-Utility Generator)**

**MONTHLY BILLING DEMAND.**

The monthly billing demand in kW shall be taken each month as the highest single 15-minute integrated peak in kW as registered by a demand meter or indicator, less the Station Contract Capacity. The monthly billing demand so established shall in no event be less than the greater of (a) the Startup Contract Capacity or b) the customer's highest previously established monthly billing demand during the past 11 months.

**MONTHLY BILLING ENERGY.**

Interval billing energy shall be measured each 15-minute interval of the month as the total KWH registered by an energy meter or meters less the quotient of the Station Contract Capacity and four (4). In no event shall the interval billing energy be less than zero (0). Monthly billing energy shall be the sum of the interval billing energy for all intervals of the billing month.

**TRANSMISSION SERVICE.**

**Transmission Provider** – The entity providing transmission service to customers in the Company's service territory. Such entity may be the Company or a regional transmission entity.

Prior to taking service under this tariff, the Customer must have a fully executed Interconnection and Operation Agreement with the Company and/or the Transmission Provider or an unexecuted agreement filed with the Federal Energy Regulatory Commission under applicable procedures.

Should the Transmission Provider implement charges for Transmission Congestion, the Company shall provide 30 days written notice to the customer. Upon the expiration of such notice period, should the customer's use of Startup Power result in any charges for Transmission Congestion from the Transmission Provider, such charges, including any applicable taxes or assessments, shall be paid by or passed through to the customer without markup. Transmission Congestion is the condition that exists when market participants seek to dispatch in a pattern that would result in power flows that cannot be physically accommodated by the system.

**TERM OF CONTRACT.**

Contracts under this tariff will be made for an initial period of not less than one year and shall remain in effect thereafter until either party shall give at least 6 months' written notice to the other of the intention to terminate the contract. The Company reserves the right to require initial contracts for periods greater than one year.

A new initial contract period will not be required for existing customers who change their contract requirements after the original initial period unless new or additional facilities are required.

The Company may not be required to supply capacity in excess of that contracted for except by mutual agreement. Contracts will be made in multiples of 100 kW.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service.

This tariff shall not obligate the Company to purchase or pay for any capacity or energy produced by the Customer's generator.

Customers desiring to provide Startup and Station Power from commonly owned generation facilities that are not located on the site of the customer's generator (remote self-supply), shall take service under the terms and conditions contained within the applicable Open Access Transmission Tariff as filed with and accepted by the Federal Energy Regulatory Commission.

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In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**AVAILABILITY OF SERVICE.**

Net Metering is available to eligible customer-generators in the Company's service territory, upon request, and on a first-come, first-served basis up to a cumulative capacity of one percent (1%) of the Company's single hour peak load in Kentucky during the previous year. If the cumulative generating capacity of net metering systems reaches 1% of the Company's single hour peak load during the previous year, upon Commission approval, the Company's obligation to offer net metering to a new customer-generator may be limited. An eligible customer-generator shall mean a retail electric customer of the Company with a generating facility that:

- (1) Generates electricity using solar energy, wind energy, biomass or biogas energy, or hydro energy;
- (2) Has a rated capacity of not greater than thirty (30) kilowatts;
- (3) Is located on the customer's premises;
- (4) Is owned and operated by the customer;
- (5) Is connected in parallel with the Company's electric distribution system; and
- (6) Has the primary purpose of supplying all or part of the customer's own electricity requirements.

At its sole discretion, the Company may provide Net Metering to other customer-generators not meeting all the conditions listed above on a case-by-case basis.

The term "Customer" hereinafter shall refer to any customer requesting or receiving Net Metering services under this tariff.

**METERING.**

Net energy metering shall be accomplished using a standard kilowatt-hour meter capable of measuring the flow of electricity in two (2) directions. If the existing electrical meter installed at the customer's facility is not capable of measuring the flow of electricity in two directions, the Company will provide the customer with the appropriate metering at no additional cost to the customer. If the customer requests any additional meter or meters or if distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the customer's expense.

**BILLING/MONTHLY CHARGES.**

Monthly charges for energy, and demand where applicable, to serve the customer's net or total load shall be determined according to the Company's standard service tariff under which the customer would otherwise be served, absent the customer's electric generating facility. Energy charges under the customer's standard tariff shall be applied to the customer's net energy for the billing period to the extent that the net energy exceeds zero. If the customer's net energy is zero or negative during the billing period, the customer shall pay only the non-energy charge portions of the standard tariff bill. If the customer's net energy is negative during a billing period, the customer shall be credited in the next billing period for the kWh difference. If time-of-day metering is used, energy flows in both directions shall be netted and accounted for at the specific time-of-use in accordance with the provisions of the customer's standard tariff and this Net Metering Service Tariff. When the customer elects to no longer take service under this Net Metering Service Tariff, any unused credit shall revert to the Company. Excess electricity credits are not transferable between customers or locations.

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**TARIFF N.M.S. (Cont'd)**  
**(Net Metering Service)**

**APPLICATION AND APPROVAL PROCESS.**

The Customer shall submit an Application for Interconnection and Net Metering ("Application") and receive approval from the Company prior to connecting the generator facility to the Company's system.

Applications will be submitted by the Customer and reviewed and processed by the Company according to either Level 1 or Level 2 processes defined below.

The Company may reject an Application for violations of any code, standard, or regulation related to reliability or safety; however, the Company will work with the Customer to resolve those issues to the extent practicable.

Customers may contact the Company to check on the status of an Application or with questions prior to submitting an Application. Company contact information can be found on Kentucky Power Company's Application Form or on the Company's website.

**LEVEL 1 AND LEVEL 2 DEFINITIONS.**

**LEVEL 1**

A Level 1 Application shall be used if the generating facility is inverter-based and is certified by a nationally recognized testing laboratory to meet the requirements of Underwriters Laboratories Standard 1741 "Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources" (UL 1741).

The Company will approve the Level 1 Application if the generating facility also meets all of the following conditions:

- (1) For interconnection to a radial distribution circuit, the aggregated generation on the circuit, including the proposed generating facility, will not exceed 15% of the Line Section's most recent annual one hour peak load. A line section is the smallest part of the primary distribution system the generating facility could remain connected to after operation of any sectionalizing devices.
- (2) If the proposed generating facility is to be interconnected on a single-phase shared secondary, the aggregate generation capacity on the shared secondary, including the proposed generating facility, will not exceed the smaller of 20 kVA or the nameplate rating of the transformer.
- (3) If the proposed generating facility is single-phase and is to be interconnected on a center tap neutral of a 240 volt service, its addition shall not create an imbalance between the two sides of the 240 volt service of more than 20% of the nameplate rating of the service transformer.
- (4) If the generating facility is to be connected to three-phase, three wire primary Company distribution lines, the generator shall appear as a phase-to-phase connection at the primary Company distribution line.
- (5) If the generating facility is to be connected to three-phase, four wire primary Company distribution lines, the generator shall appear to the primary Company distribution line as an effectively grounded source.
- (6) The interconnection will not be on an area or spot network.
- (7) The Company does not identify any violations of any applicable provisions of IEEE 1547, "Standard for Interconnecting Distributed Resources with Electric Power Systems."
- (8) No construction of facilities by the Company on its own system will be required to accommodate the generating facility.

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**TARIFF N.M.S. (Cont'd)**  
**(Net Metering Service)**

**LEVEL 1, continued**

If the generating facility does not meet all of the above listed criteria, the Company, in its sole discretion, may either: 1) approve the generating facility under the Level 1 Application if the Company determines that the generating facility can be safely and reliably connected to the Company's system; or 2) deny the Application as submitted under the Level 1 Application.

The Company shall notify the customer within 20 business days whether the Application is approved or denied, based on the criteria provided in this section.

If the Application lacks complete information, the Company shall notify the customer that additional information is required, including a list of such additional information. The time between notification and receipt of required additional information will add to the time to process the Application.

When approved, the Company will indicate by signing the approval line on the Level 1 Application Form and returning it to the customer. The approval will be subject to successful completion of an initial installation inspection and witness test if required by the Company. The Company's approval section of the Application will indicate if an inspection and witness test are required. If so, the customer shall notify the Company within 3 business days of completion of the generating facility installation and schedule an inspection and witness test with the Company to occur within 10 business days of completion of the generator facility installation or as otherwise agreed to by the Company and the customer. The customer may not operate the generating facility until successful completion of such inspection and witness test, unless the Company expressly permits operational testing not to exceed two hours. If the installation fails the inspection or witness test due to noncompliance with any provision in the Application and Company approval, the customer shall not operate the generating facility until any and all noncompliance is corrected and re-inspected by the Company.

If the Application is denied, the Company will supply the customer with reasons for denial. The customer may resubmit under Level 2 if appropriate.

**LEVEL 2**

A Level 2 Application is required under any of the following:

- (1) The generating facility is not inverter based;
- (2) The generating facility uses equipment that is not certified by a nationally recognized testing laboratory to meet the requirements of UL 1741; or
- (3) The generating facility does not meet one or more of the additional conditions under Level 1.

The Company will approve the Level 2 Application if the generating facility meets the Company's technical interconnection requirements, which are based on IEEE 1547. The Company shall make its technical interconnection requirements available online and upon request.

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**TARIFF N.M.S. (Cont'd)**  
**(Net Metering Service)**

**LEVEL 2, continued**

The Company will process the Level 2 Application within 30 business days of receipt of a complete Application. Within that time the Company will respond in one of the following ways:

- (1) The Application is approved and the Company will provide the customer with an Interconnection Agreement to sign.
- (2) If construction or other changes to the Company's distribution system are required, the cost will be the responsibility of the customer. The Company will give notice to the customer and offer to meet to discuss estimated costs and construction timeframe. Should the customer agree to pay for costs and proceed, the Company will provide the customer with an Interconnection Agreement to sign within a reasonable time.
- (3) The Application is denied. The Company will supply the customer with reasons for denial and offer to meet to discuss possible changes that would result in Company approval. Customer may resubmit Application with changes.

If the Application lacks complete information, the Company shall notify the customer that additional information is required, including a list of such additional information. The time between notification and receipt of required additional information will add to the 30-business-day target to process the Application.

The Interconnection Agreement will contain all the terms and conditions for interconnection consistent with those specified in this tariff, inspection and witness test requirements, description of and cost of construction or other changes to the Company's distribution system required to accommodate the generating facility, and detailed documentation of the generating facilities which may include single line diagrams, relay settings, and a description of operation.

The customer may not operate the generating facility until an Interconnection Agreement is signed by the customer and Company and all necessary conditions stipulated in the agreement are met.

**APPLICATION, INSPECTION AND PROCESSING FEES.**

No application fee or other review, study, or inspection or witness test fees will be charged by the company for Level I application.

The Company will require each customer to submit with each Level 2 Application a non-refundable application, inspection and processing fee of \$50. In the event the Company determines an impact study is necessary with respect to a Level 2 Application, the customer shall be responsible for any reasonable costs up to \$1,000 for the initial impact study. The Company shall provide documentation of the actual cost of the impact study. Any other studies requested by the customer shall be at the customer's sole expense.

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**TARIFF N.M.S. (Cont'd)**  
**(Net Metering Service)**

**TERMS AND CONDITIONS FOR INTERCONNECTION.**

To interconnect to the Company's distribution system, the customer's generating facility shall comply with the following terms and conditions:

- (1) The Company shall provide the customer net metering services, without charge for standard metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. If the customer requests any additional meter or meters or distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the customer's expense.
- (2) The customer shall install, operate, and maintain, at customer's sole cost and expense, any control, protective, or other equipment on the customer's system required by the Company's technical interconnection requirements based on IEEE 1547, the NEC, accredited testing laboratories such as Underwriters Laboratories, and the manufacturer's suggested practices for safe, efficient and reliable operation of the generating facility in parallel with Company's electric system. Customer shall bear full responsibility for the installation, maintenance and safe operation of the generating facility. Upon reasonable request from the Company, the customer shall demonstrate generating facility compliance.
- (3) The generating facility shall comply with, and the customer shall represent and warrant its compliance with:  
(a) any applicable safety and power quality standards established by IEEE and accredited testing laboratories such as Underwriters Laboratories; (b) the NEC as may be revised from time to time; (c) Company's rules, regulations, and Company's Terms and Conditions of Service as contained in Company's Retail Electric Tariff as may be revised from time to time with the approval of the Kentucky Public Service Commission (Commission); (d) the rules and regulations of the Commission, as such rules and regulations may be revised from time to time by the Commission; and (e) all other applicable local, state, and federal codes and laws, as the same may be in effect from time to time. Where required by law, customer shall pass an electrical inspection of the generating facility by a local authority having jurisdiction over the installation.
- (4) Any changes or additions to the Company's system required to accommodate the generating facility shall be considered excess facilities. Customer shall agree to pay Company for actual costs incurred for all such excess facilities prior to construction.
- (5) Customer shall operate the generating facility in such a manner as not to cause undue fluctuations in voltage, intermittent load characteristics or otherwise interfere with the operation of Company's electric system. At all times when the generating facility is being operated in parallel with Company's electric system, customer shall so operate the generating facility in such a manner that no adverse impacts will be produced thereby to the service quality rendered by Company to any of its other customers or to any electric system interconnected with Company's electric system. Customer shall agree that the interconnection and operation of the generating facility is secondary to, and shall not interfere with, Company's ability to meet its primary responsibility of furnishing reasonably adequate service to its customers.

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**TARIFF N.M.S.  
(Net Metering Service)****TERMS AND CONDITIONS FOR INTERCONNECTION, continued**

- (6) Customer shall be responsible for protecting, at customer's sole cost and expense, the generating facility from any condition or disturbance on Company's electric system, including, but not limited to, voltage sags or swells, system faults, outages, loss of a single phase of supply, equipment failures, and lightning or switching surges, except that the Company shall be responsible for repair of damage caused to the generating facility resulting solely from the negligence or willful misconduct on the part of the Company.
- (7) After initial installation, Company shall have the right to inspect and/or witness commissioning tests, as specified in the Level 1 or Level 2 Application and approval process. Following the initial testing and inspection of the generating facility and upon reasonable advance notice to customer, Company shall have access at reasonable times to the generating facility to perform reasonable on-site inspections to verify that the installation, maintenance, and operation of the generating facility comply with the requirements of this tariff.
- (8) For Level 1 and 2 generating facilities, where required by the Company, an eligible customer shall furnish and install on customer's side of the point of common coupling a safety disconnect switch which shall be capable of fully disconnecting the customer's energy generating equipment from Company's electric service under the full rated conditions of the customer's generating facility. The external disconnect switch (EDS) shall be located adjacent to Company's meters or the location of the EDS shall be noted by placing a sticker on the meter, and shall be of the visible break type in a metal enclosure which can be secured by a padlock. If the EDS is not located directly adjacent to the meter, the customer shall be responsible for ensuring that the location of the EDS is properly and legibly identified for so long as the generating facility is operational. The disconnect switch shall be accessible to Company personnel at all times. The Company may waive the requirement for an EDS for a generating facility at its sole discretion, and on a case-by-case basis, upon review of the generating facility operating parameters and if permitted under the Company's safety and operating protocols.

The Company shall establish a training protocol for line workers on the location and use of the EDS, and shall require that the EDS be used when appropriate, and that the switch be turned back on once the disconnection is no longer necessary.

- (9) Company shall have the right and authority at Company's sole discretion to isolate the generating facility or require the customer to discontinue operation of the generating facility if Company believes that: (a) continued interconnection and parallel operation of the generating facility with Company's electric system creates or contributes (or may create or contribute) to a system emergency on either Company's or customer's electric system; (b) the generating facility is not in compliance with the requirements of this tariff, and the noncompliance adversely affects the safety, reliability, or power quality of Company's electric system; or (c) the generating facility interferes with the operation of Company's electric system. In non-emergency situations, Company shall give customer notice of noncompliance including a description of the specific noncompliance condition and allow customer a reasonable time to cure the noncompliance prior to isolating the generating facilities. In emergency situations, when the Company is unable to immediately isolate or cause the customer to isolate only the generating facility, the Company may isolate the customer's entire facility.

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**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR INTERCONNECTION, continued**

- (10) Customer shall agree that, without the prior written permission from Company, no changes shall be made to the generating facility as initially approved. Increases in generating facility capacity will require a new "Application for Interconnection and Net Metering" which will be evaluated on the same basis as any other new application. Repair and replacement of existing generating facility components with like components that meet UL 1741 certification requirements for Level 1 facilities and not resulting in increases in generating facility capacity is allowed without approval.
- (11) To the extent permitted by law, the customer shall protect, indemnify, and hold harmless the Company and its directors, officers, employees, agents, representatives and contractors against and from all loss, claims, actions or suits, including costs and attorneys fees, for or on account of any injury or death of persons or damage to property caused by the customer or the customer's employees, agents, representatives and contractors in tampering with, repairing, maintaining, or operating the customer's generating facility or any related equipment or any facilities owned by the Company except where such injury, death or damage was caused or contributed to by the fault or negligence of the Company or its employees, agents, representatives, or contractors.
- The liability of the Company to the customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the customer is taking service.
- (12) The customer shall maintain general liability insurance coverage (through a standard homeowner's, commercial, or other policy) for both Level 1 and Level 2 generating facilities. Customer shall, upon request, provide Company with proof of such insurance at the time that application is made for net metering.
- (13) By entering into an Interconnection Agreement, or by inspection, if any, or by non-rejection, or by approval, or in any other way, Company does not give any warranty, express or implied, as to the adequacy, safety, compliance with applicable codes or requirements, or as to any other characteristics, of the generating facility equipment, controls, and protective relays and equipment.
- (14) A customer's generating facility is transferable to other persons or service locations only after notification to the Company has been made and verification that the installation is in compliance with this tariff. Upon written notification that an approved generating facility is being transferred to another person, customer, or location, the Company will verify that the installation is in compliance with this tariff and provide written notification to the customer(s) within 20 business days. If the installation is no longer in compliance with this tariff, the Company will notify the customer in writing and list what must be done to place the facility in compliance.
- (15) The customer shall retain any and all Renewable Energy Credits (RECs) that may be generated by their generating facility.

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**TARIFF N.M.S.  
(Net Metering Service)**

**TERM OF CONTRACT.**

Any contract required under this tariff shall become effective when executed by both parties and shall continue in effect until terminated. The contract may be terminated as follows: (a) Customer may terminate the contract at any time by giving the Company at least sixty (60) days' written notice; (b) Company may terminate upon failure by the customer to continue ongoing operation of the generating facility; (c) either party may terminate by giving the other party at least thirty (30) days prior written notice that the other party is in default of any of the terms and conditions of the contract or the rules or any rate schedule, tariff, regulation, contract, or policy of the Company, so long as the notice specifies the basis for termination and there is opportunity to cure the default; (d) the Company may terminate by giving the customer at least thirty (30) days notice in the event that there is a material change in an applicable law, regulation or statute affecting this Agreement or which renders the system out of compliance with the new law or statute.

**SPECIAL TERMS AND CONDITIONS.**

This tariff is subject to the Company's Terms and Conditions of Service and all provisions of the standard service tariff under which the customer takes service. This tariff is also subject to the applicable provisions of the Company's Technical Requirements for Interconnection.

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**Application For Interconnection And Net Metering – Level 1**

*Use this Application only for: 1.) a generating facility that is inverter based and certified by a nationally recognized testing laboratory to meet the requirements of UL 1741, 2.) less than or equal to 30 kW generation capacity and 3.) connecting to Kentucky Power distribution system.*

Submit this Application to:

**Ferry Hensworth D.G. Coordinator** (Contact person listed is subject to change.  
**American Electric Power** Please visit our website for up-to-date  
**1 Riverside Plaza** information <http://www.kentuckypower.com>)  
**Columbus, Ohio 43215-2373**  
**614-716-4020 Office / 614-716-1414 Fax**  
**fhensworth@aep.com dgcoordinator@aep.com**

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**Applicant**

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: ( ) \_\_\_\_\_ Phone: ( ) \_\_\_\_\_

E-mail address: \_\_\_\_\_

**Service Location**

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Electric Service Account Number: \_\_\_\_\_

**Alternate Contacts**

*Provide names and contact information for other contractors, installers, or engineering firms involved in the design and installation of the generating facilities:*

| <u>Name</u> | <u>Company</u> | <u>Telephone/Email</u> |
|-------------|----------------|------------------------|
| _____       | _____          | _____                  |
| _____       | _____          | _____                  |
| _____       | _____          | _____                  |

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**TARIFF N.M.S.  
(Net Metering Service)**

***APPLICATION FOR INTERCONNECTION AND NET METERING,  
LEVEL 1 – CONTINUED***

**Equipment Qualifications**

Energy Source: ( ) Solar ( ) Wind ( ) Hydro ( ) Biogas ( ) Biomass  
Inverter Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_  
Inverter Power Rating: \_\_\_\_\_ Voltage Rating: \_\_\_\_\_  
Power Rating of Energy Source (i.e., solar panels, wind turbine): \_\_\_\_\_  
Battery Storage: ( ) Yes ( ) No If Yes, Battery Power Rating: \_\_\_\_\_

*Attach documentation showing that inverter is certified by a nationally recognizes testing laboratory to meet the requirements of UL 1741.*

*Attach site drawing or sketch showing locations of Kentucky Power Company meter, energy source, accessible disconnect switch and inverter.*

*Attach single line drawing showing all electrical equipment from the metering location to the energy source including switches, fuses, breakers, panels, transformers, inverters, energy source, wire size, equipment ratings, and transformer connections.*

**Expected Start-up Date:** \_\_\_\_\_

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF N.M.S.**  
**(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 1:**

- 1 Kentucky Power Company (Company) shall provide customer net metering services, without charge for standard metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. If the customer requests any additional meter or meters or distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the customer's expense.
- 2 Customer shall install, operate, and maintain, at customer's sole cost and expense, any control, protective, or other equipment on the customer's system required by the Company's technical interconnection requirements based on IEEE 1547, the NEC, accredited testing laboratories such as Underwriters Laboratories, and the manufacturer's suggested practices for safe, efficient, and reliable operation of the generating facility in parallel with Company's electric system. Customer shall bear full responsibility for the installation, maintenance, and safe operation of the generating facility. Upon reasonable request from the Company, customer shall demonstrate generating facility compliance.
- 3 The generating facility shall comply with, and the customer shall represent and warrant its compliance with: (a) any applicable safety and power quality standards established by the Institute of Electrical and Electronics Engineers (IEEE) and accredited testing laboratories such as Underwriters Laboratories (UL); (b) the National Electrical Code (NEC) as may be revised from time to time; (c) Company's rules, regulations, and Company's Terms and Conditions of Service as contained in Company's Retail Electric Tariff as may be revised from time to time with the approval of the Kentucky Public Service Commission (Commission); (d) the rules and regulations of the Commission, as such rules and regulations may be revised from time to time by the Commission; and (e) all other applicable local, state, and federal codes and laws, as the same may be in effect from time to time. Where required by law, customer shall pass an electrical inspection of the generating facility by a local authority having jurisdiction over the installation.
- 4 Any changes or additions to the Company's system required to accommodate the generating facility shall be considered excess facilities. Customer shall agree to pay Company for actual costs incurred for all such excess facilities prior to construction.
- 5 Customer shall operate the generating facility in such a manner as not to cause undue fluctuations in voltage, intermittent load characteristics, or otherwise interfere with the operation of Company's electric system. At all times when the generating facility is being operated in parallel with Company's electric system, customer shall so operate the generating facility in such a manner that no adverse impacts will be produced thereby to the service quality rendered by Company to any of its other customers or to any electric system interconnected with Company's electric system. Customer shall agree that the interconnection and operation of the generating facility is secondary to, and shall not interfere with, Company's ability to meet its primary responsibility of furnishing reasonably adequate service to its customers.
- 6 Customer shall be responsible for protecting, at customer's sole cost and expense, the generating facility from any condition or disturbance on Company's electric system, including, but not limited to, voltage sags or swells, system faults, outages, loss of a single phase of supply, equipment failures, and lightning or switching surges, except that the Company shall be responsible for repair of damage caused to the generating facility resulting solely from the negligence or willful misconduct on the part of the Company.

(Cont'd on Sheet No. 27-12)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 1, continued**

- 7 After initial installation, Company shall have the right to inspect and/or witness commissioning tests, as specified in the Level 1 or Level 2 Application and approval process. Following the initial testing and inspection of the generating facility and upon reasonable advance notice to customer, Company shall have access at reasonable times to the generating facility to perform reasonable on-site inspections to verify that the installation, maintenance and operation of the generating facility comply with the requirements of this tariff.
- 8 For Level 1 generating facilities, where required by the Company, an eligible customer shall furnish and install on customer's side of the point of common coupling a safety disconnect switch which shall be capable of fully disconnecting the customer's energy generating equipment from Company's electric service under the full rated conditions of the customer's generating facility. The external disconnect switch (EDS) shall be located adjacent to Company's meters or the location of the EDS shall be noted by placing a sticker on the meter, and shall be of the visible break type in a metal enclosure which can be secured by a padlock. If the EDS is not located directly adjacent to the meter, the customer shall be responsible for ensuring the location of the EDS is properly and legibly identified for so long as the generating facility is operational. The disconnect switch shall be accessible to Company personnel at all times. The Company may waive the requirement for an EDS for a generating facility at its sole discretion, and on a case-by-case basis, upon review of the generating facility operating parameters and if permitted under the Company's safety and operating protocols.
- The Company shall establish a training protocol for line workers on the location and use of the EDS, and shall require that the EDS be used when appropriate, and that the switch be turned back on once the disconnection is no longer necessary.
- 9 Company shall have the right and authority at Company's sole discretion to isolate the generating facility or require the customer to discontinue operation of the generating facility if Company believes that: (a) continued interconnection and parallel operation of the generating facility with Company's electric system creates or contributes (or may create or contribute) to a system emergency on either Company's or customer's electric system; (b) the generating facility is not in compliance with the requirements of this tariff, and the noncompliance adversely affects the safety, reliability or power quality of Company's electric system; or (c) the generating facility interferes with the operation of Company's electric system. In non-emergency situations, Company shall give customer notice of noncompliance including a description of the specific noncompliance condition and allow customer a reasonable time to cure the noncompliance prior to isolating the generating facilities. In emergency situations, when the Company is unable to immediately isolate or cause the customer to isolate only the generating facility, the Company may isolate the customer's entire facility.
- 10 Customer shall agree that, without the prior written permission from Company, no changes shall be made to the generating facility as initially approved. Increases in generating facility capacity will require a new "Application for Interconnection and Net Metering" which will be evaluated on the same basis as any other new application. Repair and replacement of existing generating facility components with like components that meet UL 1741 certification requirements for Level 1 facilities and not resulting in increases in generating facility capacity is allowed without approval.

(Cont'd on Sheet No. 27-13)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 1, continued**

- 11 To the extent permitted by law, the customer shall protect, indemnify, and hold harmless the Company and its directors, officers, employees, agents, representatives and contractors against and from all loss, claims, actions or suits, including costs and attorneys fees, for or on account of any injury or death of persons or damage to property caused by the customer or the customer's employees, agents, representatives and contractors in tampering with, repairing, maintaining or operating the customer's generating facility or any related equipment or any facilities owned by the Company except where such injury, death or damage was caused or contributed to by the fault or negligence of the Company or its employees, agents, representatives, or contractors.
- The liability of the Company to the customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the customer is taking service.
- 12 The Customer shall maintain general liability insurance coverage (through a standard homeowner's, commercial, or other policy) for Level 1 generating facilities. Customer shall, upon request, provide Company with proof of such insurance at the time that application is made for net metering.
- 13 By entering into an Interconnection Agreement, or by inspection, if any, or by non-rejection, or by approval, or in any other way, Company does not give any warranty, express or implied, as to the adequacy, safety, compliance with applicable codes or requirements, or as to any other characteristics, of the generating facility equipment, controls, and protective relays and equipment.
- 14 Customer's generating facility is transferable to other persons or service locations only after notification to the Company has been made and verification that the installation is in compliance with this tariff. Upon written notification that an approved generating facility is being transferred to another person, customer, or location, the Company will verify that the installation is in compliance with this tariff and provide written notification to the Customer(s) within 20 business days. If the installation is no longer in compliance with this tariff, the Company will notify the customer in writing and list what must be done to place the facility in compliance.
- 15 The customer shall retain any and all Renewable Energy Credits (RECs) that may be generated by their generating facility.

(Cont'd on Sheet No. 27-14)

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ISSUED BY: JOHN A. ROGNESS III 

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 1, continued**

**Effective Term and Termination Rights**

This Agreement becomes effective when executed by both parties and shall continue in effect until terminated. This Agreement may be terminated as follows: (a) Customer may terminate this Agreement at any time by giving the Company at least sixty (60) days' written notice; (b) Company may terminate upon failure by the Customer to continue ongoing operation of the generating facility; (c) either party may terminate by giving the other party at least thirty (30) days prior written notice that the other party is in default of any of the terms and conditions of the Agreement or the Rules or any rate schedule, tariff, regulation, contract, or policy of the Company, so long as the notice specifies the basis for termination and there is opportunity to cure the default; (d) the Company may terminate by giving the Customer at least thirty (30) days notice in the event that there is a material change in an applicable law, regulation or statute affecting this Agreement or which renders the system out of compliance with the new law or statute. I hereby certify that, to the best of my knowledge, all of the information provided in this Application is true, and I agree to abide by all the Terms and Conditions included in this Application for Interconnection and Net Metering and Company's Net Metering Tariff.

**Customer Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**COMPANY APPROVAL SECTION**

When signed below by a Company representative, Application for Interconnection and Net Metering is approved subject to the provisions contained in this Application and as indicated below.

**Company inspection and witness test: ( ) Required ( ) Waived**

If Company inspection and witness test is required, Customer shall notify the Company within three (3) business days of completion of the generating facility installation and schedule an inspection and witness test with the Company to occur within ten (10) business days of completion of the generating facility installation or as otherwise agreed to by the Company and the Customer. Unless indicated below, the Customer may not operate the generating facility until such inspection and witness test is successfully completed. Additionally, the Customer may not operate the generating facility until all other terms and conditions in the Application have been met.

Call: \_\_\_\_\_ to schedule an inspection and witness test.

**Pre-Inspection operational testing not to exceed two (2) hours: ( ) Allowed ( ) Not Allowed**

If Company inspection and witness test is waived, operation of the generating facility may begin when installation is complete, and all other terms and conditions in the Application have been met.

Additions, Changes, or Clarifications to Application Information: ( ) None ( ) As specified here:

**Approved by:** \_\_\_\_\_ **Date:** \_\_\_\_\_

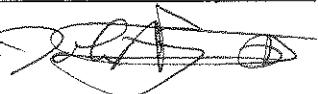
**Printed Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_

(Cont'd on Sheet No. 27-15)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

TARIFF N.M.S.  
(Net Metering Service)

## Application for Interconnection and Net Metering – Level 2

*Use this Application form for connecting to the Kentucky Power distribution system and: 1.) the generating facility is not inverter based or is not certified by a nationally recognized testing laboratory to meet the requirements of UL 1741 or 2.) does not meet any of the additional conditions under a Level 1 Application (inverter based and less than or equal to 30kW generation).*

Submit this Application (along with the application fee of \$100) to:

**Terry Hemsworth-DG Coordinator**  
**American Electric Power**  
**1 Riverside Plaza**  
**Columbus, Ohio 43215-2373**  
**614-716-4020 Office / 614-716-1414 Fax**  
**[themsworth@aep.com](mailto:themsworth@aep.com) dgcoordinator**

(Contact person listed is subject to change.  
Please visit our website for up-to-date  
information <http://www.kentuckypower.com>)

T

T

Applicant

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Project Contact Person: \_\_\_\_\_

Phone: (\_\_\_\_) \_\_\_\_\_ Phone: (\_\_\_\_) \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Service Location

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Electric Service Account Number: \_\_\_\_\_

Alternate Contacts

*Provide names and contact information for other contractors, installers, or engineering firms involved in the design and installation of the generating facilities:*

| <u>Name</u> | <u>Company</u> | <u>Telephone/Email</u> |
|-------------|----------------|------------------------|
| _____       | _____          | _____                  |
| _____       | _____          | _____                  |

(Cont'd on Sheet No. 27-16)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**APPLICATION FOR INTERCONNECTION AND NET METERING,  
LEVEL 2 - CONTINUED**

**Equipment Qualifications**

Total Generating Capacity (kW) of the Generating Facility: \_\_\_\_\_

Type of Generator: ( ) Inverter-Based ( ) Synchronous ( ) Induction

Energy Source: ( ) Solar ( ) Wind ( ) Hydro ( ) Biogas ( ) Biomass

*Attach documentation showing that inverter is certified by a nationally recognizes testing laboratory to meet the requirements of UL 1741.*

*Attach site drawing or sketch showing locations of Kentucky Power Company meter, energy source, accessible disconnect switch and inverter.*

*Attach single line drawing showing all electrical equipment from the metering location to the energy source including switches, fuses, breakers, panels, transformers, inverters, energy source, wire size, equipment ratings, and transformer connections.*

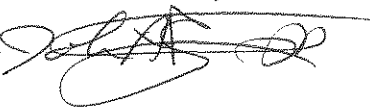
Expected Start-up Date: \_\_\_\_\_

(Cont'd on Sheet No. 27-17)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**Interconnection Agreement – Level 2**

**This Interconnection Agreement** (Agreement) is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20 \_\_, by and between Kentucky Power Company (Company), and \_\_\_\_\_ (Customer). Company and Customer are hereinafter sometimes referred to individually as “Party” or collectively as “Parties”

**Witnesseth:**

**Whereas**, Customer is installing, or has installed, generating equipment, controls, and protective relays and equipment (Generating Facility) used to interconnect and operate in parallel with Company’s electric system, which Generating Facility is more fully described in Exhibit A, attached hereto and incorporated herein by this Agreement, and as follows:

Location: \_\_\_\_\_

Generator Size and Type: \_\_\_\_\_

**Now, Therefore**, in consideration thereof, Customer and Company agree as follows:

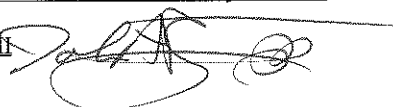
Company agrees to allow Customer to interconnect and operate the generating Facility in parallel with the Company’s electric system and Customer agrees to abide by Company’s Net Metering Tariff and all Terms and Conditions listed in this Agreement including any additional conditions listed in Exhibit A.

(Cont’d on Sheet No. 27-18)

DATE OF ISSUE: DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX



**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 2:**

To interconnect to the Kentucky Power Company (Company) distribution system, the customer's generating facility shall comply with the following terms and conditions:

- 1 Company shall provide customer net metering services, without charge for standard metering equipment, through a standard kilowatt-hour metering system capable of measuring the flow of electricity in two (2) directions. If the customer requests any additional meter/meters or distribution upgrades are needed to monitor the flow in each direction, such installations shall be at the customer's expense.
- 2 Customer shall install, operate, and maintain, at customer's sole cost and expense, any control, protective, or other equipment on the customer's system required by the Company's technical interconnection requirements based on IEEE 1547, the NEC, accredited testing laboratories such as Underwriters Laboratories, and the manufacturer's suggested practices for safe, efficient, and reliable operation of the generating facility in parallel with Company's electric system. Customer shall bear full responsibility for the installation, maintenance, and safe operation of the generating facility. Upon reasonable request from the Company, customer shall demonstrate generating facility compliance.
- 3 The generating facility shall comply with, and the customer shall represent and warrant its compliance with: (a) any applicable safety and power quality standards established by the Institute of Electrical and Electronics Engineers (IEEE) and accredited testing laboratories such as Underwriters Laboratories (UL); (b) the National Electrical Code (NEC) as may be revised from time to time; (c) Company's rules, regulations, and Company's Terms and Conditions of Service as contained in Company's Retail Electric Tariff as may be revised from time to time with the approval of the Kentucky Public Service Commission (Commission); (d) the rules and regulations of the Commission, as such rules and regulations may be revised from time to time by the Commission; and (e) all other applicable local, state, and federal codes and laws, as the same may be in effect from time to time. Where required by law, customer shall pass an electrical inspection of the generating facility by a local authority having jurisdiction over the installation.
- 4 Any changes or additions to the Company's system required to accommodate the generating facility shall be considered excess facilities. Customer shall agree to pay Company for actual costs incurred for all such excess facilities prior to construction.
- 5 Customer shall operate the generating facility in such a manner as not to cause undue fluctuations in voltage, intermittent load characteristics, or otherwise interfere with the operation of Company's electric system. At all times when the generating facility is being operated in parallel with Company's electric system, customer shall so operate the generating facility in such a manner that no adverse impacts will be produced thereby to the service quality rendered by Company to any of its other customers or to any electric system interconnected with Company's electric system. Customer shall agree that the interconnection and operation of the generating facility is secondary to, and shall not interfere with, Company's ability to meet its primary responsibility of furnishing reasonably adequate service to its customers.

(Cont'd on Sheet No. 27-19)

DATE OF ISSUE: December 23, 2014

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ISSUED BY: JOHN A. ROGNESS III

TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 2, continued**

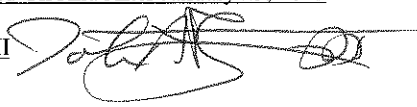
- 6 Customer shall be responsible for protecting, at Customer's sole cost and expense, the generating facility from any condition or disturbance on Company's electric system, including, but not limited to, voltage sags or swells, system faults, outages, loss of a single phase of supply, equipment failures, and lightning or switching surges, except that the Company shall be responsible for repair of damage caused to the generating facility resulting solely from the negligence or willful misconduct on the part of the Company.
- 7 After initial installation, Company shall have the right to inspect and/or witness commissioning tests, as specified in the Level 1 or Level 2 Application and approval process. Following the initial testing and inspection of the generating facility and upon reasonable advance notice to customer, Company shall have access at reasonable times to the generating facility to perform reasonable on-site inspections to verify that the installation, maintenance and operation of the generating facility comply with the requirements of this tariff.
- 8 For Level 2 generating facilities, where required by the Company, an eligible customer shall furnish and install on customer's side of the point of common coupling a safety disconnect switch which shall be capable of fully disconnecting the customer's energy generating equipment from Company's electric service under the full rated conditions of the customer's generating facility. The external disconnect switch (EDS) shall be located adjacent to Company's meters or the location of the EDS shall be noted by placing a sticker on the meter, and shall be of the visible break type in a metal enclosure which can be secured by a padlock. If the EDS is not located directly adjacent to the meter, the customer shall be responsible for ensuring the location of the EDS is properly and legibly identified for so long as the generating facility is operational. The disconnect switch shall be accessible to Company personnel at all times. The Company may waive the requirement for an EDS for a generating facility at its sole discretion, and on a case-by-case basis, upon review of the generating facility operating parameters and if permitted under the Company's safety and operating protocols.
- The Company shall establish a training protocol for line workers on the location and use of the EDS, and shall require that the EDS be used when appropriate, and that the switch be turned back on once the disconnection is no longer necessary.
- 9 Company shall have the right and authority at Company's sole discretion to isolate the generating facility or require the customer to discontinue operation of the generating facility if Company believes that: (a) continued interconnection and parallel operation of the generating facility with Company's electric system creates or contributes (or may create or contribute) to a system emergency on either Company's or customer's electric system; (b) the generating facility is not in compliance with the requirements of this tariff, and the noncompliance adversely affects the safety, reliability or power quality of Company's electric system; or (c) the generating facility interferes with the operation of Company's electric system. In non-emergency situations, Company shall give customer notice of noncompliance including a description of the specific noncompliance condition and allow customer a reasonable time to cure the noncompliance prior to isolating the generating facilities. In emergency situations, when the Company is unable to immediately isolate or cause the customer to isolate only the generating facility, the Company may isolate the customer's entire facility.

(Cont'd on Sheet No. 27-20)

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 2, continued**

- 10 Customer shall agree that, without the prior written permission from Company, no changes shall be made to the generating facility as initially approved. Increases in generating facility capacity will require a new "Application for Interconnection and Net Metering" which will be evaluated on the same basis as any other new application. Repair and replacement of existing generating facility components with like components not resulting in increases in generating facility capacity is allowed without approval.
- 11 To the extent permitted by law, the customer shall protect, indemnify, and hold harmless the Company and its directors, officers, employees, agents, representatives and contractors against and from all loss, claims, actions or suits, including costs and attorneys fees, for or on account of any injury or death of persons or damage to property caused by the customer or the customer's employees, agents, representatives and contractors in tampering with, repairing, maintaining or operating the customer's generating facility or any related equipment or any facilities owned by the Company except where such injury, death or damage was caused or contributed to by the fault or negligence of the Company or its employees, agents, representatives, or contractors.
- The liability of the Company to the customer for injury to person and property shall be governed by the tariff(s) for the class of service under which the customer is taking service.
- 12 The customer shall maintain general liability insurance coverage (through a standard homeowner's, commercial, or other policy). Customer shall provide Company with proof of such insurance at the time that application is made for net metering.
- 13 By entering into an Interconnection Agreement, or by inspection, if any, or by non-rejection, or by approval, or in any other way, Company does not give any warranty, express or implied, as to the adequacy, safety, compliance with applicable codes or requirements, or as to any other characteristics, of the generating facility equipment, controls, and protective relays and equipment.
- 14 Customer's generating facility is transferable to other persons or service locations only after notification to the Company has been made and verification that the installation is in compliance with this tariff. Upon written notification that an approved generating facility is being transferred to another person, customer, or location, the Company will verify that the installation is in compliance with this tariff and provide written notification to the customer(s) within 20 business days. If the installation is no longer in compliance with this tariff, the Company will notify the customer in writing and list what must be done to place the facility in compliance.
- 15 The customer shall retain any and all Renewable Energy Credits (RECs) that may be generated by their generating facility.

(Cont'd on Sheet No. 27-21)

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**TERMS AND CONDITIONS FOR LEVEL 2, continued**

**Effective Term and Termination Rights**

This Agreement becomes effective when executed by both parties and shall continue in effect until terminated. This Agreement may be terminated as follows: (a) Customer may terminate this Agreement at any time by giving the Company at least sixty (60) days' written notice; (b) Company may terminate upon failure by the Customer to continue ongoing operation of the generating facility; (c) either party may terminate by giving the other party at least thirty (30) days prior written notice that the other party is in default of any of the terms and conditions of the Agreement or the Rules or any rate schedule, tariff, regulation, contract, or policy of the Company, so long as the notice specifies the basis for termination and there is opportunity to cure the default; (d) the Company may terminate by giving the Customer at least thirty (30) days notice in the event that there is a material change in an applicable law, regulation or statute affecting this Agreement or which renders the system out of compliance with the new law or statute.

IN WITNESS WHEREOF, the Parties have executed this Agreement, effective as of the date first above written.

**Customer Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Printed Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Company Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Printed Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

(Cont'd on Sheet No. 27-22)

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF N.M.S.  
(Net Metering Service)**

**Interconnection Agreement – Level 2  
Exhibit A**

- Exhibit A will contain additional detailed information about the Generating Facility such as a single line diagram, relay settings, and a description of operation.
- When construction of the Company's facilities is required, Exhibit A will also contain a description and associated cost.
- Exhibit A will also specify requirements for a Company inspection and witness test and when limited operation for testing or full operation may begin.

DATE OF ISSUE: December 23, 2014

DATE EFFECTIVE: Service Rendered On And After January 23, 2015

ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF C.C.**  
**(Capacity Charge)**

**AVAILABILITY OF SERVICE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D. 2, S.G.S., ~~Experimental~~ S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., ~~Q.P., C.I.P.-T.O.D., I.G.S.~~ C.S.-I.R.P., M.W., O.L. and S.L.

**RATE.**

|                                 | <u>All Other</u>      | <u>Service Tariff</u>                  |
|---------------------------------|-----------------------|--|
|                                 |                       | <u><del>C.I.P.-T.O.D.</del> I.G.S.</u> |
| Energy Charge per KWH per month | \$ 0.000970- 0.001182 | \$ 0.000667- 0.000659                  |

**RATE CALCULATION.**

1. Pursuant to the final order of the Kentucky Public Service Commission in Case No. 2004-00420 and the Settlement and Stipulation Agreement dated October 20, 2004 as filed and approved by the Commission, Kentucky Power Company is to recover from retail ratepayers the supplemental annual payments tied to the 18-year extension of the Rockport Unit Power Service Agreement (UPSA). Kentucky Power will apply surcharges designed to enable recovery from each tariff class of customers, an annual supplemental payment of \$5.1 million annually in Years 2005 through 2009, and then increases to \$6.2 million annually in Years 2010 through 2021, and then decreases to \$5,792,329 in Year 2022.
2. Kentucky Power will be entitled to receive these annual supplemental payments in addition to the base retail rates established by the Commission. The costs associated with the underlying Rockport Unit 1 and 2 UPSA will continue to be included in base rates.
3. The increased annual revenues will be generated by two different KWH rates, one for ~~CIP-TOD~~ I.G.S. tariff customers and one for All Other tariff customers.
4. The allocation of the additional revenues to be collected from the ~~CIP-TOD~~ I.G.S. tariff customers and All Other tariff customers will be based upon the total annual revenue of each of the two-customer classes. Once the additional revenues have been allocated between the two customer classes based upon total annual Kentucky retail revenue, the additional revenue will be collected within the two customer classes (~~CIP-TOD~~ I.G.S. and All Other tariffs) on a KWH basis. The KWH rate to be applied to each of these two customer class groups shall be sufficient to generate that portion of the total increase in annual revenues equal to the percentage of total annual revenues produced by each of the two customer class groups (~~CIP-TOD~~ I.G.S. and All Other tariffs).
5. The Stipulation and Settlement Agreement is made upon the express agreement by the Parties that the receipt by Kentucky Power of the additional revenues called for by Section III(1)(a) and III(1)(b) shall be accorded the ratemaking treatment set out in Section III. In any proceeding affecting the rates of Kentucky Power during the extension of the UPSA under this Stipulation and Settlement Agreement, the provisions of Section III are an express exception to Section VI(4) of the Stipulation and Settlement Agreement.
6. The Capacity Charge factors will be applied to bills monthly and will be shown on the Customer's bill as a separate line item.

(Cont'd on Sheet No. 28-2)

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TITLE: Director Regulatory Services

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TARIFF C.C.  
(Capacity Charge) Cont'd

RATE CALCULATION. (Cont'd)

7. The capacity charge will be adjusted annually to recover amounts authorized by the Commission.

The annual adjustment shall be determined as follows:

A. Calculate the revenue over / under collection for the previous 12 month period,  $REV_{billed} - REV_{settlement} = REV_{diff}$

B. Calculate the revenue requirement for the upcoming 12 month period,  $REV_{settlement} + REV_{diff} = REV_{authorized}$

C. Calculate Capacity Charge Rates for the upcoming 12 month period,

$$IGS \text{ Capacity Charge} = \frac{REV_{authorized} \times (REV_{IGS} / REV_{Total})}{kWh_{IGS}}$$

$$\text{All Other Capacity Charge} = \frac{REV_{authorized} \times (REV_{All \text{ Other}} / REV_{Total})}{kWh_{All \text{ Other}}}$$

Where:

"REV<sub>Total</sub>" is the total revenue billed during the most recently available 12 month period.

"REV<sub>IGS</sub>" is the total IGS customer class revenue billed during the most recently available 12 month period.

"REV<sub>All Other</sub>" is the revenue billed from all other customer classes during the most recently available 12 month period.

"kWh<sub>IGS</sub>" is the IGS customer class total kWh billed during the most recently available 12 month period.

"kWh<sub>All Other</sub>" is the total kWh billed to all customer classes other than IGS during the most recently available 12 month period.

"REV<sub>billed</sub>" is the total capacity charge revenue billed during the most recently available 12 month period.

"REV<sub>settlement</sub>" is the \$6.2 million amount authorized to be billed during the 12 month period.

"REV<sub>diff</sub>" is the difference between capacity charge revenues billed and what the Company is authorized to collect in a 12 month period.

"REV<sub>authorized</sub>" is the capacity charge amount to be billed over the upcoming 12 month period.

8. The annual Capacity Charge Adjustment shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all necessary supporting data to justify the amount of the adjustments, which shall include data and information as may be required by the Commission.

Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.

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**TARIFF E.S.**  
**(Environmental Surcharge)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D. 2, S.G.S., ~~Experimental S.G.S.-T.O.D.~~, M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., ~~Q.P., C.I.P.-T.O.D., I.G.S., C.S.- I.R.P., M.W., O.L., and S.L.~~

**RATE.**

~~In accordance with the Stipulation and Settlement Agreement approved by the Commission by its Order dated October 7, 2013 in Case No. 2012-00578, the Monthly Environmental Surcharge Factor will be fixed and maintained at 0.00% until new base rates are first established by Commission after the effective date of this tariff without regard to the calculation of the Monthly Environmental Surcharge Factor under paragraphs 1 through 4 below. Also, t~~

~~The environmental surcharge shall provide for monthly adjustments based on a percent of revenues, equal to the difference between the environmental compliance costs in the base period as provided in Paragraph 3 2 below and in the current period as provided in Paragraph 3 below.~~

~~The retail share of the revenue requirement will then be allocated between residential and non-residential retail customers based upon their respective total revenues during the previous calendar year. The Environmental Surcharge will be implemented as a percentage of total revenues for the residential class and as a percentage of non-fuel revenues for all other customers. when new base rates are established.~~

~~1. The environmental surcharge shall provide for monthly adjustments based on a percent of revenues, equal to the difference between the environmental compliance costs in the base period as provided in Paragraph 3 below and in the current period according to the following formula:~~

~~Monthly Environmental Surcharge Factor =  $\frac{\text{Net KY Retail } E(m)}{\text{KY Retail } R(m)}$~~

~~Where:~~

~~Net KY Retail E(m) = Monthly E(m) allocated to Kentucky Retail Customers, net of Over/ (Under) Recovery Adjustment; Allocation based on Percentage of Kentucky Retail Revenues to Total Company Revenues in the Expense Month.~~

~~(For purposes of this formula, Total Company Revenues do not include Non-Physical Revenues.)~~

~~KY Retail R(m) = Kentucky Retail Revenues for the Expense Month.~~


~~1. 2. Monthly Environmental Surcharge Gross Revenue Requirement, E(m)~~

~~Where: E(m) = CRR - BRR  
CRR = Current Period Revenue Requirement for the Expense Month.  
BRR = Base Period Revenue Requirement.~~

(Continued on Sheet 29-2)

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**TARIFF E.S. (Cont'd)**  
**(Environmental Surcharge)**

**RATE (Cont'd)**

2.3. Base Period Revenue Requirement, BRR

BRR = The Following Monthly Amounts:

| <u>Billing Month</u> | <u>Base Net<br/>Environmental Costs</u> |                      |
|----------------------|---|----------------------|
| JANUARY              | \$ 3,991,163                            | \$ 2,750,919         |
| FEBRUARY             | 3,590,810                               | 2,738,884            |
| MARCH                | 3,651,374                               | 2,851,531            |
| APRIL                | 3,647,040                               | 2,909,965            |
| MAY                  | 3,922,590                               | 2,897,250            |
| JUNE                 | 3,627,274                               | 2,835,973            |
| JULY                 | 3,805,325                               | 3,567,407            |
| AUGUST               | 4,088,830                               | 3,319,549            |
| SEPTEMBER            | 3,740,010                               | 3,378,515            |
| OCTOBER              | 3,260,302                               | 3,097,929            |
| NOVEMBER             | 2,786,040                               | 2,994,579            |
| DECEMBER             | 4,074,321                               | 2,996,160            |
|                      | <u>\$ 44,185,079</u>                    | <u>\$ 36,338,660</u> |

*In accordance with the Stipulation and Settlement Agreement approved by the Commission by its Order dated October 7, 2013 in Case No. 2012-00578, the Mitchell FGD and all related associated costs are not included in base rates or the Base Revenue Requirement but will be included in the Current Period Revenue Requirement. The Mitchell FGD will be excluded from Base Rates at least until June 30, 2020.*

3.4. Current Period Revenue Requirement, CRR

$$CRR = [((RB_{KP(c)}) (ROR_{KP(c)}) / 12) + OE_{KP(c)} + [((RB_{IM(c)}) (ROR_{IM(c)}) / 12) + OE_{IM(c)}] (.15) - AS]$$

Where:

$RB_{KP(c)}$  = Environmental Compliance Rate Base for Big Sandy Mitchell.

$ROR_{KP(c)}$  = Annual Rate of Return on Big Sandy Mitchell Rate Base;  
Annual Rate divided by 12 to restate to a Monthly Rate of Return.

(Cont'd on Sheet 29-3)

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**TARIFF E.S. (Cont'd)**  
**(Environmental Surcharge)**

**RATE (Cont'd)**

|               |   |  |             |
|---------------|---|--|-------------|
| $OE_{KP(C)}$  | = | Monthly Pollution Control Operating Expenses for <i>Big Sandy, Mitchell</i> .  | T           |
| $RB_{IM(C)}$  | = | Environmental Compliance Rate Base for Rockport.   |             |
| $ROR_{IM(C)}$ | = | Annual Rate of Return on Rockport Rate Base;<br>Annual Rate divided by 12 to restate to a Monthly Rate of Return.  |             |
| $OE_{IM(C)}$  | = | Monthly Pollution Control Operating Expenses for Rockport.   |             |
| AS            | = | Net proceeds from the sale of <i>Title IV and CSAPR</i> SO <sub>2</sub> emission allowances, ERCs, and NO <sub>x</sub> emission allowances, reflected in the month of receipt. <del>The SO<sub>2</sub> allowance sales can be from either EPA Auctions or the AEP Interim Allowance Agreement Allocations.</del> | T<br>T<br>T |

"KP(C)" identifies components from the *Big Sandy Mitchell* Units – Current Period, and "IM(C)" identifies components from the Indiana Michigan Power Company's Rockport Units – Current Period.

The Rate Base for both Kentucky Power and Rockport should reflect the current costs associated with the 1997 Plan, ~~and the 2003 Plan, the 2005 Plan, the 2007 Plan and the 2014 Plan.~~ The Rate Base for Kentucky Power should also include a cash working capital allowance based on the 1/8 formula approach, due to the inclusion of Kentucky Power's accounts receivable financing in the capital structure and weighted average cost of capital. The Operating Expenses for both Kentucky Power and Rockport should reflect the current operating expenses associated with the 1997 Plan, the 2003 Plan, the 2005 Plan, ~~and the 2007 Plan, and the 2014 Plan.~~

The Rate of Return for Kentucky Power is ~~40.50%~~ *10.62%* rate of return on equity as authorized by the Commission in its ~~June 29, 2010 Order Dated XXXXXXXXX~~ in Case No. ~~2014-00396~~ *2009-00459* at page 6.

The Rate of Return for Rockport should reflect the requirements of the Rockport Unit Power Agreement.

Net Proceeds from the sale of emission allowances and ERCs that reflect net gains will be a reduction to the Current Period Revenue Requirement, while net losses will be an increase.

The Current Period Revenue Requirement will reflect the balances and expenses as of the Expense Month of the filing.

(Cont'd on Sheet No. 29-4)

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**TARIFF E.S. (Cont'd)**  
**(Environmental Surcharge)**

**RATE (Cont'd)**

4. Revenue Allocation

$$\text{Residential Allocation } RA(m) = \frac{\text{KY Residential Retail Revenue } RR(b)}{\text{KY Retail Revenue } R(b)}$$

$$\text{All Other Allocation } OA(m) = \frac{\text{KY All Other Classes Retail Revenue } OR(b)}{\text{KY Retail Revenue } R(b)}$$

Where:

(m) = the expense month  
(b) = most recent calendar year revenues

5. Environmental Surcharge Factor

$$\text{Residential Monthly Environmental Surcharge Factor} = \frac{\text{Net KY Retail } E(m) * RA(m)}{\text{KY } RR(m)}$$

$$\text{All Other Monthly Environmental Surcharge Factor} = \frac{\text{Net KY Retail } E(m) * AO(m)}{\text{KY } OR(m) - \text{KY } OF(m)}$$

Where:

Net KY Retail E(m) = Monthly E(m) allocated to Kentucky Retail Customers, net of Over/ (Under) Recovery Adjustment; Allocation based on Percentage of Kentucky Retail Revenues to Total Company Revenues in the Expense Month.

(For purposes of this formula, Total Company Revenues do not include Non -Physical Revenues.)

RR(m) = Kentucky Residential Retail Revenues for the Expense Month.

OR(m) = Kentucky All Other Classes Retail Revenues for the Expense Month

OF(m) = Kentucky All Other Classes Fuel Revenues for the Expense Month

(Cont'd on Sheet No. 29-5)

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N

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TARIFF E.S. (Cont'd)  
(Environmental Surcharge)

RATE (Cont'd)

6.5. Environmental costs "E" shall be the Company's costs of compliance with the Clean Air Act and those environmental requirements that apply to coal combustion wastes and by-products, as follows:

*Total Company:*

- ~~(a) costs associated with Continuous Emission Monitors (CEMS)~~ T
- ~~(b) costs associated with the terms of the Rockport Unit Power Agreement~~ D
- ~~(c) the Company's share of the pool capacity costs associated with Gavin scrubber(s)~~ D
- return on *Title IV and CASPR* SO<sub>2</sub> allowance inventory T
- ~~(d) costs associated with air emission fees at Rockport and Mitchell~~ D
- ~~(b)~~ over/under recovery balances between the actual costs incurred less the amount collected through the environmental surcharge T
- ~~(e)~~ costs associated with any Commission's consultant approved by the Commission T
- ~~(h) cost associated with Low Nitrogen Oxide (NO<sub>x</sub>) burners at the Big Sandy Generating Plant~~ D
- ~~(d)~~ costs associated with the consumption *Title IV and CSAPR* of SO<sub>2</sub> allowances T
- ~~costs associated with the Selective Catalytic Reduction (SCR) at the Big Sandy Generating Plant~~ D
- ~~(i) costs associated with the upgrade of the precipitator at the Big Sandy Generating Plant~~ D
- ~~(j) costs associated with the over fire air with water injection at the Big Sandy Generating Plant~~ D
- ~~(e)~~ costs associated with the consumption of NO<sub>x</sub> allowances T
- ~~(f)~~ return on NO<sub>x</sub> allowance inventory T
- ~~(k) 25% of the costs associated with the Reverse Osmosis Water System (the amount is subject to adjustment at subsequent 6 month surcharge reviews based on the documented utilization of the RO Water System by the SCR)~~ D
- ~~(g)~~ costs associated with maintaining approved pollution control equipment including material and contract labor (excluding plant labor) T
- Costs associated with consumables used in conjunction with approved environmental projects.

(Cont'd on Sheet No. 29-6)

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**TARIFF E.S. (Cont'd)**  
**(Environmental Surcharge)**

**RATE (Cont'd)**

*The Company's share of costs associated with the following environmental equipment at the Rockport Plant:*

- *Continuous Emissions Monitors*
- *Air Emission Fees*
- *Costs Associated with the Rockport Unit Power Agreement*
- *Activated Carbon Injection*
- *Mercury Monitoring*
- *Precipitator Modifications*
- *Dry Sorbent Injection*
- *Coal Combustion Waste Landfill*
- *Low NOx burners, over-fire air, Landfill*

*The Company's share of costs associated with the following environmental equipment at the Mitchell Plant:*

~~(f) — the Company's share of the pool capacity costs associated with the following:~~

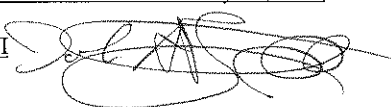
- ~~• Amos Unit No. 3 CEMS, Low NO<sub>x</sub> Burners, SCR, FGD, Landfill, Coal Blending Facilities and SO<sub>2</sub> Mitigation~~
- ~~• Cardinal Unit No 1 CEMS, Low NO<sub>x</sub> Burners, SCR, Catalyst Replacement, FGD, Landfill and SO<sub>2</sub> Mitigation~~
- ~~• Gavin Plant SCR and SCR Catalyst Replacement~~
- ~~• Gavin Unit No 1 and 2 Low NO<sub>x</sub> Burners and SO<sub>2</sub> Mitigation~~
- ~~• Kammer Unit Nos 1, 2 and 3 CEMS, Over Fire Air and Duct Modification~~
- Mitchell Unit Nos 1 and 2 Water Injection, Low NO<sub>x</sub> burners, Low NO<sub>x</sub> burner Modification, SCR, FGD, Landfill, Coal Blending Facilities and SO<sub>2</sub> Mitigation
- Mitchell Plant Common CEMS, Replace Burner Barrier Valves and Gypsum Material Handling Facilities
- *Air Emission Fees*
- *Precipitator Modifications and Upgrades*
- *Coal Combustion Waste Landfill*
- *Bottom Ash and Fly Ash Handling*
- *Mercury Monitoring (MATS)*
- *Dry Fly Ash Handling Conversion*

(Cont'd on Sheet No. 29-7)

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**TARIFF E.S. (Cont'd)**  
**(Environmental Surcharge)**

**RATE (Cont'd)**

- ~~Muskingum River Unit No 1 Low NO<sub>x</sub> Ductwork, Over Fire Air, Over Fire Air Modification, Water Injection and Water Injection Modification~~
- ~~Muskingum River Unit No 2 Low NO<sub>x</sub> Ductwork, Over Fire Air, Over Fire Air Modification and Water Injection~~
- ~~Muskingum River Unit No 3 Over Fire Air, Over Fire Air Modification with NO<sub>x</sub> Instrumentation~~
- ~~Muskingum River Unit No 4 Over Fire Air with Modification~~
- ~~Muskingum River Unit No 5 Low NO<sub>x</sub> Burner with Modification and Weld Overlay, an SCR and SO<sub>3</sub> Mitigation~~
- ~~Muskingum River Common CEMS~~
- ~~Phillip Sporn Unit No 2 Low NO<sub>x</sub> Burners with Modifications~~
- ~~Phillip Sporn Unit No 4 and 5 Low NO<sub>x</sub> Burners and Modulating Injection Air system with Modifications~~
- ~~Phillip Sporn Common CEMS, SO<sub>3</sub> Injection System and Landfill~~
- ~~Rockport Unit No 1 and 2 Low NO<sub>x</sub> Burners and Landfill~~
- ~~Tanners Creek Unit No 1 Low NO<sub>x</sub> Burners, with Modifications and Low NO<sub>x</sub> Burners Leg Replacement~~
- ~~Tanners Creek Unit No 2 and 3 Low NO<sub>x</sub> Burners with Modifications~~
- ~~Tanners Creek Unit No 4 Over Fire Air, Low NO<sub>x</sub> Burners and ESP Controls Upgrade~~
- ~~Tanners Creek Common CEMS and Coal Blending Facilities~~
- ~~Title V Air Emission Fees at Amos, Cardinal, Gavin, Kammer, Mitchell, Muskingum River, Philip Sporn, Rockport and Tanners Creek plants.~~

7.-6. The monthly environmental surcharge shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all necessary supporting data to justify the amount of the adjustments which shall include data and information as may be required by the Commission.

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In Case No. 2014-00396 Dated XXXXXXXX

**RESERVED FOR FUTURE USE**  
**TARIFF R.T.P.**  
**(Experimental Real-Time Pricing Tariff)**

AVAILABILITY OF SERVICE.

TARIFF CODES

| <u>Q.P. Tariff</u>   | <u>CIP-TOD Tariff</u> |
|----------------------|-----------------------|
| 366 Secondary        | 377 Primary           |
| 367 Primary          | 378 Sub-transmission  |
| 368 Sub-transmission | 379 Transmission      |
| 369 Transmissions    |                       |

Available for Real-Time Pricing (RTP) service, on an experimental basis, to customers normally taking firm service under Tariffs Q.P. or C.I.P.-T.O.D. for their total capacity requirements from the Company. The customer will pay real-time prices for load in excess of an amount designated by the customer. This experimental tariff will be limited to a maximum of 10 customers. The incremental cost of any special metering or communications equipment required for service under this experimental tariff beyond that normally provided under the applicable standard Q.P. or C.I.P.-T.O.D. tariff shall be borne by the customer. The Company reserves the right to terminate this Tariff at any time after the end of the experiment.

PROGRAM DESCRIPTION.

The Experimental Real-Time Pricing Tariff is voluntary and will be offered on a pilot basis for a three-year period. The RTP Tariff will offer customers the opportunity to manage their electric costs by shifting load from higher cost to lower cost pricing periods or by adding new load during lower price periods. The experimental pilot will also offer the customer the ability to experiment in the wholesale electricity market by designating a portion of the customer's load subject to standard tariff rates with the remainder of the load subject to real-time prices. The designated portion of the customer's load is billed under the Company's standard Q.P. or C.I.P.-T.O.D. tariff. The remainder of the customer's capacity and energy load is billed at prices established in the PJM Interconnection, L.L.C. (PJM) RTO market.

CONDITIONS OF SERVICE.

The customer must have a demand of not less than 1 MW and specify at least 100 kW as being subject to this Tariff. The customer designates the maximum amount of load to be supplied by Kentucky Power Company under the applicable Tariff Q.P. or Tariff C.I.P.-T.O.D. All usage equal to or less than the customer-designated level of load will be billed under the appropriate Tariff Q.P. or Tariff C.I.P.-T.O.D. All usage in excess of the customer-designated level will be billed under Tariff RTP. All reactive demand shall be billed in accordance with the appropriate Tariff Q.P. or Tariff C.I.P.-T.O.D.

RATE.

I. Capacity Charge.

The Capacity Charge, stated in \$/kW, will be determined from the auction price set in the Reliability Pricing Model (RPM) auction held by PJM for each PJM planning year. The auction price will be adjusted by the class average diversity factor (DF) derived from billing demands for the preceding year and the 5 highest coincident peaks established for the class at the time of the 5 highest PJM hourly values. The price will be further adjusted for demand losses (DL) and a factor to reflect the PJM required reserve margin (RM).

$$\text{Capacity Charge} = \text{RPM} \times \text{DF} \times \text{DL} \times \text{RM}$$

Where:

RPM = Results of the annual RPM auction price applicable to the AEP load zone = \$5.301/kW-month

DF = Diversity Factor

C.I.P. - T.O.D. = \$0.83

Q.P. = \$0.64

DL = Demand Loss Factor

RM = Reserve Margin = RPM clearing price reserve margin = 1.209

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RESERVED FOR FUTURE USE

TARIFF R.T.P.  
(Experimental Real-Time Pricing Tariff)

RATE (continued):

2. Energy Charge.

The Energy Charge, stated in \$/KWH, will be determined hourly using the AEP East Load Zone Real-Time Locational Marginal Price (LMP) established by PJM (including marginal losses), adjusted for energy losses (EL). The charge will be applied to the usage in excess of the customer designated level for each billing period.

Energy Charge = LMP x EL

Where:

LMP = AEP East Load Zone Real-Time Locational Marginal Price

EL = Energy Loss Factor excluding marginal losses for transmission and subtransmission

3. Transmission Charge.

The Transmission Charge, stated in \$/kW, will be determined from the Network Integration Transmission Service (NITS) rate for the AEP East Zone. The NITS rate will be adjusted by the class average diversity factor (DF) derived from billing demands for the preceding year and the coincident peak established for the class at the time of the highest AEP East Zone hourly value. The price will be further adjusted for demand losses (DL).

Transmission Charge = NITS x DF x DL

Where:

NITS = NITS Rate for the AEP East Zone = \$ 2.2859/kW

DF = Diversity Factor

C.I.P. T.O.D. = 0.83

Q.P. = 0.57

DL = Demand Loss Factor

4. Other Market Services Charge.

The Other Market Services Charge, stated in \$/KWH is developed using all other PJM related market costs allocated to Kentucky Power Company from PJM not captured elsewhere. It is applied to all usage in excess of the customer designated level for each billing period.

Secondary = \$0.003801/KWH

Primary = \$0.003656/KWH

Subtransmission = \$0.003588/KWH

Transmission = \$0.003554/KWH

5. Distribution Charge.

The Distribution Charge, stated in \$/kW, is equivalent to the distribution portion of the current rates included in Tariff Q.P. and Tariff C.I.P. T.O.D.

Secondary = \$7.39/kW

Primary = \$4.34/Kw

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**RESERVED FOR FUTURE USE**

**TARIFF R.T.P.**  
**(Experimental Real Time Pricing Tariff)**

**RATE (continued):**

~~6. Program Charge.~~

~~The Program Charge is \$150 per month for billing, administration and communications required to implement and administer the Experimental Real Time Pricing Tariff.~~

~~7. Riders.~~

~~Bills rendered under this Tariff for RTP usage shall be subject to any current or future non-generation related riders.~~

~~A customer's total bill shall equal the sum of the RTP bill for all usage in excess of the customer-designated level and the standard tariff bill for usage equal to or below the designated level.~~

**DELAYED PAYMENT CHARGE:**

~~This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.~~

**METERED VOLTAGE:**

~~The rates set forth in this tariff are based upon the delivery and measurement of energy at the same voltage, thus measurement will be made at or compensated to the delivery voltage. At the sole discretion of the Company, such compensation may be achieved through the use of loss compensating equipment, the use of formulas to calculate losses or the application of multipliers to the metered quantities. In such cases, the metered kWh and kW values will be adjusted for billing purposes. If the Company elects to adjust kWh and kW based on multipliers, the adjustment shall be in accordance with the following:~~

- ~~(1) Measurements taken at the low side of a customer-owned transformer will be multiplied by 1.01.~~
- ~~(2) Measurements taken at the high side of a Company-owned transformer will be multiplied by 0.98.~~

**MONTHLY BILLING DEMAND:**

~~Billing demand in KW shall be taken each month as the highest single 15-minute integrated peak in KW as registered during the month by a demand meter. The monthly billing demand so established shall in no event be less than 60% of the greater of (a) the customer's contract capacity set forth on the contract for electric service or (b) the customer's highest previously established monthly billing demand during the past 11 months. The RTP monthly billing demand shall be the customer's monthly billing demand in excess of the customer-designated level.~~

**TERM:**

~~Customers who participate in this experimental tariff are required to enter into a written service agreement. Customer participation will coincide with the PJM planning year which runs from June 1 through May 31. Customers must enroll by May 15 of each year to begin service on June 1 and must stay with the service for the entire planning year. Customers who choose not to re-enroll in the program are ineligible to return to the program. No additional customers will be placed under this tariff after June 1, 2010.~~

(Cont'd on Sheet No. 30-4)

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By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

D

D

**RESERVED FOR FUTURE USE**

**TARIFF R.T.P.**  
**(Experimental Real Time Pricing Tariff)**

**TRANSFORMER AND LINE LOSSES:**

~~Demand losses will be applied to the Capacity and Transmission Charges using the following factors:~~

- ~~—Secondary = 1.10221~~
- ~~—Primary = 1.06570~~
- ~~—Subtransmission = 1.04278~~
- ~~—Transmission = 1.03211~~

~~Energy losses will be applied to the Energy Charge using the following factors:~~

- ~~—Secondary = 1.06938~~
- ~~—Primary = 1.02972~~
- ~~—Subtransmission = 1.00954~~
- ~~—Transmission = 1.00577~~

**SPECIAL TERMS AND CONDITIONS:**

~~This tariff is subject to the Company's Terms and Conditions of Service.~~

~~A customer's plant is considered as one or more buildings, which are served by a single electrical distribution system provided and operated by customer. When the size of the customer's load necessitates the delivery of energy to the customer's plant over more than one circuit, the Company may elect to connect its circuits to different points on the customer's system irrespective of contrary provisions in Terms and Conditions of Service.~~

~~Customers with PURPA Section 210 qualifying cogeneration and/or small power production facilities shall take service under Tariff COGEN/SPP II or by special agreement with the Company.~~

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D

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**RIDER A.F.S.**  
**(Alternate Feed Service Rider)**

**AVAILABILITY OF SERVICE.**

Standard Alternate Feed Service (AFS) is a premium service providing a redundant distribution service provided through a redundant distribution line and distribution station transformer, with automatic or manual switch-over and recovery, which provides increased reliability for distribution service. Rider AFS applies to those customers requesting new or upgraded AFS after the effective date of this rider. Rider AFS also applies to existing customers that desire to maintain redundant service when the Company must make expenditures in order to continue providing such service.

Rider AFS is available to customers who request a primary voltage alternate feed and who normally take service under Tariffs M.G.S., M.G.S. TOD, L.G.S., L.G.S.-TOD, Q.P., ~~C.I.P.-TOD~~ I.G.S., or M.W. for their basic service requirements, provided that the Company has adequate capacity in existing distribution facilities, as determined by the Company, or if changes can be made to make capacity available. AFS provided under this rider may not be available at all times, including emergency situations.

**SYSTEM IMPACT STUDY CHARGE.**

The Company shall charge the customer for the actual cost incurred by the Company to conduct a system impact study for each site reviewed. The study will consist of, but is not limited to, the following: (1) identification of customer load requirements, (2) identification of the potential facilities needed to provide the AFS, (3) determination of the impact of AFS loading on all electrical facilities under review, (4) evaluation of the impact of the AFS on system protection and coordination issues including the review of the transfer switch, (5) evaluation of the impact of the AFS request on system reliability indices and power quality, (6) development of cost estimates for any required system improvements or enhancements required by the AFS, and (7) documentation of the results of the study. The Company will provide to the customer an estimate of charges for this study.

**EQUIPMENT AND INSTALLATION CHARGE.**

The customer shall pay, in advance of construction, a nonrefundable amount for all equipment and installation costs for all dedicated and/or local facilities provided by the Company required to furnish either a new or upgraded AFS. The payment shall be grossed-up for federal and state taxes, assessment fees and gross receipts taxes. The customer will not acquire any title in said facilities by reason of such payment. The equipment and installation charge shall be determined by the Company and shall include, but not be limited to, the following: (1) all costs associated with the AFS dedicated and/or local facilities provided by the Company and (2) any costs or modifications to the customer's basic service facilities.

The customer is responsible for all costs associated with providing and maintaining phone service for use with metering to notify the Company of a transfer of service to the AFS or return to basic service.

**TRANSFER SWITCH PROVISION.**

In the event the customer receives basic service at primary voltage, the customer shall install, own, maintain, test, inspect, operate and replace the transfer switch. Customer-owned switches are required to be at primary voltage and must meet the Company's engineering, operational and maintenance specifications. The Company reserves the right to inspect the customer-owned switches periodically and to disconnect the AFS for adverse impacts on reliability or safety.

(Cont'd on Sheet No. 32-2)

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**RIDER A.F.S.  
(Alternate Feed Service Rider)****TRANSFER SWITCH PROVISION (CONTINUED).**

Existing AFS customers, who receive basic service at primary voltage and are served via a Company-owned transfer switch and control module, may elect for the Company to continue ownership of the transfer switch. When the Company-owned transfer switch and/or control module requires replacement, and the customer desires to continue the AFS, the customer shall pay the Company the total cost to replace such equipment which shall be grossed up for federal and state taxes, assessment fees and gross receipts taxes. In addition, the customer shall pay a monthly rate of ~~\$13.57~~ \$14.25 for the Company to annually test the transfer switch / control module and the customer shall reimburse the Company for the actual costs involved in maintaining the Company-owned transfer switch and control module.

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In the event a customer receives basic service at secondary voltage and requests AFS, the Company will provide the AFS at primary voltage. The Company will install, own, maintain, test, inspect and operate the transfer switch and control module. The customer shall pay the Company a nonrefundable amount for all costs associated with the transfer switch installation. The payment shall be grossed-up for federal and state taxes, assessment fees and gross receipts taxes. In addition, the customer is required to pay the monthly rate for testing and ongoing maintenance costs defined above. When the Company-owned transfer switch and/or control module requires replacement, and the customer desires to continue the AFS, customer shall pay the Company the total cost to replace such equipment which shall be grossed up for federal and state taxes, assessment fees and gross receipts taxes.

After a transfer of service to the AFS, a customer utilizing a manual or semi-automatic transfer switch shall return to the basic service within one (1) week or as mutually agreed to by the Company and customer. In the event system constraints require a transfer to be expedited, the Company will endeavor to provide as much advance notice as possible to the customer. However, the customer shall accomplish the transfer back to the basic service within ten minutes if notified by the Company of system constraints. In the event the customer fails to return to basic service within 12 hours, or as mutually agreed to by the Company and customer, or within ten minutes of notification of system constraints, the Company reserves the right to immediately disconnect the customer's load from the AFS source. If the customer does not return to the basic service as agreed to, or as requested by the Company, the Company may also provide 30 days' notice to terminate the AFS agreement with the customer.

The customer shall make a request to the Company for approval three days in advance for any planned switching.

**MONTHLY AFS CAPACITY RESERVATION DEMAND CHARGE.**

Monthly AFS charges will be in addition to all monthly basic service charges paid by the customer under the applicable tariff.

The Monthly AFS Capacity Reservation Demand Charge for the reservation of distribution station and primary lines is ~~\$4.34~~ \$6.25 per kW.

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**AFS CAPACITY RESERVATION.**

The customer shall reserve a specific amount of AFS capacity equal to, or less than, the customer's normal maximum requirements, but in no event shall the customer's AFS capacity reservation under this rider exceed the capacity reservation for the customer's basic service under the appropriate tariff. The Company shall not be required to supply AFS capacity in excess of that reserved except by mutual agreement.

(Cont'd on Sheet No. 32-3)

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**RIDER A.F.S.**  
**(Alternate Feed Service Rider)**

**AFS CAPACITY RESERVATION (continued).**

If the customer plans to increase the AFS demand at anytime in the future, the customer shall promptly notify the Company of such additional demand requirements. The customer's AFS capacity reservation and billing will be adjusted accordingly. The customer will pay the Company the actual costs of any and all additional dedicated and/or local facilities required to provide AFS in advance of construction and pursuant to an AFS construction agreement. If customer exceeds the agreed upon AFS capacity reservation, the Company reserves the right to disconnect the AFS. If the customer's AFS metered demand exceeds the agreed upon AFS capacity reservation, which jeopardizes company facilities or the electrical service to other customers, the Company reserves the right to disconnect the AFS immediately. If the Company agrees to allow the customer to continue AFS, the customer will be required to sign a new AFS agreement reflecting the new AFS capacity reservation. In addition, the customer will promptly notify AEP regarding any reduction in the AFS capacity reservation.

The customer may reserve partial-load AFS capacity, which shall be less than the customer's full requirements for basic service subject to the conditions in this provision. Prior to the customer receiving partial-load AFS capacity, the customer shall be required to demonstrate or provide evidence to the Company that they have installed demand-controlling equipment that is capable of curtailing load when a switch has been made from the basic service to the AFS. The Company reserves the right to test and verify the customer's ability to curtail load to meet the agreed upon partial-load AFS capacity reservation.

**DETERMINATION OF BILLING DEMAND.**

**Full-Load Requirement:**

For customers requesting AFS equal to their load requirement for basic service, the AFS billing demand shall be taken each month as the single-highest 15-minute integrated peak as registered during the month by a demand meter or indicator, but the monthly AFS billing demand so established shall in no event be less than the greater of (a) the customer's AFS capacity reservation, or (b) the customer's highest previously established monthly billing demand on the AFS during the past 11 months, or (c) the customer's basic service capacity reservation, or (d) the customer's highest previously established monthly billing demand on the basic service during the past 11 months.

**Partial-Load Requirement:**

For customers requesting partial-load AFS capacity reservation that is less than the customer's full requirements for basic service, the AFS billing demand shall be taken each month as the single-highest 15-minute integrated peak on the AFS as registered during the month by a demand meter or indicator, but the monthly AFS billing demand so established shall in no event be less than the greater of (a) the customer's AFS capacity reservation, or (b) the customer's highest previously established monthly metered demand on the partial-load AFS during the past 11 months.

**DELAYED PAYMENT CHARGE.**

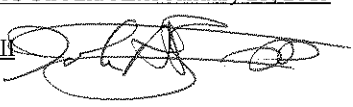
This tariff is due and payable in full on or before the due date stated on the bill. On all accounts not so paid, an additional charge of 5% of the unpaid balance will be made.

(Cont'd on Sheet No. 32-4)

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**RIDER A.F.S.  
(Alternate Feed Service Rider)**

**TERMS OF CONTRACT.**

The AFS agreement under this rider will be made for a period of not less than one year and shall remain in effect thereafter until either party shall give at least six months' written notice to the other of the intention to discontinue service under the terms of this rider.

Disconnection of AFS under this rider due to reliability or safety concerns associated with customer-owned transfer switches will not relieve the customer of payments required hereunder for the duration of the agreement term.

**SPECIAL TERMS AND CONDITIONS.**

This rider is subject to the Company's Terms and Conditions of Service.

Upon receipt of a request from the customer for non-standard AFS (AFS which includes unique service characteristics different from standard AFS), the Company will provide the customer with a written estimate of all costs, including system impact study costs, and any applicable unique terms and conditions of service related to the provision of the non-standard AFS. An AFS agreement will be filed with the Commission under the 30-day filing procedures. The AFS agreement shall provide full disclosure of all rates, terms and conditions of service under this rider, and any and all agreements related thereto.

The Company will have sole responsibility for determining the basic service circuit and the AFS circuit.

The Company assumes no liability should the AFS circuit, transfer switch, or other equipment required to provide AFS fail to operate as designed, is unsatisfactory, or is not available for any reason.

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In Case No. 2014-00396 Dated XXXXXXXX

KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 33-1  
CANCELLING P.S.C. KY. NO. 10 \_\_\_\_\_ SHEET NO. 33-1

**U.G.R.T.  
(Utility Gross Receipts Tax)  
(School Tax)**

**APPLICABLE.**

To all Tariff Schedules.

**RATE.**

This tariff schedule is applied as a rate increase pursuant to KRS 160.617 to all other tariff schedules for the recovery by the utility of the utility gross receipts license tax imposed by the applicable school district pursuant to KRS 160.613 with respect to the customer's bill. The current utility gross receipts license tax for school imposed by a school district may not exceed 3%. The utility gross receipts license tax shall appear on the customer's bill as a separate line item.

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KENTUCKY POWER COMPANY

P.S.C. KY. NO. 10 ORIGINAL SHEET NO. 34-1  
CANCELLING P.S.C. KY. NO. 10 \_\_\_\_\_ SHEET NO. 34-1

**K.S.T.**  
**(Kentucky Sales Tax)**

**APPLICABLE.**

To all Tariff Schedules.

**RATE.**

This tariff schedule is applied as a rate increase to all other applicable tariff schedules for the recovery by the utility pursuant to KRS 139.210 of the Kentucky Sales Tax imposed by KRS 139.200 for all customers not exempted by KRS 139.470(8). For any other exempt customers, an exemption certification must be received and on file with the Company. The Kentucky Sales Tax rate is currently imposed by the Commonwealth of Kentucky at the rate of 6%. The Kentucky Sales Tax shall appear on the customer's bill as a separate line item.

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In Case No. 2014-00396 Dated XXXXXXXX

**TARIFF P.P.A.**  
**(Purchase Power Adjustment)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D.2, S.G.S., ~~Experimental~~ S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., ~~Q.P., C.I.P.-T.O.D.~~ I.G.S., C.S.- I.R.P., M.W., O.L. and S.L.

**RATE.**

1. In accordance with the Stipulation and Settlement Agreement approved as modified by the Commission by its Order dated October 7, 2013 in Case No. 2012-00578, the purchase power adjustment shall provide for monthly adjustments based on a percent of revenues, calculated to six decimal places and equal to the net costs of any power purchases in the current period according to the following formula:

$$\text{Monthly Purchase Power Adjustment Factor} = \frac{\text{Net KY Retail P(m)}}{\text{KY Retail R(m)}}$$

Where:

Net KY Retail P(m) = Monthly P(m) allocated to Kentucky Retail Customers, net of Over/(Under) Recovery Adjustment; Allocation based on Percentage of Kentucky Retail Revenues to Total Company Revenues in the Expense Month (m). (For purposes of this formula, Total Company Revenues include only Retail and Full-Requirements Wholesale revenues.)

KY Retail R(m) = Kentucky Retail Revenues for the Expense Month (m).

2. The net costs of any power purchased shall exclude costs recovered through the Fuel Adjustment Clause and shall be computed as the sum of the following items:
  - a. PPA(m) = The cost of power purchased by the Company through new Purchase Power Agreements (PPAs). All new PPAs shall be approved by the Commission to the extent required by KRS 278.300.
  - b. RP(m) = The cost of fuel related substitute generation less the cost of fuel which would have been used in plants suffering forced generation or transmission outages.
  - c. PE(m) = *The cost of power purchased unrelated to forced generation or transmission outages that are calculated in accordance with the peaking unit equivalent methodology.*
  - d. CSIRP(m) = The cost of any credits provided to customers under Tariff C.S.-I.R.P. for interruptible service.

$$\text{Monthly P(m)} = \text{PPA(m)} + \text{RP(m)} + \text{PE(m)} + \text{CSIRP(m)}$$

3. The monthly purchase power adjustment shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustment, which shall include data, and information as may be required by the Commission.
4. Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.

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**TARIFF A.T.R.  
(Asset Transfer Rider)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D.2, S.G.S., ~~Experimental~~ S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., Q.P., C.I.P.-T.O.D., I.G.S., C.S.- I.R.P., M.W., O.L. and S.L.

**RATE.**

In accordance with the Stipulation and Settlement Agreement approved as modified by the Commission by its Order dated October 7, 2013 in Case No. 2012-00578, Kentucky Power Company is to recover from retail ratepayers \$44 million annually beginning January 1, 2014, and ending when the Commission sets new base rates for the Company that include Mitchell Units 1 and 2.

*Recovery under Tariff A.T.R. shall terminate on the effective date of new base rates for the Company that include Mitchell Units 1 and 2, except that the Company shall recover through the Residential Asset Transfer Adjustment and the All Other Classes Transfer Adjustment such amounts as required to ensure the Company recovers in the year new base rates for the Company are established that include Mitchell Units 1 and 2 a pro rata share (computed on a 365-day annual basis) of the \$44 million annual revenue requirement under Tariff A.T.R..*

- The allocation of the \$44 million revenue requirement between residential and all other customers shall be based upon their respective contribution to total retail revenues for the twelve month period ended September 30, 2013, according to the following formula:

$$\text{Residential Allocation RA(m)} = \frac{\$44,000,000}{12 \text{ months}} \times \frac{\text{KY Residential Retail Revenue RR(b)}}{\text{KY Retail Revenue R(b)}} = \$1,541,861$$

$$\text{All Other Allocation OA(m)} = \frac{\$44,000,000}{12 \text{ months}} \times \frac{\text{KY All Other Classes Retail Revenue OR(b)}}{\text{KY Retail Revenue R(b)}} = \$2,124,806$$

Where:

(m) = the expense month;

(b) = twelve month period ended September 30, 2013.

RR(b) = \$214,421,664

OR(b) = \$295,489,874

R(b) = \$509,911,538

- The Residential Asset Transfer Adjustment shall provide for monthly adjustments based on a percent of total revenues, calculated to six decimal places according to the following formula:

$$\text{Residential Asset Transfer Adjustment Factor} = \frac{\text{Net Monthly Residential Allocation NRA(m)}}{\text{Residential Retail Revenue RR(m)}}$$

Where:

Net Monthly Residential Allocation NRA(m)

= Monthly Residential Allocation RA(m), net of Over/(Under) Recovery Adjustment;

Residential Retail Revenue RR(m)

= Monthly Retail Revenue for all KY residential classes for the expense month (m).

- The All Other Classes Asset Transfer Adjustment shall provide for monthly adjustments based on a percent of non-fuel revenues, calculated to six decimal places according to the following formula:

$$\text{All Other Classes Asset Transfer Adjustment Factor} = \frac{\text{Net Monthly All Other Allocation NOA(m)}}{\text{All Other Classes Non-Fuel Retail Revenue ONR(m)}}$$

Where:

Net Monthly All Other Allocation NOA(m)

= Monthly All Other Allocation OA(m), net of Over/(Under) Recovery Adjustment;

All Other Classes Non-Fuel Retail Revenue ONR(m)

= Monthly Non-Fuel Retail Revenue for all classes other than residential for the expense month (m).

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**TARIFF A.T.R.  
(Asset Transfer Rider)**

**RATE. (Cont'd)**

5. The monthly asset transfer rider adjustments shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustments, which shall include data, and information as may be required by the Commission.
6. Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.

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**TARIFF E.D.R.**  
**(Economic Development Rider)**

**AVAILABILITY OF SERVICE.**

To encourage economic development in the Company's service territory, limited-term reductions in billing demand charges described herein are offered to qualifying new and existing retail customers who make application for service under this Rider.

Service under this Economic Development Rider (EDR) is intended for specific types of commercial and industrial customers whose operations, by their nature, will promote sustained economic development based on plant and facilities investment and job creation. Availability is limited to customers on a first-come, first-served basis until such time as a total of 250 MW of new load has been added to Kentucky Power's system under the EDR. The EDR is available to commercial and industrial customers served under Tariffs L.G.S., Q.P. or C.I.P.-T.O.D. who meet the following requirements:

- (1) A new customer must have at least a monthly maximum billing demand of 500 kW. An existing customer must increase its monthly maximum billing demand by at least 500 kW over the current Base Maximum Billing Demand in order to receive the Incremental Billing Demand Discount (IBDD).
- (2) A new customer, or the business expansion by an existing customer, will receive a Supplemental Billing Demand Discount (SBDD) for creating and sustaining at least 25 new permanent full time jobs over the contract term at the service location. The Company reserves the right to verify job counts. Failure to demonstrate the creation of new employment positions or to maintain the employment during the contract term will result in the termination of the supplemental discount.
- (3) The customer must demonstrate to the Company's satisfaction that, absent the availability of this EDR, the qualifying new or increased electrical demand would be located outside of the Company's service territory or would not be placed in service.

**TERMS AND CONDITIONS.**

- (1) The Company will offer the EDR to qualifying customers with new or increased load when the Company has sufficient generating capacity available. When sufficient generating capacity is not available, the Company will procure the additional capacity on the customer's behalf. The cost of capacity procured on behalf of the customer shall reduce on a dollar-for-dollar basis the customer's IBDD and SBDD. Such reduction shall be capped so that the customer's maximum demand charge shall be the non-discounted tariff demand charge. The reduction will be applied in reverse chronological order beginning with the most recent customer to receive discounted service under this tariff. Last customer to sign up for the EDR tariff would be the first customer responsible for paying the cost of incremental capacity purchases. In any year during the discount period in which the customer pays the full tariff demand charge for all twelve months, the Company will reduce the term of the contract by one year.
- (2) The new or increased load cannot accelerate the Company's plans for additional generating capacity during the period for which the customer receives a demand discount. Customers receiving Temporary Service are not eligible for this EDR.
- (3) To receive service under this EDR, the customer shall make written application to the Company with sufficient information contained therein to determine the customer's eligibility for service. At a minimum, such information will include:

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**TARIFF E.D.R. (Cont'd)**  
**(Economic Development Rider)**

**TERMS AND CONDITIONS-(Cont'd).**

- a. A description and good faith estimate of the new or increased load to be served during each year of the contract,
  - b. The number of new employees or jobs that will be added as a result of the new load,
  - c. A description of the anticipated capital investment, and
  - d. A description of all other federal, state or local economic development tax incentives, grants, or any other incentives / assistance associated with the new or expanded project.
  - e. A statement that without the EDR discount, the customer would locate elsewhere or chose not to expand within Kentucky Power's service territory.
- (3) For new and existing customers, billing demands for which reductions will be for service at a new service location or expanded production at an existing facility and not merely the result of a change of ownership. Relocation of the delivery point of the Company's service, moving existing equipment from another KPCo-served location or load transfers from another KPCo-served location do not qualify as a new service location. Relocating existing facilities from within the Company's service territory shall not disqualify the customer from the IBDD as long as the new relocated facility exceeds the Base Maximum Billing Demand of the previous facility by the minimum required amount.
- (4) For existing customers, billing demands for which deductions will be applicable under this EDR shall be the result of an increase in business activity and not merely the result of resumption of normal operations following a force majeure, strike, equipment failure, renovation or refurbishment, or other such abnormal operating condition. In the event that such an occurrence has taken place prior to the date of the application by the customer for service under this EDR, the monthly Base Maximum Billing Demand shall be adjusted as appropriate for this analysis to eliminate the effects of such occurrence.
- (5) Service under the EDR will be offered under the applicable Tariff L.G.S., Q.P. or C.I.P.-T.O.D schedule. An EDR will be filed as a Special Contract and must be approved by the Kentucky Public Service Commission before it can be implemented. The total contract period is equal to twice the number of years for which the customer receives a demand discount. The special contract term will be for two (2), four (4), six (6), eight (8), and (ten) 10 years only.
- (6) The IBDD and the SBDD, if applicable, begin when the customer's new or expanded operations are billed for service under this Rider. Temporary jobs created during the construction of new facilities or the expansion phase of existing operations are not eligible to be counted as permanent jobs for the purposes of this EDR.
- (7) If construction of new or expanded local distribution and/or transmission related facilities by the Company is required in order to provide the additional service, the customer may be required to make a contribution-in-aid of construction (CIAC) for the installed cost of such facilities pursuant to the provisions of the Company's Terms and Conditions of Service. The total cost of the CIAC, including gross-up by the effect of applicable taxes, will be recovered over the life of the EDR contract period, with no less than 80% recovered during the period for which the customer receives a demand discount. If the customer breaches the terms of the contract or ends the contract prematurely, any unpaid contribution-in-aid of construction must be paid to the Company and any EDR discounts provided to the customer must be repaid to the Company. CIAC payment provided under this Rider supersedes the other payment provisions only in the Company's Terms and Conditions Sheet 2-5 Section 9.

(Cont'd on Sheet 37-3)

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**TARIFF E.D.R. (Cont'd)**  
**(Economic Development Rider)**

**TERMS AND CONDITIONS (Cont'd).**

(8) The L.G.S., Q.P. and CIP-TOD tariffs each contain a monthly minimum billing demand charge provision. The minimum demand charge provision is waived for EDR customers for up to 36 months depending upon the length of the contract. The provision is waived for the first 36 months of a 10 year contract, the first 24 months of an 8 year contract and the first 12 months of a 6 year contract. If during the special contract discount period, the customer's monthly demand falls below the minimum billing demand level for four (4) consecutive months or six (6) months total in a contract year, then the EDR discount will not be applied and the appropriate tariff minimum billing demand charge provision will be in force until the customer achieves the minimum billing demand level. Applicable EDR discounts will be applied to the qualifying incremental maximum billing demand only and will appear as a separate line item on the customer's bill.

**DETERMINATION OF MONTHLY QUALIFYING INCREMENTAL BILLING DEMAND.**

For the purposes of this Rider, the monthly qualifying incremental billing demand will be calculated in the following manner:

Where the new qualifying incremental demand resides in new facilities (or separate facilities for existing customers), those facilities may be metered on a separate meter according to Tariffs L.G.S., Q.P. or C.I.P.-T.O.D. for the current billing period and the incremental billing demand will be calculated based upon that facility's meter readings.

Where the new qualifying incremental demand resides in a customer's existing facility with sufficient service and metering capability to accommodate the business expansion, the qualifying incremental billing demand is equal to demand in excess of the Base Maximum Billing Demand. The Base Maximum Billing Demand for each billing month will be calculated by the Company as the average of the previous three years, corresponding month maximum billing demands, subject to Terms and Conditions Items (3) and (4), and will be agreed to by the customer in advance.

**DETERMINATION OF INCREMENTAL BILLING DEMAND DISCOUNT.**

Customers meeting all Availability of Service and Terms and Conditions above may contract for service for a period of up to ten (10) years, with a commensurate discount period of up to five (5) years. The (IBDD) for a ten (10) year contract follows:

- (a) For the twelve consecutive monthly billings of the first contract year, the qualifying incremental billing demand charge shall be reduced by 50% from the applicable tariff L.G.S., Q.P. or C.I.P.-T.O.D. demand charge;
- (b) For the twelve consecutive monthly billings of the second contract year, the qualifying incremental billing demand charge shall be reduced by 40% from the applicable tariff L.G.S., Q.P. or C.I.P.-T.O.D. demand charge;
- (c) For the twelve consecutive monthly billings of the third contract year, the qualifying incremental billing demand charge shall be reduced by 30% from the applicable tariff L.G.S., Q.P. or C.I.P.-T.O.D. demand charge;

(Cont'd on Sheet 37-4)

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ISSUED BY: JOHN A. ROGNESS III



TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXXX

**TARIFF E.D.R. (Cont'd)**  
**(Economic Development Rider)**

**DETERMINATION OF INCREMENTAL BILLING DEMAND DISCOUNT (Cont'd).**

- (d) For the twelve consecutive monthly billings of the fourth contract year, the qualifying incremental billing demand charge shall be reduced by 20% from the applicable tariff L.G.S., Q.P. or C.I.P.-T.O.D. charge, but shall not be less than the applicable tariff rate schedule minimum billing demand;
- (e) For the twelve consecutive monthly billings of the fifth contract year, the qualifying incremental billing demand charge shall be reduced by 10% from the applicable tariff L.G.S., Q.P. or C.I.P.-T.O.D. demand charge, but shall not be less than the applicable tariff rate schedule minimum billing demand; and
- (f) All subsequent monthly billings shall be at the full charges stated in the applicable tariff rate schedule for contract years six (6) through ten (10).

The starting point for the IBDD is dependent upon the length of contract: i.e., an eight (8) year contract will have four (4) years of discount beginning with the IBDD of 40% in year one (1). Similarly, a six (6) year contract will have three (3) years of discount beginning with the IBDD of 30% in year one (1).

**DETERMINATION OF SUPPLEMENTAL BILLING DEMAND DISCOUNT.**

At the Company's discretion, a (SBDD) which is applicable to the monthly incremental billing demand charge is available to customers meeting all Availability of Service and Terms and Conditions above, and that create at least twenty five (25) new permanent job opportunities in the facility and that maintain those job opportunities in each discount year. The amount of additional discount is determined by the actual number of jobs maintained in each year. The SBDD for a ten (10) year contract follows:

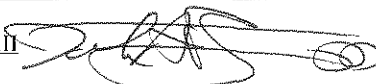
- (a) For the twelve consecutive monthly billings of the first contract year, the qualifying incremental billing demand charge shall be reduced an additional 5% for an increase of at least 50 jobs or 2.5% for an increase of at least 25 jobs;
- (b) For the twelve consecutive monthly billings of the second contract year, the qualifying incremental billing demand charge shall be reduced 4.5% for at least 50 jobs or 2.0% for at least 25 jobs.
- (c) For the twelve consecutive monthly billings of the third contract year, the qualifying incremental billing demand charge shall be reduced an additional 4% for an increase of at least 50 jobs or 1.5% for an increase of at least 25 jobs;
- (d) For the twelve consecutive monthly billings of the fourth contract year, the qualifying incremental billing demand charge shall be reduced an additional 3.5% for an increase of at least 50 jobs or 1.0% for an increase of at least 25 jobs;

(Cont'd on Sheet 37-5)

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**TARIFF E.D.R. (Cont'd)**  
**(Economic Development Rider)**

**DETERMINATION OF SUPPLEMENTAL BILLING DEMAND DISCOUNT (Cont'd).**

- (e) For the twelve consecutive monthly billings of the fifth contract year, the qualifying incremental billing demand charge shall be reduced an additional 3% for an increase of at least 50 jobs or 0.5% for an increase of at least 25 jobs; and
- (f) All subsequent monthly billing shall be at the full charges stated in the applicable tariff rate schedule for contract years six (6) through ten (10)

The length of the SBDD shall be identical to the length of the IBDD. The starting point for the discount will be commensurate with the contract length, i.e., an eight (8) year contract will have four (4) years of discount with the SBDD of either 4.5% or 2.0% as appropriate in year one (1).

The appropriate discount(s) shall be applicable over a period of up to 60 consecutive billing months beginning with the first such month following the end of the start-up period. The start-up period shall commence with the effective date of the contract addendum for service under this EDR and shall terminate by mutual agreement between the Company and the customer. In no event shall the start-up period exceed 12 months.

**TERMS OF CONTRACT.**

A contract or agreement addendum for service under this Rider, in addition to service under Tariffs L.G.S., Q.P. or C.I.P.-T.O.D., shall be executed by the customer and the Company for the time period which includes the start-up period and the multi-year period during which a Total Demand Charge discount is in effect and an equal multi-year period during which the customer agrees to pay the full rates in the applicable Tariff rate schedule.

At a minimum, the contract or agreement addendum shall specify the Base Maximum Billing Demand, the anticipated annual total qualifying demand, the Adjustment Factor and related provisions to be applicable under this Rider, and the effective date for the contract addendum.

The customer may discontinue service under this Rider before the end of the contract or agreement addendum only by reimbursing the Company for any and all demand reductions received under this Rider when billed at the applicable tariff schedule rate.

**SPECIAL TERMS AND CONDITIONS.**

Except as otherwise provided in this Rider, written agreements shall remain subject to all of the provisions of the applicable tariffs. This Rider is subject to the Company's Terms and Conditions of Service.

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**BIG SANDY RETIREMENT RIDER  
(B.S.R.R.)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D.2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S., C.S.-I.R.P., M.W., O.L. and S.L.

**RATE.**

1. Pursuant to the final order of the Kentucky Public Service Commission in Case No. 2012-00578 and the Stipulation and Settlement Agreement dated July 2, 2013 as filed and approved by the Commission, Kentucky Power Company is to recover from retail ratepayers the coal-related retirement costs of Big Sandy Unit 1, the retirement costs of Big Sandy Unit 2 and other site-related retirement costs that will not continue in use on a levelized basis, including a weighted average cost of capital (WACC) carrying cost over a 25 year period beginning when new base rates are set for the Company that include Mitchell Units 1 and 2. The term "Retirement Costs" as used in this agreement are defined as and shall include the net book value, materials and supplies that cannot be used economically at other plants owned by Kentucky Power, and removal costs and salvage credits, net of related ADIT. Related ADIT shall include the tax benefits from tax abandonment losses.
2. The allocation of the levelized revenue requirement (LRR) between residential and all other customers shall be based upon their respective contribution to total retail revenues for the most recent calendar twelve month period, according to the following formula:

$$\text{Residential Allocation } RA(m) = LRR(m) \times \frac{\text{KY Residential Retail Revenue } RR(b)}{\text{KY Retail Revenue } R(b)}$$

$$\text{All Other Allocation } OA(m) = LRR(m) \times \frac{\text{KY All Other Classes Retail Revenue } OR(b)}{\text{KY Retail Revenue } R(b)}$$

Where:

(m) = the expense month;

(b) = Most recent available twelve calendar-month period ended December 31.

3. The Residential Asset Transfer Adjustment shall provide for monthly adjustments based on a percent of total revenues, according to the following formula:

$$\text{Residential Asset Transfer Adjustment Factor} = \frac{\text{Net Monthly Residential Allocation } NRA(m)}{\text{Residential Retail Revenue } RR(m)}$$

Where:

$$\text{Net Monthly Residential Allocation } NRA(m) = \text{Monthly Residential Allocation } RA(m), \text{ net of Over/(Under) Recovery Adjustment;}$$

$$\text{Residential Retail Revenue } RR(m) = \text{Monthly Retail Revenue for all KY residential classes for the expense month } (m).$$

(Cont'd on Sheet No. 38-2)

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**BIG SANDY RETIREMENT RIDER (CONT'D)**  
**(B.S.R.R.)**

RATE. (Cont'd)

4. *The All Other Classes Asset Transfer Adjustment shall provide for monthly adjustments based on a percent of non-fuel revenues, according to the following formula:*

$$\text{All Other Classes Asset Transfer Adjustment Factor} = \frac{\text{Net Monthly All Other Allocation NOA}(m)}{\text{All Other Classes Non-Fuel Retail Revenue ONR}(m)}$$

Where:

$$\text{Net Monthly All Other Allocation NOA}(m) = \text{Monthly All Other Allocation OA}(m), \text{ net of Over/(Under) Recovery Adjustment;}$$

$$\text{All Other Classes Non-Fuel Retail Revenue ONR}(m) = \text{Monthly Non-Fuel Retail Revenue for all classes other than residential for the expense month } (m).$$

5. *The monthly Big Sandy Retirement Rider adjustments shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all the necessary supporting data to justify the amount of the adjustments, which shall include data, and information as may be required by the Commission.*
6. *Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS61.870 to 61.884.*

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**BIG SANDY UNIT 1 OPERATION RIDER  
(B.S.I.O.R.)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D. 2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S., C.S.-I.R.P., M.W., O.L., and S.L.

**RATES.**

| Tariff Class  | \$/kWh    | \$/kW  |
|---|-----------|--------|
| R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., and Experimental R.S.-T.O.D. 2 | \$0.00330 | --     |
| S.G.S. and S.G.S.-T.O.D.  | \$0.00272 | --     |
| M.G.S.  | \$0.00141 | \$0.34 |
| M.G.S. Recreational Lighting, M.G.S.-L.M.-T.O.D., and M.G.S.-T.O.D. | \$0.00283 | --     |
| L.G.S. and L.G.S.-T.O.D.  | \$0.00139 | \$0.45 |
| L.G.S.-L.M.-T.O.D.  | \$0.00276 | --     |
| I.G.S. and C.S.-I.R.P.  | \$0.00139 | \$0.55 |
| M.W.  | \$0.00248 | --     |
| O.L.  | \$0.00147 | --     |
| S.L.  | \$0.00147 | --     |

Tariff BSIOR includes all non-fuel operating expenses related to Big Sandy Unit 1 not otherwise included in Tariff S.S.C. or Tariff FAC. Tariff BSIOR shall also include a return on and of Big Sandy Unit 1 gas conversion capital when placed in service.

The kWh factor as calculated above will be applied to all billing kilowatt-hours for those tariff classes listed above. The kW factor as calculated above will be applied to all on-peak and minimum billing demand kW for the MGS, LGS and IGS tariff classes.

The Big Sandy Unit 1 Operation Rider factors shall be modified annually to collect the approved annual level of Kentucky retail jurisdictional Big Sandy Unit 1 revenue requirement and any prior review period (over)/under recovery.

The Big Sandy Unit 1 Operation Rider factors shall be determined as follows:

For all tariff classes without demand billing:

$$kWh \text{ Factor} = \frac{BS1E \times (BE_{Class} / BE_{Total}) + BS1D \times (CP_{Class} / CP_{Total})}{BE_{Class}}$$

$$kW \text{ Factor} = 0$$

For all tariff classes with demand billing:

$$kWh \text{ Factor} = \frac{BS1E \times (BE_{Class} / BE_{Total})}{BE_{Class}}$$

$$kW \text{ Factor} = \frac{BS1D \times (CP_{Class} / CP_{Total})}{BD_{Class}}$$

(Cont'd on Sheet No. 39-2)

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In Case No. 2014-00396 Dated XXXXXXXXX

**BIG SANDY UNIT 1 OPERATION RIDER (CONT'D)**  
**(B.S.I.O.R)**

**RATES. (Cont'd)**

Where:

1. "BSID" is the actual annual retail Big Sandy Unit 1 demand-related costs, plus any prior review period (over)/under recovery.
2. "BSIE" is the actual annual retail Big Sandy Unit 1 energy-related costs, plus any prior review period (over)/under recovery.
3. "BE<sub>Class</sub>" is the historic annual retail jurisdictional billing kWh for each tariff class for the current year.
4. "BD<sub>Class</sub>" is the historic annual retail jurisdictional billing kW for each applicable tariff class for the current year.
5. "CP<sub>Class</sub>" is the coincident peak demand for each tariff class estimated as follows:

| Tariff Class  | BE <sub>Class</sub> | CP/kWh Ratio | CP <sub>Class</sub> |
|---|---------------------|--------------|---------------------|
| (1)   | (2)                 | (3)          | (4)=(2)x(3)         |
| R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., and Experimental R.S.-T.O.D.   |                     | 0.0236060%   |                     |
| S.G.S and S.G.S.-T.O.D.   |                     | 0.0163937%   |                     |
| M.G.S.  |                     | 0.0177002%   |                     |
| M.G.S. Recreational Lighting, M.G.S.-L.M.-T.O.D., and M.G.S.-T.O.D. |                     | 0.0177002%   |                     |
| L.G.S and L.G.S.-T.O.D.   |                     | 0.0169381%   |                     |
| L.G.S.-L.M.-T.O.D.  |                     | 0.0169381%   |                     |
| I.G.S. and C.S.-I.R.P   |                     | 0.0130626%   |                     |
| M.W.  |                     | 0.0134057%   |                     |
| O.L.  |                     | 0.0009431%   |                     |
| S.L.  |                     | 0.0009890%   |                     |
|   | BE <sub>Total</sub> |              | CP <sub>Total</sub> |

6. "BE<sub>Total</sub>" is the sum of the BE<sub>Class</sub> for all tariff classes.
7. "CP<sub>Total</sub>" is the sum of the CP<sub>Class</sub> for all tariff classes.

The factors as computed above are calculated to allow the recovery of Uncollectible Accounts Expense of 0.3% and the KPSC Maintenance Fee of 0.1952% and other similar revenue based taxes or assessments occasioned by the Big Sandy Unit 1 Operation Rider revenues.

The annual Big Sandy Unit 1 Operation Rider factors shall be filed with the Commission ten (10) days before it is scheduled to go into effect, along with all necessary supporting data to justify the amount of the adjustments, which shall include data and information as may be required by the Commission.

Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX

**NERC COMPLIANCE AND CYBERSECURITY RIDER  
(N.C.C.R.)**

**APPLICABLE.**

To Tariffs R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., Experimental R.S.-T.O.D. 2, S.G.S., S.G.S.-T.O.D., M.G.S., M.G.S.-T.O.D., L.G.S., L.G.S.-T.O.D., I.G.S., C.S.-I.R.P., M.W., O.L., and S.L.

**RATES.**

| Tariff Class  | ¢/kWh  | \$/kW |
|---|--------|-------|
| R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., and Experimental R.S.-T.O.D. 2 | 0.0000 | --    |
| S.G.S. and S.G.S.-T.O.D.  | 0.0000 | --    |
| M.G.S.  | 0.0000 | 0.00  |
| M.G.S. Recreational Lighting, M.G.S.-L.M.-T.O.D., and M.G.S.-T.O.D. | 0.0000 | --    |
| L.G.S. and L.G.S.-T.O.D.  | 0.0000 | 0.00  |
| L.G.S.-L.-M.T.O.D.  | 0.0000 | 0.00  |
| I.G.S. and C.S.-I.R.P.  | 0.0000 | 0.00  |
| M.W.  | 0.0000 | --    |
| O.L.  | 0.0000 | --    |
| S.L.  | 0.0000 | --    |

The kWh adjustment factor as calculated above will be applied to all billing kilowatt-hours for those tariff classes listed above. The kW adjustment factor as calculated above will be applied to all on-peak and minimum billing demand kW for the MGS, LGS and IGS tariff classes.

The NERC Compliance and Cybersecurity Rider adjustment factors shall be modified annually to collect the Commission's approved annual level of Kentucky retail jurisdictional NERC Compliance and Cybersecurity expenses and any prior review period (over)/under recovery.

The NERC Compliance and Cybersecurity Rider adjustment factors shall be determined as follows:

For all tariff classes without demand billing:

$$\text{kWh Adjustment Factor} = \frac{NCE \times (BE_{Class} / BE_{Total}) + NCD \times (CP_{Class} / CP_{Total})}{BE_{Class}}$$

$$\text{kW Adjustment Factor} = 0$$

For all tariff classes with demand billing:

$$\text{kWh Adjustment Factor} = \frac{NCE \times (BE_{Class} / BE_{Total})}{BE_{Class}}$$

$$\text{kW Adjustment Factor} = \frac{NCD \times (CP_{Class} / CP_{Total})}{BD_{Class}}$$

(Cont'd on Sheet No. 40-2)

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**NERC COMPLIANCE AND CYBERSECURITY RIDER (CONT'D)**  
**(N.C.C.R.)**

**RATES: (Cont'd)**

Where:

1. "NCD" is the actual annual retail NERC Compliance and Cybersecurity demand-related costs, plus any prior review period (over)/under recovery.
2. "NCE" is the actual annual retail NERC Compliance and Cybersecurity energy-related costs, plus any prior review period (over)/under recovery.
3. "BE<sub>Class</sub>" is the historic annual retail jurisdictional billing kWh for each tariff class for the current year.
4. "BD<sub>Class</sub>" is the historic annual retail jurisdictional billing kW for each applicable tariff class for the current year.
5. "CP<sub>Class</sub>" is the coincident peak demand for each tariff class estimated as follows:

| Tariff Class<br>(1)   | BE <sub>Class</sub><br>(2) | CP/kWh Ratio<br>(3) | CP <sub>Class</sub><br>(4)=(2)x(3) |
|---|----------------------------|---------------------|------------------------------------|
| R.S., R.S.-L.M.-T.O.D., R.S.-T.O.D., and Experimental R.S.-T.O.D. 2 |                            | 0.0236060%          |                                    |
| S.G.S. and S.G.S.-T.O.D.  |                            | 0.0163937%          |                                    |
| M.G.S.  |                            | 0.0177002%          |                                    |
| M.G.S. Recreational Lighting, M.G.S.-L.M.-T.O.D., and M.G.S.-T.O.D. |                            | 0.0177002%          |                                    |
| L.G.S. and L.G.S.-T.O.D.  |                            | 0.0169381%          |                                    |
| L.G.S.-L.M.-T.O.D.  |                            | 0.0169381%          |                                    |
| I.G.S. and C.S.-I.R.P.  |                            | 0.0130626%          |                                    |
| M.W.  |                            | 0.0134057%          |                                    |
| O.L.  |                            | 0.0009431%          |                                    |
| S.L.  |                            | 0.0009890%          |                                    |
|   | BE <sub>Total</sub>        |                     | CP <sub>Total</sub>                |

6. "BE<sub>Total</sub>" is the sum of the BE<sub>Class</sub> for all tariff classes.
7. "CP<sub>Total</sub>" is the sum of the CP<sub>Class</sub> for all tariff classes.

The adjustment factor as computed above shall be further modified to allow the recovery of Uncollectible Accounts Expense of 0.3% and the KPSC Maintenance Fee of 0.1952% and other similar revenue based taxes or assessments occasioned by the NERC Compliance and Cybersecurity Rider adjustment revenues.

(Cont'd on Sheet No. 40-3)

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*NERC COMPLIANCE AND CYBERSECURITY RIDER (CONT'D)  
(N.C.C.R.)*

**RATES. (Cont'd)**

*The initial NERC Compliance and Cybersecurity Rider adjustment factors shall be filed with the Commission six (6) months before the initial rates are scheduled to go into effect and ten (10) days before any subsequent annual rate adjustments are scheduled to go into effect, along with all necessary supporting data to justify the amount of the adjustments, which shall include data and information as may be required by the Commission.*

*Copies of all documents required to be filed with the Commission shall be open and made available for public inspection at the office of the Public Service Commission pursuant to the provisions of KRS 61.870 to 61.884.*

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TITLE: Director Regulatory Services

By Authority Of Order By The Public Service Commission

In Case No. 2014-00396 Dated XXXXXXXX



**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For     )**  
**A General Adjustment Of Its Rates For Electric    )**  
**Service; (2) An Order Approving Its 2014         )**  
**Environmental Compliance Plan; (3) An Order     )** **Case No. 2014-00396**  
**Approving Its Tariffs And Riders; And (4) An    )**  
**Order Granting All Other Required Approvals    )**  
**And Relief    )**

**DIRECT TESTIMONY OF**  
**STEGALL, STOGRAN, VAUGHAN, WOHNHAS, AND YODER**  
**ON BEHALF OF KENTUCKY POWER COMPANY**

**SECTION III**

**VOLUME 4 OF 4**

**December 23, 2014**

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For     )**  
**A General Adjustment Of Its Rates For Electric    )**  
**Service; (2) An Order Approving Its 2014         )**  
**Environmental Compliance Plan; (3) An Order     ) Case No. 2014-00396**  
**Approving Its Tariffs And Riders; And (4) An     )**  
**Order Granting All Other Required Approvals    )**  
**And Relief   )**

**DIRECT TESTIMONY OF**  
**JASON M. STEGALL**  
**ON BEHALF OF KENTUCKY POWER COMPANY**



**DIRECT TESTIMONY OF  
JASON M. STEGALL, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
JASON M. STEGALL, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

2 A. My name is Jason M. Stegall. My business address is 1 Riverside Plaza,  
3 Columbus, Ohio. I currently hold the position of Regulatory Consultant in the  
4 Regulated Pricing and Analysis department for the American Electric Power  
5 Service Corporation (“AEPSC”), a subsidiary of American Electric Power  
6 Company, Inc. (“AEP”). AEP is the parent company of Kentucky Power  
7 Company (“Kentucky Power” or “Company”) and AEPSC is Kentucky Power’s  
8 services provider company.

**II. BACKGROUND**

9 **Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EMPLOYMENT**  
10 **HISTORY.**

11 A. In May 1997, I earned my Bachelor of Science Degree in Accounting from  
12 Virginia Polytechnic Institute and State University. In August 2011, I earned my  
13 Master’s Degree in Business Administration from the Ohio State University.

14 In June 1997, I joined AEPSC as an Accountant in the Regulated  
15 Accounting Division of the Accounting Department. In July 2009, I joined the  
16 Regulatory Services Department as a Regulatory Consultant. From July 2009  
17 through June 2010, I performed duties as a Regulatory Consultant in Customer  
18 and Distribution Services Support, where I was responsible for assisting customer

1 services and distribution services witnesses in regulatory proceedings by  
 2 supporting testimony preparation, providing research in support of the discovery  
 3 process, and compiling data for regulatory filings. In July 2010, I joined  
 4 Regulated Pricing & Analysis, where my responsibilities include preparation of  
 5 cost-of-service studies, rate design and tariff provisions for the AEP operating  
 6 companies.

7 **Q. HAVE YOU PREVIOUSLY TESTIFIED IN ANY REGULATORY**  
 8 **PROCEEDINGS?**

9 A. Yes. I submitted testimony before the Kentucky Public Service Commission in  
 10 Case No. 2013-00197. In addition, I have submitted testimony before the Indiana  
 11 Utility Regulatory Commission and the Michigan Public Service Commission  
 12 regarding cost-of-service and rate design.

**III. PURPOSE OF DIRECT TESTIMONY**

13 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS**  
 14 **PROCEEDING?**

15 A. The purpose of my testimony is to support three test year revenue adjustments, to  
 16 address the allocation of the requested rate increase to Kentucky Power's  
 17 customer classes, and to support and describe the development of the Company's  
 18 Class Cost-of-Service Study.

19 **Q. WHAT EXHIBITS ARE YOU SPONSORING IN THIS PROCEEDING?**

20 A. I am sponsoring the following exhibits:

- |    |               |                                   |
|----|---------------|-----------------------------------|
| 21 | Exhibit JMS-1 | Customer Annualization Adjustment |
| 22 | Exhibit JMS-2 | Class Cost-of-Service Study       |
| 23 | Exhibit JMS-3 | Revenue Allocation                |

**IV. REVENUE ADJUSTMENTS**

1 **Q. ARE YOU RESPONSIBLE FOR THE DEVELOPMENT OF THE**  
2 **CUSTOMER MIGRATION ADJUSTMENT?**

3 A. Yes.

4 **Q. PLEASE DESCRIBE THE ADJUSTMENT.**

5 A. The purpose of the customer migration adjustment is to determine the test year  
6 revenue that Kentucky Power would have received if each customer were billed  
7 for the entire twelve months of the test year on the tariff under which the  
8 customer was taking service at the end of the test year. For example, a customer  
9 may have been billed under the MGS (Medium General Service) tariff for the first  
10 seven months of the test year and then billed under the LGS (Large General  
11 Service) tariff for the remaining five months of the test year. During the test year,  
12 over 650 customers changed tariffs.

13 The Customer Migration Adjustment starts with the “per books revenue”  
14 as shown in Section III of this filing. “Per books revenues” means the revenues  
15 from customers as they were actually billed for each month of the test year. For  
16 purposes of the Customer Migration Adjustment, these customers would be re-  
17 billed for the entire test year under the tariff under which they received service at  
18 the end of the test year to determine the impact on test year revenues. This  
19 restatement of per books revenue was made for each customer who switched  
20 tariffs during the test year.

21 **Q. WHAT IMPACT DOES THE CUSTOMER MIGRATION ADJUSTMENT**  
22 **HAVE ON TEST YEAR REVENUES?**

1 A. The Customer Migration Adjustment results in an increase of test year revenues  
2 of \$149,766 as shown in Section V, Schedule 5, Exhibit 2, W4.

3 **Q. ARE YOU RESPONSIBLE FOR THE DEVELOPMENT OF THE**  
4 **WEATHER NORMALIZATION ADJUSTMENT?**

5 A. Yes.

6 **Q. PLEASE DESCRIBE THE ADJUSTMENT.**

7 A. The purpose of the Weather Normalization Adjustment is to restate test year  
8 revenues and expenses to reflect a 30-year average load compared to the abnormal  
9 weather experienced during the test year. During the test year, the Company's  
10 service territory experienced its fifth coldest winter in the last 30 years, which  
11 included the January 6-8, 2014, Polar Vortex that caused PJM to reach a new  
12 wintertime peak. This is partially offset by the fifth coolest summer over the past  
13 30 years.

14 Using data provided by the Company's Economic Forecasting Group, the  
15 adjustment was calculated to reduce residential energy usage to the level of the  
16 30-year average in order to eliminate the effect of the aberrant weather discussed  
17 in the paragraph above. The adjustment was limited to the residential customer  
18 class because these customers have the highest correlation of energy usage to  
19 weather. The result of this adjustment was to reduce total usage by approximately  
20 63.5 million kilowatt-hours and reduce revenues by \$5,929,131.

21 In addition to the \$5,929,131 decrease in test year revenues, test year  
22 operating expenses must also be decreased to reflect the incremental costs  
23 Kentucky Power would avoid.



1           The operating ratio is simply the ratio of operation and maintenance  
2           expense, less labor expense, to operating revenues. For Kentucky Power, the  
3           operating ratio is 59.86%. Incremental operating expenses are then calculated by  
4           multiplying the reduction in operating revenue (\$5,929,131) by the operating ratio  
5           (59.86%) to yield (\$3,548,711). Incremental state and federal income taxes are  
6           also deducted to yield a net Weather Normalization Adjustment of (\$1,458,540)  
7           as shown in Section V, Schedule 5, Exhibit 2, W2.

8   **Q.   ARE YOU RESPONSIBLE FOR THE DEVELOPMENT OF THE**  
9   **CUSTOMER ANNUALIZATION ADJUSTMENT?**

10  A.   Yes.

11  **Q.   PLEASE EXPLAIN THE PURPOSE OF THE ADJUSTMENT.**

12  A.   The purpose of the Customer Annualization Adjustment is to restate test year  
13       revenues and expenses to reflect, on an annual basis, changes in load that  
14       occurred during the test year. For example, if the number of residential customers  
15       increased during the test year, per books residential kWh sales would have to be  
16       increased to reflect the impact of annualizing load growth that occurred within the  
17       test year. In addition to the revenue adjustment, test year operating expenses  
18       would also have to be increased to reflect the incremental costs associated with  
19       annualizing test year load growth.

20  **Q.   PLEASE DESCRIBE THE ADJUSTMENT.**

21  A.   The development of the Customer Annualization Adjustment is shown in Exhibit  
22       JMS-1 with additional detail shown in Section III of this filing. To ensure that the  
23       Customer Annualization Adjustment reflects only actual customer growth, the

1 impact of customer migrations has been eliminated by starting with the data  
2 adjusted for the Customer Migration Adjustment.

3 Page 1 of Exhibit JMS-1 shows specific changes in large customer loads  
4 as identified by Kentucky Power. Column (1) contains Kentucky Power's current  
5 tariffs listed by delivery voltage level. Column (2) contains the total number of  
6 customers for the test year, while Column (3) contains the number of customers as  
7 of September 30 2014. Columns (4) and (5) show metered kWh and revenues,  
8 respectively. Columns (6) through (9) show the specific adjustments for known  
9 changes in large customer usage and the previously mentioned Weather  
10 Normalization Adjustment. The known customer changes produce an increase in  
11 revenue of \$2,320,420, which produces a reduction in revenue of \$3,608,711  
12 when netted against the Weather Normalization Adjustment. Columns (10)  
13 through (13) are the sum of the data shown in Columns (2) through (5) and the  
14 adjustments shown in columns (6) through (9). This information is the starting  
15 point for the second part of the Customer Annualization Adjustment that is shown  
16 on page 2 of Exhibit JMS-1.

17 Column (1) of page 2 of Exhibit JMS-1 contains Kentucky Power's  
18 current tariffs listed by delivery voltage level. Column (2) contains the total  
19 number of customers for the test year, while Column (3) contains the average  
20 number of customers for the test year [Column (2) divided by 12]. Column (4)  
21 contains the number of customers as of September 30, 2014. Customer growth  
22 [Column (5)] is calculated as Column (4) less Column (3).

1 Customer growth [Column (5)] is then multiplied by test year average  
2 kWh per customer [Column (7)] to yield the kWh annualization adjustment  
3 [Column (8)]. The kWh annualization adjustment is in turn multiplied by the test  
4 year average revenue per kWh [Column (10)] to yield a revenue annualization  
5 adjustment of (\$2,719,824) as shown in Column (11).

6 In addition to the \$399,403 decrease ( $\$2,320,420 + (\$2,719,824)$ ) in test  
7 year revenues resulting from the first two steps of the Customer Annualization  
8 Adjustment, test year operating expenses must also be decreased to reflect the  
9 incremental cost Kentucky Power would avoid.

10 The operating ratio is simply the ratio of operation and maintenance  
11 expense, less labor expense, to operating revenues. For Kentucky Power, the  
12 operating ratio is 59.86%. Incremental operating expenses are then calculated by  
13 multiplying the reduction in operating revenue (\$399,403) by the operating ratio  
14 (59.86%) to yield (\$239,052). Incremental state and federal income taxes are also  
15 deducted to yield a net Customer Annualization Adjustment of (\$98,251) as  
16 shown in Section V, Exhibit 2, W5.

## V. CLASS COST-OF-SERVICE STUDY

17 **Q. PLEASE DESCRIBE THE GENERAL PURPOSE OF A COST-OF-**  
18 **SERVICE STUDY.**

19 A. A cost-of-service study is a basic analytical tool used in traditional utility rate  
20 design. A cost-of-service study is used to determine the revenue requirement for  
21 the services offered by the utility, and it analyzes, at a very detailed level, the  
22 costs that different classes of customers impose on the utility system. A

1 completed class cost-of-service study shows the total costs the Company incurs in  
2 serving each retail rate class as well as the rate of return on rate base earned from  
3 each class during the test year. When the process of preparing a cost-of-service  
4 study is completed and all of the costs are allocated to the customer classes, the  
5 result establishes cost responsibility and makes it possible to determine rates  
6 based on costs that are just and reasonable.

7 **Q. WHAT DATA SOURCE IS USED IN THE DEVELOPMENT OF A COST-**  
8 **OF-SERVICE STUDY?**

9 A. The historic accounting records of Kentucky Power are used in the cost-of-service  
10 studies. These accounting records are reflected in the jurisdictional cost-of-  
11 service study, as shown in Section V of this filing, and in the class cost-of-service  
12 study. The Company follows the Uniform System of Accounts (USOA) as  
13 prescribed by FERC and adopted by this Commission. The USOA sets the  
14 guidelines for recording assets, liabilities, income and expenses into various  
15 accounts. The costs recorded in each FERC account are examined to verify  
16 compliance with these guidelines and are typically adjusted to reflect the  
17 applicable regulatory commission's policies and for known and measurable  
18 changes to the test year level of expenditures.

19 **Q. AFTER THE COSTS RECORDED IN FERC ACCOUNTS ARE**  
20 **EXAMINED AND ADJUSTED, WHERE APPROPRIATE, HOW ARE**  
21 **THESE COSTS ASSIGNED TO EACH CUSTOMER CLASS?**

22 A. This accounting cost information is assigned to the different customer classes in a  
23 way that reflects the costs of providing utility service to the various customer

1 classes. This is accomplished using a standard three-step process:  
2 functionalization of costs, classification of costs, and, finally, allocation of costs.

3 **Q. PLEASE EXPLAIN THE FUNCTIONALIZATION PROCESS.**

4 A. Functionalization is the process of separating costs according to electric system  
5 functions. Typically, functions in an electric utility include the following:

- 6 1) Production and Purchased Power costs,
- 7 2) Transmission costs,
- 8 3) Distribution costs,
- 9 4) Customer Service costs, and
- 10 5) Administrative and General (“A&G”) costs.

11 The production function includes the costs associated with power  
12 generation and power purchases and their delivery to the bulk transmission  
13 system. The transmission function consists of costs associated with the high  
14 voltage system utilized for the bulk transmission of power to and from  
15 interconnected utilities to the load centers of the utility's system. The distribution  
16 function includes the radial distribution system that connects the transmission  
17 system and the ultimate customer. The customer service function encompasses  
18 the costs associated with providing meter reading, billing and collection, and  
19 customer information and services. The A&G function is comprised of costs that  
20 may not be directly assignable to other cost functions. These costs include such  
21 items as management costs and administrative buildings. A&G costs are  
22 generally allocated to the remaining functions based on labor.

23 **Q. PLEASE EXPLAIN THE CLASSIFICATION PROCESS.**

1 A. The second step is to separate the functionalized costs into classifications of  
2 demand costs, energy costs, and customer costs.

3 Typical cost classifications used in cost studies include the following:

| 4 | <u>Function</u>  | <u>Classification</u> |
|---|------------------|-----------------------|
| 5 | Production       | Demand, Energy        |
| 6 | Transmission     | Demand                |
| 7 | Distribution     | Demand, Customer      |
| 8 | Customer Service | Customer              |

9 Demand costs are associated with the kW demand imposed by the  
10 customer. These are fixed costs which are incurred regardless of the level of  
11 energy sales. An example of a demand-related cost is the investment in  
12 production, transmission or distribution facilities, such as a generating unit  
13 including transmission and distribution poles and lines.

14 Energy costs vary with the number of kilowatt hours used by the  
15 customer. Production costs such as incremental fuel and certain production  
16 operation and maintenance expenses are energy-related since they vary with the  
17 level of sales of electricity.

18 Customer costs are directly related to the number of customers served.  
19 These are fixed costs which are incurred regardless of the level of energy sales.  
20 Meter and customer service costs are examples of costs whose levels are fixed by  
21 the number of customers.

22 The classification process provides a basis on which to allocate different  
23 categories of costs (demand, energy or customer) to the Company's classes.

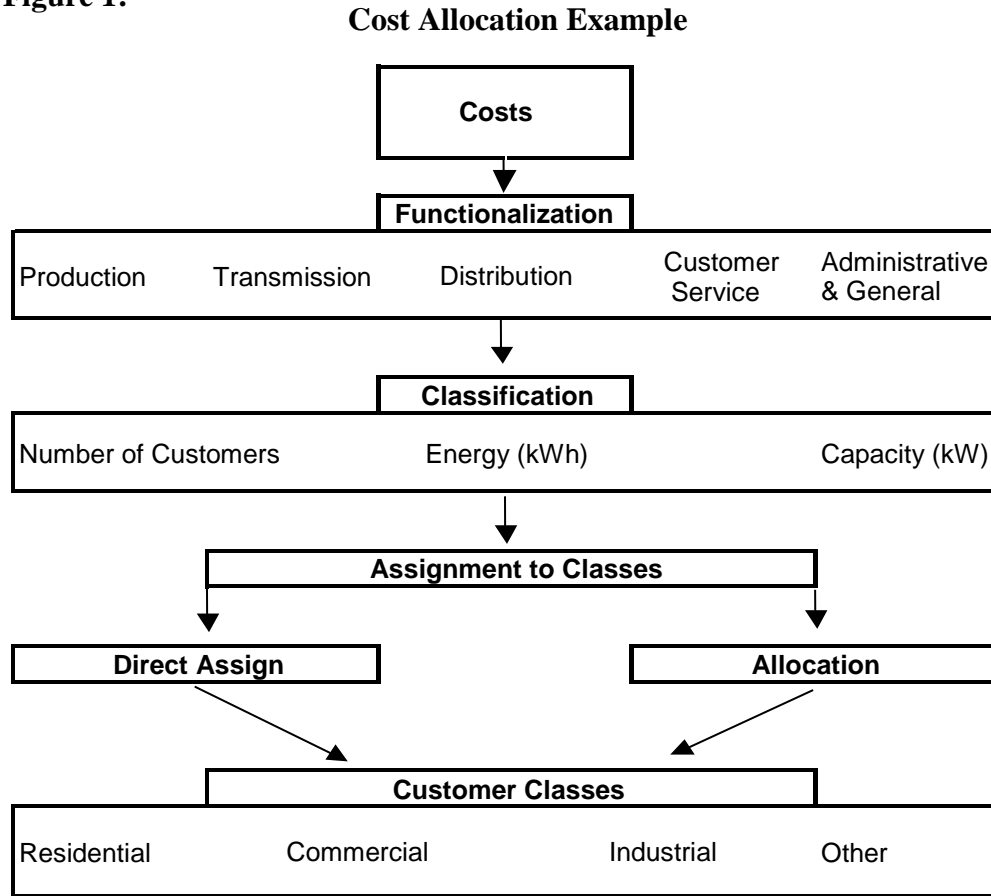
1 **Q. PLEASE EXPLAIN THE ALLOCATION PROCESS.**

2 A. The third and final step is to allocate the functional and classified costs among the  
3 classes of customers based on how the costs are incurred for each class.  
4 Allocation factors are used to assign these costs to the various customer classes.  
5 Customer classes are determined and grouped according to the nature of service  
6 provided, voltage level and the load usage characteristics. The three principal  
7 customer classes are residential, commercial, and industrial.

8 The allocation process involves multiplying the functional and classified  
9 costs by the allocation factors, which results in costs assigned to each class. The  
10 objective in this process is to determine a reasonable, appropriate, and  
11 understandable method to assign the costs. Some costs are directly assignable to a  
12 single class, or even a single customer. For instance, the costs associated with the  
13 poles and luminaries used for street lighting are directly assigned to the street  
14 lighting class. Most costs, however, are attributable to more than one type of  
15 customer. These are joint costs and must be allocated to customers by an  
16 allocation methodology that is based on the manner in which the costs are caused  
17 by the different customers.

18 The following flowchart (Figure 1) provides an overview of how the  
19 allocation of costs to customer classes is determined.

**Figure 1:**



1            In the illustration above, costs are functionalized into production,  
 2            transmission, distribution, etc. Some of these costs can be directly assigned to a  
 3            customer class. The remaining joint costs are incurred based on the number of  
 4            customers, the energy used, or by the capacity demanded. In many instances, the  
 5            classification process will lead to an allocation methodology. For example, the  
 6            cost of billing customers varies with the number of customers as well as the  
 7            complexity of preparing the customer’s bill, so those costs associated with billing  
 8            are allocated to the customer classes based on a weighted number of customers.  
 9            An allocation factor using a weighted number of customers is developed by



1 multiplying the number of customers in each class by a factor representing the  
2 difference in cost associated with providing that service to different types of  
3 customers. Similarly, the cost of fuel varies by the number of kilowatt hours  
4 consumed and, therefore, is allocated based on the proportion of total energy used  
5 by a customer class.

6 The next step is the classification of the functionalized costs as demand-,  
7 energy- or customer-related. The final step in the cost assignment process is to  
8 allocate the functionalized and classified costs to the customer classes through the  
9 use of allocation factors.

10 When this process is completed and all of the costs are allocated to the  
11 customer classes, the result is a fully allocated cost study that establishes cost  
12 responsibility and makes it possible to determine rates based on costs that are just  
13 and reasonable.

14 **Q. WHAT CRITERIA ARE USED WHEN SELECTING ALLOCATION**  
15 **FACTORS FOR EACH FUNCTIONAL AND CLASSIFIED COST?**

16 A. Generally, the following criteria should be used to determine the appropriateness  
17 of an allocation methodology:

- 18 1) The method should reflect the planning and operating  
19 characteristics of the utility's system.
- 20 2) The method should recognize customer class characteristics such  
21 as energy usage, peak demand on the system, diversity  
22 characteristics, number of customers, etc.
- 23 3) The method should produce stable results on a year-to-year basis.

1                   4)       Customers who benefit from the use of the system should also bear  
2                                   appropriate cost responsibility for the system.

3 **Q.     DOES THE ALLOCATION METHOD EMPLOYED BY THE COMPANY**  
4 **MEET THESE OBJECTIVES?**

5 A.     Yes, it does.   The allocation methodology utilized in the Company's cost-of-  
6       service study was chosen while considering each of the criteria listed above.   The  
7       results of the cost-of-service study can be relied upon to determine the appropriate  
8       revenue requirement for the Kentucky Power customer classes.

#### **VI.    ALLOCATION BASIS**

9 **Q.     PLEASE EXPLAIN THE ALLOCATION OF PRODUCTION PLANT.**

10 A.    After electric plant-in-service is functionalized into production, transmission,  
11       distribution and general plant, production plant is classified as demand-related  
12       and is allocated using the production demand allocation factor.   The production  
13       demand allocation factor assigns costs based on the class contribution to the  
14       average of Kentucky Power's 12 monthly peaks on the production facilities for  
15       the test period ended September 30, 2014.

16 **Q.     PLEASE EXPLAIN HOW GENERATOR STEP-UP TRANSFORMERS**  
17 **WERE ALLOCATED.**

18 A.    Generator step-up transformers are included in transmission plant, but were  
19       allocated using the production demand allocation factor since they are more  
20       related to the production function.

21 **Q.     PLEASE EXPLAIN THE ALLOCATION OF TRANSMISSION PLANT.**

1 A. Transmission plant, excluding generator step-up transformers, is classified as  
2 demand related and is allocated using the transmission demand allocation factor.  
3 The transmission demand allocation factor assigns costs based on the class  
4 contribution to the average of Kentucky Power's 12 monthly peaks on the  
5 transmission facilities.

6 **Q. PLEASE EXPLAIN THE ALLOCATION OF DISTRIBUTION PLANT.**

7 A. Distribution plant is classified as demand / customer related and allocated to the  
8 customer classes using factors based on demand levels or number of customers.  
9 Distribution plant accounts 360 through 368, as shown on Exhibit JMS-2, were  
10 classified solely as demand-related. Accounts 360, 361 and 362 were allocated to  
11 the distribution customer classes based on their contributions to the average of  
12 Kentucky Power's 12 monthly peak demands on the primary distribution system.

13 Accounts 364 through 368 were split into primary and secondary voltage  
14 functions based upon information contained in the company's records and the  
15 expertise of the company's distribution engineers. The primary portions of  
16 accounts 364 through 368 were allocated using the average of 12 monthly peak  
17 demands on the distribution system. The secondary component of accounts 364  
18 through 368 were allocated based on a combination of each class's 12-month  
19 maximum demand and the summation of individual customers' annual maximum  
20 demands in each class served from those facilities. This process reflects the fact  
21 that some secondary facilities serve only one customer, while others serve two or  
22 more customers.

1 Services, account 369, was classified as customer-related and was  
2 allocated using the average number of secondary customers served.

3 Meter plant was allocated using the average number of customers  
4 weighted by a factor which considers the cost differential of various metering  
5 installations. Account 371 was directly assigned to the outdoor lighting class and  
6 account 373 was directly assigned to the street lighting class.

7 **Q. PLEASE EXPLAIN HOW GENERAL AND INTANGIBLE PLANT WAS**  
8 **ALLOCATED.**

9 A. General and intangible plant and investment reflects a composite demand, energy  
10 and customer classification. General and intangible plant investment is allocated  
11 on the basis of payroll labor.

12 **Q. PLEASE DESCRIBE THE ALLOCATION OF ACCUMULATED**  
13 **PROVISION FOR DEPRECIATION AND AMORTIZATION.**

14 A. Accumulated Provision for Depreciation and Amortization was functionalized and  
15 classified in a fashion similar to Electric Plant-in-Service. Production,  
16 transmission, distribution and general and intangible related amounts were  
17 allocated based upon the allocation of the related Electric Plant-in-Service costs.

18 **Q. PLEASE DESCRIBE THE ALLOCATION OF WORKING CAPITAL.**

19 A. Working Capital was divided into cash, material and supplies and prepayments.  
20 Cash working capital is related to O&M expense and was allocated based upon  
21 the allocation of total O&M expense.

22 Materials and supplies were split between fuel stock, production,  
23 emissions and transmission and distribution. Fuel stock and emissions materials

1           were allocated using the energy allocation factor. Production-related material and  
2           supplies were allocated using the production demand allocation factor and the  
3           transmission- and distribution-related materials and supplies were allocated using  
4           the allocation of transmission and distribution electric plant-in-service.

5                     Prepayments were allocated using factors developed from gross plant  
6           relationships.

7   **Q.   PLEASE DESCRIBE THE ALLOCATION OF OTHER RATE BASE**  
8   **COMPONENTS.**

9   A.   Plant Held for Future Use is limited to a distribution component that was  
10   allocated using distribution electric plant-in-service. Construction Work-in-  
11   Progress was functionalized and allocated using appropriate related Electric Plant-  
12   in-Service factors. Accumulated Deferred Federal Income Tax Credits were  
13   allocated on Electric Plant-in-Service. Customer Deposits were assigned based  
14   on an analysis of accounting records and customer advances were allocated based  
15   on transmission and distribution plant-in-service.

16   **Q.   HOW WERE REVENUES DEVELOPED FOR EACH CLASS?**

17   A.   Sales revenues were directly assigned to each class.

18                     Forfeited discounts were directly assigned based on an analysis of  
19   accounting records. Miscellaneous service revenue was allocated on distribution  
20   plant-in-service.

21                     Rent from electric property and other electric revenue was functionalized  
22   and allocated to classes based on related functional allocators.

1 **Q. PLEASE DESCRIBE THE ALLOCATION OF PRODUCTION**  
2 **OPERATION AND MAINTENANCE (“O&M”) EXPENSE.**

3 A. Production-related O&M was classified as either demand or energy related. The  
4 demand component was allocated using the production demand allocation factor  
5 and the energy component was allocated using the energy allocation factor.  
6 Demand-related system sales revenue was allocated based on the production demand  
7 allocation factor. Energy-related system sales revenue was allocated on the energy  
8 allocation factor.

9 **Q. PLEASE DESCRIBE THE ALLOCATION OF TRANSMISSION O&M.**

10 A. Transmission-related O&M was broken down into three pieces: PJM OATT  
11 Transmission Owner (“TO”) revenues, expenses incurred through PJM as a Load  
12 Serving Entity (“LSE”) and the traditional transmission cost-of-service expenses  
13 recorded in FERC accounts 560 – 574. Revenues earned through PJM as a TO  
14 and the traditional transmission cost-of-service expenses are classified as  
15 transmission and allocated using the transmission demand allocation factor.  
16 Expenses incurred through PJM as a LSE are classified as production expenses  
17 and allocated using the production demand allocation factor.

18 **Q. PLEASE DESCRIBE THE ALLOCATION OF DISTRIBUTION O&M**  
19 **AMONG THE VARIOUS CUSTOMER CLASSES.**

20 A. Distribution O&M expenses were functionalized and classified according to the  
21 associated distribution plant accounts and allocated accordingly. Accounts 581,  
22 Load Dispatching and 582, Station Expenses were allocated using the distribution  
23 demand allocation factor. Account 583 Overhead Line Expense was allocated

1 based upon the same allocation used for plant account 365 Overhead Lines.  
2 Account 584 Underground Line Expense was allocated based upon the same  
3 allocation used for plant accounts 366 Underground Conduit and 367  
4 Underground Lines. Account 585, Street Lighting Operation Expense, was  
5 classified as customer-related and directly assigned to the street lighting class.  
6 Meter Operation Expense, account 586, was classified customer-related and  
7 allocated in the same manner as meter plant. Account 587, Customer Installation  
8 Expense was classified as customer-related and allocated based on primary  
9 customers.

10 Accounts 588 and 589 were allocated on total distribution plant and  
11 classified accordingly. Account 580 was classified as demand- and customer-  
12 related and allocated using the allocated subtotal of accounts 581 through 589.

13 Accounts 591 and 592 were classified demand-related and allocated on the  
14 distribution demand allocation factor. Accounts 593, 594, and 595 were  
15 functionalized and classified according to the associated distribution plant  
16 accounts and allocated accordingly. Distribution maintenance account 596 was  
17 directly assigned to the street lighting class. Account 597 was classified  
18 customer-related and allocated in the same manner as meter plant. Account 598  
19 was classified customer-related and directly assigned to the outdoor lighting class.  
20 Account 590 was classified and allocated based on the sum of the allocated O&M  
21 expense accounts 591 through 598.

1 **Q. CAN YOU EXPLAIN HOW CUSTOMER ACCOUNTING (ACCOUNTS**  
2 **901-905), CUSTOMER SERVICES (ACCOUNTS 907-910) AND SALES**  
3 **EXPENSE (ACCOUNTS 911-916) WERE ALLOCATED?**

4 A. Account 902, Meter Reading Expense, was allocated to those classes with meter  
5 installations based upon an average number of customers weighted to reflect  
6 differences in meter reading requirements. Customer Records Expense, account  
7 903, was divided into two categories of cost; call center and other. Call center  
8 costs were first split into residential and other based on the number of calls  
9 received and then other call center expenses were allocated based on the number  
10 of customers. The other category of expenses was allocated based on the number  
11 of customers. Account 904, Uncollectibles, was allocated based on the number of  
12 customers. Accounts 901 and 905 were allocated based on the sum of the  
13 allocated accounts 902, 903 and 904.

14 Accounts 907 through 916, Customer Service Expenses and Sales  
15 Expenses, were allocated based on the number of customers.

16 **Q. PLEASE DESCRIBE THE ALLOCATION OF ADMINISTRATIVE AND**  
17 **GENERAL (“A&G”) EXPENSE.**

18 A. A&G expense, excluding regulatory expense, was functionalized and classified  
19 using O&M labor expense. The functionalized/classified cost was then allocated  
20 using the appropriate functional classification allocator. A&G regulatory expense  
21 was allocated to the customer classes based on sales revenue.

22 **Q. PLEASE DESCRIBE THE ALLOCATION OF DEPRECIATION AND**  
23 **AMORTIZATION EXPENSE.**



1 A. The functionalized components of depreciation and amortization expense were  
2 allocated using the corresponding plant items.

3 **Q. PLEASE DESCRIBE HOW OTHER EXPENSES WERE ALLOCATED.**

4 A. Other Expense items were allocated using the appropriate plant or demand  
5 allocator. The Gain on Disposition of Utility Plant was allocated based on  
6 distribution plant. Accretion was allocated on production demand. The Interest  
7 Income and Interest Expense items were allocated based on gross utility plant.  
8 Interest on Customer Deposits was allocated using the customer deposit allocator  
9 that was also used for the customer deposit rate base offset.

10 **Q. HOW WERE TAXES ASSIGNED TO THE CUSTOMER CLASSES?**

11 A. Individual tax items other than income taxes were allocated and classified using  
12 the appropriate revenue, labor or plant allocator.

13 Interest expense was allocated on rate base and individual Schedule M  
14 items were allocated using the appropriate allocators. State and current Federal  
15 income taxes were computed by class. Feedback of prior Investment Tax Credit  
16 Normalized was allocated based on gross utility plant and individual Deferred  
17 Federal Income Tax items were allocated using the appropriate allocation factors.

18 **Q. PLEASE DESCRIBE THE ALLOCATION OF THE ALLOWANCE FOR  
19 FUNDS USED DURING CONSTRUCTION (“AFUDC”) OFFSET.**

20 A. The AFUDC offset was split between the individual functionalized components.  
21 The production component was allocated using the production demand allocator.  
22 The transmission and distribution components were allocated using the

1 corresponding plant allocators. The general plant component was allocated using  
 2 the labor allocation factor.

3 **Q. PLEASE DESCRIBE THE ALLOCATION OF THE VARIOUS**  
 4 **JURISDICTONAL ADJUSTMENTS.**

5 A. The jurisdictional adjustments are identified in the various sections of the cost-of-  
 6 service study to which they apply. Each adjustment was allocated using a method  
 7 consistent with both the nature of the adjustment and the underlying line item  
 8 being adjusted. For example, an adjustment to employee-related expenses would  
 9 be allocated using the labor allocation factor but an adjustment for Big Sandy  
 10 Plant O&M expenses would be allocated using the production demand allocation  
 11 factor.

**VII. REVENUE ALLOCATION**

12 **Q. WHAT IS THE RESULTING EARNED RATE OF RETURN FOR EACH**  
 13 **CLASS SHOWN IN THE CLASS COST-OF-SERVICE STUDY?**

14 A. The resulting earned rates of return are as follows:

| CLASS   | ROR     |
|---|---------|
| Residential                                   | 4.55 %  |
| Small General Service                         | 14.68 % |
| Medium General Service                        | 15.60 % |
| Large General Service                         | 11.88 % |
| Quantity Power                                | 10.84 % |
| Commercial and Industrial Power - Time of Day | 9.10 %  |
| Municipal Waterworks                          | 14.41 % |
| Outdoor Lighting                              | 11.39 % |
| Street Lighting                               | 17.03 % |

| CLASS                             | ROR    |
|-----------------------------------|--------|
| Total Kentucky Power Jurisdiction | 7.89 % |

1 **Q. HOW ARE THESE RATES OF RETURN USED IN THIS PROCEEDING?**

2 A. The earned rates of return for each class form the basis for the allocation of the  
3 revenue increase required for each class.

4 **Q. PLEASE EXPLAIN THE PRINCIPLES OR GUIDELINES THAT YOU**  
5 **FOLLOWED IN ALLOCATING THE PROPOSED REVENUE INCREASE**  
6 **AMONG THE TARIFF CLASSES.**

7 A. One key objective of ratemaking is to design rates such that they reflect as nearly  
8 as possible the actual costs of serving the customer. To fully meet this objective  
9 would require that the rates of return for all tariff classes be equalized. However,  
10 as discussed by Company Witness Wohnhas, the Company opted not to equalize  
11 returns across tariff classes.

12 **Q. PLEASE DESCRIBE EXHIBIT JMS-3.**

13 A. Exhibit JMS-3 is the calculation of the allocation of the proposed revenue  
14 increase to each class of customers. Page 1 is a summary of the calculation of the  
15 required sales revenue per class, net of the Transmission OATT adjustment. Page  
16 2 of the exhibit calculates the current subsidies received by each class. Page 3, in  
17 Columns 2 through 11, shows the calculation of the required sales revenue for  
18 each class before adjusting to include each class' current subsidy.

19 **Q. PLEASE DESCRIBE THE TRANSMISSION OATT ADJUSTMENT**  
20 **IDENTIFIED ON PAGE 1 OF JMS-3.**

1 A. The \$312,820 calculated in the Class Cost-of-Service Study and identified in  
2 Column 10 on page 1 of JMS-3, reflects the embedded cost of transmission net of  
3 the OATT revenues the Company receives from PJM as a transmission owner.  
4 These costs are removed from the required sales revenue because they will be  
5 recovered through the PJM OATT charges in base rates, as discussed by  
6 Company Witness Vaughan.

7 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

8 A. Yes, it does.

KENTUCKY POWER COMPANY  
 DEVELOPMENT OF ANNUALIZATION ADJUSTMENT  
 TEST YEAR ENDED SEPTEMBER 30, 2014

| Tariff<br>(1)     | Year End                                  |   |   |   | Weather & Specific Customer Adjustments |   |                       |                | After Specific Customer Adjustment                             |  |  |  |
|-------------------|---|---|---|---|---|---|-----------------------|----------------|--|--|--|--|
|                   | Adjusted<br>Number of<br>Customers<br>(2) | Mar 2013<br>Number of<br>Customers<br>(3) | Year End<br>Adjusted<br>Metered<br>KWH<br>(4) | Year End<br>Migration<br>Revenue<br>(5) | Number of<br>Customers<br>(6)           | Mar 2013<br>Number of<br>Customers<br>(7) | Metered<br>KWH<br>(8) | Revenue<br>(9) | Year End<br>Adjusted<br>Number of<br>Customers<br>(10)=(2)+(6) | Mar 2013<br>Number of<br>Customers<br>(11)=(3)+(7) | Year End<br>Adjusted<br>Metered<br>KWH<br>(12)=(4)+(8) | Year End<br>Migration<br>Revenue<br>(13)=(5)+(9) |
| RS Total          | 1,669,972                                 | 138,125                                   | 2,336,196,169                                 | \$231,803,910                           | 0                                       | 0   | (63,344,127)          | (\$5,917,595)  | 1,669,972  | 138,125  | 2,272,852,042  | \$225,886,315                                    |
| RSLMTOD Total     | 2,085                                     | 172                                       | 4,412,208                                     | \$396,225                               | 0                                       | 0   | (143,457)             | (\$11,536)     | 2,085  | 172  | 4,268,751  | \$384,689  |
| RS TOD Total      | 36  | 3   | 46,491  | \$4,289                                 |   |   |                       |                | 36   | 3  | 46,491   | \$4,289  |
| OL                | 761,070                                   | 55,952                                    | 42,655,897                                    | \$7,956,803                             |   |   |                       |                | 761,070  | 55,952   | 42,655,897   | \$7,956,803                                      |
| SGS Metered Total | 270,382                                   | 22,622                                    | 137,657,496                                   | \$18,239,353                            |   |   |                       |                | 270,382  | 22,622   | 137,657,496  | \$18,239,353                                     |
| SGSLMTOD (225)    | 12  | 1   | 3,012   | \$528                                   |   |   |                       |                | 12   | 1  | 3,012  | \$528  |
| SGS NM Total      | 13,411                                    | 1,124                                     | 3,961,264                                     | \$629,848                               |   |   |                       |                | 13,411   | 1,124  | 3,961,264  | \$629,848  |
| SGS TOD (227)     | 923                                       | 76  | 369,750                                       | \$54,076                                |   |   |                       |                | 923  | 76   | 369,750  | \$54,076   |
| MGS RL (214)      | 908                                       | 77  | 1,536,074                                     | \$164,225                               |   |   |                       |                | 908  | 77   | 1,536,074  | \$164,225  |
| MGS Sec Total     | 83,732                                    | 7,004                                     | 494,884,637                                   | \$55,909,224                            | (7)                                     | 0   | 0                     | (\$160)        | 83,725   | 7,004  | 494,884,637  | \$55,909,064                                     |
| MGSLMTOD (223)    | 555                                       | 46  | 1,060,745                                     | \$107,154                               |   |   |                       |                | 555  | 46   | 1,060,745  | \$107,154  |
| MGSTOD (229)      | 905                                       | 76  | 3,836,888                                     | \$378,348                               |   |   |                       |                | 905  | 76   | 3,836,888  | \$378,348  |
| MGS Pri Total     | 1,055                                     | 84  | 9,728,413                                     | \$1,035,270                             | (7)                                     | 0   | 0                     | (\$237)        | 1,048  | 84   | 9,728,413  | \$1,035,034                                      |
| MGS Sub (236)     | 124                                       | 10  | 1,041,361                                     | \$122,264                               | 0                                       | 0   | 0                     | \$0            | 124  | 10   | 1,041,361  | \$122,264  |
| LGS Sec Total     | 8,961                                     | 747                                       | 552,274,983                                   | \$55,324,875                            | 12                                      | 1   | 6,360,000             | \$571,496      | 8,973  | 748  | 558,634,983  | \$55,896,371                                     |
| LGSLMTOD (251)    | 108                                       | 9   | 1,959,939                                     | \$193,121                               |   |   |                       |                | 108  | 9  | 1,959,939  | \$193,121  |
| LGS Pri           | 879                                       | 75  | 89,724,698                                    | \$8,186,301                             | 36                                      | 3   | 19,944,000            | \$1,599,865    | 915  | 78   | 109,668,698  | \$9,786,166                                      |
| LGS Sub (248)     | 261                                       | 20  | 36,676,149                                    | \$2,646,442                             | 0                                       | 0   | 0                     | \$0            | 261  | 20   | 36,676,149   | \$2,646,442                                      |
| LGS Tran (250)    | 12  | 1   | 672,426                                       | \$67,113                                | 0                                       |   | 0                     | \$0            | 12   | 1  | 672,426  | \$67,113   |
| QP Sec (356)      | 75  | 6   | 23,355,352                                    | \$1,972,823                             |   |   |                       |                | 75   | 6  | 23,355,352   | \$1,972,823                                      |
| QP Pri            | 480                                       | 40  | 331,170,851                                   | \$24,295,105                            | 0                                       | 0   | 0                     | \$0            | 480  | 40   | 331,170,851  | \$24,295,105                                     |
| QP Sub (359)      | 314                                       | 26  | 344,605,816                                   | \$22,834,308                            | 0                                       | 0   | 0                     | \$0            | 314  | 26   | 344,605,816  | \$22,834,308                                     |
| QP Tran (360)     | 55  | 5   | 60,749,991                                    | \$3,616,522                             | 0                                       | 0   | 0                     | \$0            | 55   | 5  | 60,749,991   | \$3,616,522                                      |
| CIP Sub (371)     | 107                                       | 9   | 1,744,959,841                                 | \$98,063,673                            | 0                                       | 0   | 2,760,000             | \$149,456      | 107  | 9  | 1,747,719,841  | \$98,213,129                                     |
| CIP Tran (372)    | 26  | 2   | 316,710,702                                   | \$17,507,511                            | 0                                       | 0   | 0                     | \$0            | 26   | 2  | 316,710,702  | \$17,507,511                                     |
| SL                | 144,903                                   | 11,958                                    | 8,537,689                                     | \$1,428,283                             |   |   |                       |                | 144,903  | 11,958   | 8,537,689  | \$1,428,283                                      |
| MW (540)          | 132                                       | 11  | 3,864,039                                     | \$354,484                               |   |   |                       |                | 132  | 11   | 3,864,039  | \$354,484  |
| Total             | 2,961,483                                 | 238,280                                   | 6,552,652,881                                 | \$553,292,078                           | 34                                      | 4   | (34,423,584)          | (\$3,608,711)  | 2,961,517  | 238,284  | 6,518,229,297  | \$549,683,368                                    |

KENTUCKY POWER COMPANY  
DEVELOPMENT OF ANNUALIZATION ADJUSTMENT  
TEST YEAR ENDED SEPTEMBER 30, 2014

| <u>Tariff</u><br>(1) | <u>Year End<br/>Adjusted<br/>Number of<br/>Customers *</u><br>(2) | <u>Mar 2013<br/>Annual<br/>Average<br/>Number of<br/>Customers</u><br>(3) | <u>Mar 2013<br/>Number of<br/>Customers *</u><br>(4) | <u>Customer<br/>Growth</u><br>(5)=(4)-(3) | <u>Year End<br/>Adjusted<br/>Metered<br/>KWH *</u><br>(6) | <u>TME Mar 2013<br/>Average KWH<br/>Per Customer</u><br>(7)=(6)/(3) | <u>KWH<br/>Annualization<br/>Adjustment</u><br>(8)=(5)x(7) | <u>Year End<br/>Migration<br/>Revenue *</u><br>(9) | <u>TME Mar 2013<br/>Average<br/>Revenue<br/>Per KWH</u><br>(10)=(9)/(6) | <u>Revenue<br/>Annualization<br/>Adjustment **</u><br>(11)=(8)x(10) |
|----------------------|---|---|--|---|---|---|--|--|---|---|
| RS Total             | 1,669,972   | 139,164.333   | 138,125  | (1,039.333)                               | 2,272,852,042   | 16,332  | (16,974,543)   | \$225,886,315                                      | \$0.09938   | (\$1,687,011)   |
| RSLMTOD Total        | 2,085   | 173.750   | 172  | (1.750)                                   | 4,268,751   | 24,568  | (42,995)   | \$384,689  | \$0.09012   | (\$3,878)   |
| RS TOD Total         | 36  | 3.000   | 3  | 0.000                                     | 46,491  | 15,497  | 0  | \$4,289  | \$0.09225   | \$0   |
| OL                   | 761,070   | 63,422.469  | 55,952   | (7,470.579)                               | 42,655,897  | 673   | (5,015,299)  | \$7,956,803  | \$0.18653   | (\$938,247)   |
| SGS Metered Total    | 270,382   | 22,531.833  | 22,622   | 90.167                                    | 137,657,496   | 6,109   | 550,870  | \$18,239,353                                       | \$0.13250   | \$72,984  |
| SGSLMTOD (225)       | 12  | 1.000   | 1  | 0.000                                     | 3,012   | 3,012   | 0  | \$528  | \$0.17537   | \$0   |
| SGS NM Total         | 13,411  | 1,117.583   | 1,124  | 6.417                                     | 3,961,264   | 3,544   | 22,744   | \$629,848  | \$0.15900   | \$3,613   |
| SGS TOD (227)        | 923   | 76.917  | 76   | (0.917)                                   | 369,750   | 4,807   | (4,407)  | \$54,076   | \$0.14625   | (\$644)   |
| MGS RL (214)         | 908   | 75.667  | 77   | 1.333                                     | 1,536,074   | 20,301  | 27,067   | \$164,225  | \$0.10691   | \$2,899   |
| MGS Sec Total        | 83,725  | 6,977.083   | 7,004  | 26.917                                    | 494,884,637   | 70,930  | 1,909,200  | \$55,909,064                                       | \$0.11297   | \$215,372   |
| MGSLMTOD (223)       | 555   | 46.250  | 46   | (0.250)                                   | 1,060,745   | 22,935  | (5,734)  | \$107,154  | \$0.10102   | (\$579)   |
| MGSTOD (229)         | 905   | 75.417  | 76   | 0.583                                     | 3,836,888   | 50,876  | 29,678   | \$378,348  | \$0.09861   | \$2,926   |
| MGS Pri Total        | 1,048   | 87.333  | 84   | (3.333)                                   | 9,728,413   | 111,394   | (371,313)  | \$1,035,034  | \$0.10639   | (\$39,507)  |
| MGS Sub (236)        | 124   | 10.333  | 10   | (0.333)                                   | 1,041,361   | 100,777   | (33,592)   | \$122,264  | \$0.11741   | (\$4,014)   |
| LGS Sec Total        | 8,973   | 747.750   | 748  | 0.250                                     | 558,634,983   | 747,088   | 186,772  | \$55,896,371                                       | \$0.10006   | \$28,052  |
| LGSLMTOD (251)       | 108   | 9.000   | 9  | 0.000                                     | 1,959,939   | 217,771   | 0  | \$193,121  | \$0.09853   | \$8   |
| LGS Pri              | 915   | 76.250  | 78   | 1.750                                     | 109,668,698   | 1,438,278   | 2,516,987  | \$9,786,166  | \$0.08923   | \$211,456   |
| LGS Sub (248)        | 261   | 21.750  | 20   | (1.750)                                   | 36,676,149  | 1,686,260   | (2,950,955)  | \$2,646,442  | \$0.07216   | (\$212,804)   |
| LGS Tran (250)       | 12  | 1.000   | 1  | 0.000                                     | 672,426   | 672,426   | 0  | \$67,113   | \$0.09981   | (\$0)   |
| QP Sec (356)         | 75  | 6.250   | 6  | (0.250)                                   | 23,355,352  | 3,736,856   | (934,214)  | \$1,972,823  | \$0.08447   | (\$78,947)  |
| QP Pri               | 480   | 40.000  | 40   | 0.000                                     | 331,170,851   | 8,279,271   | 0  | \$24,295,105                                       | \$0.07336   | (\$35)  |
| QP Sub (359)         | 314   | 26.167  | 26   | (0.167)                                   | 344,605,816   | 13,169,649  | (2,194,942)  | \$22,834,308                                       | \$0.06626   | (\$145,516)   |
| QP Tran (360)        | 55  | 4.583   | 5  | 0.417                                     | 60,749,991  | 13,254,543  | 5,522,726  | \$3,616,522  | \$0.05953   | \$328,666   |
| CIP Sub (371)        | 107   | 8.917   | 9  | 0.083                                     | 1,747,719,841   | 196,005,963   | 16,333,830   | \$98,213,129                                       | \$0.05620   | \$924,647   |
| CIP Tran (372)       | 26  | 2.167   | 2  | (0.167)                                   | 316,710,702   | 146,174,170   | (24,362,362)   | \$17,507,511                                       | \$0.05528   | (\$1,346,730)   |
| SL                   | 144,903   | 12,075.258  | 11,958   | (117.753)                                 | 8,537,689   | 707   | (347,607)  | \$1,428,283  | \$0.16729   | (\$52,535)  |
| MW (540)             | 132   | 11.000  | 11   | 0.000                                     | 3,864,039   | 351,276   | 0  | \$354,484  | \$0.09174   | \$2   |
| <b>Total</b>         | <b>2,961,517</b>  | <b>246,793.061</b>  | <b>238,284</b>                                       | <b>(8,508.666)</b>                        | <b>6,518,229,297</b>                                      | <b>26,412</b>   | <b>(26,138,089)</b>  | <b>\$549,683,368</b>                               |   | <b>(\$2,719,824)</b>  |

\* After Specific Customer Adjustment

\*\* Values may not calculate due to rounding and calculation by lamp instead of customer for lighting.

KENTUCKY POWER COMPANY  
 DEVELOPMENT OF OPERATING RATIO  
 TWELVE MONTHS ENDED SEPTEMBER 30, 2014

| <u>Line No.</u>           | <u>Description</u>                                     | <u>Amount</u>        |
|---------------------------|--|----------------------|
| <u>Operating Revenues</u> |  |                      |
| 1                         | Sales of Electricity                                   | \$ 567,450,376       |
| 2                         | ATR Over/Under Collection                              | (3,615,459)          |
| 3                         | Capacity Charge Revenues Rockport Unit Power Agreement | (5,719,970)          |
| 4                         | Customer Migration Adjustment                          | 79,107               |
| 5                         | System Sales Revenue Adjustment                        | (2,486,806)          |
| 6                         | Environmental Surcharge Adjustment                     | 2,812,947            |
| 7                         | Revenue Out of Period Adjustment                       | 70,659               |
| 8                         | Fuel Under (Over) Revenues                             | <u>(5,298,776)</u>   |
| 9                         | Total  | \$ 553,292,078       |
| <u>Operating Expenses</u> |  |                      |
| 10                        | Total Adjusted O&M                                     | \$348,652,947        |
| 11                        | Less: Customer Annualization O&M Effect                | <u>(\$3,787,763)</u> |
| 12                        | Subtotal   | \$352,440,710        |
| 13                        | Total O&M Labor  | \$31,455,751         |
| 14                        | Big Sandy O&M Adjustment - Labor                       | (\$9,228,205)        |
| 15                        | Incentive Compensation Plan Adjustment                 | (\$973,508)          |
| 16                        | Annualization of Employee Related Expenses             | <u>\$29,576</u>      |
| 17                        | Subtotal   | \$21,283,614         |
| 18                        | Adjusted O&M Less Labor Expense                        | \$331,157,096        |
| 19                        | <u>Operating Ratio</u>                                 | 59.85%               |

**KENTUCKY POWER COMPANY**  
**COST-OF-SERVICE STUDY**  
**TWELVE MONTHS ENDING**  
**SEPTEMBER 30, 2014**

| <u>Label</u>   | <u>Constant</u>      | <u>Allocation Factor</u> | <u>Function</u> | <u>Total Retail</u><br>1 | <u>RS</u><br>2       | <u>SGS</u><br>3   | <u>Total MGS</u>   | <u>Total LGS</u>   | <u>Total OP</u>    | <u>Total CIP-TOD</u> | <u>MW</u><br>17  | <u>OL</u><br>18   | <u>SL</u><br>19  |
|--|----------------------|--------------------------|-----------------|--------------------------|----------------------|-------------------|--------------------|--------------------|--------------------|----------------------|------------------|-------------------|------------------|
| <b>Rate Base</b>                                       |                      |                          |                 |                          |                      |                   |                    |                    |                    |                      |                  |                   |                  |
| <b>P-T-D Plant in Service</b>                          |                      |                          |                 |                          |                      |                   |                    |                    |                    |                      |                  |                   |                  |
| Production Plant                                       | 1,562,785,754        | PROD_DEMAND              | TOTAL           | 1,562,785,754            | 734,427,704          | 32,171,380        | 123,569,428        | 164,472,393        | 150,217,616        | 356,613,780          | 713,215          | 488,611           | 111,628          |
| Transmission   |                      |                          |                 |                          |                      |                   |                    |                    |                    |                      |                  |                   |                  |
| GSU  | 11,074,145           | PROD_DEMAND              | TOTAL           | 11,074,145               | 5,204,270            | 227,971           | 875,632            | 1,165,477          | 1,064,466          | 2,527,021            | 5,054            | 3,462             | 791              |
| All Other Transmission Plant                           | 504,481,253          | TRANS_TOTAL              | TOTAL           | 504,481,253              | 235,621,832          | 10,267,444        | 39,464,377         | 52,846,079         | 48,717,857         | 117,179,997          | 229,626          | 125,394           | 28,647           |
| Total  | 515,555,398          |                          | TOTAL           | 515,555,398              | 240,826,102          | 10,495,416        | 40,340,009         | 54,011,557         | 49,782,323         | 119,707,018          | 234,680          | 128,856           | 29,438           |
| Distribution   |                      |                          |                 |                          |                      |                   |                    |                    |                    |                      |                  |                   |                  |
| 360 Land and Land Rights                               | 7,494,757            | DIST_CPD                 | TOTAL           | 7,494,757                | 5,049,924            | 213,800           | 786,216            | 1,007,155          | 432,840            | -                    | 4,822            | -                 | -                |
| 361 Structures and Improvements                        | 4,327,099            | DIST_CPD                 | TOTAL           | 4,327,099                | 2,915,574            | 123,437           | 453,922            | 581,481            | 249,900            | -                    | 2,784            | -                 | -                |
| 362 Station Equipment                                  | 89,173,211           | DIST_CPD                 | TOTAL           | 89,173,211               | 60,084,396           | 2,543,806         | 9,354,460          | 11,983,208         | 5,149,964          | -                    | 57,376           | -                 | -                |
| 363 Storage Battery Equipment                          | -                    | DIST_POLES               | TOTAL           | -                        | -                    | -                 | -                  | -                  | -                  | -                    | -                | -                 | -                |
| 364 Poles  | 184,542,178          | DIST_POLES               | TOTAL           | 184,542,178              | 129,901,350          | 6,240,393         | 19,201,631         | 21,956,836         | 6,226,144          | -                    | 106,060          | 749,280           | 160,484          |
| 365 Overhead Lines                                     | 188,359,442          | DIST_OHLINES             | TOTAL           | 188,359,442              | 128,667,172          | 5,680,864         | 19,709,751         | 24,416,219         | 9,481,508          | -                    | 117,200          | 236,148           | 50,579           |
| 366 Underground Conduit                                | 6,761,885            | DIST_UGLINES             | TOTAL           | 6,761,885                | 4,682,628            | 215,110           | 705,757            | 843,977            | 289,643            | -                    | 4,062            | 17,055            | 3,653            |
| 367 Underground Lines                                  | 10,089,373           | DIST_UGLINES             | TOTAL           | 10,089,373               | 6,986,924            | 320,964           | 1,053,057          | 1,259,294          | 432,175            | -                    | 6,061            | 25,448            | 5,451            |
| 368 Transformers                                       | 122,321,623          | DIST_TRANSF              | TOTAL           | 122,321,623              | 88,722,285           | 4,596,248         | 12,653,491         | 13,214,693         | 2,038,901          | -                    | 64,327           | 849,688           | 181,990          |
| 369 Services   | 55,320,557           | DIST_SERV                | TOTAL           | 55,320,557               | 35,142,475           | 6,053,501         | 1,830,305          | 192,102            | 1,525              | -                    | 2,795            | 12,083,624        | 14,230           |
| 370 Meters   | 24,511,141           | DIST_METERS              | TOTAL           | 24,511,141               | 10,488,030           | 6,117,105         | 3,445,905          | 2,319,363          | 1,503,990          | 633,924              | 2,825            | -                 | -                |
| 371 Installations on Cust Premises                     | 19,972,766           | DIST_OL                  | TOTAL           | 19,972,766               | -                    | -                 | -                  | -                  | -                  | -                    | -                | 19,972,766        | -                |
| 373 Street Lighting                                    | 3,425,848            | DIST_SL                  | TOTAL           | 3,425,848                | -                    | -                 | -                  | -                  | -                  | -                    | -                | -                 | 3,425,848        |
| Total  | 716,299,880          |                          | TOTAL           | 716,299,880              | 472,640,758          | 32,105,228        | 69,194,496         | 77,774,329         | 25,806,588         | 633,924              | 368,313          | 33,934,010        | 3,842,234        |
| <b>Total P-T-D Plant in Service</b>                    | <b>2,794,641,032</b> |                          | <b>TOTAL</b>    | <b>2,794,641,032</b>     | <b>1,447,894,564</b> | <b>74,772,024</b> | <b>233,103,933</b> | <b>296,258,279</b> | <b>225,806,527</b> | <b>476,954,722</b>   | <b>1,316,208</b> | <b>34,551,477</b> | <b>3,983,301</b> |
| General & Intangible Plant                             | 55,768,593           | LABOR_M                  | TOTAL           | 55,768,593               | 32,016,116           | 1,985,365         | 4,724,084          | 5,719,550          | 3,731,275          | 6,772,104            | 26,444           | 653,356           | 140,300          |
| HR - J 765 Line - AFUDC                                | 691,966              | BULK_TRANS               | TOTAL           | 691,966                  | 325,188              | 14,245            | 54,714             | 72,825             | 66,513             | 157,900              | 316              | 216               | 49               |
| Asset Retirement Obligation (ARO)                      | (59,067,552)         | PROD_DEMAND              | TOTAL           | (59,067,552)             | (27,758,665)         | (1,215,960)       | (4,670,470)        | (6,216,451)        | (5,677,673)        | (13,478,689)         | (26,957)         | (18,468)          | (4,219)          |
| <b>Total Electric Plant in Service</b>                 | <b>2,792,034,039</b> |                          | <b>TOTAL</b>    | <b>2,792,034,039</b>     | <b>1,452,477,202</b> | <b>75,555,674</b> | <b>233,212,260</b> | <b>295,834,202</b> | <b>223,926,642</b> | <b>470,406,037</b>   | <b>1,316,011</b> | <b>35,186,581</b> | <b>4,119,431</b> |
| Move FGD from Base Rates to Environmental (Mitchell)   | (322,612,704)        | PROD_DEMAND              | TOTAL           | (322,612,704)            | (151,611,126)        | (6,641,279)       | (25,508,978)       | (33,952,756)       | (31,010,080)       | (73,617,344)         | (147,232)        | (100,866)         | (23,044)         |
| Removal of Coal Related Assets - Production            | (452,571,576)        | PROD_DEMAND              | TOTAL           | (452,571,576)            | (212,685,010)        | (9,316,601)       | (35,784,822)       | (47,630,029)       | (43,501,947)       | (103,272,800)        | (206,542)        | (141,498)         | (32,327)         |
| Removal of Coal Related Assets - GSU                   | (1,018,664)          | PROD_DEMAND              | TOTAL           | (1,018,664)              | (478,719)            | (20,970)          | (80,546)           | (107,207)          | (97,916)           | (232,450)            | (465)            | (318)             | (73)             |
| Total Adjustments to Electric Plant in Service         | (776,202,944)        |                          | TOTAL           | (776,202,944)            | (364,774,854)        | (15,978,850)      | (61,374,346)       | (81,689,992)       | (74,609,943)       | (177,122,594)        | (354,239)        | (242,683)         | (55,443)         |
| <b>Total Adjusted Electric Plant in Service</b>        | <b>2,015,831,095</b> |                          | <b>TOTAL</b>    | <b>2,015,831,095</b>     | <b>1,087,702,348</b> | <b>59,576,823</b> | <b>171,837,914</b> | <b>214,144,210</b> | <b>149,316,699</b> | <b>293,283,444</b>   | <b>961,772</b>   | <b>34,943,898</b> | <b>4,063,988</b> |
| <b>Depreciation Reserve</b>                            |                      |                          |                 |                          |                      |                   |                    |                    |                    |                      |                  |                   |                  |
| Generation   | (630,803,459)        | RB_GUP_EPIS_P            | TOTAL           | (630,803,459)            | (296,444,688)        | (12,985,668)      | (49,877,613)       | (66,387,702)       | (60,633,898)       | (143,943,727)        | (287,882)        | (197,223)         | (45,058)         |
| Transmission - GSU                                     | (5,698,478)          | RB_GUP_EPIS_P            | TOTAL           | (5,698,478)              | (2,677,987)          | (117,308)         | (450,579)          | (599,725)          | (547,747)          | (1,300,342)          | (2,601)          | (1,782)           | (407)            |
| Transmission - All Other                               | (160,716,770)        | RB_GUP_EPIS_T            | TOTAL           | (160,716,770)            | (75,073,975)         | (3,271,791)       | (12,575,401)       | (16,837,304)       | (15,518,903)       | (37,316,892)         | (73,158)         | (40,169)          | (9,177)          |
| Distribution   | (195,091,920)        | RB_GUP_EPIS_D            | TOTAL           | (195,091,920)            | (128,728,757)        | (8,744,202)       | (18,845,860)       | (21,182,669)       | (7,028,700)        | (172,656)            | (100,314)        | (9,242,290)       | (1,046,473)      |
| General  | (15,699,391)         | RB_GUP_EPIS_G            | TOTAL           | (15,699,391)             | (9,012,842)          | (558,899)         | (1,329,875)        | (1,610,108)        | (1,050,390)        | (1,906,412)          | (7,444)          | (183,926)         | (39,496)         |
| HR-J Post In-Service AFUDC                             | (982,717)            | BULK_TRANS               | TOTAL           | (982,717)                | (461,826)            | (20,230)          | (77,703)           | (103,424)          | (94,460)           | (224,247)            | (448)            | (307)             | (70)             |
| Total Depreciation Reserve                             | (1,008,992,735)      |                          | TOTAL           | (1,008,992,735)          | (512,400,075)        | (25,698,098)      | (83,157,030)       | (106,720,932)      | (84,874,098)       | (184,864,276)        | (471,848)        | (9,665,697)       | (1,140,681)      |
| Cost of Removal Adjustment                             | (69,695)             | PROD_DEMAND              | TOTAL           | (69,695)                 | (32,753)             | (1,435)           | (5,511)            | (7,335)            | (6,699)            | (15,904)             | (32)             | (22)              | (5)              |
| Move FGD from Base Rates to Environmental (Mitchell)   | 75,047,400           | PROD_DEMAND              | TOTAL           | 75,047,400               | 35,268,359           | 1,544,920         | 5,933,996          | 7,898,220          | 7,213,683          | 17,125,148           | 34,250           | 23,464            | 5,361            |
| Removal of Coal Related Assets - Production            | 247,884,800          | PROD_DEMAND              | TOTAL           | 247,884,800              | 116,492,913          | 5,102,936         | 19,600,245         | 26,088,161         | 23,827,107         | 56,565,102           | 113,128          | 77,502            | 17,706           |
| Removal of Coal Related Assets - GSU                   | 431,899              | PROD_DEMAND              | TOTAL           | 431,899                  | 202,970              | 8,891             | 34,150             | 45,454             | 98,556             | 197                  | 135              | 31                |                  |
| Removal of Big Sandy CWIP from Rate Base               | (3,720,953)          | PROD_DEMAND              | TOTAL           | (3,720,953)              | (1,748,654)          | (76,599)          | (294,216)          | (391,605)          | (357,664)          | (849,088)            | (1,698)          | (1,163)           | (266)            |
| Adj to Incl Test Year Mitchell Plant O&M and Rate Base | -                    | PROD_DEMAND              | TOTAL           | -                        | -                    | -                 | -                  | -                  | -                  | -                    | -                | -                 | -                |
| Removal of Big Sandy Depreciation                      | -                    | PROD_DEMAND              | TOTAL           | -                        | -                    | -                 | -                  | -                  | -                  | -                    | -                | -                 | -                |
| Remove RTO Amortization                                | -                    | TRANS_TOTAL              | TOTAL           | -                        | -                    | -                 | -                  | -                  | -                  | -                    | -                | -                 | -                |
| Remove Mitchell ARO from Rate Base                     | -                    | PROD_DEMAND              | TOTAL           | -                        | -                    | -                 | -                  | -                  | -                  | -                    | -                | -                 | -                |
| Total Depreciation Adjustments                         | 319,573,451          |                          | TOTAL           | 319,573,451              | 150,182,835          | 6,578,713         | 25,268,664         | 33,632,896         | 30,717,942         | 72,923,813           | 145,845          | 99,916            | 22,827           |
| Total Adjusted Depreciation Reserve                    | (689,419,284)        |                          | TOTAL           | (689,419,284)            | (362,217,240)        | (19,119,386)      | (57,888,366)       | (73,088,036)       | (54,156,156)       | (111,940,463)        | (326,003)        | (9,565,781)       | (1,117,854)      |
| <b>Net Electric Plant in Service</b>                   | <b>1,326,411,811</b> |                          | <b>TOTAL</b>    | <b>1,326,411,811</b>     | <b>725,485,108</b>   | <b>40,457,438</b> | <b>113,949,548</b> | <b>141,056,173</b> | <b>95,160,543</b>  | <b>181,342,980</b>   | <b>635,769</b>   | <b>25,378,117</b> | <b>2,946,133</b> |
| Plant Held for Future Use - Transmission               | -                    | RB_GUP_EPIS_T            | TOTAL           | -                        | -                    | -                 | -                  | -                  | -                  | -                    | -                | -                 | -                |
| Plant Held for Future Use - Distribution               | 626,976              | RB_GUP_EPIS_D            | TOTAL           | 626,976                  | 413,702              | 28,102            | 60,566             | 68,076             | 22,588             | 555                  | 322              | 29,702            | 3,363            |



**KENTUCKY POWER COMPANY  
COST-OF-SERVICE STUDY  
TWELVE MONTHS ENDING  
SEPTEMBER 30, 2014**

Case No.: 2014-00396  
Exhibit No.: JMS-2  
Page 2 of 30  
Witness: J. Stegall

| <u>Label</u>   | <u>Constant</u>   | <u>Allocation Factor</u> | <u>Function</u> | <u>Total Retail</u><br>1 | <u>RS</u><br>2    | <u>SGS</u><br>3  | <u>Total MGS</u> | <u>Total LGS</u>  | <u>Total OP</u>  | <u>Total CIP-TOD</u> | <u>MW</u><br>17 | <u>OL</u><br>18 | <u>SL</u><br>19 |
|--|-------------------|--------------------------|-----------------|--------------------------|-------------------|------------------|------------------|-------------------|------------------|----------------------|-----------------|-----------------|-----------------|
| Total Plant Held for Future Use                            | 626,976           |                          | TOTAL           | 626,976                  | 413,702           | 28,102           | 60,566           | 68,076            | 22,588           | 555                  | 322             | 29,702          | 3,363           |
| <b>Working Capital</b>                                     |                   |                          |                 |                          |                   |                  |                  |                   |                  |                      |                 |                 |                 |
| Working Capital - Cash                                     |                   |                          |                 |                          |                   |                  |                  |                   |                  |                      |                 |                 |                 |
| Working Capital Cash - Excl Sys Sales                      | 41,470,569        | EXP_OM                   | TOTAL           | 41,470,569               | 18,865,396        | 1,105,428        | 3,412,729        | 4,445,158         | 3,915,459        | 9,367,895            | 22,198          | 272,131         | 64,174          |
| System Sales Add Back - Demand                             | -                 | PROD_DEMAND              | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| System Sales Add Back - Energy                             | -                 | PROD_ENERGY              | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| Total Working Capital - Cash                               | 41,470,569        |                          | TOTAL           | 41,470,569               | 18,865,396        | 1,105,428        | 3,412,729        | 4,445,158         | 3,915,459        | 9,367,895            | 22,198          | 272,131         | 64,174          |
| Cash Working Capital Adjustments                           |                   |                          |                 |                          |                   |                  |                  |                   |                  |                      |                 |                 |                 |
| Weather Normalization Adjustment                           | (443,589)         | WEATHER_FXNL             | TOTAL           | (443,589)                | (443,589)         | -                | -                | -                 | -                | -                    | -               | -               | -               |
| Customer Annualization Adjustment                          | (29,882)          | REVYEC_EXP_OM            | TOTAL           | (29,882)                 | (126,507)         | 5,682            | 13,220           | 164,453           | 7,794            | (20,397)             | 0               | (70,197)        | (3,931)         |
| Removal of AEP Pool Cost                                   | (1,310,105)       | PROD_DEMAND              | TOTAL           | (1,310,105)              | (615,681)         | (26,970)         | (103,590)        | (137,879)         | (125,930)        | (298,954)            | (598)           | (410)           | (94)            |
| System Sales Margins                                       | 7,590,356         | PROD_ENERGY              | TOTAL           | 7,590,356                | 2,697,169         | 170,181          | 612,690          | 837,911           | 873,774          | 2,339,276            | 4,614           | 44,958          | 9,782           |
| Interest on Customer Deposits                              | (303)             | CUST_DEP_FXNL            | TOTAL           | (303)                    | (221)             | (13)             | (34)             | (18)              | (15)             | -                    | -               | (1)             | -               |
| Normalization of Major Storms                              | (80,970)          | TDOMX                    | TOTAL           | (80,970)                 | (49,360)          | (2,664)          | (7,705)          | (9,337)           | (4,782)          | (5,969)              | (43)            | (779)           | (331)           |
| Amortization of Storm Cost Deferral                        | (279,684)         | EXP_OM_DIST              | TOTAL           | (279,684)                | (188,907)         | (10,823)         | (28,764)         | (33,599)          | (11,651)         | (200)                | (159)           | (3,912)         | (1,668)         |
| Rate Case Expense  | 32,255            | EXP_OM_AG_REG            | TOTAL           | 32,255                   | 13,537            | 1,103            | 3,365            | 3,872             | 3,073            | 6,737                | 21              | 464             | 83              |
| Postage Rate Increase                                      | 1,527             | CUST_TOTAL               | TOTAL           | 1,527                    | 969               | 167              | 51               | 6                 | 1                | 0                    | 0               | 333             | 0               |
| Eliminate Advertising Expense                              | (3,826)           | EXP_OM_CUSTSERV          | TOTAL           | (3,826)                  | (2,427)           | (418)            | (128)            | (15)              | (1)              | (0)                  | (0)             | (835)           | (1)             |
| Annualization of Lease Costs                               | 9,122             | TDOMX                    | TOTAL           | 9,122                    | 5,561             | 300              | 868              | 1,052             | 539              | 672                  | 5               | 88              | 37              |
| Reliability Adjustment                                     | 1,331,988         | TOTOHLINES               | TOTAL           | 1,331,988                | 923,595           | 42,582           | 138,990          | 165,642           | 56,107           | -                    | 797             | 3,520           | 754             |
| Pension & OPEB Expense Adjustment                          | (25,823)          | LABOR_M                  | TOTAL           | (25,823)                 | (14,825)          | (919)            | (2,187)          | (2,648)           | (1,728)          | (3,136)              | (12)            | (303)           | (65)            |
| Amortization of Deferred IGCC Costs                        | 6,563             | PROD_DEMAND              | TOTAL           | 6,563                    | 3,084             | 135              | 519              | 631               | 1,498            | 3                    | 2               | 0               | 0               |
| Amortization of Deferred CCS FEED Study Costs              | 4,303             | PROD_DEMAND              | TOTAL           | 4,303                    | 2,022             | 89               | 340              | 453               | 414              | 982                  | 2               | 1               | 0               |
| Amortization of Deferred CARRS Site Costs                  | 12,916            | PROD_DEMAND              | TOTAL           | 12,916                   | 6,070             | 266              | 1,021            | 1,359             | 1,242            | 2,947                | 6               | 4               | 1               |
| Amortization of Deferred Preliminary Big Sandy FGD Costs   | 138,162           | PROD_DEMAND              | TOTAL           | 138,162                  | 64,929            | 2,844            | 10,924           | 14,541            | 13,280           | 31,527               | 63              | 43              | 10              |
| Incentive Compensation Plan Adjustment                     | (121,689)         | LABOR_M                  | TOTAL           | (121,689)                | (69,860)          | (4,332)          | (10,308)         | (12,480)          | (8,142)          | (14,777)             | (58)            | (1,426)         | (306)           |
| Annualize T&D Employee-Related Expenses                    | 3,697             | LABOR_TD                 | TOTAL           | 3,697                    | 2,412             | 136              | 370              | 438               | 177              | 97                   | 2               | 46              | 20              |
| Removal of Big Sandy O&M                                   | (5,339,667)       | PROD_DEMAND              | TOTAL           | (5,339,667)              | (2,509,365)       | (109,922)        | (422,207)        | (561,963)         | (513,258)        | (1,218,464)          | (2,437)         | (1,669)         | (381)           |
| PJM Charges & Credits - Pool Term & Removal of Big Sandy   | 948,038           | PROD_DEMAND              | TOTAL           | 948,038                  | 445,528           | 19,516           | 99,774           | 74,961            | 91,127           | 216,334              | 433             | 296             | 68              |
| Adjustments to Include Test Year Mitchell Plant O&M        | 1,104,981         | PROD_DEMAND              | TOTAL           | 1,104,981                | 519,283           | 22,747           | 87,371           | 116,292           | 106,213          | 252,147              | 504             | 345             | 79              |
| Mitchell Plant Maintenance Normalization                   | 402,976           | PROD_DEMAND              | TOTAL           | 402,976                  | 189,378           | 8,296            | 31,863           | 42,410            | 38,735           | 91,956               | 184             | 126             | 29              |
| Eliminate Mitchell O&M FGD                                 | (1,859,919)       | PROD_DEMAND              | TOTAL           | (1,859,919)              | (874,065)         | (38,288)         | (147,064)        | (195,744)         | (178,779)        | (424,417)            | (849)           | (582)           | (133)           |
| Cost of Removal Adjustment                                 | 8,712             | PROD_DEMAND              | TOTAL           | 8,712                    | 4,094             | 179              | 689              | 917               | 837              | 1,988                | 4               | 3               | 1               |
| Mitchell Plant Incentive Compensation Adjustment           | -                 | LABOR_PROD               | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| Mitchell Plant Maintenance                                 | -                 | PROD_DEMAND              | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| Mitchell Plant Annualization of Employee-Related Exp       | -                 | LABOR_PROD               | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| Removal of Mitchell Severance Costs                        | -                 | LABOR_PROD               | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| Removal of Mitchell Repositioning Study Costs              | -                 | LABOR_PROD               | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| Adj to Incl TY Mitchell Plant O&M and Rate Base - Demand   | -                 | PROD_DEMAND              | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| Adj to Incl TY Mitchell Plant O&M and Rate Base - Energy   | -                 | PROD_ENERGY              | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| PJM - Pool Term & Mitchell Xfer - Prod Demand              | -                 | PROD_DEMAND              | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| PJM Charges & Credits - Pool Term & Mitchell Xfer - Energy | -                 | PROD_ENERGY              | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| Amortization of Big Sandy Depreciation & O&M               | -                 | PROD_DEMAND              | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| Not Used   | -                 | CUST_DEP_FXNL            | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| Total Cash Working Capital Adjustments                     | 2,100,139         |                          | TOTAL           | 2,100,139                | (17,175)          | 79,874           | 255,256          | 496,127           | 349,657          | 959,846              | 2,481           | (29,883)        | 3,955           |
| Working Capital - Materials & Supplies                     |                   |                          |                 |                          |                   |                  |                  |                   |                  |                      |                 |                 |                 |
| Fuel   | 35,326,091        | PROD_ENERGY              | TOTAL           | 35,326,091               | 12,552,831        | 792,036          | 2,851,507        | 3,899,702         | 4,066,612        | 10,887,166           | 21,472          | 209,238         | 45,528          |
| Production   | 15,844,495        | PROD_DEMAND              | TOTAL           | 15,844,495               | 7,446,085         | 326,173          | 1,252,824        | 1,667,524         | 1,523,000        | 3,615,573            | 7,231           | 4,954           | 1,132           |
| Emissions  | 16,155,106        | PROD_ENERGY              | TOTAL           | 16,155,106               | 5,740,582         | 362,209          | 1,304,033        | 1,783,387         | 1,859,717        | 4,978,850            | 9,819           | 95,688          | 20,821          |
| Transmission & Distribution                                | 3,033,544         | TDPLANT                  | TOTAL           | 3,033,544                | 1,756,784         | 104,884          | 269,721          | 324,531           | 186,203          | 296,572              | 1,485           | 83,836          | 9,529           |
| Total Working Cap - Materials & Supplies                   | 70,359,236        |                          | TOTAL           | 70,359,236               | 27,496,282        | 1,585,302        | 5,678,085        | 7,675,143         | 7,635,532        | 19,778,160           | 40,007          | 393,716         | 77,010          |
| Working Capital - Materials & Supplies Adjustments         |                   |                          |                 |                          |                   |                  |                  |                   |                  |                      |                 |                 |                 |
| Big Sandy Coal Stock Adjustment                            | (18,709,274)      | PROD_ENERGY              | TOTAL           | (18,709,274)             | (6,648,184)       | (419,475)        | (1,510,205)      | (2,065,346)       | (2,153,744)      | (5,766,021)          | (11,372)        | (110,816)       | (24,112)        |
| Mitchell Coal Stock Adjustment                             | 664,080           | PROD_ENERGY              | TOTAL           | 664,080                  | 235,975           | 14,889           | 53,604           | 73,309            | 76,446           | 204,663              | 404             | 3,933           | 856             |
| Removal of Big Sandy M&S from Rate Base                    | (6,268,345)       | PROD_DEMAND              | TOTAL           | (6,268,345)              | (2,945,795)       | (129,040)        | (495,638)        | (659,700)         | (602,524)        | (1,430,380)          | (2,861)         | (1,960)         | (448)           |
| Total Working Cap - Materials & Supplies Adjustments       | (24,313,539)      |                          | TOTAL           | (24,313,539)             | (9,358,004)       | (533,625)        | (1,952,238)      | (2,651,737)       | (2,679,821)      | (6,991,738)          | (13,829)        | (108,843)       | (23,704)        |
| Working Capital - Prepayments                              |                   |                          |                 |                          |                   |                  |                  |                   |                  |                      |                 |                 |                 |
| Working Capital - Prepayments                              | 2,476,841         | RB_GUP_EPIS              | TOTAL           | 2,476,841                | 1,288,507         | 67,026           | 206,885          | 262,437           | 198,648          | 417,302              | 1,167           | 31,214          | 3,654           |
| Pension & OPEB Expense Adjustment                          | -                 | LABOR_M                  | TOTAL           | -                        | -                 | -                | -                | -                 | -                | -                    | -               | -               | -               |
| <b>Total Working Capital</b>                               | <b>92,093,246</b> |                          | <b>TOTAL</b>    | <b>92,093,246</b>        | <b>38,275,007</b> | <b>2,304,005</b> | <b>7,600,716</b> | <b>10,227,129</b> | <b>9,419,474</b> | <b>23,531,465</b>    | <b>52,026</b>   | <b>558,336</b>  | <b>125,089</b>  |

**KENTUCKY POWER COMPANY**  
**COST-OF-SERVICE STUDY**  
**TWELVE MONTHS ENDING**  
**SEPTEMBER 30, 2014**

| <u>Label</u>  | <u>Constant</u>      | <u>Allocation Factor</u> | <u>Function</u> | <u>Total Retail</u><br>1 | <u>RS</u><br>2     | <u>SGS</u><br>3   | <u>Total MGS</u>  | <u>Total LGS</u>   | <u>Total OP</u>   | <u>Total CIP-TOD</u> | <u>MW</u><br>17 | <u>OL</u><br>18   | <u>SL</u><br>19  |
|---|----------------------|--------------------------|-----------------|--------------------------|--------------------|-------------------|-------------------|--------------------|-------------------|----------------------|-----------------|-------------------|------------------|
| <b>Construction Work-In-Progress</b>                  |                      |                          |                 |                          |                    |                   |                   |                    |                   |                      |                 |                   |                  |
| Production  | 31,948,245           | RB_GUP_EPIS_P            | TOTAL           | 31,948,245               | 15,014,007         | 657,684           | 2,526,147         | 3,362,332          | 3,070,919         | 7,290,305            | 14,580          | 9,989             | 2,282            |
| Transmission  | 37,203,205           | RB_GUP_EPIS_T            | TOTAL           | 37,203,205               | 17,378,351         | 757,364           | 2,910,992         | 3,897,550          | 3,592,363         | 8,638,227            | 16,935          | 9,298             | 2,124            |
| Distribution  | 8,754,012            | RB_GUP_EPIS_D            | TOTAL           | 8,754,012                | 5,776,216          | 392,363           | 845,637           | 950,492            | 315,386           | 7,747                | 4,501           | 414,713           | 46,957           |
| General   | 1,279,089            | RB_GUP_EPIS_G            | TOTAL           | 1,279,089                | 734,310            | 45,536            | 108,350           | 131,182            | 85,579            | 155,323              | 607             | 14,985            | 3,218            |
| Total CWIP  | 79,184,551           |                          | TOTAL           | 79,184,551               | 38,902,885         | 1,852,947         | 6,391,125         | 8,341,556          | 7,064,248         | 16,091,602           | 36,623          | 448,985           | 54,581           |
| Removal of Big Sandy CWIP from Rate Base              | (1,584,601)          | PROD_DEMAND              | TOTAL           | (1,584,601)              | (744,680)          | (32,620)          | (125,294)         | (166,768)          | (152,315)         | (361,592)            | (723)           | (495)             | (113)            |
| Total Adjusted CWIP                                   | 77,599,950           |                          | TOTAL           | 77,599,950               | 38,158,205         | 1,820,326         | 6,265,831         | 8,174,787          | 6,911,933         | 15,730,010           | 35,900          | 448,490           | 54,468           |
| <b>Rate Base Offsets</b>                              |                      |                          |                 |                          |                    |                   |                   |                    |                   |                      |                 |                   |                  |
| Accumulated Deferred FIT                              | (394,858,880)        | RB_GUP                   | TOTAL           | (394,858,880)            | (205,414,230)      | (10,685,338)      | (32,981,665)      | (41,837,872)       | (31,668,462)      | (66,526,410)         | (186,115)       | (4,976,205)       | (582,584)        |
| Customer Advances                                     | (117,511)            | TDPLANT                  | TOTAL           | (117,511)                | (68,053)           | (4,063)           | (10,448)          | (12,571)           | (7,213)           | (11,488)             | (58)            | (3,248)           | (369)            |
| Customer Deposits                                     | (25,260,450)         | CUST_DEP_FXNL            | TOTAL           | (25,260,450)             | (18,426,047)       | (1,109,246)       | (2,826,995)       | (1,511,957)        | (1,262,649)       | -                    | -               | (123,557)         | -                |
| KY Over/Under Deferred Fuel Net of Tax                | -                    | PROD_ENERGY              | TOTAL           | -                        | -                  | -                 | -                 | -                  | -                 | -                    | -               | -                 | -                |
| <b>Adjustments to Rate Base Offsets</b>               |                      |                          |                 |                          |                    |                   |                   |                    |                   |                      |                 |                   |                  |
| ADFIT - FGD Movement from Base Rates to Environmental | 24,400,898           | PROD_DEMAND              | TOTAL           | 24,400,898               | 11,467,148         | 502,315           | 1,929,378         | 2,568,026          | 2,345,456         | 5,568,067            | 11,136          | 7,629             | 1,743            |
| ADFIT - Removal of Coal Related Assets                | 57,290,476           | PROD_DEMAND              | TOTAL           | 57,290,476               | 26,923,532         | 1,179,377         | 4,529,956         | 6,029,426          | 5,506,858         | 13,073,176           | 26,146          | 17,912            | 4,092            |
| Total Adjustments to Rate Base Offsets                | 81,691,374           |                          | TOTAL           | 81,691,374               | 38,390,680         | 1,681,692         | 6,459,335         | 8,597,452          | 7,852,313         | 18,641,243           | 37,282          | 25,541            | 5,835            |
| Total Rate Base Offsets                               | (338,545,467)        |                          | TOTAL           | (338,545,467)            | (185,517,649)      | (10,116,955)      | (29,359,774)      | (34,764,947)       | (25,086,010)      | (47,896,655)         | (148,890)       | (5,077,468)       | (577,118)        |
| <b>Total Rate Base</b>                                | <b>1,158,186,516</b> |                          | <b>TOTAL</b>    | <b>1,158,186,516</b>     | <b>616,814,372</b> | <b>34,492,915</b> | <b>98,516,888</b> | <b>124,761,218</b> | <b>86,428,529</b> | <b>172,708,356</b>   | <b>575,126</b>  | <b>21,337,177</b> | <b>2,551,935</b> |
| <b>Operating Revenues</b>                             |                      |                          |                 |                          |                    |                   |                   |                    |                   |                      |                 |                   |                  |
| Year End Migration Revenue                            | 553,292,078          | REVSALES_FXNL            | TOTAL           | 553,292,078              | 232,204,424        | 18,923,805        | 57,716,485        | 66,417,851         | 52,718,758        | 115,571,184          | 354,484         | 7,956,803         | 1,428,283        |
| Weather Normalization Adjustment                      | (5,929,131)          | WEATHER_FXNL             | TOTAL           | (5,929,131)              | (5,929,131)        | -                 | -                 | -                  | -                 | -                    | -               | -                 | -                |
| Total Revenue Year End Customers                      | (399,400)            | REVYEC_FXNL              | TOTAL           | (399,400)                | (1,690,881)        | 75,952            | 176,699           | 2,198,063          | 104,167           | (272,626)            | 2               | (938,242)         | (52,535)         |
| Annualize Asset Transfer Rider                        | 10,014,069           | ATR_ADJ                  | TOTAL           | 10,014,069               | 4,082,297          | 449,721           | 1,311,063         | 1,435,466          | 958,049           | 1,561,077            | 7,199           | 174,693           | 34,504           |
| Asset Transfer Rider Over/Under Collection Revenues   | 3,615,459            | ATR_ADJ                  | TOTAL           | 3,615,459                | 1,473,864          | 162,366           | 473,344           | 518,258            | 345,892           | 563,608              | 2,599           | 63,071            | 12,457           |
| <b>Sales of Electricity</b>                           | <b>560,593,075</b>   |                          | <b>TOTAL</b>    | <b>560,593,075</b>       | <b>230,140,574</b> | <b>19,611,844</b> | <b>59,677,591</b> | <b>70,569,638</b>  | <b>54,126,867</b> | <b>117,423,244</b>   | <b>364,284</b>  | <b>7,256,325</b>  | <b>1,422,710</b> |
| <b>Other Operating Revenues</b>                       |                      |                          |                 |                          |                    |                   |                   |                    |                   |                      |                 |                   |                  |
| Forfeited Discounts                                   | 3,643,764            | FORF_DISC_FXNL           | TOTAL           | 3,643,764                | 2,591,161          | 241,249           | 455,980           | 186,672            | 116,792           | 31,244               | -               | 20,666            | -                |
| Miscellaneous Service Revenue                         | 385,609              | RB_GUP_EPIS_D            | TOTAL           | 385,609                  | 254,439            | 17,283            | 37,250            | 41,869             | 13,893            | 341                  | 198             | 18,268            | 2,068            |
| Rent from Electric Prop - Poles                       | 4,838,578            | DIST_POLES               | TOTAL           | 4,838,578                | 3,405,930          | 163,619           | 503,454           | 575,694            | 163,246           | -                    | 2,781           | 19,646            | 4,208            |
| Rent from Electric Prop - Other Dist                  | 871,267              | RB_GUP_EPIS_D            | TOTAL           | 871,267                  | 574,894            | 39,051            | 84,164            | 94,600             | 31,390            | 771                  | 448             | 41,275            | 4,673            |
| Other Electric Revenue - Dist                         | 268,471              | RB_GUP_EPIS_D            | TOTAL           | 268,471                  | 177,147            | 12,033            | 25,934            | 29,150             | 9,672             | 238                  | 138             | 12,719            | 1,440            |
| Other Electric Revenue - Wheeling                     | (367,524)            | TRANS_TOTAL              | TOTAL           | (367,524)                | (171,655)          | (7,480)           | (28,751)          | (38,499)           | (35,492)          | (85,368)             | (167)           | (91)              | (21)             |
| Other Electric Revenues - Production                  | 114,517              | PROD_ENERGY              | TOTAL           | 114,517                  | 40,693             | 2,568             | 9,244             | 12,642             | 13,183            | 35,293               | 70              | 678               | 148              |
| Total Other Operating Revenues                        | 9,754,682            |                          | TOTAL           | 9,754,682                | 6,872,609          | 468,323           | 1,087,276         | 902,128            | 312,683           | (17,481)             | 3,467           | 113,160           | 12,516           |
| Eliminate Non-Recurring CATV Revenues                 | -                    | RB_GUP_EPIS_D            | TOTAL           | -                        | -                  | -                 | -                 | -                  | -                 | -                    | -               | -                 | -                |
| Misc. Service Charges Adjustment                      | 251,903              | RB_GUP_EPIS_D            | TOTAL           | 251,903                  | 166,215            | 11,291            | 24,334            | 27,351             | 9,075             | 223                  | 130             | 11,934            | 1,351            |
| Annualization of CATV Revenues                        | -                    | RB_GUP_EPIS_D            | TOTAL           | -                        | -                  | -                 | -                 | -                  | -                 | -                    | -               | -                 | -                |
| Customer Migration Adjustment                         | -                    | REVSALES_FXNL            | TOTAL           | -                        | -                  | -                 | -                 | -                  | -                 | -                    | -               | -                 | -                |
| Total Other Operating Revenue Adjustments             | 251,903              |                          | TOTAL           | 251,903                  | 166,215            | 11,291            | 24,334            | 27,351             | 9,075             | 223                  | 130             | 11,934            | 1,351            |
| <b>Total Other Operating Revenues</b>                 | <b>10,006,585</b>    |                          | <b>TOTAL</b>    | <b>10,006,585</b>        | <b>7,038,824</b>   | <b>479,614</b>    | <b>1,111,610</b>  | <b>929,479</b>     | <b>321,758</b>    | <b>(17,258)</b>      | <b>3,597</b>    | <b>125,094</b>    | <b>13,868</b>    |
| <b>Total Operating Revenues</b>                       | <b>570,599,660</b>   |                          | <b>TOTAL</b>    | <b>570,599,660</b>       | <b>237,179,398</b> | <b>20,091,458</b> | <b>60,789,201</b> | <b>71,499,116</b>  | <b>54,448,625</b> | <b>117,405,986</b>   | <b>367,881</b>  | <b>7,381,419</b>  | <b>1,436,577</b> |
| <b>Operating Expense</b>                              |                      |                          |                 |                          |                    |                   |                   |                    |                   |                      |                 |                   |                  |
| <b>O&amp;M Expense</b>                                |                      |                          |                 |                          |                    |                   |                   |                    |                   |                      |                 |                   |                  |
| <b>Production</b>                                     |                      |                          |                 |                          |                    |                   |                   |                    |                   |                      |                 |                   |                  |
| Demand  | 42,692,815           | PROD_DEMAND              | TOTAL           | 42,692,815               | 20,063,394         | 878,871           | 3,375,720         | 4,493,124          | 4,103,706         | 9,742,120            | 19,484          | 13,348            | 3,049            |
| Energy  | 9,521,335            | PROD_ENERGY              | TOTAL           | 9,521,335                | 3,383,327          | 213,475           | 768,558           | 1,051,075          | 1,096,062         | 2,934,385            | 5,787           | 56,395            | 12,271           |
| Fuel  | 224,998,058          | PROD_ENERGY              | TOTAL           | 224,998,058              | 79,951,177         | 5,044,613         | 18,161,747        | 24,837,883         | 25,900,962        | 69,342,264           | 136,759         | 1,332,676         | 289,977          |
| System Sales - Demand                                 | (519,481)            | PROD_DEMAND              | TOTAL           | (519,481)                | (244,129)          | (10,694)          | (41,075)          | (54,672)           | (49,933)          | (118,541)            | (237)           | (162)             | (37)             |
| System Sales - Energy                                 | (219,455,800)        | PROD_ENERGY              | TOTAL           | (219,455,800)            | (77,981,782)       | (4,920,352)       | (17,714,378)      | (24,226,064)       | (25,262,957)      | (67,634,193)         | (133,390)       | (1,299,849)       | (282,834)        |
| Purchased Power - Demand                              | 58,873,831           | PROD_DEMAND              | TOTAL           | 58,873,831               | 27,667,626         | 1,211,972         | 4,655,152         | 6,196,064          | 5,659,052         | 13,434,483           | 26,869          | 18,407            | 4,205            |
| Purchased Power - Energy                              | 142,992,441          | PROD_ENERGY              | TOTAL           | 142,992,441              | 50,811,167         | 3,205,990         | 11,542,289        | 15,785,156         | 16,460,772        | 44,068,912           | 86,914          | 846,952           | 184,289          |
| System Control  | 413,324              | PROD_DEMAND              | TOTAL           | 413,324                  | 194,241            | 8,509             | 32,682            | 43,499             | 94,317            | 39,729               | 189             | 129               | 30               |
| Total Production Expenses                             | 479,491,804          |                          | TOTAL           | 479,491,804              | 182,070,932        | 10,563,430        | 38,536,147        | 52,406,800         | 53,260,283        | 139,616,482          | 276,001         | 2,267,908         | 493,821          |
| Transmission Agreement Expenses - Production          | 37,859,264           | PROD_DEMAND              | TOTAL           | 37,859,264               | 17,791,877         | 779,368           | 2,993,531         | 3,984,426          | 3,639,097         | 8,639,147            | 17,278          | 11,837            | 2,704            |

**KENTUCKY POWER COMPANY  
COST-OF-SERVICE STUDY  
TWELVE MONTHS ENDING  
SEPTEMBER 30, 2014**

| <u>Label</u>                                    | <u>Constant</u> | <u>Allocation<br/>Factor</u> | <u>Function</u> | <u>Total<br/>Retail</u><br>1 | <u>RS</u><br>2 | <u>SGS</u><br>3 | <u>Total<br/>MGS</u> | <u>Total<br/>LGS</u> | <u>Total<br/>QP</u> | <u>Total<br/>CIP-TOD</u> | <u>MW</u><br>17 | <u>OL</u><br>18 | <u>SL</u><br>19 |
|---|-----------------|------------------------------|-----------------|------------------------------|----------------|-----------------|----------------------|----------------------|---------------------|--------------------------|-----------------|-----------------|-----------------|
| Transmission Agreement Expenses - Transmission  | (57,542,217)    | TRANS_TOTAL                  | TOTAL           | (57,542,217)                 | (26,875,533)   | (1,171,127)     | (4,501,392)          | (6,027,738)          | (5,556,864)         | (13,365,803)             | (26,192)        | (14,303)        | (3,268)         |
| Total Transmission Agreement Expenses           | (19,682,953)    |                              | TOTAL           | (19,682,953)                 | (9,083,656)    | (391,759)       | (1,507,861)          | (2,043,312)          | (1,917,767)         | (4,726,656)              | (8,914)         | (2,466)         | (563)           |
| Transmission Expenses - Production              | 9,692,707       | PROD_DEMAND                  | TOTAL           | 9,692,707                    | 4,555,066      | 199,533         | 766,402              | 1,020,090            | 931,679             | 2,211,789                | 4,424           | 3,030           | 692             |
| Transmission Expenses - Transmission            | 9,547,704       | TRANS_TOTAL                  | TOTAL           | 9,547,704                    | 4,459,328      | 194,319         | 746,894              | 1,000,154            | 922,024             | 2,217,723                | 4,346           | 2,373           | 542             |
| Total Transmission Expenses                     | 19,240,411      |                              | TOTAL           | 19,240,411                   | 9,014,394      | 393,853         | 1,513,296            | 2,020,244            | 1,853,703           | 4,429,513                | 8,769           | 5,404           | 1,235           |
| Regional Market Expenses                        | 1,182,188       | PROD_DEMAND                  | TOTAL           | 1,182,188                    | 555,567        | 24,336          | 93,476               | 124,417              | 113,634             | 269,765                  | 540             | 370             | 84              |
| Distribution Operation                          |                 |                              |                 |                              |                |                 |                      |                      |                     |                          |                 |                 |                 |
| 580 Supervision & Engineering                   | 675,065         | TOTOXEXP                     | TOTAL           | 675,065                      | 422,814        | 43,850          | 67,058               | 71,610               | 26,728              | 2,270                    | 317             | 25,766          | 14,652          |
| 581 Load Dispatching                            | 3,746           | DIST_CPD                     | TOTAL           | 3,746                        | 2,524          | 107             | 393                  | 503                  | 216                 | -                        | 2               | -               | -               |
| 582 Station Expenses                            | 200,568         | DIST_CPD                     | TOTAL           | 200,568                      | 135,142        | 5,722           | 21,040               | 26,953               | 11,583              | -                        | 129             | -               | -               |
| 583 Overhead Lines                              | 963,651         | DIST_OHLINES                 | TOTAL           | 963,651                      | 658,264        | 29,063          | 100,836              | 124,914              | 48,508              | -                        | 600             | 1,208           | 259             |
| 584 Underground Lines                           | 108,100         | DIST_UGLINES                 | TOTAL           | 108,100                      | 74,860         | 3,439           | 11,283               | 13,492               | 4,630               | -                        | 65              | 273             | 58              |
| 585 Street Lighting                             | 144,034         | DIST_SL                      | TOTAL           | 144,034                      | -              | -               | -                    | -                    | -                   | -                        | -               | -               | 144,034         |
| 586 Meters                                      | 853,621         | DIST_METERS                  | TOTAL           | 853,621                      | 365,254        | 213,033         | 120,007              | 80,774               | 52,378              | 22,077                   | 98              | -               | -               |
| 587 Customer Installs                           | 189,223         | DIST_PCUST                   | TOTAL           | 189,223                      | 120,094        | 20,687          | 6,328                | 722                  | 40                  | -                        | 10              | 41,294          | 49              |
| 588 Miscellaneous Distribution                  | 3,878,895       | RB_GUP_EPIS_D                | TOTAL           | 3,878,895                    | 2,559,436      | 173,856         | 374,701              | 421,162              | 139,747             | 3,433                    | 1,994           | 183,759         | 20,806          |
| 589 Rents                                       | 1,686,536       | RB_GUP_EPIS_D                | TOTAL           | 1,686,536                    | 1,112,838      | 75,592          | 162,919              | 183,121              | 60,762              | 1,493                    | 867             | 79,898          | 9,047           |
| Total Distribution Operations Expenses          | 8,703,439       |                              | TOTAL           | 8,703,439                    | 5,451,226      | 565,349         | 864,564              | 923,250              | 344,592             | 29,273                   | 4,082           | 332,198         | 188,905         |
| Distribution Maintenance                        |                 |                              |                 |                              |                |                 |                      |                      |                     |                          |                 |                 |                 |
| 590 Supervision & Engineering                   | 2,253           | TOTMXEXP                     | TOTAL           | 2,253                        | 1,549          | 72              | 234                  | 279                  | 95                  | 0                        | 1               | 18              | 5               |
| 591 Structures                                  | 27,852          | DIST_CPD                     | TOTAL           | 27,852                       | 18,767         | 795             | 2,922                | 3,743                | 1,609               | -                        | 18              | -               | -               |
| 592 Station Equipment                           | 743,757         | DIST_CPD                     | TOTAL           | 743,757                      | 501,139        | 21,217          | 78,022               | 99,947               | 42,954              | -                        | 479             | -               | -               |
| 593 Overhead Lines                              | 33,800,787      | TOTOHLINES                   | TOTAL           | 33,800,787                   | 23,437,333     | 1,080,574       | 3,527,030            | 4,203,376            | 1,423,783           | -                        | 20,237          | 89,322          | 19,131          |
| 594 Underground Lines                           | 79,484          | TOTUGLINES                   | TOTAL           | 79,484                       | 55,043         | 2,529           | 8,296                | 9,921                | 3,405               | -                        | 48              | 200             | 43              |
| 595 Line Transformers                           | 67,093          | DIST_TRANSF                  | TOTAL           | 67,093                       | 48,664         | 2,521           | 6,940                | 7,248                | 1,118               | -                        | 35              | 466             | 100             |
| 596 Street Lighting                             | 52,768          | DIST_SL                      | TOTAL           | 52,768                       | -              | -               | -                    | -                    | -                   | -                        | -               | -               | 52,768          |
| 597 Meters                                      | 79,342          | DIST_METERS                  | TOTAL           | 79,342                       | 33,950         | 19,801          | 11,154               | 7,508                | 4,868               | 2,052                    | 9               | -               | -               |
| 598 Miscellaneous Distribution                  | 189,656         | DIST_OL                      | TOTAL           | 189,656                      | -              | -               | -                    | -                    | -                   | -                        | -               | 189,656         | -               |
| Total Distribution Maintenance Expenses         | 35,042,992      |                              | TOTAL           | 35,042,992                   | 24,096,445     | 1,127,509       | 3,634,598            | 4,332,021            | 1,477,832           | 2,052                    | 20,827          | 279,662         | 72,047          |
| Total Distribution O&M                          | 43,746,431      |                              | TOTAL           | 43,746,431                   | 29,547,670     | 1,692,858       | 4,499,162            | 5,255,272            | 1,822,424           | 31,325                   | 24,909          | 611,860         | 260,952         |
| Customer Accounts                               |                 |                              |                 |                              |                |                 |                      |                      |                     |                          |                 |                 |                 |
| 901 Supervision                                 | 287,013         | TOTOX234                     | TOTAL           | 287,013                      | 245,564        | 30,514          | 9,917                | 1,261                | 123                 | 18                       | 14              | (460)           | 63              |
| 902 Meter Read                                  | 550,826         | CUST_902                     | TOTAL           | 550,826                      | 434,545        | 74,853          | 34,465               | 6,099                | 726                 | 104                      | 35              | -               | -               |
| 903 Customer Records                            | 5,289,588       | CUST_903                     | TOTAL           | 5,289,588                    | 4,553,010      | 546,194         | 167,299              | 19,533               | 1,765               | 252                      | 252             | -               | 1,284           |
| 904 Uncollectibles                              | (42,603)        | CUST_TOTAL                   | TOTAL           | (42,603)                     | (27,030)       | (4,656)         | (1,426)              | (167)                | (15)                | (2)                      | (2)             | (9,294)         | (11)            |
| 905 Miscellaneous                               | 25,173          | TOTOX234                     | TOTAL           | 25,173                       | 21,538         | 2,676           | 870                  | 111                  | 11                  | 2                        | 1               | (40)            | 6               |
| Total   | 6,109,997       |                              | TOTAL           | 6,109,997                    | 5,227,627      | 649,580         | 211,125              | 26,836               | 2,609               | 373                      | 300             | (9,795)         | 1,342           |
| Total Customer Services Expenses                | 5,025,154       | CUST_TOTAL                   | TOTAL           | 5,025,154                    | 3,188,254      | 549,196         | 168,219              | 19,641               | 1,775               | 254                      | 254             | 1,096,271       | 1,291           |
| Total Sales Expenses                            | 34,977          | CUST_TOTAL                   | TOTAL           | 34,977                       | 22,191         | 3,823           | 1,171                | 137                  | 12                  | 2                        | 2               | 7,630           | 9               |
| Administrative & General Expense                |                 |                              |                 |                              |                |                 |                      |                      |                     |                          |                 |                 |                 |
| A&G - Production Demand                         | 9,250,396       | PROD_DEMAND                  | TOTAL           | 9,250,396                    | 4,347,203      | 190,428         | 731,429              | 973,540              | 889,164             | 2,110,858                | 4,222           | 2,892           | 661             |
| A&G - Production Energy                         | 2,287,520       | PROD_ENERGY                  | TOTAL           | 2,287,520                    | 812,851        | 51,288          | 184,648              | 252,523              | 263,331             | 704,992                  | 1,390           | 13,549          | 2,948           |
| A&G - Transmission                              | 864,328         | EXP_OM_TRAN                  | TOTAL           | 864,328                      | 405,021        | 17,699          | 68,002               | 90,767               | 83,262              | 198,883                  | 394             | 244             | 56              |
| A&G - Distribution                              | 5,740,193       | EXP_OM_DIST                  | TOTAL           | 5,740,193                    | 3,877,101      | 222,128         | 590,358              | 689,571              | 239,130             | 4,110                    | 3,268           | 80,285          | 34,241          |
| A&G - Customer Accounts                         | 928,813         | EXP_OM_CUSTACCT              | TOTAL           | 928,813                      | 794,679        | 98,746          | 32,094               | 4,080                | 397                 | 57                       | 46              | (1,489)         | 204             |
| A&G - Customer Services                         | (2,747,886)     | EXP_OM_CUSTSERV              | TOTAL           | (2,747,886)                  | (1,743,421)    | (300,315)       | (91,987)             | (10,740)             | (971)               | (139)                    | (139)           | (599,470)       | (706)           |
| Total A&G Expense Excl Regulatory               | 16,323,364      |                              | TOTAL           | 16,323,364                   | 8,493,435      | 279,974         | 1,514,544            | 1,999,740            | 1,474,312           | 3,018,762                | 9,181           | (503,988)       | 37,404          |
| A&G - Regulatory Reclassified                   | 268,458         | EXP_OM_AG_REG                | TOTAL           | 268,458                      | 112,666        | 9,182           | 28,004               | 32,226               | 25,579              | 56,075                   | 172             | 3,861           | 693             |
| Total A&G Expenses                              | 16,591,822      |                              | TOTAL           | 16,591,822                   | 8,606,101      | 289,156         | 1,542,548            | 2,031,966            | 1,499,891           | 3,074,837                | 9,353           | (500,127)       | 38,097          |
| Total O&M Expenses                              | 331,764,550     |                              | TOTAL           | 331,764,550                  | 150,923,170    | 8,843,427       | 27,301,830           | 35,561,265           | 31,323,674          | 74,943,159               | 177,587         | 2,177,044       | 513,395         |
| O&M Adjustments                                 |                 |                              |                 |                              |                |                 |                      |                      |                     |                          |                 |                 |                 |
| Weather Normalization Adjustment                | (3,548,711)     | WEATHER_FXNL                 | TOTAL           | (3,548,711)                  | (3,548,711)    | -               | -                    | -                    | -                   | -                        | -               | -               | -               |
| Customer Annualization Adjustment               | (239,052)       | REVYEC_EXP_OM                | TOTAL           | (239,052)                    | (1,012,039)    | 45,459          | 105,759              | 1,315,602            | 62,347              | (163,174)                | 1               | (561,564)       | (31,444)        |
| Removal of AEP Pool Cost                        | (10,480,841)    | PROD_DEMAND                  | TOTAL           | (10,480,841)                 | (4,925,448)    | (215,758)       | (828,720)            | (1,103,036)          | (1,007,436)         | (2,391,635)              | (4,783)         | (3,277)         | (749)           |
| System Sales Margins                            | 60,722,845      | PROD_ENERGY                  | TOTAL           | 60,722,845                   | 21,577,355     | 1,361,449       | 4,901,522            | 6,703,289            | 6,990,194           | 18,714,204               | 36,909          | 359,665         | 78,260          |
| Norm/Elim of Comission Mandated Consultant Cost | 84,864          | REV_SALES                    | TOTAL           | 84,864                       | 34,839         | 2,969           | 9,034                | 10,683               | 8,194               | 17,776                   | 55              | 1,098           | 215             |
| Normalization of Major Storms                   | (647,763)       | TDOMX                        | TOTAL           | (647,763)                    | (394,878)      | (21,310)        | (61,637)             | (74,700)             | (38,256)            | (47,754)                 | (345)           | (6,235)         | (2,648)         |
| Amortization of Storm Cost Deferral             | (2,237,475)     | EXP_OM_DIST                  | TOTAL           | (2,237,475)                  | (1,511,259)    | (86,584)        | (230,116)            | (268,789)            | (93,211)            | (1,602)                  | (1,274)         | (31,294)        | (13,347)        |

**KENTUCKY POWER COMPANY**  
**COST-OF-SERVICE STUDY**  
**TWELVE MONTHS ENDING**  
**SEPTEMBER 30, 2014**

| Label  | Constant           | Allocation Factor | Function     | Total Retail<br>1  | RS<br>2            | SGS<br>3         | Total MGS         | Total LGS         | Total OP          | Total CIP-TOD     | MW<br>17       | OL<br>18         | SL<br>19       |
|--|--------------------|-------------------|--------------|--------------------|--------------------|------------------|-------------------|-------------------|-------------------|-------------------|----------------|------------------|----------------|
| Rate Case Expense  | 258,037            | EXP_OM_AG_REG     | TOTAL        | 258,037            | 108,292            | 8,825            | 26,917            | 30,975            | 24,586            | 53,899            | 165            | 3,711            | 666            |
| Postage Rate Increase                                      | 12,219             | CUST_TOTAL        | TOTAL        | 12,219             | 7,752              | 1,335            | 409               | 48                | 4                 | 1                 | 1              | 2,666            | 3              |
| Eliminate Advertising Expense                              | (30,610)           | EXP_OM_CUSTSERV   | TOTAL        | (30,610)           | (19,421)           | (3,345)          | (1,025)           | (120)             | (11)              | (2)               | (2)            | (6,678)          | (8)            |
| Annualization of Lease Costs                               | 72,974             | TDOMX             | TOTAL        | 72,974             | 44,485             | 2,401            | 6,944             | 8,415             | 4,310             | 5,380             | 39             | 702              | 298            |
| Reliability Adjustment                                     | 10,655,900         | TOTOHLINES        | TOTAL        | 10,655,900         | 7,388,759          | 340,657          | 1,111,917         | 1,325,139         | 448,856           | -                 | 6,380          | 28,159           | 6,031          |
| Pension & OPEB Expense Adjustment                          | (206,580)          | LABOR_M           | TOTAL        | (206,580)          | (118,595)          | (7,354)          | (17,499)          | (21,187)          | (13,822)          | (25,085)          | (98)           | (2,420)          | (520)          |
| Amortization of Deferred IGCC Costs                        | 52,505             | PROD_DEMAND       | TOTAL        | 52,505             | 24,675             | 1,081            | 4,152             | 5,526             | 5,047             | 11,981            | 24             | 16               | 4              |
| Amortization of Deferred CCS FEED Study Costs              | 34,425             | PROD_DEMAND       | TOTAL        | 34,425             | 16,178             | 709              | 2,722             | 3,623             | 3,309             | 7,855             | 16             | 11               | 2              |
| Amortization of Deferred CARRS Site Costs                  | 103,330            | PROD_DEMAND       | TOTAL        | 103,330            | 48,560             | 2,127            | 8,170             | 10,875            | 9,932             | 23,579            | 47             | 32               | 7              |
| Amortization of Deferred Preliminary Big Sandy FGD Costs   | 1,105,293          | PROD_DEMAND       | TOTAL        | 1,105,293          | 519,430            | 22,753           | 87,395            | 116,324           | 106,243           | 252,218           | 504            | 346              | 79             |
| Incentive Compensation Plan Adjustment                     | (973,508)          | LABOR_M           | TOTAL        | (973,508)          | (558,880)          | (34,657)         | (82,465)          | (99,842)          | (65,134)          | (118,215)         | (462)          | (11,405)         | (2,449)        |
| Annualize T&D Employee-Related Expenses                    | 29,576             | LABOR_TD          | TOTAL        | 29,576             | 19,293             | 1,084            | 2,962             | 3,503             | 1,413             | 779               | 16             | 368              | 157            |
| Removal of Big Sandy O&M                                   | (42,717,337)       | PROD_DEMAND       | TOTAL        | (42,717,337)       | (20,074,918)       | (879,376)        | (3,377,659)       | (4,495,704)       | (4,106,063)       | (9,747,716)       | (19,495)       | (13,356)         | (3,051)        |
| PJM Charges & Credits - Pool Term & Removal of Big Sandy   | 7,584,302          | PROD_DEMAND       | TOTAL        | 7,584,302          | 3,564,226          | 156,130          | 599,691           | 798,195           | 729,016           | 1,730,670         | 3,461          | 2,371            | 542            |
| Adjustments to Include Test Year Mitchell Plant O&M        | 8,839,850          | PROD_DEMAND       | TOTAL        | 8,839,850          | 4,154,268          | 181,976          | 698,967           | 930,333           | 849,701           | 2,017,175         | 4,034          | 2,764            | 631            |
| Mitchell Plant Maintenance Normalization                   | 3,223,809          | PROD_DEMAND       | TOTAL        | 3,223,809          | 1,515,022          | 66,365           | 254,906           | 339,284           | 309,878           | 735,644           | 1,471          | 1,008            | 230            |
| Eliminate Mitchell O&M FGD                                 | (14,879,350)       | PROD_DEMAND       | TOTAL        | (14,879,350)       | (6,992,518)        | (306,305)        | (1,176,510)       | (1,565,949)       | (1,430,228)       | (3,395,335)       | (6,791)        | (4,652)          | (1,063)        |
| Cost of Removal Adjustment                                 | 69,695             | PROD_DEMAND       | TOTAL        | 69,695             | 32,753             | 1,435            | 5,511             | 7,335             | 6,699             | 15,904            | 32             | 22               | 5              |
| Mitchell Plant Incentive Compensation Adjustment           | -                  | LABOR_PROD        | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| Mitchell Plant Maintenance                                 | -                  | PROD_DEMAND       | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| Mitchell Plant Annualization of Employee-Related Exp       | -                  | LABOR_PROD        | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| Removal of Mitchell Severance Costs                        | -                  | LABOR_PROD        | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| Removal of Mitchell Repositioning Study Costs              | -                  | LABOR_PROD        | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| Adj to Incl TY Mitchell Plant O&M and Rate Base - Demand   | -                  | PROD_DEMAND       | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| Adj to Incl TY Mitchell Plant O&M and Rate Base - Energy   | -                  | PROD_ENERGY       | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| PJM - Pool Term & Mitchell Xfer - Prod Demand              | -                  | PROD_DEMAND       | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| PJM Charges & Credits - Pool Term & Mitchell Xfer - Energy | -                  | PROD_ENERGY       | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| Amortization of Big Sandy Depreciation & O&M               | -                  | PROD_DEMAND       | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| Removal of Big Sandy Depreciation & O&M                    | -                  | PROD_DEMAND       | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| Total Operations and Maintenance Expense Adjustments       | 16,888,397         |                   | TOTAL        | 16,888,397         | (100,779)          | 642,067          | 2,051,348         | 3,979,824         | 2,805,569         | 7,696,548         | 19,907         | (237,942)        | 31,854         |
| <b>Adjusted Operating &amp; Maintenance Expenses</b>       | <b>348,652,947</b> |                   | <b>TOTAL</b> | <b>348,652,947</b> | <b>150,822,391</b> | <b>9,485,494</b> | <b>29,353,178</b> | <b>39,541,089</b> | <b>34,129,243</b> | <b>82,639,706</b> | <b>197,493</b> | <b>1,939,103</b> | <b>545,249</b> |
| <b>Depreciation &amp; Amortization Expense</b>             |                    |                   |              |                    |                    |                  |                   |                   |                   |                   |                |                  |                |
| Production   | 46,815,624         | RB_GUP_EPIS_P     | TOTAL        | 46,815,624         | 22,000,899         | 963,743          | 3,701,710         | 4,927,021         | 4,499,997         | 10,682,908        | 21,365         | 14,637           | 3,344          |
| Transmission   | 9,018,286          | RB_GUP_EPIS_T     | TOTAL        | 9,018,286          | 4,212,619          | 183,590          | 705,642           | 944,790           | 870,811           | 2,093,960         | 4,105          | 2,254            | 515            |
| Distribution   | 24,594,927         | RB_GUP_EPIS_D     | TOTAL        | 24,594,927         | 16,228,629         | 1,102,368        | 2,375,867         | 2,670,465         | 886,097           | 2,176,666         | 12,646         | 1,165,161        | 131,927        |
| General & Intangible                                       | 3,972,462          | RB_GUP_EPIS_G     | TOTAL        | 3,972,462          | 2,280,545          | 141,420          | 336,502           | 407,410           | 265,783           | 482,385           | 1,884          | 46,539           | 9,994          |
| Total Depreciation & Amort Expense                         | 84,401,299         |                   | TOTAL        | 84,401,299         | 44,722,692         | 2,391,120        | 7,119,722         | 8,949,686         | 6,522,688         | 13,281,019        | 40,001         | 1,228,591        | 145,780        |
| Amortization of Intangible Expense                         | 209,475            | LABOR_M           | TOTAL        | 209,475            | 120,257            | 7,457            | 17,744            | 21,483            | 14,015            | 25,437            | 99             | 2,454            | 527            |
| ARO Depreciation   | 237,400            | RB_GUP_EPIS_P     | TOTAL        | 237,400            | 111,566            | 4,887            | 18,771            | 24,985            | 22,819            | 54,173            | 108            | 74               | 17             |
| KPCo Depreciation Annualization Expense - Transmission     | 4,807,980          | RB_GUP_EPIS_T     | TOTAL        | 4,807,980          | 2,245,902          | 97,878           | 376,204           | 503,702           | 464,261           | 1,116,367         | 2,189          | 1,202            | 275            |
| KPCo Depreciation Annualization Expense - Distribution     | 7,225,675          | RB_GUP_EPIS_D     | TOTAL        | 7,225,675          | 4,767,764          | 323,861          | 697,999           | 784,549           | 260,324           | 6,395             | 3,715          | 342,309          | 38,759         |
| KPCo Depreciation Annualization Expense - General          | 737,606            | RB_GUP_EPIS_G     | TOTAL        | 737,606            | 423,451            | 26,259           | 62,482            | 75,648            | 49,351            | 89,569            | 350            | 8,641            | 1,856          |
| Annualize Depreciation on Mitchell Plant Investment        | 3,764,718          | PROD_DEMAND       | TOTAL        | 3,764,718          | 1,769,221          | 77,500           | 297,676           | 396,211           | 361,871           | 859,075           | 1,718          | 1,177            | 269            |
| Removal of Big Sandy Depreciation                          | (17,212,456)       | PROD_DEMAND       | TOTAL        | (17,212,456)       | (8,088,956)        | (354,334)        | (1,360,988)       | (1,811,492)       | (1,654,490)       | (3,927,729)       | (7,855)        | (5,382)          | (1,229)        |
| Remove RTO Amortization                                    | (149,718)          | TRANS_TOTAL       | TOTAL        | (149,718)          | (69,927)           | (3,047)          | (11,712)          | (15,683)          | (14,458)          | (34,776)          | (88)           | (37)             | (9)            |
| Amortization of Big Sandy Depreciation and O&M             | -                  | PROD_DEMAND       | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| Removal of Big Sandy Depreciation                          | -                  | PROD_DEMAND       | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| Total Depreciation & Amort Adjustments                     | (379,320)          |                   | TOTAL        | (379,320)          | 1,279,278          | 180,462          | 98,176            | (20,598)          | (496,307)         | (1,811,490)       | 256            | 350,439          | 40,464         |
| <b>Adjusted Depreciation Expense</b>                       | <b>84,021,979</b>  |                   | <b>TOTAL</b> | <b>84,021,979</b>  | <b>46,001,971</b>  | <b>2,571,582</b> | <b>7,217,898</b>  | <b>8,929,088</b>  | <b>6,026,381</b>  | <b>11,469,529</b> | <b>40,257</b>  | <b>1,579,030</b> | <b>186,244</b> |
| <b>Taxes Other Than Income</b>                             |                    |                   |              |                    |                    |                  |                   |                   |                   |                   |                |                  |                |
| Federal Insurance Contribution Excise                      | 3,584,520          | LABOR_M           | TOTAL        | 3,584,520          | 2,057,832          | 127,609          | 303,640           | 367,623           | 239,827           | 435,276           | 1,700          | 41,994           | 9,018          |
| Federal Unemployment Tax                                   | 48,168             | LABOR_M           | TOTAL        | 48,168             | 27,653             | 1,715            | 4,080             | 4,940             | 3,223             | 5,849             | 23             | 564              | 121            |
| Federal Excise Tax   | 3,707              | LABOR_M           | TOTAL        | 3,707              | 2,128              | 132              | 314               | 380               | 248               | 450               | 2              | 43               | 9              |
| Kentucky Unemployment Insurance                            | 73,920             | LABOR_M           | TOTAL        | 73,920             | 42,437             | 2,632            | 6,262             | 7,581             | 4,946             | 8,976             | 35             | 866              | 186            |
| Kentucky PSC Maintenance                                   | 977,071            | REVSALES          | TOTAL        | 977,071            | 410,055            | 33,418           | 101,923           | 117,289           | 93,097            | 204,090           | 626            | 14,051           | 2,522          |
| Kentucky Sales & Use                                       | (101,594)          | TDPLANT           | TOTAL        | (101,594)          | (58,835)           | (3,513)          | (9,033)           | (10,869)          | (6,236)           | (9,932)           | (50)           | (2,808)          | (319)          |
| Kentucky Real & Personal Property                          | 10,260,001         | RB_GUP            | TOTAL        | 10,260,001         | 5,337,477          | 277,648          | 856,995           | 1,087,114         | 822,872           | 1,728,620         | 4,836          | 129,302          | 15,138         |
| Kentucky Business Occup Taxes                              | 2,958,572          | LABOR_M           | TOTAL        | 2,958,572          | 1,698,483          | 105,325          | 250,617           | 303,427           | 197,947           | 359,266           | 1,403          | 34,661           | 7,443          |
| Louisiana Real & Personal Property                         | 199                | RB_GUP            | TOTAL        | 199                | 104                | 5                | 17                | 21                | 16                | 34                | 0              | 3                | 0              |
| West Virginia Real & Personal Property                     | 2,059,339          | RB_GUP            | TOTAL        | 2,059,339          | 1,071,313          | 55,728           | 172,012           | 218,200           | 165,163           | 346,960           | 971            | 25,953           | 3,038          |
| West Virginia Unemployment Insurance                       | -                  | LABOR_M           | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| Ohio Gross Receipts Tax                                    | 33,386             | REVSALES          | TOTAL        | 33,386             | 14,011             | 1,142            | 3,483             | 4,008             | 3,181             | 6,974             | 21             | 480              | 86             |
| Ohio Franchise Tax   | -                  | PROD_DEMAND       | TOTAL        | -                  | -                  | -                | -                 | -                 | -                 | -                 | -              | -                | -              |
| West Virginia Franchise Tax                                | (9,120)            | LABOR_M           | TOTAL        | (9,120)            | (5,236)            | (325)            | (773)             | (935)             | (610)             | (1,107)           | (4)            | (107)            | (23)           |
| Kentucky Municipal License Fees                            | 440                | RB_GUP            | TOTAL        | 440                | 229                | 12               | 37                | 47                | 35                | 74                | 0              | 6                | 1              |
| Kentucky License   | 213                | RB_GUP            | TOTAL        | 213                | 111                | 6                | 18                | 23                | 17                | 36                | 0              | 3                | 0              |

**KENTUCKY POWER COMPANY**  
**COST-OF-SERVICE STUDY**  
**TWELVE MONTHS ENDING**  
**SEPTEMBER 30, 2014**

| Label   | Constant           | Allocation Factor | Function     | Total Retail<br>1  | RS<br>2            | SGS<br>3          | Total MGS         | Total LGS         | Total OP          | Total CIP-TOD     | MW<br>17       | OL<br>18         | SL<br>19       |
|---|--------------------|-------------------|--------------|--------------------|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|------------------|----------------|
| West Virginia License Tax                             | 25                 | LABOR_M           | TOTAL        | 25                 | 14                 | 1                 | 2                 | 3                 | 2                 | 3                 | 0              | 0                | 0              |
| Oklahoma License Tax                                  | -                  | PROD_DEMAND       | TOTAL        | -                  | -                  | -                 | -                 | -                 | -                 | -                 | -              | -                | -              |
| Fringe Benefit Loading FICA                           | (1,236,137)        | LABOR_M           | TOTAL        | (1,236,137)        | (709,652)          | (44,007)          | (104,712)         | (126,776)         | (82,705)          | (150,107)         | (586)          | (14,482)         | (3,110)        |
| Fringe Benefit Loading FUT                            | (8,884)            | LABOR_M           | TOTAL        | (8,884)            | (5,100)            | (316)             | (753)             | (911)             | (594)             | (1,079)           | (4)            | (104)            | (22)           |
| Fringe Benefit Loading SUT                            | (22,848)           | LABOR_M           | TOTAL        | (22,848)           | (13,117)           | (813)             | (1,935)           | (2,343)           | (1,529)           | (2,774)           | (11)           | (268)            | (57)           |
| R/E PRS Franchise - CARRS Tax                         | (46,592)           | RB_GUP            | TOTAL        | (46,592)           | (24,238)           | (1,261)           | (3,892)           | (4,937)           | (3,737)           | (7,850)           | (22)           | (587)            | (69)           |
| <b>Total Taxes Other Than Income</b>                  | <b>18,574,386</b>  |                   | <b>TOTAL</b> | <b>18,574,386</b>  | <b>9,845,668</b>   | <b>555,138</b>    | <b>1,578,301</b>  | <b>1,963,884</b>  | <b>1,435,163</b>  | <b>2,923,759</b>  | <b>8,939</b>   | <b>229,570</b>   | <b>33,963</b>  |
| Remove Big Sandy O&M - Property-related               | (900,293)          | RB_GUP            | TOTAL        | (900,293)          | (468,352)          | (24,363)          | (75,199)          | (95,392)          | (72,205)          | (151,683)         | (424)          | (11,346)         | (1,328)        |
| Remove Big Sandy O&M - Payroll-related                | (794,970)          | LABOR_PROD        | TOTAL        | (794,970)          | (362,488)          | (16,543)          | (63,018)          | (84,164)          | (78,255)          | (189,158)         | (377)          | (792)            | (175)          |
| Adjs Made to Include Mitchell Plant O&M - Property    | 1,667,870          | RB_GUP            | TOTAL        | 1,667,870          | 867,662            | 45,134            | 139,313           | 176,722           | 133,766           | 281,005           | 786            | 21,019           | 2,461          |
| Adjs Made to Include Mitchell Plant O&M - Payroll     | 204,840            | LABOR_PROD        | TOTAL        | 204,840            | 93,402             | 4,263             | 16,238            | 21,687            | 20,164            | 48,740            | 97             | 204              | 45             |
| Annualization of Property Tax Expense                 | 314,531            | RB_GUP            | TOTAL        | 314,531            | 163,626            | 8,512             | 26,272            | 33,327            | 25,226            | 52,993            | 148            | 3,964            | 464            |
| KPSC Maintenance Assessment                           | 92,475             | EXP_OTHTAX_PSC    | TOTAL        | 92,475             | 38,810             | 3,163             | 9,646             | 11,101            | 8,811             | 19,316            | 59             | 1,330            | 239            |
| Sales & Use Tax Adjustment                            | 116,430            | TDPLANT           | TOTAL        | 116,430            | 67,427             | 4,026             | 10,352            | 12,456            | 7,147             | 11,383            | 57             | 3,218            | 366            |
| State Franchise Tax Adjustment                        | 9,020              | LABOR_M           | TOTAL        | 9,020              | 5,178              | 321               | 764               | 925               | 603               | 1,095             | 4              | 106              | 23             |
| KPCO T&D Annualization Employee-Related Exps.         | 7,011              | LABOR_TD          | TOTAL        | 7,011              | 4,573              | 257               | 702               | 830               | 335               | 185               | 4              | 87               | 37             |
| <b>Total Adjustments to Taxes Other Than Income</b>   | <b>716,914</b>     |                   | <b>TOTAL</b> | <b>716,914</b>     | <b>409,839</b>     | <b>24,769</b>     | <b>65,071</b>     | <b>77,491</b>     | <b>45,593</b>     | <b>73,876</b>     | <b>354</b>     | <b>17,790</b>    | <b>2,131</b>   |
| <b>Adjusted Taxes Other Than Income</b>               | <b>19,291,300</b>  |                   | <b>TOTAL</b> | <b>19,291,300</b>  | <b>10,255,507</b>  | <b>579,907</b>    | <b>1,643,372</b>  | <b>2,041,375</b>  | <b>1,480,756</b>  | <b>2,997,635</b>  | <b>9,294</b>   | <b>247,360</b>   | <b>36,094</b>  |
| <b>Other Expenses</b>                                 |                    |                   |              |                    |                    |                   |                   |                   |                   |                   |                |                  |                |
| Gain/Loss on Disposition of Utility Plant             | (3,857)            | RB_GUP_EPIS_D     | TOTAL        | (3,857)            | (2,545)            | (173)             | (373)             | (419)             | (139)             | (3)               | (2)            | (183)            | (21)           |
| Loss on Disposition of Utility Plant                  | -                  | RB_GUP            | TOTAL        | -                  | -                  | -                 | -                 | -                 | -                 | -                 | -              | -                | -              |
| Gain/Loss on Disposition of Allowances                | -                  | PROD_ENERGY       | TOTAL        | -                  | -                  | -                 | -                 | -                 | -                 | -                 | -              | -                | -              |
| Accretion   | 718,740            | PROD_DEMAND       | TOTAL        | 718,740            | 337,770            | 14,796            | 56,831            | 75,642            | 69,087            | 164,010           | 328            | 225              | 51             |
| Interest Income - Corp. Borrowing Program             | (53,251)           | RB_GUP            | TOTAL        | (53,251)           | (27,702)           | (1,441)           | (4,448)           | (5,642)           | (4,271)           | (8,972)           | (25)           | (671)            | (79)           |
| Interest Expense - Corp. Borrowing Program            | 28,225             | RB_GUP            | TOTAL        | 28,225             | 14,683             | 764               | 2,358             | 2,991             | 2,264             | 4,755             | 13             | 356              | 42             |
| Other Interest Expense                                | 399,669            | RB_GUP            | TOTAL        | 399,669            | 207,917            | 10,816            | 33,383            | 42,348            | 32,054            | 67,337            | 188            | 5,037            | 590            |
| Interest on Customer Deposits                         | 32,735             | CUST_DEP_FXNL     | TOTAL        | 32,735             | 23,878             | 1,437             | 3,664             | 1,959             | 1,636             | -                 | -              | 160              | -              |
| <b>Total Other Expenses</b>                           | <b>1,122,261</b>   |                   | <b>TOTAL</b> | <b>1,122,261</b>   | <b>554,001</b>     | <b>26,199</b>     | <b>91,415</b>     | <b>116,879</b>    | <b>100,631</b>    | <b>227,127</b>    | <b>503</b>     | <b>4,924</b>     | <b>583</b>     |
| ARO Accretion   | 363,539            | PROD_DEMAND       | TOTAL        | 363,539            | 170,844            | 7,484             | 28,745            | 38,260            | 34,944            | 82,956            | 166            | 114              | 26             |
| Adjustment to Interest on Customer Deposits           | (2,422)            | CUST_DEP_FXNL     | TOTAL        | (2,422)            | (1,767)            | (106)             | (271)             | (145)             | (121)             | -                 | -              | (12)             | -              |
| <b>Total Adjustments to Other Expenses</b>            | <b>361,117</b>     |                   | <b>TOTAL</b> | <b>361,117</b>     | <b>169,078</b>     | <b>7,377</b>      | <b>28,474</b>     | <b>38,115</b>     | <b>34,823</b>     | <b>82,956</b>     | <b>166</b>     | <b>102</b>       | <b>26</b>      |
| <b>Total Adjusted Other Expenses</b>                  | <b>1,483,378</b>   |                   | <b>TOTAL</b> | <b>1,483,378</b>   | <b>723,079</b>     | <b>33,576</b>     | <b>119,889</b>    | <b>154,994</b>    | <b>135,454</b>    | <b>310,083</b>    | <b>669</b>     | <b>5,025</b>     | <b>609</b>     |
| <b>Total Operating Expense Before Income Tax</b>      | <b>453,449,604</b> |                   | <b>TOTAL</b> | <b>453,449,604</b> | <b>207,802,948</b> | <b>12,670,559</b> | <b>38,334,337</b> | <b>50,666,546</b> | <b>41,771,834</b> | <b>97,416,954</b> | <b>247,712</b> | <b>3,770,518</b> | <b>768,196</b> |
| <b>Gross Operating Income</b>                         | <b>117,150,056</b> |                   | <b>TOTAL</b> | <b>117,150,056</b> | <b>29,376,450</b>  | <b>7,420,899</b>  | <b>22,454,864</b> | <b>20,832,570</b> | <b>12,676,791</b> | <b>19,989,032</b> | <b>120,169</b> | <b>3,610,900</b> | <b>668,381</b> |
| Allowance for Borrowed Funds Used During Construction | 1,880,353          | RATEBASE          | TOTAL        | 1,880,353          | 1,001,418          | 56,000            | 159,945           | 202,554           | 140,319           | 280,398           | 934            | 34,642           | 4,143          |
| Interest Synchronization Tax                          | (32,814,262)       | RATEBASE          | TOTAL        | (32,814,262)       | (17,475,863)       | (977,269)         | (2,791,225)       | (3,534,791)       | (2,448,732)       | (4,893,251)       | (16,295)       | (604,535)        | (72,303)       |
| <b>Taxable Income Before Schedule M Adjustments</b>   | <b>86,216,147</b>  |                   | <b>TOTAL</b> | <b>86,216,147</b>  | <b>12,902,005</b>  | <b>6,499,630</b>  | <b>19,823,584</b> | <b>17,500,333</b> | <b>10,368,379</b> | <b>15,376,179</b> | <b>104,808</b> | <b>3,041,008</b> | <b>600,222</b> |
| <b>Schedule M Income Adjustments</b>                  |                    |                   |              |                    |                    |                   |                   |                   |                   |                   |                |                  |                |
| Book vs. Tax Depreciation - Normalized                | 10,392,065         | RB_GUP            | TOTAL        | 10,392,065         | 5,406,180          | 281,221           | 868,026           | 1,101,107         | 833,464           | 1,750,871         | 4,898          | 130,966          | 15,333         |
| AFUDC - HR/J  | 11,364             | BULK_TRANS        | TOTAL        | 11,364             | 5,340              | 234               | 899               | 1,196             | 1,092             | 2,593             | 5              | 4                | 1              |
| ABFUDC  | (1,880,353)        | RB_GUP_CWIP       | TOTAL        | (1,880,353)        | (924,626)          | (44,109)          | (151,830)         | (198,086)         | (167,486)         | (381,160)         | (870)          | (10,868)         | (1,320)        |
| ABFUDC - HR/J   | 21,735             | BULK_TRANS        | TOTAL        | 21,735             | 10,214             | 447               | 1,719             | 2,287             | 4,960             | 10                | 7              | 2                | 2              |
| Interest Capitalization                               | 4,187,996          | RB_GUP            | TOTAL        | 4,187,996          | 2,178,687          | 113,332           | 349,814           | 443,745           | 335,886           | 705,600           | 1,974          | 52,779           | 6,179          |
| SEC 481 Pension/OPEB Adjustment                       | 3,045              | LABOR_M           | TOTAL        | 3,045              | 1,748              | 108               | 258               | 312               | 204               | 370               | 1              | 36               | 8              |
| Book/Tax Unit of Property                             | (9,600,340)        | RB_GUP            | TOTAL        | (9,600,340)        | (4,994,307)        | (259,796)         | (801,895)         | (1,017,219)       | (769,966)         | (1,617,480)       | (4,525)        | (120,988)        | (14,165)       |
| Book/Tax Unit of Property - SEC 481                   | 2,703,612          | RB_GUP            | TOTAL        | 2,703,612          | 1,406,478          | 73,163            | 225,827           | 286,465           | 216,835           | 455,509           | 1,274          | 34,072           | 3,989          |
| Removal Costs   | (8,208,700)        | RB_GUP            | TOTAL        | (8,208,700)        | (4,270,345)        | (222,137)         | (685,654)         | (869,765)         | (658,354)         | (1,383,014)       | (3,869)        | (103,450)        | (12,111)       |
| Tax Amortization of Pollution Control                 | 4,437,000          | PROD_DEMAND       | TOTAL        | 4,437,000          | 2,085,158          | 91,340            | 350,833           | 466,964           | 426,492           | 1,012,484         | 2,025          | 1,387            | 317            |
| Provision for Possible Revenue Refunds                | (516,436)          | REV               | TOTAL        | (516,436)          | (214,610)          | (18,182)          | (55,021)          | (64,716)          | (49,294)          | (106,308)         | (333)          | (6,673)          | (1,300)        |
| Deferred Fuel   | (14,572,129)       | FUELREV           | TOTAL        | (14,572,129)       | (5,205,269)        | (315,768)         | (1,138,809)       | (1,515,128)       | (1,689,865)       | (4,584,850)       | (8,593)        | (94,861)         | (18,986)       |
| Provision for Workers Comp                            | 350,153            | LABOR_M           | TOTAL        | 350,153            | 201,019            | 12,465            | 29,661            | 35,911            | 23,427            | 42,520            | 166            | 4,102            | 881            |
| Accrued Book Pension Expense                          | 313,164            | LABOR_M           | TOTAL        | 313,164            | 179,784            | 11,149            | 26,528            | 32,118            | 20,953            | 38,028            | 148            | 3,669            | 788            |
| Accrued Book Pension Costs - SFAS 158                 | (14,366,306)       | LABOR_M           | TOTAL        | (14,366,306)       | (8,247,533)        | (511,441)         | (1,216,951)       | (1,473,388)       | (961,198)         | (1,744,532)       | (6,812)        | (168,308)        | (36,142)       |
| Supplemental Executive Retirement                     | 1,141              | LABOR_M           | TOTAL        | 1,141              | 655                | 41                | 97                | 117               | 76                | 139               | 1              | 13               | 3              |
| Accrd Supplemental Exec Retirement SFAS 158           | (3,733)            | LABOR_M           | TOTAL        | (3,733)            | (2,143)            | (133)             | (316)             | (383)             | (250)             | (453)             | (2)            | (44)             | (9)            |
| Accrd Supplemental Savings Plan Exp                   | (100,554)          | LABOR_M           | TOTAL        | (100,554)          | (57,727)           | (3,580)           | (8,518)           | (10,313)          | (6,728)           | (12,210)          | (48)           | (1,178)          | (253)          |
| Accrued PSI Plan Expenses                             | 122,366            | LABOR_M           | TOTAL        | 122,366            | 70,249             | 4,356             | 10,365            | 12,550            | 8,187             | 14,859            | 58             | 1,434            | 308            |
| Book Provision for Uncollectible Accounts             | (44,200)           | CUST_TOTAL        | TOTAL        | (44,200)           | (28,043)           | (4,831)           | (1,480)           | (173)             | (16)              | (2)               | (2)            | (9,643)          | (11)           |
| Accrued Companywide Incentive Plan - Engage to Gain   | (125,184)          | LABOR_M           | TOTAL        | (125,184)          | (71,867)           | (4,457)           | (10,604)          | (12,839)          | (8,376)           | (15,201)          | (59)           | (1,467)          | (315)          |
| Accrued Companywide Incentive Plan                    | 3,270,905          | LABOR_M           | TOTAL        | 3,270,905          | 1,877,789          | 116,444           | 277,074           | 335,459           | 218,844           | 397,193           | 1,551          | 38,320           | 8,229          |

**KENTUCKY POWER COMPANY**  
**COST-OF-SERVICE STUDY**  
**TWELVE MONTHS ENDING**  
**SEPTEMBER 30, 2014**

| Label  | Constant           | Allocation Factor | Function     | Total Retail<br>1  | RS<br>2          | SGS<br>3       | Total MGS        | Total LGS        | Total OP           | Total CIP-TOD      | MW<br>17       | OL<br>18       | SL<br>19      |
|--|--------------------|-------------------|--------------|--------------------|------------------|----------------|------------------|------------------|--------------------|--------------------|----------------|----------------|---------------|
| Accrued Book Vacation Pay                              | 1,827,757          | LABOR_M           | TOTAL        | 1,827,757          | 1,049,295        | 65,068         | 154,827          | 187,452          | 122,289            | 221,949            | 867            | 21,413         | 4,598         |
| (ICDP) Incentive Comp Deferral Plan                    | (66,983)           | LABOR_M           | TOTAL        | (66,983)           | (38,454)         | (2,385)        | (5,674)          | (6,870)          | (4,482)            | (8,134)            | (32)           | (785)          | (169)         |
| Accrued Book Severance Benefits                        | (1,411)            | LABOR_M           | TOTAL        | (1,411)            | (810)            | (50)           | (120)            | (145)            | (94)               | (171)              | (1)            | (17)           | (4)           |
| Reg Asset on Deferred RTO Costs                        | 213,955            | TRANS_TOTAL       | TOTAL        | 213,955            | 99,929           | 4,355          | 16,737           | 22,412           | 20,662             | 49,697             | 97             | 53             | 12            |
| Federal Mitigation Programs                            | -                  | PROD_ENERGY       | TOTAL        | -                  | -                | -              | -                | -                | -                  | -                  | -              | -              | -             |
| State Mitigation Programs                              | (313,063)          | PROD_ENERGY       | TOTAL        | (313,063)          | (111,244)        | (7,019)        | (25,270)         | (34,560)         | (36,039)           | (96,483)           | (190)          | (1,854)        | (403)         |
| Customer Adv Inc for Tax                               | 24,476             | TDPLANT           | TOTAL        | 24,476             | 14,175           | 846            | 2,176            | 2,618            | 1,502              | 2,393              | 12             | 676            | 77            |
| Deferred Book Contract Revenue                         | (13,407)           | REV               | TOTAL        | (13,407)           | (5,571)          | (472)          | (1,428)          | (1,680)          | (1,280)            | (2,760)            | (9)            | (173)          | (34)          |
| Deferred Storm Damage                                  | 4,632,666          | EXP_OM_DIST       | TOTAL        | 4,632,666          | 3,129,044        | 179,270        | 476,453          | 556,524          | 192,991            | 3,317              | 2,638          | 64,795         | 27,634        |
| Deferred Demand Side Management Exp                    | 941,289            | LABOR_M           | TOTAL        | 941,289            | 540,383          | 33,510         | 79,735           | 96,537           | 62,978             | 114,303            | 446            | 11,028         | 2,368         |
| Advance Rental Income                                  | 1,923              | REV_OTHER         | TOTAL        | 1,923              | 1,355            | 92             | 214              | 178              | 62                 | (3)                | 1              | 22             | 2             |
| Deferred Rev - Bonus Lease - Short-Term                | 426,817            | REV               | TOTAL        | 426,817            | 177,368          | 15,027         | 45,473           | 53,486           | 40,740             | 87,860             | 275            | 5,515          | 1,074         |
| Deferred Rev - Bonus Lease - Long-Term                 | 1,529,427          | REV               | TOTAL        | 1,529,427          | 635,567          | 53,846         | 162,945          | 191,656          | 145,983            | 314,832            | 986            | 19,762         | 3,849         |
| Reg Asset - SFAS 158 Pensions                          | 14,366,306         | LABOR_M           | TOTAL        | 14,366,306         | 8,247,533        | 511,441        | 1,216,951        | 1,473,388        | 961,198            | 1,744,532          | 6,812          | 168,308        | 36,142        |
| Reg Asset - SFAS 158 SERP                              | 3,733              | LABOR_M           | TOTAL        | 3,733              | 2,143            | 133            | 316              | 383              | 250                | 453                | 2              | 44             | 9             |
| Reg Asset - SFAS 158 OPEB                              | 11,451,882         | LABOR_M           | TOTAL        | 11,451,882         | 6,574,395        | 407,688        | 970,074          | 1,174,489        | 766,204            | 1,390,627          | 5,430          | 134,164        | 28,810        |
| Reg Asset - ATR Under Recovery                         | (3,564,843)        | PROD_DEMAND       | TOTAL        | (3,564,843)        | (1,675,290)      | (73,386)       | (281,872)        | (375,175)        | (342,659)          | (813,465)          | (1,627)        | (1,115)        | (255)         |
| Book Amortization Loss on Reacquired Debt              | 33,279             | RB_GUP            | TOTAL        | 33,279             | 17,312           | 901            | 2,780            | 3,526            | 2,669              | 5,607              | 16             | 419            | 49            |
| Accrued SFAS 106 Post Retirement Exp                   | (2,674,550)        | LABOR_M           | TOTAL        | (2,674,550)        | (1,535,429)      | (95,214)       | (226,558)        | (274,298)        | (178,944)          | (324,777)          | (1,268)        | (31,334)       | (6,729)       |
| Accrued OPEB Costs SFAS 158                            | (11,451,882)       | LABOR_M           | TOTAL        | (11,451,882)       | (6,574,395)      | (407,688)      | (970,074)        | (1,174,489)      | (766,204)          | (1,390,627)        | (5,430)        | (134,164)      | (28,810)      |
| Accrd SFAS 112 Post Employment Benefits                | 911,790            | LABOR_M           | TOTAL        | 911,790            | 523,448          | 32,460         | 77,237           | 93,512           | 61,005             | 110,721            | 432            | 10,682         | 2,294         |
| Accrued Book ARO Expense - SFAS 143                    | 1,030,944          | RB_GUP            | TOTAL        | 1,030,944          | 536,320          | 27,899         | 86,112           | 109,235          | 82,684             | 173,695            | 486            | 12,992         | 1,521         |
| Reg Asset Medicare Subsidy Flow Thru                   | 214,454            | LABOR_M           | TOTAL        | 214,454            | 123,116          | 7,635          | 18,166           | 21,994           | 14,348             | 26,042             | 102            | 2,512          | 540           |
| SFAS 109 - Deferred SIT Liability                      | 3,584,547          | REV               | TOTAL        | 3,584,547          | 1,489,591        | 126,201        | 381,898          | 449,189          | 342,144            | 737,877            | 2,311          | 46,316         | 9,020         |
| Reg Asset - SFAS 109 - Deferred SIT Liability          | (3,584,547)        | REV               | TOTAL        | (3,584,547)        | (1,489,591)      | (126,201)      | (381,898)        | (449,189)        | (342,144)          | (737,877)          | (2,311)        | (46,316)       | (9,020)       |
| Regulatory Asset Accrued SFAS 112                      | 11,917             | LABOR_M           | TOTAL        | 11,917             | 6,841            | 424            | 1,009            | 1,222            | 797                | 1,447              | 6              | 140            | 30            |
| IRS Capitalization Adjustment                          | (63,083)           | REV               | TOTAL        | (63,083)           | (26,215)         | (2,221)        | (6,721)          | (7,905)          | (6,021)            | (12,986)           | (41)           | (815)          | (159)         |
| Nontaxable Defd Compensation CSV Earn                  | 15,176             | LABOR_M           | TOTAL        | 15,176             | 8,712            | 540            | 1,286            | 1,556            | 1,015              | 1,843              | 7              | 178            | 38            |
| Noneductible Meals and Travel & Entertainment          | 52,113             | LABOR_M           | TOTAL        | 52,113             | 29,917           | 1,855          | 4,414            | 5,345            | 3,487              | 6,328              | 25             | 611            | 131           |
| Capitalized Software Costs Tax                         | 4,276              | RB_GUP            | TOTAL        | 4,276              | 2,224            | 116            | 357              | 453              | 343                | 720                | 2              | 54             | 6             |
| Book Leases Capitalized for Tax                        | (424,281)          | RB_GUP            | TOTAL        | (424,281)          | (220,720)        | (11,482)       | (35,439)         | (44,955)         | (34,028)           | (71,483)           | (200)          | (5,347)        | (626)         |
| Capitalized Software Costs Book                        | (497,306)          | RB_GUP            | TOTAL        | (497,306)          | (258,709)        | (13,458)       | (41,539)         | (52,693)         | (39,885)           | (83,778)           | (234)          | (6,267)        | (734)         |
| MTM Book Gain Above the Line Tax Deferral              | 3,087,573          | PROD_ENERGY       | TOTAL        | 3,087,573          | 1,097,143        | 69,226         | 249,228          | 340,842          | 355,430            | 951,561            | 1,877          | 18,288         | 3,979         |
| Mark & Spread Deferral - 283 A/L                       | (32,509)           | PROD_ENERGY       | TOTAL        | (32,509)           | (11,552)         | (729)          | (2,624)          | (3,589)          | (3,742)            | (10,019)           | (20)           | (193)          | (42)          |
| Mark & Spread Deferral - 190 A/L                       | 306,228            | PROD_ENERGY       | TOTAL        | 306,228            | 108,816          | 6,866          | 24,719           | 33,805           | 35,252             | 94,377             | 186            | 1,814          | 395           |
| Provision for Trading Credit Risk (Above Line)         | (127,666)          | PROD_ENERGY       | TOTAL        | (127,666)          | (45,365)         | (2,862)        | (10,305)         | (14,093)         | (14,696)           | (39,345)           | (78)           | (756)          | (165)         |
| Provision for FAS 157 A/L                              | 14,760             | PROD_ENERGY       | TOTAL        | 14,760             | 5,245            | 331            | 1,191            | 1,629            | 4,549              | 9                  | 87             | 19             |               |
| Reg Liability - Unrealized MTM Gain Deferral           | (350,135)          | PROD_ENERGY       | TOTAL        | (350,135)          | (124,418)        | (7,850)        | (28,263)         | (38,652)         | (40,306)           | (107,908)          | (213)          | (2,074)        | (451)         |
| Book > Tax Basis - EMA A/C 283                         | (1,635,359)        | PROD_ENERGY       | TOTAL        | (1,635,359)        | (581,111)        | (36,666)       | (132,005)        | (180,530)        | (188,257)          | (504,002)          | (934)          | (9,686)        | (2,108)       |
| <b>Total Schedule M Adjustments - Per Books</b>        | <b>(3,717,126)</b> |                   | <b>TOTAL</b> | <b>(3,717,126)</b> | <b>1,127,830</b> | <b>77,915</b>  | <b>(105,469)</b> | <b>(281,167)</b> | <b>(1,007,031)</b> | <b>(3,579,186)</b> | <b>(2,624)</b> | <b>28,289</b>  | <b>24,316</b> |
| Fuel Over/Under Revenues                               | 5,298,776          | FUELREV           | TOTAL        | 5,298,776          | 1,892,761        | 114,821        | 414,098          | 550,937          | 614,476            | 1,667,161          | 3,125          | 34,494         | 6,904         |
| Amortization of Storm Cost Deferral                    | (2,237,475)        | EXP_OM_DIST       | TOTAL        | (2,237,475)        | (1,511,259)      | (86,584)       | (230,116)        | (268,789)        | (93,211)           | (1,602)            | (1,274)        | (31,294)       | (13,347)      |
| Pension and OPEB Expense Adjustment                    | (226,781)          | LABOR_M           | TOTAL        | (226,781)          | (130,192)        | (8,073)        | (19,210)         | (23,258)         | (15,173)           | (27,539)           | (108)          | (2,657)        | (571)         |
| Amortization of Deferred IGCC Costs                    | 52,505             | PROD_DEMAND       | TOTAL        | 52,505             | 24,675           | 1,081          | 4,152            | 5,526            | 5,047              | 11,981             | 24             | 16             | 4             |
| Amortization of Deferred CCS FEED Study Costs          | 34,425             | PROD_DEMAND       | TOTAL        | 34,425             | 16,178           | 709            | 2,722            | 3,623            | 3,309              | 7,855              | 16             | 11             | 2             |
| Amortization of Deferred CARRS Site Costs              | 103,330            | PROD_DEMAND       | TOTAL        | 103,330            | 48,560           | 2,127          | 8,170            | 10,875           | 9,932              | 23,579             | 47             | 32             | 7             |
| Amortization of Defd Preliminary Big Sandy FGD Costs   | 1,105,293          | PROD_DEMAND       | TOTAL        | 1,105,293          | 519,430          | 22,753         | 87,395           | 116,324          | 106,243            | 252,218            | 504            | 346            | 79            |
| Incentive Compensation Plan Adjustment                 | 66,983             | LABOR_M           | TOTAL        | 66,983             | 38,454           | 2,385          | 5,674            | 6,870            | 4,482              | 8,134              | 32             | 785            | 169           |
| KPCo Depreciation Annualization Exp - T&D Plant        | 12,771,261         | TDPLANT           | TOTAL        | 12,771,261         | 7,396,085        | 441,562        | 1,135,528        | 1,366,278        | 783,917            | 1,248,571          | 6,251          | 352,951        | 40,118        |
| Amortization of Intangible Expenses                    | 209,475            | LABOR_M           | TOTAL        | 209,475            | 120,257          | 7,457          | 17,744           | 21,483           | 14,015             | 25,437             | 99             | 2,454          | 527           |
| Mitchell Depreciation Annualization - Production       | 3,764,718          | PROD_DEMAND       | TOTAL        | 3,764,718          | 1,769,221        | 77,500         | 297,676          | 396,211          | 361,871            | 859,075            | 1,718          | 1,177          | 269           |
| Removal of Big Sandy Depreciation                      | (17,212,456)       | PROD_DEMAND       | TOTAL        | (17,212,456)       | (8,088,956)      | (354,334)      | (1,360,988)      | (1,811,492)      | (1,654,490)        | (3,927,729)        | (7,855)        | (5,382)        | (1,229)       |
| ARO Depreciation Adjustment                            | 237,400            | PROD_DEMAND       | TOTAL        | 237,400            | 111,566          | 4,887          | 18,771           | 24,985           | 22,819             | 54,173             | 108            | 74             | 17            |
| Removal of RTO Amortization                            | (149,718)          | TRANS_TOTAL       | TOTAL        | (149,718)          | (69,927)         | (3,047)        | (11,712)         | (15,683)         | (14,458)           | (34,776)           | (68)           | (37)           | (9)           |
| ARO Accretion  | 363,539            | PROD_DEMAND       | TOTAL        | 363,539            | 170,844          | 7,484          | 28,745           | 38,260           | 34,944             | 82,956             | 166            | 114            | 26            |
| Annualize Removal Cost - Schedule M Adjustment         | 326,280            | RB_GUP            | TOTAL        | 326,280            | 169,738          | 8,830          | 27,253           | 34,571           | 26,168             | 54,972             | 154            | 4,112          | 481           |
| Annualize Section 199 Manuf. Deduct. @ Separate Return | (117,148)          | RB_GUP_EPIS_P     | TOTAL        | (117,148)          | (55,053)         | (2,412)        | (9,263)          | (12,329)         | (11,260)           | (26,732)           | (53)           | (37)           | (8)           |
| Mitchell Plant Depreciation-Related Shedule M's        | (3,892,704)        | PROD_DEMAND       | TOTAL        | (3,892,704)        | (1,829,368)      | (80,135)       | (307,796)        | (409,680)        | (374,173)          | (888,280)          | (1,777)        | (1,217)        | (278)         |
| Mitchell Depreciation Annualization - Production       | -                  | PROD_DEMAND       | TOTAL        | -                  | -                | -              | -                | -                | -                  | -                  | -              | -              | -             |
| Annualize Section 199 Manuf. Deduct. @ Separate Return | -                  | RB_GUP_EPIS_P     | TOTAL        | -                  | -                | -              | -                | -                | -                  | -                  | -              | -              | -             |
| Mitchell Plant Depreciation-Related Shedule M's        | -                  | PROD_DEMAND       | TOTAL        | -                  | -                | -              | -                | -                | -                  | -                  | -              | -              | -             |
| Adjustments to Per Books Schedule M                    | 497,703            |                   | TOTAL        | 497,703            | 593,014          | 157,010        | 108,844          | 34,711           | (175,543)          | (610,546)          | 1,109          | 355,941        | 33,161        |
| <b>Adjusted Schedule M</b>                             | <b>(3,219,423)</b> |                   | <b>TOTAL</b> | <b>(3,219,423)</b> | <b>1,720,844</b> | <b>234,925</b> | <b>3,376</b>     | <b>(246,455)</b> | <b>(1,182,574)</b> | <b>(4,189,731)</b> | <b>(1,514)</b> | <b>384,230</b> | <b>57,477</b> |
| Amortization of Big Sandy Depreciation & O&M - O&M     | -                  | PROD_DEMAND       |              | -                  | -                | -              | -                | -                | -                  | -                  | -              | -              | -             |
| Kentucky Taxable Income Before Adjustments             | 82,996,724         |                   | TOTAL        | 82,996,724         | 14,622,850       | 6,734,556      | 19,826,960       | 17,253,878       | 9,185,804          | 11,186,447         | 103,294        | 3,425,237      | 657,698       |
| JCWA Depreciation Adjustment                           | (6,013,710)        | RB_GUP            | TOTAL        | (6,013,710)        | (3,128,464)      | (162,738)      | (502,312)        | (637,192)        | (482,311)          | (1,013,199)        | (2,835)        | (75,788)       | (8,873)       |
| Federal Domestic Production Activity                   | 117,148            | RB_GUP_EPIS_P     | TOTAL        | 117,148            | 55,053           | 2,412          | 9,263            | 12,329           | 11,260             | 26,732             | 53             | 37             | 8             |

**KENTUCKY POWER COMPANY**  
**COST-OF-SERVICE STUDY**  
**TWELVE MONTHS ENDING**  
**SEPTEMBER 30, 2014**

| Label  | Constant    | Allocation Factor | Function | Total Retail<br>1 | RS<br>2     | SGS<br>3  | Total MGS  | Total LGS  | Total OP  | Total CIP-TOD | MW<br>17 | OL<br>18  | SL<br>19 |
|--|-------------|-------------------|----------|-------------------|-------------|-----------|------------|------------|-----------|---------------|----------|-----------|----------|
| <b>Kentucky Taxable Income</b>                         | 77,100,162  |                   | TOTAL    | 77,100,162        | 11,549,440  | 6,574,229 | 19,333,911 | 16,629,015 | 8,714,753 | 10,199,981    | 100,512  | 3,349,486 | 648,834  |
| <b>Tax Factor (Tax Rate x Apportionment)</b>           | 4.4341800%  |                   |          |                   |             |           |            |            |           |               |          |           |          |
| <b>Kentucky Tax</b>                                    | 3,418,760   |                   | TOTAL    | 3,418,760         | 512,123     | 291,513   | 857,300    | 737,360    | 386,428   | 452,286       | 4,457    | 148,522   | 28,770   |
| West Virginia Taxable Income Before Adjustments        | 82,996,724  |                   | TOTAL    | 82,996,724        | 14,622,850  | 6,734,556 | 19,826,960 | 17,253,878 | 9,185,804 | 11,186,447    | 103,294  | 3,425,237 | 657,698  |
| Federal Domestic Production Activity                   | 117,148     | RB_GUP_EPIS_P     | TOTAL    | 117,148           | 55,053      | 2,412     | 9,263      | 12,329     | 11,260    | 26,732        | 53       | 37        | 8        |
| <b>West Virginia Taxable Income</b>                    | 83,113,872  |                   | TOTAL    | 83,113,872        | 14,677,903  | 6,736,967 | 19,836,223 | 17,266,207 | 9,197,065 | 11,213,179    | 103,347  | 3,425,274 | 657,707  |
| <b>Apportionment Factor</b>                            | 17.7890000% |                   |          |                   |             |           |            |            |           |               |          |           |          |
| <b>Apportioned West Virginia Taxable Income</b>        | 14,785,127  |                   | TOTAL    | 14,785,127        | 2,611,052   | 1,198,439 | 3,528,666  | 3,071,486  | 1,636,066 | 1,994,712     | 18,384   | 609,322   | 116,999  |
| Post Apportionment Schedule M Adjustments              | 6,978,384   | RB_GUP            | TOTAL    | 6,978,384         | 3,630,308   | 188,843   | 582,889    | 739,405    | 559,680   | 1,175,728     | 3,289    | 87,945    | 10,296   |
| Post Apportionment Taxable Income                      | 21,763,511  |                   | TOTAL    | 21,763,511        | 6,241,360   | 1,387,282 | 4,111,554  | 3,810,891  | 2,195,746 | 3,170,441     | 21,674   | 697,267   | 127,296  |
| <b>Tax Rate</b>  | 6.5000000%  |                   |          |                   |             |           |            |            |           |               |          |           |          |
| <b>West Virginia Tax</b>                               | 1,414,628   |                   | TOTAL    | 1,414,628         | 405,688     | 90,173    | 267,251    | 247,708    | 142,723   | 206,079       | 1,409    | 45,322    | 8,274    |
| Illinois Taxable Income Before Depreciation Adjustment | 82,996,724  |                   | TOTAL    | 82,996,724        | 14,622,850  | 6,734,556 | 19,826,960 | 17,253,878 | 9,185,804 | 11,186,447    | 103,294  | 3,425,237 | 657,698  |
| JCWA Depreciation Adjustment                           | (2,658,840) | RB_GUP            | TOTAL    | (2,658,840)       | (1,383,187) | (71,951)  | (222,087)  | (281,721)  | (213,244) | (447,965)     | (1,253)  | (33,508)  | (3,923)  |
| Federal Domestic Production Activity                   | 117,148     | RB_GUP_EPIS_P     | TOTAL    | 117,148           | 55,053      | 2,412     | 9,263      | 12,329     | 11,260    | 26,732        | 53       | 37        | 8        |
| <b>Illinois Taxable Income</b>                         | 80,455,032  |                   | TOTAL    | 80,455,032        | 13,294,716  | 6,665,016 | 19,614,136 | 16,984,485 | 8,983,821 | 10,765,214    | 102,094  | 3,391,766 | 653,784  |
| <b>Apportionment Factor</b>                            | 1.4511000%  |                   |          |                   |             |           |            |            |           |               |          |           |          |
| <b>Apportioned Illinois State Taxable Income</b>       | 1,167,483   |                   | TOTAL    | 1,167,483         | 192,920     | 96,716    | 284,621    | 246,462    | 130,364   | 156,214       | 1,481    | 49,218    | 9,487    |
| Post Apportionment Schedule M Adjustments              | (79,783)    | RB_GUP            | TOTAL    | (79,783)          | (41,505)    | (2,159)   | (6,664)    | (8,454)    | (6,399)   | (13,442)      | (38)     | (1,005)   | (118)    |
| Post Apportionment Taxable Income                      | 1,087,700   |                   | TOTAL    | 1,087,700         | 151,415     | 94,557    | 277,957    | 238,008    | 123,965   | 142,772       | 1,444    | 48,212    | 9,369    |
| <b>Tax Rate</b>  | 9.5000000%  |                   |          |                   |             |           |            |            |           |               |          |           |          |
| <b>Illinois Tax</b>                                    | 103,331     |                   | TOTAL    | 103,331           | 14,384      | 8,983     | 26,406     | 22,611     | 11,777    | 13,563        | 137      | 4,580     | 890      |
| Michigan Taxable Income Before Depreciation Adjustment | 82,996,724  |                   | TOTAL    | 82,996,724        | 14,622,850  | 6,734,556 | 19,826,960 | 17,253,878 | 9,185,804 | 11,186,447    | 103,294  | 3,425,237 | 657,698  |
| JCWA Depreciation Adjustment                           | (4,544,916) | RB_GUP            | TOTAL    | (4,544,916)       | (2,364,365) | (122,991) | (379,627)  | (481,563)  | (364,511) | (765,734)     | (2,142)  | (57,277)  | (6,706)  |
| Federal Domestic Production Activity                   | 117,148     | RB_GUP_EPIS_P     | TOTAL    | 117,148           | 55,053      | 2,412     | 9,263      | 12,329     | 11,260    | 26,732        | 53       | 37        | 8        |
| <b>Michigan Taxable Income</b>                         | 78,568,956  |                   | TOTAL    | 78,568,956        | 12,313,538  | 6,613,976 | 19,456,596 | 16,784,643 | 8,832,554 | 10,447,445    | 101,205  | 3,367,997 | 651,001  |
| <b>Tax Factor (Tax Rate x Apportionment)</b>           | 0.0064140%  |                   |          |                   |             |           |            |            |           |               |          |           |          |
| <b>Michigan Tax</b>                                    | 5,039       |                   | TOTAL    | 5,039             | 790         | 424       | 1,248      | 1,077      | 567       | 670           | 6        | 216       | 42       |
| <b>Total Current State Income Tax</b>                  | 4,941,759   |                   | TOTAL    | 4,941,759         | 932,986     | 391,094   | 1,152,205  | 1,008,756  | 541,495   | 672,598       | 6,009    | 198,641   | 37,977   |
| Deferred State Income Tax                              | (453,595)   |                   | TOTAL    | (453,595)         | (235,970)   | (12,275)  | (37,888)   | (48,061)   | (36,379)  | (76,422)      | (214)    | (5,716)   | (669)    |
| Mitchell Plant DSIT Amortization Adjustment            | (197,446)   | RB_GUP_EPIS_P     | TOTAL    | (197,446)         | (92,789)    | (4,065)   | (15,612)   | (20,780)   | (18,979)  | (45,055)      | (90)     | (62)      | (14)     |
| <b>Total Adjusted Deferred State Income Tax</b>        | (651,041)   |                   | TOTAL    | (651,041)         | (328,759)   | (16,339)  | (53,500)   | (68,841)   | (55,358)  | (121,478)     | (304)    | (5,778)   | (683)    |
| <b>Total State Income Tax</b>                          | 4,290,718   |                   | TOTAL    | 4,290,718         | 604,226     | 374,754   | 1,098,705  | 939,915    | 486,137   | 551,120       | 5,705    | 192,863   | 37,293   |
| <b>Federal Taxable Income</b>                          | 78,054,965  |                   | TOTAL    | 78,054,965        | 13,689,864  | 6,343,462 | 18,674,755 | 16,245,122 | 8,644,310 | 10,513,850    | 97,284   | 3,226,597 | 619,722  |
| <b>Tax Factor (Tax Rate x Apportionment)</b>           | 35.00%      |                   |          |                   |             |           |            |            |           |               |          |           |          |
| <b>Gross Current FIT</b>                               | 27,319,238  |                   | TOTAL    | 27,319,238        | 4,791,452   | 2,220,212 | 6,536,164  | 5,685,793  | 3,025,508 | 3,679,847     | 34,049   | 1,129,309 | 216,903  |
| Feedback Prior ITC Normalization Tax                   | (128,109)   | RB_GUP            | TOTAL    | (128,109)         | (66,645)    | (3,467)   | (10,701)   | (13,574)   | (10,275)  | (21,584)      | (60)     | (1,614)   | (189)    |
| Defd Investment Tax Credit Adjustment                  | -           | RB_GUP            | TOTAL    | -                 | -           | -         | -          | -          | -         | -             | -        | -         | -        |
| <b>Total Current FIT &amp; ITC</b>                     | 27,191,129  |                   | TOTAL    | 27,191,129        | 4,724,807   | 2,216,745 | 6,525,463  | 5,672,219  | 3,015,234 | 3,658,263     | 33,989   | 1,127,694 | 216,714  |
| <b>Deferred FIT</b>                                    |             |                   |          |                   |             |           |            |            |           |               |          |           |          |
| DFIT for Book vs Tax Depreciation Normalized           | (1,043,995) | RB_GUP            | TOTAL    | (1,043,995)       | (543,109)   | (28,252)  | (87,203)   | (110,618)  | (83,730)  | (175,894)     | (492)    | (13,157)  | (1,540)  |
| DFIT ABFUDC  | 428,401     | RB_GUP_CWIP       | TOTAL    | 428,401           | 210,658     | 10,049    | 34,591     | 45,130     | 38,158    | 86,840        | 198      | 2,476     | 301      |
| Interest Capitalization                                | (1,137,462) | RB_GUP            | TOTAL    | (1,137,462)       | (591,733)   | (30,781)  | (95,010)   | (120,522)  | (91,227)  | (191,641)     | (536)    | (14,335)  | (1,678)  |
| Capitalized Overheads - Taxes                          | (8,246)     | RB_GUP            | TOTAL    | (8,246)           | (4,290)     | (223)     | (689)      | (874)      | (661)     | (1,389)       | (4)      | (104)     | (12)     |
| Capitalized Overheads - Pension/OPEB                   | (1,066)     | LABOR_M           | TOTAL    | (1,066)           | (612)       | (38)      | (90)       | (109)      | (71)      | (129)         | (1)      | (12)      | (3)      |
| Capitalized Overheads - Savings Plan                   | (1,045)     | LABOR_M           | TOTAL    | (1,045)           | (600)       | (37)      | (89)       | (107)      | (70)      | (127)         | (0)      | (12)      | (3)      |
| Percent Repair Allowance                               | 1,882,577   | RB_GUP            | TOTAL    | 1,882,577         | 979,358     | 50,945    | 157,247    | 199,471    | 150,986   | 317,179       | 887      | 23,725    | 2,778    |
| Tax Amortization of Pollution Control Equip.           | (1,552,950) | PROD_DEMAND       | TOTAL    | (1,552,950)       | (729,805)   | (31,969)  | (122,792)  | (163,437)  | (149,272) | (354,369)     | (709)    | (486)     | (111)    |
| Provision for Possible Revenue Refunds                 | 180,752     | REV               | TOTAL    | 180,752           | 75,113      | 6,364     | 19,257     | 22,651     | 17,253    | 37,208        | 117      | 2,336     | 455      |
| Deferred Fuel Costs                                    | 5,100,245   | FUELREV           | TOTAL    | 5,100,245         | 1,821,844   | 110,519   | 398,583    | 530,295    | 591,453   | 1,604,697     | 3,008    | 33,201    | 6,645    |
| Provision for Workers Comp                             | (122,553)   | LABOR_M           | TOTAL    | (122,553)         | (70,356)    | (4,363)   | (10,381)   | (12,569)   | (8,200)   | (14,882)      | (58)     | (1,436)   | (308)    |
| Accrued Book Pension Expense                           | (109,607)   | LABOR_M           | TOTAL    | (109,607)         | (62,924)    | (3,902)   | (9,285)    | (11,241)   | (7,333)   | (13,310)      | (52)     | (1,284)   | (276)    |
| Accrued Book Pension Costs - SFAS 158                  | 5,028,207   | LABOR_M           | TOTAL    | 5,028,207         | 2,886,637   | 179,004   | 425,933    | 515,686    | 336,419   | 610,586       | 2,384    | 58,908    | 12,650   |
| Supplemental Executive Retirement                      | (399)       | LABOR_M           | TOTAL    | (399)             | (229)       | (14)      | (34)       | (41)       | (27)      | (48)          | (0)      | (5)       | (1)      |
| Accrd Suppl Executive Retirement - SFAS 158            | 1,307       | LABOR_M           | TOTAL    | 1,307             | 750         | 47        | 111        | 134        | 87        | 159           | 1        | 15        | 3        |
| Accrd Book Supplemental Savings Plan                   | 35,195      | LABOR_M           | TOTAL    | 35,195            | 20,205      | 1,253     | 2,981      | 3,610      | 2,355     | 4,274         | 17       | 412       | 89       |
| Accrued PSI Plan Expenses                              | (42,827)    | LABOR_M           | TOTAL    | (42,827)          | (24,586)    | (1,525)   | (3,628)    | (4,392)    | (2,865)   | (5,201)       | (20)     | (502)     | (108)    |
| Book Provision - Uncollectible Accounts                | 15,470      | CUST_TOTAL        | TOTAL    | 15,470            | 9,815       | 1,691     | 518        | 60         | 5         | 1             | 1        | 3,375     | 4        |
| Accrd Companywide Incentive Plan - Engage to Gain      | 43,813      | LABOR_M           | TOTAL    | 43,813            | 25,153      | 1,560     | 3,711      | 4,493      | 2,931     | 5,320         | 21       | 513       | 110      |
| Accrd Companywide Incentive Plan                       | (1,144,816) | LABOR_M           | TOTAL    | (1,144,816)       | (657,226)   | (40,756)  | (96,976)   | (117,411)  | (76,596)  | (139,018)     | (543)    | (13,412)  | (2,880)  |

**KENTUCKY POWER COMPANY**  
**COST-OF-SERVICE STUDY**  
**TWELVE MONTHS ENDING**  
**SEPTEMBER 30, 2014**

| Label  | Constant    | Allocation Factor | Function | Total Retail<br>1 | RS<br>2     | SGS<br>3   | Total MGS  | Total LGS  | Total OP   | Total CIP-TOD | MW<br>17 | OL<br>18  | SL<br>19  |
|--|-------------|-------------------|----------|-------------------|-------------|------------|------------|------------|------------|---------------|----------|-----------|-----------|
| Accrd Book Vacation Pay                              | (639,715)   | LABOR_M           | TOTAL    | (639,715)         | (367,253)   | (22,774)   | (54,189)   | (65,608)   | (42,801)   | (77,682)      | (303)    | (7,495)   | (1,609)   |
| (IDCP) Incentive Comp Deferral Plan                  | 23,444      | LABOR_M           | TOTAL    | 23,444            | 13,459      | 835        | 1,986      | 2,404      | 1,569      | 2,847         | 11       | 275       | 59        |
| Accrd Book Severance Benefits                        | 494         | LABOR_M           | TOTAL    | 494               | 284         | 18         | 42         | 51         | 33         | 60            | 0        | 6         | 1         |
| Reg Asset on Deferred RTO Costs                      | (74,884)    | TRANS_TOTAL       | TOTAL    | (74,884)          | (34,975)    | (1,524)    | (5,858)    | (7,844)    | (7,232)    | (17,394)      | (34)     | (19)      | (4)       |
| Federal Mitigation Programs                          | -           | PROD_ENERGY       | TOTAL    | -                 | -           | -          | -          | -          | -          | -             | -        | -         | -         |
| State Mitigation Programs                            | 109,572     | PROD_ENERGY       | TOTAL    | 109,572           | 38,935      | 2,457      | 8,845      | 12,096     | 12,614     | 33,769        | 67       | 649       | 141       |
| Customer Adv Inc for Tax                             | (8,566)     | TDPLANT           | TOTAL    | (8,566)           | (4,961)     | (296)      | (762)      | (916)      | (526)      | (837)         | (4)      | (237)     | (27)      |
| Deferred Book Contract Revenue                       | 4,693       | REV               | TOTAL    | 4,693             | 1,950       | 165        | 500        | 588        | 448        | 966           | 3        | 61        | 12        |
| Deferred Storm Damage                                | (1,621,433) | EXP_OM_DIST       | TOTAL    | (1,621,433)       | (1,095,165) | (62,745)   | (166,759)  | (194,783)  | (67,547)   | (1,161)       | (923)    | (22,678)  | (9,672)   |
| Deferred Demand Side Management Exp                  | (329,450)   | LABOR_M           | TOTAL    | (329,450)         | (189,134)   | (11,728)   | (27,907)   | (33,788)   | (22,042)   | (40,006)      | (156)    | (3,860)   | (829)     |
| Advance Rental Income                                | (673)       | REV_OTHER         | TOTAL    | (673)             | (474)       | (32)       | (75)       | (62)       | (22)       | 1             | (0)      | (8)       | (1)       |
| Deferred Revenue - Bonus Lease Short-Term            | (149,385)   | REV_OTHER         | TOTAL    | (149,385)         | (105,248)   | (7,172)    | (16,651)   | (13,815)   | (4,788)    | 268           | (53)     | (1,733)   | (192)     |
| Deferred Revenue - Bonus Lease Long-Term             | (535,299)   | REV_OTHER         | TOTAL    | (535,299)         | (377,142)   | (25,700)   | (59,665)   | (49,505)   | (17,159)   | 959           | (190)    | (6,210)   | (687)     |
| Reg Asset SFAS 158 Pensions                          | (5,028,207) | LABOR_M           | TOTAL    | (5,028,207)       | (2,886,637) | (179,004)  | (425,933)  | (515,686)  | (336,419)  | (610,586)     | (2,384)  | (58,908)  | (12,650)  |
| Reg Asset SFAS 158 SERP                              | (1,307)     | LABOR_M           | TOTAL    | (1,307)           | (750)       | (47)       | (111)      | (134)      | (87)       | (159)         | (1)      | (15)      | (3)       |
| Reg Asset SFAS 158 OPEB                              | (4,008,159) | LABOR_M           | TOTAL    | (4,008,159)       | (2,301,039) | (142,691)  | (339,526)  | (411,071)  | (268,171)  | (486,720)     | (1,901)  | (46,957)  | (10,084)  |
| Reg Asset - ATR Under Recovery                       | 1,247,694   | PROD_DEMAND       | TOTAL    | 1,247,694         | 586,351     | 25,685     | 98,655     | 131,311    | 119,930    | 284,713       | 569      | 390       | 89        |
| Book Amortization Loss on Reacquired Debt            | (11,647)    | RB_GUP            | TOTAL    | (11,647)          | (6,059)     | (315)      | (973)      | (1,234)    | (934)      | (1,962)       | (5)      | (147)     | (17)      |
| Accrued SFAS 106 Post Retirement Expense             | 936,093     | LABOR_M           | TOTAL    | 936,093           | 537,400     | 33,325     | 79,295     | 96,004     | 62,631     | 113,672       | 444      | 10,967    | 2,355     |
| Accrued OPEB Costs SFAS 158                          | 4,008,159   | LABOR_M           | TOTAL    | 4,008,159         | 2,301,039   | 142,691    | 339,526    | 411,071    | 268,171    | 486,720       | 1,901    | 46,957    | 10,084    |
| Accrued SFAS 112 Post Employment Benefits            | (319,127)   | LABOR_M           | TOTAL    | (319,127)         | (183,207)   | (11,361)   | (27,033)   | (32,729)   | (21,352)   | (38,752)      | (151)    | (3,739)   | (803)     |
| Accrued Book ARO Expense SFAS 143                    | (360,831)   | RB_GUP            | TOTAL    | (360,831)         | (187,712)   | (9,765)    | (30,139)   | (38,232)   | (28,939)   | (60,793)      | (170)    | (4,547)   | (532)     |
| Medicare Subsidy (PPACA) Reg Asset                   | (75,059)    | LABOR_M           | TOTAL    | (75,059)          | (43,091)    | (2,672)    | (6,358)    | (7,698)    | (5,022)    | (9,115)       | (36)     | (879)     | (189)     |
| Deferred State Income Taxes                          | 158,758     | RB_GUP            | TOTAL    | 158,758           | 82,589      | 4,296      | 13,261     | 16,821     | 12,733     | 26,748        | 75       | 2,001     | 234       |
| Reg Asset - Accrued SFAS 112                         | (4,171)     | LABOR_M           | TOTAL    | (4,171)           | (2,395)     | (148)      | (353)      | (428)      | (279)      | (506)         | (2)      | (49)      | (10)      |
| IRS Capitalization Adjustment                        | 22,079      | REV               | TOTAL    | 22,079            | 9,175       | 777        | 2,352      | 2,767      | 2,107      | 4,545         | 14       | 285       | 56        |
| Capitalized Software Costs Tax                       | (1,496)     | RB_GUP            | TOTAL    | (1,496)           | (778)       | (40)       | (125)      | (159)      | (120)      | (252)         | (1)      | (19)      | (2)       |
| Book Leases Capitalized for Tax                      | 148,498     | RB_GUP            | TOTAL    | 148,498           | 77,252      | 4,019      | 12,404     | 15,734     | 11,910     | 25,019        | 70       | 1,871     | 219       |
| Capitalized Software Costs Book                      | 174,057     | RB_GUP            | TOTAL    | 174,057           | 90,548      | 4,710      | 14,539     | 18,442     | 13,960     | 29,325        | 82       | 2,194     | 257       |
| MTM Book Gain Above the Line Tax Deferral            | (1,080,651) | PROD_ENERGY       | TOTAL    | (1,080,651)       | (384,000)   | (24,229)   | (87,230)   | (119,295)  | (124,401)  | (333,046)     | (657)    | (6,401)   | (1,393)   |
| Mark & Spread Deferral - 283 A/L                     | 11,378      | PROD_ENERGY       | TOTAL    | 11,378            | 4,043       | 255        | 918        | 1,256      | 1,310      | 3,507         | 7        | 67        | 15        |
| Mark & Spread Deferral - 190 A/L                     | (107,180)   | PROD_ENERGY       | TOTAL    | (107,180)         | (38,086)    | (2,403)    | (8,652)    | (11,832)   | (12,338)   | (33,032)      | (65)     | (635)     | (138)     |
| Prov for Trading Credit Risk - Above the Line        | 44,684      | PROD_ENERGY       | TOTAL    | 44,684            | 15,878      | 1,002      | 3,607      | 4,933      | 5,144      | 13,771        | 27       | 265       | 58        |
| Provision for FAS 157 A/L                            | (5,166)     | PROD_ENERGY       | TOTAL    | (5,166)           | (1,836)     | (116)      | (417)      | (570)      | (595)      | (1,592)       | (3)      | (31)      | (7)       |
| Reg Liability - Unrealized MTM Gain Deferral         | 122,547     | PROD_ENERGY       | TOTAL    | 122,547           | 43,546      | 2,748      | 9,892      | 13,528     | 14,107     | 37,768        | 74       | 726       | 158       |
| Book > Tax Basis - EMA A/C 283                       | 572,375     | PROD_ENERGY       | TOTAL    | 572,375           | 203,389     | 12,833     | 46,202     | 63,185     | 65,890     | 176,401       | 348      | 3,390     | 738       |
| Total Per Books DFIT                                 | 773,120     |                   | TOTAL    | 773,120           | (860,041)   | (49,376)   | (9,934)    | 65,011     | 351,378    | 1,297,717     | 869      | (14,244)  | (8,260)   |
| <b>DFIT Adjustments</b>                              |             |                   |          |                   |             |            |            |            |            |               |          |           |           |
| Fuel Over/Under Revenues                             | (1,854,572) | FUELREV           | TOTAL    | (1,854,572)       | (662,466)   | (40,187)   | (144,934)  | (192,828)  | (215,066)  | (583,507)     | (1,094)  | (12,073)  | (2,416)   |
| Amortization of Storm Cost Deferral                  | 783,116     | EXP_OM_DIST       | TOTAL    | 783,116           | 528,940     | 30,304     | 80,541     | 94,076     | 32,624     | 561           | 446      | 10,953    | 4,671     |
| Pension and OPEB Expense Adjustment                  | 79,373      | LABOR_M           | TOTAL    | 79,373            | 45,567      | 2,826      | 6,724      | 8,140      | 5,311      | 9,638         | 38       | 930       | 200       |
| Amortization of Deferred IGCC Costs                  | (18,377)    | PROD_DEMAND       | TOTAL    | (18,377)          | (8,636)     | (378)      | (1,453)    | (1,934)    | (1,766)    | (4,193)       | (8)      | (6)       | (1)       |
| Amortization of Deferred CCS FEED Study Costs        | (12,049)    | PROD_DEMAND       | TOTAL    | (12,049)          | (5,662)     | (248)      | (953)      | (1,268)    | (1,158)    | (2,749)       | (5)      | (4)       | (1)       |
| Amortization of Deferred CARRS Site Costs            | (36,166)    | PROD_DEMAND       | TOTAL    | (36,166)          | (16,996)    | (745)      | (2,860)    | (3,806)    | (3,476)    | (8,253)       | (17)     | (11)      | (3)       |
| Amortization of Defd Preliminary Big Sandy FGD Costs | (386,853)   | PROD_DEMAND       | TOTAL    | (386,853)         | (181,801)   | (7,964)    | (30,588)   | (40,714)   | (37,185)   | (88,276)      | (177)    | (121)     | (28)      |
| Incentive Compensation Plan Adjustment               | (23,444)    | LABOR_M           | TOTAL    | (23,444)          | (13,459)    | (835)      | (1,986)    | (2,404)    | (1,569)    | (2,847)       | (11)     | (275)     | (59)      |
| KPCo Depreciation Annualization Exp - T&D Plant      | (3,698,393) | TDPLANT           | TOTAL    | (3,698,393)       | (2,141,811) | (127,871)  | (328,834)  | (395,657)  | (227,012)  | (361,570)     | (1,810)  | (102,210) | (11,618)  |
| Amortization of Intangible Expenses                  | (73,316)    | LABOR_M           | TOTAL    | (73,316)          | (42,090)    | (2,610)    | (6,211)    | (7,519)    | (4,905)    | (8,903)       | (35)     | (859)     | (184)     |
| Mitchell Depreciation Annualization - Production     | (1,317,651) | PROD_DEMAND       | TOTAL    | (1,317,651)       | (619,227)   | (27,125)   | (104,187)  | (138,674)  | (126,655)  | (300,676)     | (601)    | (412)     | (94)      |
| Removal of Big Sandy Depreciation                    | 4,511,643   | PROD_DEMAND       | TOTAL    | 4,511,643         | 2,120,237   | 92,876     | 356,735    | 474,819    | 433,667    | 1,029,517     | 2,059    | 1,411     | 322       |
| ARO Depreciation Adjustment                          | (83,090)    | PROD_DEMAND       | TOTAL    | (83,090)          | (39,048)    | (1,710)    | (6,570)    | (8,745)    | (7,987)    | (18,960)      | (38)     | (26)      | (6)       |
| Removal of RTO Amortization                          | 52,401      | TRANS_TOTAL       | TOTAL    | 52,401            | 24,474      | 1,066      | 4,099      | 5,489      | 5,060      | 12,172        | 24       | 13        | 3         |
| ARO Accretion  | (127,239)   | PROD_DEMAND       | TOTAL    | (127,239)         | (59,796)    | (2,619)    | (10,061)   | (13,391)   | (12,230)   | (29,035)      | (58)     | (40)      | (9)       |
| Mitchell Plant Depreciation-Related Shedule M's      | 1,362,446   | PROD_DEMAND       | TOTAL    | 1,362,446         | 640,278     | 28,047     | 107,729    | 143,388    | 130,961    | 310,898       | 622      | 426       | 97        |
| KPCO AFUDC Offset                                    | 90,039      | AFUDC_OFF         | TOTAL    | 90,039            | 43,691      | 2,034      | 7,226      | 9,484      | 8,206      | 18,927        | 41       | 382       | 47        |
| Mitchell Plant DSIT Amortization Adjustment          | 69,106      | RB_GUP_EPIS_P     | TOTAL    | 69,106            | 32,476      | 1,423      | 5,464      | 7,273      | 6,643      | 15,769        | 32       | 22        | 5         |
| Total Adjustments to DFIT                            | (683,026)   |                   | TOTAL    | (683,026)         | (355,329)   | (53,715)   | (70,118)   | (64,270)   | (16,540)   | (11,488)      | (593)    | (101,900) | (9,074)   |
| <b>Total Deferred FIT</b>                            | 90,094      |                   | TOTAL    | 90,094            | (1,215,370) | (103,091)  | (80,052)   | 742        | 334,838    | 1,286,229     | 277      | (116,144) | (17,334)  |
| <b>Total Federal Income Tax</b>                      | 27,281,223  |                   | TOTAL    | 27,281,223        | 3,509,438   | 2,113,654  | 6,445,411  | 5,672,960  | 3,350,072  | 4,944,492     | 34,266   | 1,011,550 | 199,380   |
| <b>Total Income Tax</b>                              | 31,571,941  |                   | TOTAL    | 31,571,941        | 4,113,664   | 2,488,408  | 7,544,117  | 6,612,875  | 3,836,208  | 5,495,612     | 39,971   | 1,204,413 | 236,673   |
| <b>Total Expenses</b>                                | 485,021,545 |                   | TOTAL    | 485,021,545       | 211,916,612 | 15,158,967 | 45,878,454 | 57,279,421 | 45,608,042 | 102,912,566   | 287,683  | 4,974,931 | 1,004,869 |
| <b>Net Operating Income</b>                          | 85,578,115  |                   | TOTAL    | 85,578,115        | 25,262,786  | 4,932,491  | 14,910,747 | 14,219,695 | 8,840,583  | 14,493,420    | 80,198   | 2,406,487 | 431,708   |
| AFUDC Offset   |             |                   |          |                   |             |            |            |            |            |               |          |           |           |
| Production   | 3,072,237   | PROD_DEMAND       | TOTAL    | 3,072,237         | 1,443,791   | 63,245     | 242,922    | 323,332    | 295,309    | 701,057       | 1,402    | 961       | 219       |



**KENTUCKY POWER COMPANY**  
**COST-OF-SERVICE STUDY**  
**TWELVE MONTHS ENDING**  
**SEPTEMBER 30, 2014**

| <u>Label</u>                            | <u>Constant</u>    | <u>Allocation Factor</u> | <u>Function</u> | <u>Total Retail</u><br>1 | <u>RS</u><br>2     | <u>SGS</u><br>3   | <u>Total MGS</u>  | <u>Total LGS</u>  | <u>Total OP</u>   | <u>Total CIP-TOD</u> | <u>MW</u><br>17 | <u>OL</u><br>18  | <u>SL</u><br>19  |
|---|--------------------|--------------------------|-----------------|--------------------------|--------------------|-------------------|-------------------|-------------------|-------------------|----------------------|-----------------|------------------|------------------|
| Transmission                            | 1,946,078          | RB_GUP_EPIS_T            | TOTAL           | 1,946,078                | 909,051            | 39,617            | 152,272           | 203,879           | 187,914           | 451,861              | 886             | 486              | 111              |
| Distribution                            | 454,455            | RB_GUP_EPIS_D            | TOTAL           | 454,455                  | 299,866            | 20,369            | 43,900            | 49,344            | 16,373            | 402                  | 234             | 21,529           | 2,438            |
| General                                 | 32,717             | LABOR_M                  | TOTAL           | 32,717                   | 18,782             | 1,165             | 2,771             | 3,355             | 2,189             | 3,973                | 16              | 383              | 82               |
| Total Per Books AFUDC Offset            | 5,505,487          |                          | TOTAL           | 5,505,487                | 2,671,491          | 124,396           | 441,866           | 579,909           | 501,785           | 1,157,293            | 2,537           | 23,360           | 2,851            |
| AFUDC Offset Adjustment                 | 250,424            | PROD_DEMAND              | TOTAL           | 250,424                  | 117,686            | 5,155             | 19,801            | 26,355            | 24,071            | 57,145               | 114             | 78               | 18               |
| Mitchell AFUDC Offset Adjustment        | -                  | PROD_DEMAND              | TOTAL           | -                        | -                  | -                 | -                 | -                 | -                 | -                    | -               | -                | -                |
| Total AFUDC Offset Adjustments          | 250,424            | PROD_DEMAND              | TOTAL           | 250,424                  | 117,686            | 5,155             | 19,801            | 26,355            | 24,071            | 57,145               | 114             | 78               | 18               |
| Total Adjusted AFUDC Offsets            | 5,755,911          |                          | TOTAL           | 5,755,911                | 2,789,177          | 129,551           | 461,667           | 606,265           | 525,856           | 1,214,437            | 2,651           | 23,438           | 2,868            |
| <b>AdjustedNet Operating Income</b>     | <b>91,334,026</b>  |                          | <b>TOTAL</b>    | <b>91,334,026</b>        | <b>28,051,963</b>  | <b>5,062,042</b>  | <b>15,372,414</b> | <b>14,825,960</b> | <b>9,366,439</b>  | <b>15,707,857</b>    | <b>82,849</b>   | <b>2,429,925</b> | <b>434,576</b>   |
| <b>Current Rate of Return</b>           |                    |                          |                 | 7.89%                    | 4.55%              | 14.68%            | 15.60%            | 11.88%            | 10.84%            | 9.10%                | 14.41%          | 11.39%           | 17.03%           |
| <b>O&amp;M Labor</b>                    |                    |                          |                 |                          |                    |                   |                   |                   |                   |                      |                 |                  |                  |
| Production Demand                       | 8,609,401          | PROD_DEMAND              | TOTAL           | 8,609,401                | 4,045,969          | 177,232           | 680,745           | 906,080           | 827,550           | 1,964,589            | 3,929           | 2,692            | 615              |
| Production Energy                       | 1,195,224          | PROD_ENERGY              | TOTAL           | 1,195,224                | 424,713            | 26,798            | 96,478            | 131,943           | 137,590           | 368,357              | 726             | 7,079            | 1,540            |
| Transmission                            | 1,073,438          | EXP_OM_TRAN              | TOTAL           | 1,073,438                | 503,009            | 21,981            | 84,454            | 112,726           | 103,406           | 247,000              | 489             | 303              | 69               |
| Distribution                            | 8,536,264          | EXP_OM_DIST              | TOTAL           | 8,536,264                | 5,765,652          | 330,328           | 877,924           | 1,025,464         | 355,611           | 6,112                | 4,861           | 119,393          | 50,920           |
| Customer Accounts                       | 1,322,911          | EXP_OM_CUSTACCT          | TOTAL           | 1,322,911                | 1,131,864          | 140,644           | 45,712            | 5,810             | 565               | 81                   | 65              | (2,121)          | 290              |
| Customer Service                        | 559,966            | EXP_OM_CUSTSERV          | TOTAL           | 559,966                  | 355,275            | 61,198            | 18,745            | 2,189             | 198               | 28                   | 28              | 122,160          | 144              |
| Total                                   | 21,297,204         |                          | TOTAL           | 21,297,204               | 12,226,483         | 758,182           | 1,804,058         | 2,184,212         | 1,424,919         | 2,586,167            | 10,099          | 249,507          | 53,579           |
| Production Demand                       | 8,609,401          | PROD_DEMAND              | TOTAL           | 8,609,401                | 4,045,969          | 177,232           | 680,745           | 906,080           | 827,550           | 1,964,589            | 3,929           | 2,692            | 615              |
| Production Energy                       | 1,195,224          | PROD_ENERGY              | TOTAL           | 1,195,224                | 424,713            | 26,798            | 96,478            | 131,943           | 137,590           | 368,357              | 726             | 7,079            | 1,540            |
| Total Production                        | 9,804,625          |                          | TOTAL           | 9,804,625                | 4,470,682          | 204,030           | 777,223           | 1,038,023         | 965,140           | 2,332,945            | 4,656           | 9,771            | 2,155            |
| <b>Calculation of Proposed Revenues</b> |                    |                          |                 |                          |                    |                   |                   |                   |                   |                      |                 |                  |                  |
| <b>Proposed Operating Income</b>        | <b>88,470,733</b>  | <b>RATEBASE</b>          | <b>TOTAL</b>    | <b>88,470,733</b>        | <b>26,527,064</b>  | <b>4,976,767</b>  | <b>15,128,858</b> | <b>14,517,523</b> | <b>9,152,768</b>  | <b>15,280,884</b>    | <b>81,427</b>   | <b>2,377,175</b> | <b>428,267</b>   |
| <b>Proposed Rate of Return</b>          |                    |                          |                 | 7.64%                    | 4.30%              | 14.43%            | 15.36%            | 11.64%            | 10.59%            | 8.85%                | 14.16%          | 11.14%           | 16.78%           |
| <b>Income Increase</b>                  | (2,863,293)        |                          | TOTAL           | (2,863,293)              | (1,524,899)        | (85,275)          | (243,556)         | (308,437)         | (213,671)         | (426,973)            | (1,422)         | (52,750)         | (6,309)          |
| <b>Gross Revenue Conversion Factor</b>  | 1.6402             |                          |                 |                          |                    |                   |                   |                   |                   |                      |                 |                  |                  |
| <b>Revenue Increase</b>                 | (4,696,313)        |                          | TOTAL           | (4,696,313)              | (2,501,107)        | (139,866)         | (399,475)         | (505,892)         | (350,459)         | (700,313)            | (2,333)         | (86,520)         | (10,349)         |
| <b>Percent Revenue Increase</b>         | -0.84%             |                          |                 | -0.84%                   | -1.09%             | -0.71%            | -0.67%            | -0.72%            | -0.65%            | -0.60%               | -0.64%          | -1.19%           | -0.73%           |
| <b>Proposed Sales Revenue</b>           | <b>555,896,762</b> |                          | <b>TOTAL</b>    | <b>555,896,762</b>       | <b>227,639,467</b> | <b>19,471,978</b> | <b>59,278,116</b> | <b>70,063,746</b> | <b>53,776,408</b> | <b>116,722,931</b>   | <b>361,952</b>  | <b>7,169,804</b> | <b>1,412,361</b> |
| Adjust Transmission OATT                | (126,908)          |                          | TOTAL           | (126,908)                | 7,903,930          | (643,599)         | (2,871,337)       | (1,829,055)       | (1,348,509)       | (1,313,469)          | (14,795)        | (7,305)          | (2,769)          |
|   |                    |                          | PRODUCTION      | 186,439,680              | 76,396,686         | 4,569,088         | 18,095,605        | 22,797,382        | 19,692,588        | 44,700,977           | 103,875         | 64,535           | 18,945           |
|   |                    |                          | BULKTRAN        | -                        | -                  | -                 | -                 | -                 | -                 | -                    | -               | -                | -                |
|   |                    |                          | SUBTRAN         | -                        | -                  | -                 | -                 | -                 | -                 | -                    | -               | -                | -                |
|   |                    |                          | DISTPRI         | 82,654,958               | 47,203,012         | 3,227,757         | 12,362,190        | 14,076,296        | 5,711,912         | (0)                  | 73,792          | 0                | -                |
|   |                    |                          | DISTSEC         | 34,625,386               | 21,937,720         | 2,049,932         | 5,444,132         | 4,548,249         | 128,427           | (0)                  | 24,925          | 381,203          | 110,798          |
|   |                    |                          | ENERGY          | 226,505,780              | 77,357,442         | 5,219,426         | 18,951,622        | 26,244,196        | 26,587,649        | 70,591,022           | 142,805         | 1,118,464        | 293,154          |
|   |                    |                          | CUSTOMER        | 25,544,050               | 12,648,538         | 3,762,175         | 1,553,231         | 568,569           | 307,323           | 117,463              | 1,760           | 5,598,297        | 986,695          |
| <b>Total Proposed Sales Revenue</b>     | <b>555,769,854</b> |                          | <b>TOTAL</b>    | <b>555,769,854</b>       | <b>235,543,397</b> | <b>18,828,379</b> | <b>56,406,779</b> | <b>68,234,690</b> | <b>52,427,899</b> | <b>115,409,462</b>   | <b>347,156</b>  | <b>7,162,499</b> | <b>1,409,592</b> |



KENTUCKY POWER COMPANY  
 COST-OF-SERVICE STUDY  
 TWELVE MONTHS ENDING  
 SEPTEMBER 30, 2014

| Allocation Factor          | Total Retail 1 | RS 2       | SGS 3      | MGS-SEC 4  | MGS-PRI 5  | MGS-SUB 6  | LGS-SEC 7  | LGS-PRI 8  | LGS-SUB 9  | LGS-TRA 10 | QP-SEC 11  | QP-PRI 12  | QP-SUB 13  | QP-TRA 14  | CIP-TOD-SUB 15 | CIP-TOD-TRA 16 | MW 17      | OL 18       | SL 19      |
|----------------------------|----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----------------|----------------|------------|-------------|------------|
| DIST_OHLINES PRODUCTION    | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_OHLINES BULKTRAN      | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_OHLINES SUBTRAN       | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_OHLINES DISTPRI       | 0.86460000     | 0.58256250 | 0.02466407 | 0.08910239 | 0.00159599 | -          | 0.09724741 | 0.01893862 | -          | -          | 0.00352952 | 0.04640317 | -          | -          | -              | -              | 0.00055631 | -           | -          |
| DIST_OHLINES DISTSEC       | 0.13540000     | 0.10053133 | 0.00549562 | 0.01394066 | -          | -          | 0.01343964 | -          | -          | -          | 0.00040462 | -          | -          | -          | -              | -              | 0.00006591 | 0.00125371  | 0.00026853 |
| DIST_OHLINES ENERGY        | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_OHLINES CUSTOMER      | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_OHLINES TOTAL         | 1.00000000     | 0.68309383 | 0.03015970 | 0.10304305 | 0.00159599 | -          | 0.11068705 | 0.01893862 | -          | -          | 0.00393414 | 0.04640317 | -          | -          | -              | -              | 0.00062221 | 0.00125371  | 0.00026853 |
| DIST_OL PRODUCTION         | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_OL BULKTRAN           | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_OL SUBTRAN            | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_OL DISTPRI            | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_OL DISTSEC            | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_OL ENERGY             | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_OL CUSTOMER           | 1.00000000     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | 1.00000000  | -          |
| DIST_OL TOTAL              | 1.00000000     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | 1.00000000  | -          |
| DIST_PCUST PRODUCTION      | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_PCUST BULKTRAN        | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_PCUST SUBTRAN         | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_PCUST DISTPRI         | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_PCUST DISTSEC         | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_PCUST ENERGY          | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_PCUST CUSTOMER        | 1.00000000     | 0.63467151 | 0.10932595 | 0.03305523 | 0.00038548 | -          | 0.00346935 | 0.00034418 | -          | -          | 0.00002753 | 0.00018356 | -          | -          | -              | -              | 0.00005048 | 0.21822971  | 0.00025699 |
| DIST_PCUST TOTAL           | 1.00000000     | 0.63467151 | 0.10932595 | 0.03305523 | 0.00038548 | -          | 0.00346935 | 0.00034418 | -          | -          | 0.00002753 | 0.00018356 | -          | -          | -              | -              | 0.00005048 | 0.21822971  | 0.00025699 |
| DIST_POLES PRODUCTION      | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_POLES BULKTRAN        | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_POLES SUBTRAN         | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_POLES DISTPRI         | 0.56150000     | 0.37833547 | 0.01601767 | 0.05786606 | 0.00103649 | -          | 0.06315570 | 0.01229937 | -          | -          | 0.00229219 | 0.03013576 | -          | -          | -              | -              | 0.00036128 | -           | -          |
| DIST_POLES DISTSEC         | 0.43850000     | 0.32557597 | 0.01779787 | 0.04514755 | -          | -          | 0.04352496 | -          | -          | -          | 0.00131037 | -          | -          | -          | -              | -              | 0.00021344 | 0.00406021  | 0.00086963 |
| DIST_POLES ENERGY          | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_POLES CUSTOMER        | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_POLES TOTAL           | 1.00000000     | 0.70391144 | 0.03381554 | 0.10301360 | 0.00103649 | -          | 0.10669067 | 0.01229937 | -          | -          | 0.00360256 | 0.03013576 | -          | -          | -              | -              | 0.00057472 | 0.00406021  | 0.00086963 |
| DIST_SERV PRODUCTION       | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_SERV BULKTRAN         | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_SERV SUBTRAN          | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_SERV DISTPRI          | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_SERV DISTSEC          | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_SERV ENERGY           | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_SERV CUSTOMER         | 1.00000000     | 0.63525164 | 0.10942589 | 0.03308545 | -          | -          | 0.00347253 | -          | -          | -          | 0.00002756 | -          | -          | -          | -              | -              | 0.00005053 | 0.21842919  | 0.00025722 |
| DIST_SERV TOTAL            | 1.00000000     | 0.63525164 | 0.10942589 | 0.03308545 | -          | -          | 0.00347253 | -          | -          | -          | 0.00002756 | -          | -          | -          | -              | -              | 0.00005053 | 0.21842919  | 0.00025722 |
| DIST_SL PRODUCTION         | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_SL BULKTRAN           | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_SL SUBTRAN            | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_SL DISTPRI            | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_SL DISTSEC            | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_SL ENERGY             | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_SL CUSTOMER           | 1.00000000     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | 1.00000000 |
| DIST_SL TOTAL              | 1.00000000     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | 1.00000000 |
| DIST_TRANSF PRODUCTION     | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_TRANSF BULKTRAN       | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_TRANSF SUBTRAN        | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_TRANSF DISTPRI        | 0.24980000     | 0.16831380 | 0.00712594 | 0.02574344 | 0.00046111 | -          | 0.02809670 | 0.00547174 | -          | -          | 0.00101975 | 0.01340679 | -          | -          | -              | -              | 0.00016073 | -           | -          |
| DIST_TRANSF DISTSEC        | 0.75020000     | 0.55700591 | 0.03044917 | 0.07723988 | -          | -          | 0.07446392 | -          | -          | -          | 0.00224182 | -          | -          | -          | -              | -              | 0.00036515 | 0.00694634  | 0.0148780  |
| DIST_TRANSF ENERGY         | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_TRANSF CUSTOMER       | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_TRANSF TOTAL          | 1.00000000     | 0.72531971 | 0.03757511 | 0.10298332 | 0.00046111 | -          | 0.10256061 | 0.00547174 | -          | -          | 0.00326157 | 0.01340679 | -          | -          | -              | -              | 0.00052588 | 0.00694634  | 0.0148780  |
| DIST_UGLINES PRODUCTION    | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_UGLINES BULKTRAN      | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_UGLINES SUBTRAN       | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_UGLINES DISTPRI       | 0.72760000     | 0.48025269 | 0.02075593 | 0.07498369 | 0.00134310 | -          | 0.08183810 | 0.01593771 | -          | -          | 0.00297025 | 0.03905037 | -          | -          | -              | -              | 0.00046816 | -           | -          |
| DIST_UGLINES DISTSEC       | 0.27240000     | 0.20225061 | 0.01105619 | 0.02804605 | -          | -          | 0.02703808 | -          | -          | -          | 0.00081401 | -          | -          | -          | -              | -              | 0.00013259 | 0.00252224  | 0.00054022 |
| DIST_UGLINES ENERGY        | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_UGLINES CUSTOMER      | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| DIST_UGLINES TOTAL         | 1.00000000     | 0.68250331 | 0.03181212 | 0.10302974 | 0.00134310 | -          | 0.10887618 | 0.01593771 | -          | -          | 0.00378426 | 0.03905037 | -          | -          | -              | -              | 0.00060075 | 0.00252224  | 0.00054022 |
| EXP_OM_AG_REG PRODUCTION   | 0.56323941     | 0.20895270 | 0.01433999 | 0.05365864 | 0.00081514 | 0.00007922 | 0.05365965 | 0.00862895 | 0.00328525 | 0.00007280 | 0.00192511 | 0.02586730 | 0.03016784 | 0.00508996 | 0.13121059     | 0.02497085     | 0.00034190 | 0.00019664  | 0.00006888 |
| EXP_OM_AG_REG BULKTRAN     | 0.14743142     | 0.05499467 | 0.00375358 | 0.01402193 | 0.00021337 | 0.00002074 | 0.01404575 | 0.00225916 | 0.00085994 | 0.00001906 | 0.00050391 | 0.00677093 | 0.00789662 | 0.00133233 | 0.03434519     | 0.00653627     | 0.00008949 | 0.00005147  | 0.00001803 |
| EXP_OM_AG_REG SUBTRAN      | 0.03795495     | 0.01365705 | 0.00091279 | 0.03411923 | 0.00005243 | 0.00000686 | 0.03348474 | 0.00056109 | 0.00028151 | -          | 0.0012085  | 0.00167773 | 0.00266378 | -          | 0.01109413     | -              | 0.00002274 | -           | -          |
| EXP_OM_AG_REG DISTPRI      | 0.14169228     | 0.08282848 | 0.00549392 | 0.01968498 | 0.00029961 | -          | 0.01987334 | 0.00319600 | -          | -          | 0.00074051 | 0.00944217 | -          | -          | -              | -              | 0.00013327 | -           | -          |
| EXP_OM_AG_REG DISTSEC      | 0.06822485     | 0.04477452 | 0.00383466 | 0.00964764 | -          | -          | 0.00860345 | -          | -          | -          | 0.00026592 | -          | -          | -          | -              | -              | 0.00004946 | 0.00078982  | 0.00025938 |
| EXP_OM_AG_REG ENERGY       | 0.00120088     | 0.00032134 | 0.00003177 | 0.00011122 | 0.00000170 | 0.00000017 | 0.00011463 | 0.00001829 | 0.00000700 | 0.00000015 | 0.00000471 | 0.00000605 | 0.00007334 | 0.00001077 | 0.00003740     | 0.00000723     | 0.00000093 | 0.00000758  | 0.00000253 |
| EXP_OM_AG_REG CUSTOMER     | 0.04025622     | 0.01444908 | 0.00583549 | 0.00176897 | 0.00048887 | 0.00011399 | 0.00055964 | 0.00013513 | 0.00034938 | 0.00002929 | 0.00000460 | 0.00008692 | 0.00046832 | 0.00010331 | 0.00022940     | 0.00006299     | 0.00000290 | 0.01333533  | 0.00223261 |
| EXP_OM_AG_REG TOTAL        | 1.00000000     | 0.41967784 | 0.03420220 | 0.10222259 | 0.00187111 | 0.00022098 | 0.10034121 | 0.01479562 | 0.00478308 | 0.00012130 | 0.00356561 | 0.04391009 | 0.04126990 | 0.00653637 | 0.17723672     | 0.03164244     | 0.00064068 | 0.01438084  | 0.00258143 |
| EXP_OM_CUSTACCT PRODUCTION | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| EXP_OM_CUSTACCT BULKTRAN   | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| EXP_OM_CUSTACCT SUBTRAN    | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| EXP_OM_CUSTACCT DISTPRI    | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| EXP_OM_CUSTACCT DISTSEC    | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| EXP_OM_CUSTACCT ENERGY     | -              | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -              | -              | -          | -           | -          |
| EXP_OM_CUSTACCT CUSTOMER   | 1.00000000     | 0.85558580 | 0.10631437 | 0.03409641 | 0.00040902 | 0.00004864 | 0.00388589 | 0.00039557 | 0.00010559 | 0.00000512 | 0.00003335 | 0.00022185 | 0.00014419 | 0.00002762 | 0.00004986     | 0.00001112     | 0.00004905 | (0.0160304) | 0.00021957 |
| EXP_OM_CUSTACCT TOTAL      |                |            |            |            |            |            |            |            |            |            |            |            |            |            |                |                |            |             |            |





KENTUCKY POWER COMPANY  
COST-OF-SERVICE STUDY  
TWELVE MONTHS ENDING  
SEPTEMBER 30, 2014

| Allocation Factor      | Total Retail 1 | RS 2         | SGS 3        | MGS-SEC 4    | MGS-PRI 5    | MGS-SUB 6    | LGS-SEC 7    | LGS-PRI 8    | LGS-SUB 9    | LGS-TRA 10   | QP-SEC 11    | QP-PRI 12    | QP-SUB 13    | QP-TRA 14    | CIP-TOD-SUB 15 | CIP-TOD-TRA 16 | MW 17        | OL 18        | SL 19        |
|------------------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|----------------|--------------|--------------|--------------|
| RB_GUP_EPIS PRODUCTION | 0.55115145     | 0.25901240   | 0.01134596   | 0.04273413   | 0.00076529   | 0.00008012   | 0.04627695   | 0.00090967   | 0.00266564   | 0.00005262   | 0.00161714   | 0.02244056   | 0.02374066   | 0.00521524   | 0.10898325     | 0.01678459     | 0.00025153   | 0.00017232   | 0.00009397   |
| RB_GUP_EPIS BULKTRAN   | 0.14426732     | 0.06779811   | 0.00296988   | 0.01118592   | 0.00020032   | 0.00023584   | 0.01221398   | 0.00023584   | 0.00069775   | 0.00001377   | 0.00402330   | 0.00586453   | 0.00621427   | 0.00281652   | 0.02852705     | 0.00493947     | 0.00006584   | 0.00004511   | 0.00001030   |
| RB_GUP_EPIS SUBTRAN    | 0.03713710     | 0.01692893   | 0.00072221   | 0.00227267   | 0.00004923   | 0.00000694   | 0.00300530   | 0.00058598   | 0.00022842   | -            | 0.00010152   | 0.00145314   | 0.00209627   | -            | 0.00921476     | -              | 0.00001673   | -            | -            |
| RB_GUP_EPIS DISTPRI    | 0.15237895     | 0.10267206   | 0.00434685   | 0.01570360   | 0.00028128   | -            | 0.01713909   | 0.00333778   | -            | -            | 0.00062205   | 0.00817819   | -            | -            | -              | -              | 0.00009804   | -            | -            |
| RB_GUP_EPIS DISTSEC    | 0.07475165     | 0.05550135   | 0.00303403   | 0.00769636   | -            | -            | 0.00741976   | -            | -            | 0.00022338   | -            | -            | -            | -            | -              | -              | 0.00003638   | 0.00069215   | 0.00014825   |
| RB_GUP_EPIS ENERGY     | 0.00112097     | 0.00039833   | 0.00002513   | 0.00008872   | 0.00000159   | 0.00000017   | 0.00009886   | 0.00001910   | 0.00000568   | 0.00000011   | 0.00000395   | 0.00005634   | 0.00005771   | 0.00001103   | 0.00029686     | 0.00004862     | 0.00000068   | 0.00000684   | 0.00000144   |
| RB_GUP_EPIS CUSTOMER   | 0.03919256     | 0.01791070   | 0.00461710   | 0.01411118   | 0.00045897   | 0.00011528   | 0.00482624   | 0.00014113   | 0.00283494   | 0.00002117   | 0.00000387   | 0.00007528   | 0.00036854   | 0.00010586   | 0.00019054     | 0.00004234     | 0.00000213   | 0.01168628   | 0.00127606   |
| RB_GUP_EPIS TOTAL      | 1.00000000     | 0.52022188   | 0.02706116   | 0.08154759   | 0.00175667   | 0.00022347   | 0.08653587   | 0.01545200   | 0.00389097   | 0.00008768   | 0.00299521   | 0.03803206   | 0.03247746   | 0.00669725   | 0.14721246     | 0.02126902     | 0.00047134   | 0.01260249   | 0.00147542   |
| RB_GUP PRODUCTION      | 0.55115145     | 0.25901240   | 0.01134596   | 0.04273413   | 0.00076529   | 0.00008012   | 0.04627695   | 0.00090967   | 0.00266564   | 0.00005262   | 0.00161714   | 0.02244056   | 0.02374066   | 0.00521524   | 0.10898325     | 0.01678459     | 0.00025153   | 0.00017232   | 0.00009397   |
| RB_GUP BULKTRAN        | 0.14426732     | 0.06779811   | 0.00296988   | 0.01118592   | 0.00020032   | 0.00023584   | 0.01221398   | 0.00023584   | 0.00069775   | 0.00001377   | 0.00402330   | 0.00586453   | 0.00621427   | 0.00281652   | 0.02852705     | 0.00493947     | 0.00006584   | 0.00004511   | 0.00001030   |
| RB_GUP SUBTRAN         | 0.03713710     | 0.01692893   | 0.00072221   | 0.00227267   | 0.00004923   | 0.00000694   | 0.00300530   | 0.00058598   | 0.00022842   | -            | 0.00010152   | 0.00145314   | 0.00209627   | -            | 0.00921476     | -              | 0.00001673   | -            | -            |
| RB_GUP DISTPRI         | 0.15237895     | 0.10267206   | 0.00434685   | 0.01570360   | 0.00028128   | -            | 0.01713909   | 0.00333778   | -            | -            | 0.00062205   | 0.00817819   | -            | -            | -              | -              | 0.00009804   | -            | -            |
| RB_GUP DISTSEC         | 0.07475165     | 0.05550135   | 0.00303403   | 0.00769636   | -            | -            | 0.00741976   | -            | -            | 0.00022338   | -            | -            | -            | -            | -              | -              | 0.00003638   | 0.00069215   | 0.00014825   |
| RB_GUP ENERGY          | 0.00112097     | 0.00039833   | 0.00002513   | 0.00008872   | 0.00000159   | 0.00000017   | 0.00009886   | 0.00001910   | 0.00000568   | 0.00000011   | 0.00000395   | 0.00005634   | 0.00005771   | 0.00001103   | 0.00029686     | 0.00004862     | 0.00000068   | 0.00000684   | 0.00000144   |
| RB_GUP CUSTOMER        | 0.03919256     | 0.01791070   | 0.00461710   | 0.01411118   | 0.00045897   | 0.00011528   | 0.00482624   | 0.00014113   | 0.00283494   | 0.00002117   | 0.00000387   | 0.00007528   | 0.00036854   | 0.00010586   | 0.00019054     | 0.00004234     | 0.00000213   | 0.01168628   | 0.00127606   |
| RB_GUP TOTAL           | 1.00000000     | 0.52022188   | 0.02706116   | 0.08154759   | 0.00175667   | 0.00022347   | 0.08653587   | 0.01545200   | 0.00389097   | 0.00008768   | 0.00299521   | 0.03803206   | 0.03247746   | 0.00669725   | 0.14721246     | 0.02126902     | 0.00047134   | 0.01260249   | 0.00147542   |
| REV_OTHER PRODUCTION   | 0.12722787     | 0.09316980   | 0.00632686   | 0.01493540   | 0.00017664   | 0.00005592   | 0.00535807   | 0.00081634   | 0.00034833   | 0.00002379   | 0.00025395   | 0.00127407   | 0.00241475   | 0.00075025   | 0.00125827     | -              | -            | 0.00006543   | -            |
| REV_OTHER BULKTRAN     | (0.03326278)   | (0.00007671) | (0.00002324) | (0.00002270) | (0.00003312) | (0.00001772) | (0.00222718) | (0.00058260) | (0.00010568) | (0.00000321) | (0.00007791) | (0.00121259) | (0.00109811) | (0.00035484) | (0.00593481)   | (0.00091218)   | (0.00001367) | (0.00000730) | (0.00000214) |
| REV_OTHER SUBTRAN      | (0.00861952)   | (0.00050903) | (0.00001837) | (0.00002014) | (0.00000814) | (0.00000058) | (0.00053331) | (0.00013092) | (0.00003463) | (0.00000000) | (0.00001871) | (0.00030095) | (0.00037091) | (0.00000000) | (0.00192033)   | -              | (0.00003048) | (0.00000000) | -            |
| REV_OTHER DISTPRI      | 0.43912859     | 0.30140192   | 0.01442260   | 0.04709433   | 0.00079146   | (0.00000000) | 0.04456725   | 0.00484538   | (0.00000000) | (0.00000000) | 0.02047073   | (0.00000000) | (0.00000000) | (0.00000000) | (0.00000000)   | -              | (0.00023684) | (0.00000000) | -            |
| REV_OTHER DISTSEC      | 0.29451295     | 0.21916568   | 0.01309927   | 0.03102481   | (0.00000000) | (0.00000000) | 0.02721080   | (0.00000000) | (0.00000000) | (0.00000000) | 0.00083196   | (0.00000000) | (0.00000000) | (0.00000000) | (0.00000000)   | -              | 0.00012742   | 0.00253387   | 0.00051915   |
| REV_OTHER ENERGY       | 1.36874126     | 0.91818215   | 0.06999994   | 0.01580760   | 0.00002200   | 0.00007198   | 0.00689544   | 0.00115900   | 0.00043702   | 0.00002998   | 0.00037201   | 0.00027018   | 0.00035938   | 0.000109336  | 0.00506672     | 0.00050914     | 0.00007474   | 0.00040550   | 0.00001513   |
| REV_OTHER CUSTOMER     | 0.04450272     | 0.02427736   | 0.00125649   | 0.00142730   | 0.00019801   | 0.00036732   | 0.00038972   | 0.00003318   | 0.00005027   | 0.00002276   | 0.00007924   | 0.00011600   | 0.00002516   | 0.00007924   | 0.00011600     | 0.00002516     | 0.00060313   | 0.00075098   | 0.00000000   |
| REV_OTHER TOTAL        | 1.00000000     | 0.70454464   | 0.04801008   | 0.10956566   | 0.00158274   | 0.00031356   | 0.08161840   | 0.00990262   | 0.00087022   | 0.00009026   | 0.00302255   | 0.02285171   | 0.00481237   | 0.00156801   | 0.00141414     | (0.00037788)   | 0.00035547   | 0.01160062   | 0.00128312   |
| REV_SALES PRODUCTION   | 0.36609198     | 0.15042720   | 0.00976220   | 0.03613338   | 0.00052211   | 0.00005350   | 0.03629803   | 0.00721071   | 0.00191249   | 0.00003547   | 0.00011600   | 0.01565425   | 0.01807723   | 0.00033999   | 0.02782073     | 0.01147387     | 0.00026935   | 0.00080177   | 0.00017063   |
| REV_SALES BULKTRAN     | (0.00210248)   | (0.00073060) | (0.00007988) | (0.00314444) | (0.00002259) | (0.00000219) | (0.00179443) | (0.00020381) | (0.00009016) | (0.00000574) | (0.00041967) | (0.00005743) | (0.00136043) | (0.00003059) | (0.00066193)   | (0.00005018)   | (0.00001678) | (0.00001223) | (0.00000438) |
| REV_SALES SUBTRAN      | (0.00060498)   | (0.00231983) | (0.00018067) | (0.00081142) | (0.00000559) | (0.00000073) | (0.00044720) | (0.00007446) | (0.00006697) | (0.00000000) | (0.00001011) | (0.00001452) | (0.00046079) | (0.00000000) | (0.00021297)   | -              | (0.00000428) | (0.00000000) | -            |
| REV_SALES DISTPRI      | 1.38631851     | 0.80651775   | 0.00537522   | 0.02024555   | (0.00002985) | (0.00000000) | 0.01974134   | 0.00347880   | (0.00000000) | (0.00000000) | 0.00665401   | 0.00819980   | (0.00000000) | (0.00000000) | (0.00000000)   | -              | 0.00012271   | (0.00000000) | -            |
| REV_SALES DISTSEC      | 0.05853803     | 0.03740901   | 0.00339980   | 0.00900066   | (0.00000000) | (0.00000000) | 0.00765244   | (0.00000000) | (0.00000000) | (0.00000000) | 0.00020397   | (0.00000000) | (0.00000000) | (0.00000000) | (0.00000000)   | -              | 0.00004416   | 0.00065009   | 0.00018579   |
| REV_SALES ENERGY       | 0.39617879     | 0.13217692   | 0.00923202   | 0.03288171   | 0.00005945   | 0.00035364   | 0.00533897   | 0.00788912   | 0.00196349   | 0.00043446   | 0.00139094   | 0.02039862   | 0.00117020   | 0.00411327   | 0.00809418     | 0.01690479     | 0.00025280   | 0.00198540   | 0.00018970   |
| REV_SALES CUSTOMER     | 0.04326685     | 0.02159108   | 0.00630331   | 0.00202318   | 0.00041457   | 0.00001021   | 0.00052103   | 0.00012645   | 0.00029519   | 0.00003122   | 0.00002382   | 0.00006581   | 0.00038102   | 0.00006872   | 0.00015317     | 0.00004049     | 0.00000284   | 0.00948559   | 0.00165809   |
| REV_SALES TOTAL        | 1.00000000     | 0.41053053   | 0.03498410   | 0.10441034   | 0.00182696   | 0.00021708   | 0.10299344   | 0.01832918   | 0.00441196   | 0.00011931   | 0.00346998   | 0.04439163   | 0.04144967   | 0.00724158   | 0.18019319     | 0.02926934     | 0.00064982   | 0.01294401   | 0.00253786   |
| REV PRODUCTION         | 0.36200668     | 0.14944792   | 0.00970344   | 0.03577083   | 0.00051620   | 0.00005354   | 0.03576887   | 0.00710134   | 0.00188574   | 0.00003527   | 0.00114458   | 0.01540831   | 0.01780935   | 0.00031535   | 0.01579679     | 0.01127764     | 0.00020577   | 0.00079802   | 0.00016771   |
| REV BULKTRAN           | (0.00261614)   | (0.00045792) | (0.00003032) | (0.00034368) | (0.00000216) | (0.00000000) | (0.00029944) | (0.00003032) | (0.00009005) | (0.00000000) | (0.00003991) | (0.00003571) | (0.00131838) | (0.00003133) | (0.00075211)   | (0.00002004)   | (0.00001625) | (0.00001189) | (0.00000427) |
| REV SUBTRAN            | (0.00074205)   | (0.00236668) | (0.00017726) | (0.00079412) | (0.00000535) | (0.00000071) | (0.00043009) | (0.00007542) | (0.00006523) | (0.00000000) | (0.00000912) | (0.00004656) | (0.00000000) | (0.00000000) | (0.00024217)   | -              | (0.00000415) | (0.00000000) | -            |
| REV DISTPRI            | 1.4377122      | 0.8429554    | 0.00529595   | 0.02070475   | 0.00003707   | (0.00000000) | 0.02116594   | 0.00356246   | (0.00000000) | (0.00000000) | 0.00671188   | 0.00840967   | (0.00000000) | (0.00000000) | (0.00000000)   | -              | 0.00001246   | (0.00000000) | -            |
| REV DISTSEC            | 0.06257392     | 0.04051662   | 0.00037734   | (0.00000000) | (0.00000000) | (0.00000000) | 0.00798694   | (0.00000000) | (0.00000000) | (0.00000000) | 0.00219722   | (0.00000000) | (0.00000000) | (0.00000000) | (0.00000000)   | -              | 0.00004264   | 0.00069215   | 0.00019149   |
| REV ENERGY             | 0.39174389     | 0.13148656   | 0.00919385   | 0.03259899   | 0.00055773   | (0.00000000) | 0.03603188   | 0.00774402   | 0.00193738   | 0.00004322   | 0.00137351   | 0.02009146   | 0.02086959   | 0.00406162   | 0.10633210     | 0.01662438     | 0.00024840   | 0.00195838   | 0.00051036   |
| REV CUSTOMER           | 0.04326799     | 0.02163702   | 0.00631961   | 0.00201810   | 0.00041480   | 0.00001020   | 0.00051298   | 0.00002939   | 0.00003126   | 0.00000381   | 0.00006555   | 0.00037917   | 0.00006890   | 0.00015254   | 0.00004023     | 0.00002091     | 0.00047043   | 0.00164258   | 0.0          |







KENTUCKY POWER COMPANY  
 COST-OF-SERVICE STUDY  
 TWELVE MONTHS ENDING  
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| ALLOCATOR   | FUNCTION   | Total      | RS         | SGS        | MGS-SEC    | MGS-PRI    | MGS-SUB    | LGS-SEC    | LGS-PRI    | LGS-SUB    | LGS-TRA    | QP-SEC     | QP-PRI     | QP-SUB     | QP-TRA     | CIP-TOD-SUB | CIP-TOD-TRA | MW         | OL         | SL         |   |
|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|------------|------------|------------|---|
| SECCUST     |            | 217,709    | 138,300    | 23,823     | 7,203      | 0          | 0          | 756        | 0          | 0          |            | 6          | 0          | 0          |            | 0           | 0           | 11         | 47,554     | 56         |   |
| DIST_SERV   | PRODUCTION | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_SERV   | BULKTRAN   | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_SERV   | SUBTRAN    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_SERV   | DISTPRI    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_SERV   | DISTSEC    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_SERV   | ENERGY     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_SERV   | CUSTOMER   | 1,000,000  | 0.63525164 | 0.10942589 | 0.03308545 | -          | -          | 0.00347253 | -          | -          | -          | 0.00002756 | -          | -          | -          | -           | -           | 0.00005053 | 0.21842919 | 0.00025722 |   |
| DIST_SERV   | TOTAL      | 1,000,000  | 0.63525164 | 0.10942589 | 0.03308545 | -          | -          | 0.00347253 | -          | -          | -          | 0.00002756 | -          | -          | -          | -           | -           | 0.00005053 | 0.21842919 | 0.00025722 |   |
| METER       |            | 34,588,386 | 14,799,965 | 8,632,025  | 2,658,967  | 1,760,972  | 442,678    | 1,563,169  | 539,707    | 1,088,722  | 81,323     | 12,529     | 287,844    | 1,415,338  | 406,613    | 731,903     | 162,645     | 3,986      | 0          | 0          |   |
| DIST_METERS | PRODUCTION | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_METERS | BULKTRAN   | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_METERS | SUBTRAN    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_METERS | DISTPRI    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_METERS | DISTSEC    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_METERS | ENERGY     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_METERS | CUSTOMER   | 1,000,000  | 0.42788828 | 0.24956426 | 0.07687456 | 0.05091223 | 0.01279846 | 0.04519346 | 0.01560371 | 0.03147652 | 0.00235116 | 0.00036223 | 0.00832198 | 0.04091946 | 0.01175577 | 0.02116037  | 0.00470230  | 0.00011524 | -          | -          |   |
| DIST_METERS | TOTAL      | 1,000,000  | 0.42788828 | 0.24956426 | 0.07687456 | 0.05091223 | 0.01279846 | 0.04519346 | 0.01560371 | 0.03147652 | 0.00235116 | 0.00036223 | 0.00832198 | 0.04091946 | 0.01175577 | 0.02116037  | 0.00470230  | 0.00011524 | -          | -          |   |
| DIR371      |            | 1          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0           | 0           | 0          | 0          | 1          | 0 |
| DIST_OL     | PRODUCTION | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_OL     | BULKTRAN   | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_OL     | SUBTRAN    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_OL     | DISTPRI    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_OL     | DISTSEC    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_OL     | ENERGY     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_OL     | CUSTOMER   | 1,000,000  | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | 1,000,000  |   |
| DIST_OL     | TOTAL      | 1,000,000  | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | 1,000,000  |   |
| DIR373      |            | 1          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0           | 0           | 0          | 0          | 0          | 1 |
| DIST_SL     | PRODUCTION | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_SL     | BULKTRAN   | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_SL     | SUBTRAN    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_SL     | DISTPRI    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_SL     | DISTSEC    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_SL     | ENERGY     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| DIST_SL     | CUSTOMER   | 1,000,000  | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | 1,000,000  |   |
| DIST_SL     | TOTAL      | 1,000,000  | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | 1,000,000  |   |
| DIR902      |            | 350,616    | 276,600    | 47,646     | 21,609     | 294        | 35         | 3,402      | 375        | 100        | 5          | 36         | 240        | 156        | 30         | 54          | 12          | 22         | 0          | 0          |   |
| CUST_902    | PRODUCTION | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_902    | BULKTRAN   | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_902    | SUBTRAN    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_902    | DISTPRI    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_902    | DISTSEC    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_902    | ENERGY     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_902    | CUSTOMER   | 1,000,000  | 0.78889726 | 0.13589226 | 0.06163153 | 0.00083852 | 0.00009982 | 0.00970292 | 0.00106955 | 0.00028521 | 0.00001426 | 0.00010268 | 0.00068451 | 0.00044493 | 0.00008556 | 0.00015401  | 0.00003423  | 0.00006275 | -          | -          |   |
| CUST_902    | TOTAL      | 1,000,000  | 0.78889726 | 0.13589226 | 0.06163153 | 0.00083852 | 0.00009982 | 0.00970292 | 0.00106955 | 0.00028521 | 0.00001426 | 0.00010268 | 0.00068451 | 0.00044493 | 0.00008556 | 0.00015401  | 0.00003423  | 0.00006275 | -          | -          |   |
| DIR903      |            | 5,289,649  | 4,553,062  | 546,200    | 165,146    | 1,926      | 229        | 17,333     | 1,719      | 459        | 22         | 138        | 917        | 596        | 114        | 206         | 46          | 252        | 0          | 1,284      |   |
| CUST_903    | PRODUCTION | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_903    | BULKTRAN   | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_903    | SUBTRAN    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_903    | DISTPRI    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_903    | DISTSEC    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_903    | ENERGY     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_903    | CUSTOMER   | 1,000,000  | 0.86074937 | 0.10325827 | 0.03122060 | 0.00036411 | 0.00004329 | 0.00327678 | 0.00032497 | 0.00008677 | 0.00000416 | 0.00002609 | 0.00017336 | 0.00011267 | 0.00002155 | 0.00003894  | 0.00000870  | 0.00004764 | -          | 0.00024274 |   |
| CUST_903    | TOTAL      | 1,000,000  | 0.86074937 | 0.10325827 | 0.03122060 | 0.00036411 | 0.00004329 | 0.00327678 | 0.00032497 | 0.00008677 | 0.00000416 | 0.00002609 | 0.00017336 | 0.00011267 | 0.00002155 | 0.00003894  | 0.00000870  | 0.00004764 | -          | 0.00024274 |   |
| CUST451     |            | 439,928    | 393,866    | 31,803     | 11,011     | 161        | -          | 189        | 33         | -          | -          | -          | 46         | 7          | -          | -           | 7           | -          | 2,805      | -          |   |
| CUST_451    | PRODUCTION | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_451    | BULKTRAN   | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_451    | SUBTRAN    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_451    | DISTPRI    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_451    | DISTSEC    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_451    | ENERGY     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_451    | CUSTOMER   | 1,000,000  | 0.89529643 | 0.07229171 | 0.02502863 | 0.00036697 | -          | 0.00042959 | 0.00007476 | -          | -          | 0.00010418 | 0.00001591 | -          | -          | -           | -           | 0.00001591 | -          | 0.00637590 |   |
| CUST_451    | TOTAL      | 1,000,000  | 0.89529643 | 0.07229171 | 0.02502863 | 0.00036697 | -          | 0.00042959 | 0.00007476 | -          | -          | 0.00010418 | 0.00001591 | -          | -          | -           | -           | 0.00001591 | -          | 0.00637590 |   |
| CUSTDEP     |            | 24,459,717 | 17,841,958 | 1,074,084  | 2,114,234  | 533,240    | 89,908     | 908,545    | 371,216    | 150,766    | 33,502     | -          | 432,772    | 469,665    | 320,187    | -           | -           | -          | 119,640    | -          |   |
| CUST_DEP    | PRODUCTION | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_DEP    | BULKTRAN   | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_DEP    | SUBTRAN    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_DEP    | DISTPRI    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_DEP    | DISTSEC    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_DEP    | ENERGY     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |   |
| CUST_DEP    | CUSTOMER   | 1,000,000  | 0.72944254 | 0.04391236 | 0.08643739 | 0.02180074 | 0.00367576 | 0.03714454 | 0.01517663 | 0.00616385 | 0.00136968 | -          | 0.01769325 | 0.01920157 | 0.01309038 | -           | -           | -          | -          | 0.00489131 |   |
| CUST_DEP    | T          |            |            |            |            |            |            |            |            |            |            |            |            |            |            |             |             |            |            |            |   |

KENTUCKY POWER COMPANY  
 COST-OF-SERVICE STUDY  
 TWELVE MONTHS ENDING  
 SEPTEMBER 30, 2014

| ALLOCATOR                 | FUNCTION   | Total            | RS            | SGS          | MGS-SEC      | MGS-PRI    | MGS-SUB    | LGS-SEC      | LGS-PRI      | LGS-SUB    | LGS-TRA      | QP-SEC     | QP-PRI     | QP-SUB     | QP-TRA       | CIP-TOD-SUB  | CIP-TOD-TRA | MW           | OL         | SL         |            |
|---------------------------|------------|------------------|---------------|--------------|--------------|------------|------------|--------------|--------------|------------|--------------|------------|------------|------------|--------------|--------------|-------------|--------------|------------|------------|------------|
| FORF_DISCOUNTS            |            | 3,643,764        | 2,591,161     | 241,249      | 447,053      | 6,497      | 2,430      | 156,609      | 21,147       | 8,142      | 774          | 7,833      | 36,889     | 55,750     | 16,320       | 31,244       | -           | -            | 20,666     | -          |            |
| FORF_DISC                 | PRODUCTION | 1,000,000,000    | 0.71112214    | 0.06620871   | 0.12269002   | 0.00178294 | 0.00066684 | 0.04297993   | 0.00580371   | 0.00223445 | 0.00021246   | 0.00214966 | 0.01012398 | 0.01530002 | 0.00447882   | 0.00857472   | -           | -            | 0.00567159 | -          |            |
| FORF_DISC                 | BULKTRAN   | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| FORF_DISC                 | SUBTRAN    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| FORF_DISC                 | DISTPRI    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| FORF_DISC                 | DISTSEC    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| FORF_DISC                 | ENERGY     | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| FORF_DISC                 | CUSTOMER   | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| FORF_DISC                 | TOTAL      | 1,000,000,000    | 0.71112214    | 0.06620871   | 0.12269002   | 0.00178294 | 0.00066684 | 0.04297993   | 0.00580371   | 0.00223445 | 0.00021246   | 0.00214966 | 0.01012398 | 0.01530002 | 0.00447882   | 0.00857472   | -           | -            | 0.00567159 | -          |            |
| YEAR_END_CUST_ADJ         |            | (399,402)        | (1,690,889)   | 75,952       | 220,458      | (39,744)   | (4,014)    | 599,557      | 1,811,321    | (212,804)  | -            | (78,947)   | (35)       | (145,516)  | 328,666      | 1,074,103    | (1,346,730) | 2            | (938,247)  | (52,535)   |            |
| REYVEC                    | PRODUCTION | 1,000,000,000    | 4.23355166    | (0.19016430) | (0.55197020) | 0.09950877 | 0.01005002 | (1.50113670) | (4.53508245) | 0.53280655 | -            | 0.19766301 | 0.00008763 | 0.36433468 | (0.82289523) | (2.68927797) | 3.37186594  | (0.00000501) | 2.34912945 | 0.13153414 |            |
| REYVEC                    | BULKTRAN   | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| REYVEC                    | SUBTRAN    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| REYVEC                    | DISTPRI    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| REYVEC                    | DISTSEC    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| REYVEC                    | ENERGY     | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| REYVEC                    | CUSTOMER   | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| REYVEC                    | TOTAL      | 1,000,000,000    | 4.23355166    | (0.19016430) | (0.55197020) | 0.09950877 | 0.01005002 | (1.50113670) | (4.53508245) | 0.53280655 | -            | 0.19766301 | 0.00008763 | 0.36433468 | (0.82289523) | (2.68927797) | 3.37186594  | (0.00000501) | 2.34912945 | 0.13153414 |            |
| FUELREV                   |            | 13,374,764       | 4,777,562     | 289,822      | 1,023,252    | 19,857     | 2,126      | 1,131,261    | 183,139      | 74,860     | 1,373        | 47,671     | 675,960    | 703,383    | 123,998      | 3,561,676    | 646,445     | 7,887        | 87,066     | 17,426     |            |
| FUELREV                   | PRODUCTION | 1,000,000,000    | 0.35720720    | 0.02166932   | 0.07650617   | 0.00148466 | 0.00015896 | 0.08458175   | 0.01369288   | 0.00559711 | 0.00010266   | 0.00356425 | 0.05053996 | 0.05259031 | 0.00927104   | 0.26629823   | 0.04833319  | 0.00058969   | 0.00650972 | 0.00130290 |            |
| FUELREV                   | BULKTRAN   | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| FUELREV                   | SUBTRAN    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| FUELREV                   | DISTPRI    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| FUELREV                   | DISTSEC    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| FUELREV                   | ENERGY     | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| FUELREV                   | CUSTOMER   | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| FUELREV                   | TOTAL      | 1,000,000,000    | 0.35720720    | 0.02166932   | 0.07650617   | 0.00148466 | 0.00015896 | 0.08458175   | 0.01369288   | 0.00559711 | 0.00010266   | 0.00356425 | 0.05053996 | 0.05259031 | 0.00927104   | 0.26629823   | 0.04833319  | 0.00058969   | 0.00650972 | 0.00130290 |            |
| WEATHER                   |            | (5,929,131)      | (5,929,131)   | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| WEATHER_NORM              | PRODUCTION | 1,000,000,000    | 1.00000000    | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| WEATHER_NORM              | BULKTRAN   | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| WEATHER_NORM              | SUBTRAN    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| WEATHER_NORM              | DISTPRI    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| WEATHER_NORM              | DISTSEC    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| WEATHER_NORM              | ENERGY     | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| WEATHER_NORM              | CUSTOMER   | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| WEATHER_NORM              | TOTAL      | 1,000,000,000    | 1.00000000    | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| ATR_GROSS_UP              |            | 10,014,069       | 4,082,297     | 449,721      | 1,287,479    | 21,055     | 2,529      | 1,190,166    | 203,960      | 41,508     | (168)        | 37,744     | 433,913    | 402,343    | 84,049       | 1,379,302    | 181,775     | 7,199        | 174,693    | 34,504     |            |
| ATR_ADJ                   | PRODUCTION | 1,000,000,000    | 0.40765617    | 0.04490892   | 0.12856702   | 0.00210254 | 0.00025254 | 0.11884939   | 0.02036735   | 0.00414497 | (0.00001678) | 0.00376910 | 0.04333034 | 0.04017777 | 0.00839309   | 0.13773642   | 0.01815196  | 0.00071889   | 0.01744476 | 0.00344555 |            |
| ATR_ADJ                   | BULKTRAN   | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| ATR_ADJ                   | SUBTRAN    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| ATR_ADJ                   | DISTPRI    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| ATR_ADJ                   | DISTSEC    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| ATR_ADJ                   | ENERGY     | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| ATR_ADJ                   | CUSTOMER   | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| ATR_ADJ                   | TOTAL      | 1,000,000,000    | 0.40765617    | 0.04490892   | 0.12856702   | 0.00210254 | 0.00025254 | 0.11884939   | 0.02036735   | 0.00414497 | (0.00001678) | 0.00376910 | 0.04333034 | 0.04017777 | 0.00839309   | 0.13773642   | 0.01815196  | 0.00071889   | 0.01744476 | 0.00344555 |            |
| <b>INTERNALLY DERIVED</b> |            |                  |               |              |              |            |            |              |              |            |              |            |            |            |              |              |             |              |            |            |            |
| Bulk Transmission Plant   |            | \$409,750,988.28 |               |              |              |            |            |              |              |            |              |            |            |            |              |              |             |              |            |            |            |
| Subtransmission Plant     |            | \$105,804,409.72 |               |              |              |            |            |              |              |            |              |            |            |            |              |              |             |              |            |            |            |
| Total Transmission Plant  |            | \$515,555,398.00 |               |              |              |            |            |              |              |            |              |            |            |            |              |              |             |              |            |            |            |
| BULK_TRANS                | BULKTRAN   | 79.50%           | 1,000,000,000 | 0.46994779   | 0.02058592   | 0.07753609 | 0.00138852 | 0.00014536   | 0.08396412   | 0.01634700 | 0.00483649   | 0.00009548 | 0.00293412 | 0.04065047 | 0.04307467   | 0.00946244   | 0.19773740  | 0.03045369   | 0.00045637 | 0.00031265 | 0.00007143 |
| SUB_TRANS                 | SUBTRAN    | 20.50%           | 1,000,000,000 | 0.45584960   | 0.01944719   | 0.07344872 | 0.00132550 | 0.00018679   | 0.08092440   | 0.01577893 | 0.00615059   | -          | 0.00273369 | 0.03912901 | 0.05644684   | -            | 0.24812822  | -            | 0.00045051 | -          |            |
| TRANS_TOTAL               | PRODUCTION |                  |               |              |              |            |            |              |              |            |              |            |            |            |              |              |             |              |            |            |            |
| TRANS_TOTAL               | BULKTRAN   | 0.79500000       | 0.37360849    | 0.01636580   | 0.06164119   | 0.00110387 | 0.00011556 | 0.06675148   | 0.01299586   | 0.00384501 | 0.00007590   | 0.00233262 | 0.03231712 | 0.03424436 | 0.00752264   | 0.15720123   | 0.02421068  | 0.00036282   | 0.00024856 | 0.00005679 |            |
| TRANS_TOTAL               | SUBTRAN    | 0.20500000       | 0.09344917    | 0.00398667   | 0.01505699   | 0.00027173 | 0.00003829 | 0.01658950   | 0.00323468   | 0.00126087 | -            | 0.00050641 | 0.00802145 | 0.01157160 | -            | 0.05086628   | -           | 0.00009235   | -          |            |            |
| TRANS_TOTAL               | DISTPRI    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| TRANS_TOTAL               | DISTSEC    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| TRANS_TOTAL               | ENERGY     | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| TRANS_TOTAL               | CUSTOMER   | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| TRANS_TOTAL               | TOTAL      | 1,000,000,000    | 0.46705766    | 0.02035248   | 0.07669818   | 0.00137560 | 0.00015386 | 0.08334098   | 0.01623054   | 0.00510588 | 0.00007590   | 0.00289303 | 0.04033857 | 0.04581596 | 0.00752264   | 0.20806752   | 0.02421068  | 0.00045517   | 0.00024856 | 0.00005679 |            |
| DIST_CPD                  | DISTPRI    | 56.15%           | 1,000,000,000 | 0.67379424   | 0.02852657   | 0.10305620 | 0.00184593 | -            | 0.11247677   | 0.02190449 | -            | 0.00408226 | 0.05367011 | -          | -            | -            | -           | 0.00064343   | -          | -          |            |
| DISTSEC                   | DISTSEC    | 43.85%           | 1,000,000,000 | 0.74247656   | 0.04058807   | 0.10295906 | -          | -            | 0.09925875   | -          | -            | 0.00298830 | -          | -          | -            | -            | -           | 0.00048674   | 0.00925932 | 0.00198320 |            |
| DIST_POLES                | PRODUCTION |                  |               |              |              |            |            |              |              |            |              |            |            |            |              |              |             |              |            |            |            |
| DIST_POLES                | BULKTRAN   | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| DIST_POLES                | SUBTRAN    | -                | -             | -            | -            | -          | -          | -            | -            | -          | -            | -          | -          | -          | -            | -            | -           | -            | -          | -          |            |
| DIST_POLES                | DISTPRI    | 0.56150000       | 0.37833547    | 0.01601767   | 0.0          |            |            |              |              |            |              |            |            |            |              |              |             |              |            |            |            |

KENTUCKY POWER COMPANY  
 COST-OF-SERVICE STUDY  
 TWELVE MONTHS ENDING  
 SEPTEMBER 30, 2014

| ALLOCATOR            | FUNCTION   | Total         | RS           | SGS        | MGS-SEC     | MGS-PRI    | MGS-SUB    | LGS-SEC     | LGS-PRI      | LGS-SUB     | LGS-TRA    | QP-SEC     | QP-PRI     | QP-SUB     | QP-TRA       | CIP-TOD-SUB  | CIP-TOD-TRA | MW         | OL         | SL         |
|----------------------|------------|---------------|--------------|------------|-------------|------------|------------|-------------|--------------|-------------|------------|------------|------------|------------|--------------|--------------|-------------|------------|------------|------------|
| DIST_CPD             | DISTPRI    | 72.76%        | 1.0000000    | 0.67379424 | 0.02852657  | 0.10305620 | 0.00184593 | -           | 0.11247677   | 0.02190449  | -          | -          | 0.00408226 | 0.05367011 | -            | -            | -           | 0.00064343 | -          | -          |
| DISTSEC              | DISTSEC    | 27.24%        | 1.0000000    | 0.74247656 | 0.04058807  | 0.10295906 | -          | 0.09925875  | -            | -           | -          | 0.00298830 | -          | -          | -            | -            | -           | 0.00048674 | 0.00925932 | 0.00198320 |
| DIST_UGLINES         | PRODUCTION | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| DIST_UGLINES         | BULKTRAN   | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| DIST_UGLINES         | SUBTRAN    | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| DIST_UGLINES         | DISTPRI    | 0.72760000    | 0.49025269   | 0.02075593 | 0.07498369  | 0.00134310 | -          | 0.08183810  | 0.01593771   | -           | -          | 0.00297025 | 0.03905037 | -          | -            | -            | -           | 0.00046816 | -          | -          |
| DIST_UGLINES         | DISTSEC    | 0.27240000    | 0.20225061   | 0.01105619 | 0.02804605  | -          | -          | 0.02703808  | -            | -           | -          | 0.00081401 | -          | -          | -            | -            | -           | 0.00013259 | 0.00252224 | 0.00054022 |
| DIST_UGLINES         | ENERGY     | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| DIST_UGLINES         | CUSTOMER   | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| DIST_UGLINES         | TOTAL      | 1.00000000    | 0.69250331   | 0.03181212 | 0.10302974  | 0.00134310 | -          | 0.10887618  | 0.01593771   | -           | -          | 0.00378426 | 0.03905037 | -          | -            | -            | -           | 0.00060075 | 0.00252224 | 0.00054022 |
| DIST_CPD             | DISTPRI    | 24.98%        | 1.0000000    | 0.67379424 | 0.02852657  | 0.10305620 | 0.00184593 | -           | 0.11247677   | 0.02190449  | -          | -          | 0.00408226 | 0.05367011 | -            | -            | -           | 0.00064343 | -          | -          |
| DISTSEC              | DISTSEC    | 75.02%        | 1.0000000    | 0.74247656 | 0.04058807  | 0.10295906 | -          | 0.09925875  | -            | -           | -          | 0.00298830 | -          | -          | -            | -            | -           | 0.00048674 | 0.00925932 | 0.00198320 |
| DIST_TRANSF          | PRODUCTION | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| DIST_TRANSF          | BULKTRAN   | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| DIST_TRANSF          | SUBTRAN    | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| DIST_TRANSF          | DISTPRI    | 0.24980000    | 0.16531380   | 0.00712594 | 0.02574344  | 0.00046111 | -          | 0.02809670  | 0.00547174   | -           | -          | 0.00101975 | 0.01340679 | -          | -            | -            | -           | 0.00016073 | -          | -          |
| DIST_TRANSF          | DISTSEC    | 0.75020000    | 0.55700591   | 0.03044917 | 0.07723988  | -          | -          | 0.07446392  | -            | -           | -          | 0.00224182 | -          | -          | -            | -            | -           | 0.00036515 | 0.00694634 | 0.00148780 |
| DIST_TRANSF          | ENERGY     | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| DIST_TRANSF          | CUSTOMER   | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| DIST_TRANSF          | TOTAL      | 1.00000000    | 0.72531971   | 0.03757511 | 0.10298332  | 0.00046111 | -          | 0.10256061  | 0.00547174   | -           | -          | 0.00326157 | 0.01340679 | -          | -            | -            | -           | 0.00052588 | 0.00694634 | 0.00148780 |
| SALES OF ELECTRICITY | PRODUCTION | 205,228,629   | 84,328,446   | 5,472,620  | 20,256,125  | 292,689    | 29,989     | 20,348,426  | 4,042,272    | 1,072,130   | 19,886     | 650,329    | 8,775,666  | 10,133,969 | 1,883,585    | 40,822,796   | 6,432,175   | 117,360    | 454,511    | 95,656     |
|                      | BULKTRAN   | (1,178,637)   | (5,197,033)  | 414,774    | 1,858,052   | 12,663     | 1,225      | 1,005,943   | (167,864)    | 114,257     | 5,133      | 23,523     | 32,193     | 762,647    | (168,399)    | 40,822,796   | 6,432,175   | 9,404      | 6,855      | 2,456      |
|                      | SUBTRAN    | (539,147)     | (1,300,479)  | 101,281    | 454,876     | 3,134      | 409        | 250,700     | (41,740)     | 37,544      | -          | 5,868      | 8,140      | 258,314    | -            | (119,390)    | -           | 2,389      | -          | -          |
|                      | DISTPRI    | 77,716,035    | 45,137,893   | 3,013,309  | 11,349,515  | 167,419    | -          | 11,066,859  | 1,949,069    | -           | -          | 366,631    | 4,596,750  | -          | -            | -            | -           | 68,790     | -          | -          |
|                      | DISTSEC    | 32,816,013    | 20,970,674   | 1,900,861  | 5,045,708   | -          | -          | 4,289,902   | -            | -           | -          | 117,203    | -          | -          | -            | -            | -           | 23,076     | 364,438    | 104,150    |
|                      | ENERGY     | 222,095,087   | 74,097,467   | 5,175,409  | 18,433,256  | 315,873    | 33,329     | 20,483,496  | 4,422,587    | 1,100,720   | 24,361     | 779,572    | 11,435,998 | 11,867,867 | 2,305,872    | 60,596,851   | 9,476,710   | 141,604    | 1,113,000  | 290,933    |
|                      | CUSTOMER   | 24,255,095    | 12,103,807   | 3,533,591  | 1,134,182   | 232,405    | 56,740     | 292,085     | 70,888       | 165,482     | 17,504     | 2,141      | 36,895     | 213,599    | 38,522       | 85,869       | 22,699      | 1,650      | 5,317,520  | 929,514    |
|                      | TOTAL      | 560,593,075   | 230,140,574  | 19,611,844 | 58,531,716  | 1,024,183  | 121,692    | 57,737,410  | 10,275,210   | 2,490,133   | 66,884     | 1,945,247  | 24,885,642 | 4,059,580  | 101,015,053  | 16,408,190   | 364,284     | 7,256,325  | 1,422,710  | -          |
| REV_SALES            | PRODUCTION | 0.36609198    | 0.15042720   | 0.00976220 | 0.03613338  | 0.00052211 | 0.00005350 | 0.03629803  | 0.00721071   | 0.00191249  | 0.00003547 | 0.00116007 | 0.01565425 | 0.01807723 | 0.00335999   | 0.07288203   | 0.01147387  | 0.00020935 | 0.00081077 | 0.00017063 |
| REV_SALES            | BULKTRAN   | (0.00210248)  | (0.00927060) | 0.00073988 | 0.00331444  | 0.00002259 | 0.00000219 | 0.00179443  | (0.00029944) | 0.00020381  | 0.00000916 | 0.00004196 | 0.00005743 | 0.00136043 | (0.00030039) | (0.00006193) | 0.000085018 | 0.00001678 | 0.00001223 | 0.00000438 |
| REV_SALES            | SUBTRAN    | (0.00060498)  | (0.00231983) | 0.00018067 | 0.00081142  | 0.00000559 | 0.00000073 | 0.00044720  | (0.00007446) | 0.00006697  | -          | 0.00001011 | 0.00001452 | 0.00004679 | -            | (0.00002129) | -           | 0.00000428 | -          | -          |
| REV_SALES            | DISTPRI    | 0.13863181    | 0.08051775   | 0.00537522 | 0.02024555  | 0.00029865 | -          | 0.01917434  | 0.00347680   | -           | -          | 0.00065401 | 0.00819980 | -          | -            | -            | -           | 0.00012271 | -          | -          |
| REV_SALES            | DISTSEC    | 0.05853803    | 0.03740801   | 0.00339080 | 0.00900066  | -          | -          | 0.00765244  | -            | -           | -          | 0.00029087 | -          | -          | -            | -            | -           | 0.00004116 | 0.00065009 | 0.00018579 |
| REV_SALES            | ENERGY     | 0.39617879    | 0.13217892   | 0.00823202 | 0.03288171  | 0.00056346 | 0.00005945 | 0.03653897  | 0.00788912   | 0.00196349  | 0.00004346 | 0.00139084 | 0.02039982 | 0.02117020 | 0.00411327   | 0.10809418   | 0.01690479  | 0.00025260 | 0.00198540 | 0.00051897 |
| REV_SALES            | CUSTOMER   | 0.04326685    | 0.02159108   | 0.00630331 | 0.00202318  | 0.00041457 | 0.00010121 | 0.00052103  | 0.00012645   | 0.000029519 | 0.00003122 | 0.00000382 | 0.00006581 | 0.00003812 | 0.00006872   | 0.00015317   | 0.00004049  | 0.00000294 | 0.00948553 | 0.00165809 |
| REV_SALES            | TOTAL      | 1.00000000    | 0.41053053   | 0.03498410 | 0.10441034  | 0.00182696 | 0.00021708 | 0.10299344  | 0.01832918   | 0.00444196  | 0.00011931 | 0.00436998 | 0.04439163 | 0.04144967 | 0.00724158   | 0.00193199   | 0.02926934  | 0.00064982 | 0.01294401 | 0.00253786 |
| Production EPIS      | PRODUCTION | 1,562,785,754 | 734,427,704  | 32,171,380 | 121,172,296 | 2,169,961  | 227,171    | 131,217,934 | 25,546,856   | 7,558,392   | 149,211    | 4,585,398  | 63,527,972 | 67,316,475 | 14,787,771   | 309,021,190  | 47,592,590  | 713,215    | 488,611    | 111,628    |
|                      | BULKTRAN   | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
|                      | SUBTRAN    | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
|                      | DISTPRI    | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
|                      | DISTSEC    | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
|                      | ENERGY     | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
|                      | CUSTOMER   | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
|                      | TOTAL      | 1,562,785,754 | 734,427,704  | 32,171,380 | 121,172,296 | 2,169,961  | 227,171    | 131,217,934 | 25,546,856   | 7,558,392   | 149,211    | 4,585,398  | 63,527,972 | 67,316,475 | 14,787,771   | 309,021,190  | 47,592,590  | 713,215    | 488,611    | 111,628    |
| RB_GUP_EPIS_P        | PRODUCTION | 1.00000000    | 0.46994779   | 0.02058592 | 0.07753609  | 0.00138852 | 0.00014536 | 0.08396412  | 0.01634700   | 0.00483649  | 0.00009548 | 0.00293412 | 0.04065047 | 0.04307467 | 0.00946244   | 0.19773740   | 0.03045369  | 0.00045637 | 0.00031265 | 0.00007143 |
| RB_GUP_EPIS_P        | BULKTRAN   | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| RB_GUP_EPIS_P        | SUBTRAN    | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| RB_GUP_EPIS_P        | DISTPRI    | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| RB_GUP_EPIS_P        | DISTSEC    | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| RB_GUP_EPIS_P        | ENERGY     | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| RB_GUP_EPIS_P        | CUSTOMER   | -             | -            | -          | -           | -          | -          | -           | -            | -           | -          | -          | -          | -          | -            | -            | -           | -          | -          | -          |
| RB_GUP_EPIS_P        | TOTAL      | 1.00000000    | 0.46994779   | 0.02058592 | 0.07753609  | 0.00138852 | 0.00014536 | 0.08396412  | 0.01634700   | 0.00483649  | 0.00009548 | 0.00293412 | 0.04065047 | 0.04307467 | 0.00946244   | 0.19773740   | 0.03045369  | 0.00045637 | 0.00031265 | 0.00007143 |
| Transmission EPIS    | PRODUCTION | 11,074,145    | 5,204,270    | 227,971    | 858,646     | 15,377     | 1,610      | 929,831     | 181,029      | 53,560      | 32,493     | 450,169    | 477,015    | 104,788    | 2,189,773    | 337,249      | 5,054       | 3,462      | 791        |            |
|                      | BULKTRAN   | 401,062,596   | 188,478,479  | 8,256,242  | 31,096,825  | 556,884    | 58,300     | 33,674,869  | 6,556,170    | 1,939,734   | 38,293     | 1,176,765  | 16,303,382 | 17,275,637 | 3,795,032    | 79,305,075   | 12,213,835  | 183,035    | 125,394    | 28,647     |
|                      | SUBTRAN    | 103,418,657   | 47,143,353   | 2,011,202  | 7,595,968   | 137,082    | 19,318     | 8,369,093   | 1,631,836    | 636,086     |            |            |            |            |              |              |             |            |            |            |

KENTUCKY POWER COMPANY  
COST-OF-SERVICE STUDY  
TWELVE MONTHS ENDING  
SEPTEMBER 30, 2014

| ALLOCATOR       | FUNCTION      | Total         | RS          | SGS         | MGS-SEC     | MGS-PRI    | MGS-SUB    | LGS-SEC     | LGS-PRI     | LGS-SUB     | LGS-TRA    | QP-SEC      | QP-PRI      | QP-SUB      | QP-TRA      | CIP-TOD-SUB | CIP-TOD-TRA | MW          | OL          | SL         |            |
|-----------------|---------------|---------------|-------------|-------------|-------------|------------|------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|------------|
| Gen & Int Plant | PRODUCTION    | 24,041,251    | 11,298,133  | 494,911     | 1,864,065   | 33,382     | 3,495      | 2,018,603   | 393,002     | 116,275     | 2,295      | 70,540      | 977,288     | 1,035,569   | 227,489     | 4,753,854   | 732,145     | 10,972      | 7,517       | 1,717      |            |
|                 | BULKTRAN      | 1,044,718     | 490,963     | 21,506      | 81,003      | 1,451      | 152        | 87,719      | 17,078      | 5,053       | 100        | 3,065       | 42,468      | 45,001      | 9,886       | 296,580     | 31,816      | 477         | 327         | 75         |            |
|                 | SUBTRAN       | 269,393       | 122,803     | 5,239       | 19,787      | 357        | 50         | 21,800      | 4,251       | 1,657       | -          | 736         | 10,541      | 15,206      | -           | 66,844      | -           | 121         | -           | -          |            |
|                 | DISTPRI       | 15,159,221    | 10,214,196  | 432,441     | 1,562,252   | 27,983     | -          | 1,705,060   | 332,055     | -           | -          | -           | 61,884      | 813,597     | -           | -           | -           | -           | 9,754       | -          | -          |
|                 | DISTSEC       | 5,927,573     | 4,401,084   | 240,589     | 610,297     | -          | -          | 588,364     | -           | -           | -          | -           | 17,713      | -           | -           | -           | -           | -           | 2,885       | 54,885     | 11,756     |
|                 | ENERGY        | 3,129,799     | 1,112,148   | 70,172      | 247,713     | 4,449      | 474        | 276,010     | 53,317      | 15,865      | 312        | 11,038      | 157,314     | 161,142     | 30,797      | 828,838     | 135,736     | 1,902       | 18,538      | 4,034      |            |
|                 | CUSTOMER      | 6,196,639     | 4,376,790   | 720,507     | 225,487     | 33,531     | 8,157      | 47,707      | 11,568      | 19,981      | 1,480      | 390         | 6,207       | 25,999      | 7,405       | 13,329      | 2,962       | 333         | 572,089     | 122,719    |            |
|                 | TOTAL         | 55,768,593    | 32,016,116  | 1,985,365   | 4,610,604   | 101,152    | 12,327     | 4,745,262   | 811,271     | 158,830     | 4,187      | 165,366     | 2,007,416   | 1,282,917   | 2,075,576   | 5,869,445   | 902,659     | 26,444      | 653,356     | 140,300    |            |
|                 | RB_GUP_EPIS_G | PRODUCTION    | 0.43108943  | 0.20258652  | 0.00887437  | 0.03342499 | 0.00059858 | 0.00002696  | 0.00176205  | 0.00074070  | 0.00020496 | 0.00004116  | 0.00126487  | 0.00152399  | 0.01856903  | 0.00047916  | 0.08524250  | 0.001312626 | 0.00019674  | 0.0002477  | 0.00003079 |
|                 | RB_GUP_EPIS_G | BULKTRAN      | 0.01873309  | 0.00803957  | 0.00038564  | 0.00145249 | 0.00002601 | 0.00002072  | 0.00157321  | 0.0003823   | 0.00002960 | 0.00000179  | 0.00005497  | 0.00076151  | 0.00080692  | 0.00007726  | 0.00370423  | 0.000057049 | 0.0000285   | 0.00000586 | 0.00000134 |
| RB_GUP_EPIS_G   | SUBTRAN       | 0.00483055    | 0.00220200  | 0.00009394  | 0.00003580  | 0.00000640 | 0.00000090 | 0.00003901  | 0.00005622  | 0.00002971  | -          | 0.00000132  | 0.00018901  | 0.000027267 | -           | -           | -           | 0.00000218  | -           | -          |            |
| RB_GUP_EPIS_G   | DISTPRI       | 0.27182362    | 0.18315319  | 0.00775420  | 0.02801311  | 0.00050177 | -          | 0.03057384  | 0.00595162  | -           | -          | 0.00101965  | 0.01458880  | -           | -           | -           | -           | 0.00017490  | -           | -          |            |
| RB_GUP_EPIS_G   | DISTSEC       | 0.10628873    | 0.07891689  | 0.00431405  | 0.01049339  | -          | -          | 0.01055009  | -           | -           | -          | 0.00031762  | -           | -           | -           | -           | -           | 0.00005174  | 0.00098416  | 0.00021079 |            |
| RB_GUP_EPIS_G   | ENERGY        | 0.05612117    | 0.01994219  | 0.00125828  | 0.00444180  | 0.00007978 | 0.00000850 | 0.00494919  | 0.000095604 | 0.00028447  | 0.00000559 | 0.00019793  | 0.00282084  | 0.00288947  | 0.00055223  | 0.01486209  | 0.00024392  | 0.00003411  | 0.00003241  | 0.00007233 |            |
| RB_GUP_EPIS_G   | CUSTOMER      | 0.01111342    | 0.07848128  | 0.001291958 | 0.00404327  | 0.00060125 | 0.00014626 | 0.00085544  | 0.00020742  | 0.000035828 | 0.00002653 | 0.00000698  | 0.00011130  | 0.00046619  | 0.00013278  | 0.000023901 | 0.00005311  | 0.00000596  | 0.01025827  | 0.00220051 |            |
| RB_GUP_EPIS_G   | TOTAL         | 1.00000000    | 0.57408864  | 0.03560006  | 0.08267384  | 0.00181379 | 0.00022104 | 0.08058842  | 0.01454710  | 0.00284802  | 0.00007507 | 0.00296522  | 0.03599546  | 0.02300429  | 0.00494142  | 0.10524643  | 0.01618579  | 0.00047417  | 0.01171547  | 0.00251576 |            |
| CWIP            | PRODUCTION    | 31,714,172    | 14,904,005  | 652,865     | 2,458,993   | 44,036     | 4,610      | 2,662,853   | 518,432     | 153,385     | 3,028      | 93,053      | 1,289,196   | 1,366,077   | 300,094     | 6,271,078   | 965,813     | 14,474      | 9,916       | 2,265      |            |
|                 | BULKTRAN      | 28,965,204    | 13,612,134  | 596,275     | 2,245,849   | 40,219     | 4,210      | 2,432,038   | 473,494     | 140,090     | 2,766      | 84,987      | 1,177,449   | 1,247,666   | 274,082     | 5,727,504   | 882,097     | 13,219      | 9,056       | 2,069      |            |
|                 | SUBTRAN       | 7,469,015     | 3,404,747   | 145,251     | 548,590     | 9,900      | 1,395      | 604,426     | 117,853     | 45,939      | -          | -           | 20,418      | 292,255     | 421,602     | -           | -           | 3,365       | -           | -          |            |
|                 | DISTPRI       | 5,361,880     | 3,612,804   | 152,956     | 552,575     | 9,898      | -          | 603,087     | 117,449     | -           | -          | -           | 21,889      | 287,773     | -           | -           | -           | 3,450       | -           | -          |            |
|                 | DISTSEC       | 2,614,178     | 1,940,966   | 106,104     | 269,153     | -          | -          | 259,480     | -           | -           | -          | -           | 7,812       | -           | -           | -           | -           | 1,272       | 24,206      | 5,184      |            |
|                 | ENERGY        | 71,784        | 25,508      | 1,609       | 5,681       | 102        | 11         | 6,330       | 1,223       | 364         | 7          | 253         | 3,608       | 3,696       | 706         | 19,010      | 3,113       | 44          | 425         | 93         |            |
|                 | CUSTOMER      | 1,403,718     | 688,042     | 165,264     | 50,568      | 16,020     | 4,021      | 16,980      | 4,939       | 9,887       | 738        | 136         | 2,635       | 12,854      | 3,691       | 6,644       | 1,477       | 76          | 404,887     | 44,856     |            |
|                 | TOTAL         | 77,599,950    | 36,158,205  | 1,620,326   | 6,131,409   | 120,175    | 14,247     | 6,585,193   | 1,233,390   | 349,665     | 6,539      | 228,548     | 3,052,916   | 3,051,986   | 578,573     | 13,877,510  | 1,852,510   | 35,900      | 448,480     | 54,468     |            |
|                 | RB_GUP_CWIP   | PRODUCTION    | 0.40988904  | 0.19206204  | 0.00841322  | 0.03189807 | 0.00056747 | 0.00005941  | 0.03431513  | 0.00686022  | 0.00019761 | 0.00003902  | 0.00115914  | 0.01916136  | 0.00086719  | 0.0001291   | 0.01244606  | 0.00010951  | 0.00012778  | 0.00002919 |            |
|                 | RB_GUP_CWIP   | BULKTRAN      | 0.37326318  | 0.17541420  | 0.00783997  | 0.02894137 | 0.00051628 | 0.00005426  | 0.03134072  | 0.0011573   | 0.00180528 | 0.00003564  | 0.00109520  | 0.01019520  | 0.01607819  | 0.00035198  | 0.01136724  | 0.00017035  | 0.00011670  | 0.00002666 |            |
| RB_GUP_CWIP     | SUBTRAN       | 0.09625025    | 0.04387564  | 0.00187180  | 0.00706946  | 0.00012758 | 0.00001798 | 0.00778899  | 0.0015173   | 0.00059200  | -          | 0.00026312  | 0.00376618  | 0.00543302  | -           | -           | -           | 0.00004336  | -           |            |            |
| RB_GUP_CWIP     | DISTPRI       | 0.06909643    | 0.04655678  | 0.00197108  | 0.00172082  | 0.00012755 | -          | 0.00777174  | 0.00151352  | -           | -          | 0.00028207  | 0.00370841  | -           | -           | -           | -           | 0.00004446  | -           |            |            |
| RB_GUP_CWIP     | DISTSEC       | 0.03368788    | 0.02501246  | 0.00136733  | 0.00346847  | -          | -          | 0.00334382  | -           | -           | -          | 0.00010067  | -           | -           | -           | -           | -           | 0.00001640  | 0.00031193  | 0.00006681 |            |
| RB_GUP_CWIP     | ENERGY        | 0.00092505    | 0.00032871  | 0.00002074  | 0.00007321  | 0.00000131 | 0.00000014 | 0.00008158  | 0.00001576  | 0.00000469  | 0.00000099 | 0.00000326  | 0.00004650  | 0.00004763  | 0.00000910  | 0.000024497 | 0.00004102  | 0.00000056  | 0.00000548  | 0.00001179 |            |
| RB_GUP_CWIP     | CUSTOMER      | 0.01808916    | 0.00847993  | 0.00212969  | 0.00056165  | 0.00002644 | 0.00000182 | 0.00021881  | 0.00000565  | 0.000012741 | 0.00000051 | 0.000003396 | 0.00001653  | 0.000004757 | 0.000008562 | 0.00001903  | 0.00000098  | 0.00521762  | 0.000057805 |            |            |
| RB_GUP_CWIP     | TOTAL         | 1.00000000    | 0.49172976  | 0.02345783  | 0.07901305  | 0.00154864 | 0.00018360 | 0.08486079  | 0.01589422  | 0.00405959  | 0.00008426 | 0.00294521  | 0.03934173  | 0.03932858  | 0.00745584  | 0.17883400  | 0.02387244  | 0.00046263  | 0.00057915  | 0.00070190 |            |
| T&D Plant       | PRODUCTION    | 11,074,145    | 5,204,270   | 227,973     | 858,646     | 15,777     | 1,610      | 929,831     | 181,029     | 53,560      | 1,057      | 32,493      | 450,169     | 477,015     | 104,788     | 2,399,773   | 337,249     | 5,054       | 3,462       | 791        |            |
|                 | BULKTRAN      | 401,754,562   | 188,803,667 | 8,270,487   | 31,150,478  | 557,845    | 58,400     | 3,372,969   | 6,567,481   | 1,943,080   | 38,359     | 1,178,795   | 16,331,511  | 17,305,444  | 3,801,580   | 79,441,902  | 12,234,908  | 183,350     | 125,610     | 28,697     |            |
|                 | SUBTRAN       | 103,418,657   | 47,143,353  | 2,011,202   | 7,595,968   | 137,082    | 19,318     | 8,369,093   | 1,631,836   | 366,086     | -          | -           | 282,715     | 4,046,669   | 5,837,657   | -           | -           | 46,591      | -           | -          |            |
|                 | DISTPRI       | 410,287,990   | 276,449,686 | 11,704,110  | 42,282,722  | 757,363    | -          | 46,147,866  | 8,987,151   | -           | -          | -           | 1,674,901   | 22,020,200  | -           | -           | -           | 263,991     | -           | -          |            |
|                 | DISTSEC       | 202,781,578   | 150,560,567 | 8,230,513   | 20,878,200  | -          | -          | 20,127,847  | -           | -           | -          | -           | 605,972     | -           | -           | -           | -           | 98,703      | 1,877,620   | 402,156    |            |
|                 | ENERGY        | -             | -           | -           | -           | -          | -          | -           | -           | -           | -          | -           | -           | -           | -           | -           | -           | -           | -           | -          |            |
|                 | CUSTOMER      | 103,230,312   | 45,630,505  | 12,170,606  | 3,714,589   | 1,247,917  | 313,705    | 1,299,845   | 382,465     | 771,525     | 57,630     | 10,403      | 203,981     | 1,002,983   | 288,147     | 518,665     | 115,259     | 5,620       | 32,056,390  | 3,440,078  |            |
|                 | TOTAL         | 1,232,547,244 | 713,792,048 | 42,614,889  | 106,480,603 | 2,715,583  | 393,033    | 110,607,452 | 17,749,961  | 3,404,252   | 97,046     | 3,785,280   | 43,052,531  | 24,623,098  | 4,194,515   | 107,811,427 | 12,887,415  | 603,308     | 34,063,082  | 3,871,722  |            |
|                 | RB_GUP_TPLANT | PRODUCTION    | 0.00898476  | 0.00422237  | 0.00019496  | 0.00069664 | 0.00001248 | 0.00000131  | 0.00075440  | 0.00014687  | 0.00004345 | 0.00000096  | 0.000036523 | 0.00038702  | 0.00008502  | 0.00177662  | 0.00003410  | 0.00002762  | 0.00000281  | 0.00000064 |            |
|                 | RB_GUP_TPLANT | BULKTRAN      | 0.32595470  | 0.15318169  | 0.00871008  | 0.02527325 | 0.00004738 | 0.00007438  | 0.02736850  | 0.00532838  | 0.00157648 | 0.00003112  | 0.00005639  | 0.01325021  | 0.01404039  | 0.00308433  | 0.00992652  | 0.06445343  | 0.000014876 | 0.0000191  |            |
| RB_GUP_TPLANT   | SUBTRAN       | 0.08390644    | 0.03824872  | 0.00163174  | 0.00616282  | 0.00011122 | 0.00001567 | 0.00679008  | 0.00132395  | 0.00051607  | -          | 0.00002937  | 0.00328318  | 0.00473625  | -           | -           | -           | 0.00003780  | 0.00002328  |            |            |
| RB_GUP_TPLANT   | DISTPRI       | 0.33287810    | 0.22429135  | 0.00949587  | 0.03430515  | 0.00061144 | -          | 0.03744105  | 0.00279153  | -           | -          | 0.00135889  | 0.01786560  | -           | -           | -           | -           | 0.00021418  | -           |            |            |
| RB_GUP_TPLANT   | DISTSEC       | 0.16452236    | 0.12215399  | 0.00667764  | 0.01693907  | -          | -          | 0.01633028  | -           | -           | -          | 0.00049164  | -           | -           | -           | -           | -           | 0.00008008  | 0.00152337  | 0.00032628 |            |
| RB_GUP_TPLANT   | ENERGY        | 0.00875364    | 0.03702130  | 0.00087435  | 0.00031375  |            |            |             |             |             |            |             |             |             |             |             |             |             |             |            |            |

KENTUCKY POWER COMPANY  
COST-OF-SERVICE STUDY  
TWELVE MONTHS ENDING  
SEPTEMBER 30, 2014

| ALLOCATOR    | FUNCTION   | Total         | RS           | SGS         | MGS-SEC      | MGS-PRI    | MGS-SUB    | LGS-SEC      | LGS-PRI     | LGS-SUB     | LGS-TRA    | QP-SEC     | QP-PRI       | QP-SUB       | QP-TRA      | CIP-TOD-SUB  | CIP-TOD-TRA | MW         | OL          | SL         |
|--------------|------------|---------------|--------------|-------------|--------------|------------|------------|--------------|-------------|-------------|------------|------------|--------------|--------------|-------------|--------------|-------------|------------|-------------|------------|
| Net EPIS     | PRODUCTION | 435,482,125   | 204,653,860  | 8,964,799   | 33,765,591   | 604,676    | 63,303     | 36,564,874   | 7,118,826   | 2,106,203   | 41,579     | 1,277,756  | 17,702,552   | 18,758,247   | 4,120,725   | 86,111,103   | 13,262,037  | 198,743    | 136,155     | 31,106     |
|              | BULKTRAN   | 276,497,133   | 129,939,215  | 5,891,947   | 21,438,506   | 383,922    | 40,192     | 23,215,839   | 4,519,898   | 1,337,275   | -          | 26,399     | 811,275      | 11,239,738   | 11,910,022  | 54,673,824   | 8,420,357   | 126,186    | 86,448      | 19,750     |
|              | SUBTRAN    | 71,372,976    | 32,535,342   | 1,388,004   | 5,242,254    | 94,605     | 13,332     | 5,775,815    | 1,126,189   | 438,986     | -          | -          | 195,112      | 2,792,754    | 4,028,779   | 17,709,650   | -           | 32,154     | -           | -          |
|              | DISTPRI    | 309,433,431   | 208,494,465  | 8,827,075   | 31,889,034   | 571,193    | -          | 34,804,072   | 6,777,983   | -           | -          | 1,263,187  | 16,607,325   | -            | -           | -            | -           | 199,098    | -           | -          |
|              | DISTSEC    | 151,810,755   | 112,715,926  | 6,161,706   | 15,630,292   | -          | -          | 15,068,546   | -           | -           | -          | 453,656    | -            | -            | -           | -            | -           | 73,893     | 1,405,664   | 301,071    |
|              | ENERGY     | 2,248,730     | 799,068      | 50,418      | 177,980      | 3,197      | 340        | 198,310      | 38,308      | 11,399      | 224        | 7,931      | 113,029      | 115,779      | 22,127      | 595,512      | 97,525      | 1,367      | 13,319      | 2,898      |
|              | CUSTOMER   | 79,566,660    | 36,347,232   | 9,373,489   | 2,864,891    | 932,125    | 234,124    | 980,095      | 286,608     | 575,748     | 42,997     | 7,850      | 152,885      | 748,489      | 214,988     | 386,978      | 85,995      | 4,328      | 23,736,531  | 2,591,308  |
|              | TOTAL      | 1,326,411,811 | 725,485,108  | 40,457,438  | 111,008,539  | 2,589,718  | 351,292    | 116,607,553  | 19,867,811  | 4,469,611   | 111,199    | 4,016,767  | 48,608,282   | 35,561,316   | 6,974,178   | 159,477,066  | 21,865,914  | 635,769    | 25,378,117  | 2,946,133  |
| NP           | PRODUCTION | 0.32831593    | 0.15429134   | 0.00675968  | 0.02545633   | 0.00045587 | 0.00004772 | 0.012756676  | 0.00536698  | 0.00158790  | 0.00003135 | 0.00096332 | 0.01334620   | 0.01414210   | 0.00310667  | 0.06492034   | 0.00999843  | 0.00014983 | 0.00010255  | 0.00002345 |
| NP           | BULKTRAN   | 0.20845497    | 0.09796295   | 0.00429124  | 0.01616278   | 0.00028944 | 0.00003030 | 0.01750274   | 0.00340761  | 0.00100819  | 0.00001990 | 0.00061163 | 0.00843739   | 0.00897913   | 0.00197249  | 0.04121934   | 0.00634822  | 0.00009513 | 0.00006517  | 0.00001489 |
| NP           | SUBTRAN    | 0.05380906    | 0.02452884   | 0.00104644  | 0.00395221   | 0.00001732 | 0.00001005 | 0.00435447   | 0.00084905  | 0.00033096  | -          | 0.00014710 | 0.00210550   | 0.00303735   | -           | 0.01335155   | -           | 0.00002424 | -           | -          |
| NP           | DISTPRI    | 0.23328609    | 0.15718883   | 0.00665485  | 0.02404158   | 0.00043132 | -          | 0.02623927   | 0.00511001  | -           | -          | 0.00095233 | 0.01252049   | -            | -           | -            | -           | 0.00015010 | -           | -          |
| NP           | DISTSEC    | 0.11445220    | 0.08497808   | 0.00464539  | 0.01178389   | -          | -          | 0.01136038   | -           | -           | -          | 0.00034202 | -            | -            | -           | -            | -           | 0.00005571 | 0.00105975  | 0.00022698 |
| NP           | ENERGY     | 0.00169535    | 0.00060243   | 0.00003801  | 0.00013418   | 0.00000024 | 0.00000026 | 0.00014951   | 0.00002888  | 0.00000859  | 0.00000017 | 0.00000598 | 0.00000852   | 0.00000879   | 0.00001668  | 0.00044896   | 0.00007353  | 0.00000103 | 0.00001004  | 0.00000218 |
| NP           | CUSTOMER   | 0.05998639    | 0.02740267   | 0.00706680  | 0.00215988   | 0.00070274 | 0.00017651 | 0.00073891   | 0.00021608  | 0.00004306  | 0.00003242 | 0.00000592 | 0.00011526   | 0.00005640   | 0.00016208  | 0.00029175   | 0.00006483  | 0.00000326 | 0.01789530  | 0.00195362 |
| NP           | TOTAL      | 1.00000000    | 0.54695314   | 0.03050142  | 0.08369086   | 0.00195244 | 0.00026484 | 0.08791203   | 0.01497861  | 0.00336970  | 0.00008383 | 0.00302830 | 0.03664645   | 0.02681016   | 0.00525793  | 0.12023194   | 0.01648501  | 0.00047931 | 0.01913291  | 0.00222113 |
| Rate Base    | PRODUCTION | 343,373,290   | 158,043,405  | 6,871,872   | 26,489,788   | 253,544    | 18,384     | 29,435,549   | 5,667,206   | 1,607,429   | 13,254     | 1,042,848  | 14,220,448   | 14,987,341   | 3,127,440   | 70,493,688   | 10,805,026  | 162,609    | 108,095     | 25,364     |
|              | BULKTRAN   | 241,732,514   | 112,734,873  | 4,922,888   | 18,700,951   | 277,793    | 28,940     | 20,441,267   | 3,932,018   | 1,159,410   | 17,964     | 719,691    | 9,893,514    | 10,465,143   | 2,248,398   | 48,451,336   | 7,474,396   | 111,847    | 76,562      | 17,527     |
|              | SUBTRAN    | 62,468,563    | 28,259,368   | 1,201,193   | 4,575,492    | 68,540     | 8,950      | 5,088,312    | 980,279     | 380,827     | -          | 173,176    | 2,459,601    | 3,541,981    | -           | 15,702,328   | -           | 28,515     | -           | -          |
|              | DISTPRI    | 256,459,691   | 172,269,554  | 7,274,522   | 26,503,356   | 393,681    | -          | 29,202,566   | 5,667,988   | -           | -          | 1,065,664  | 13,924,245   | -            | -           | -            | -           | 168,085    | -           | -          |
|              | DISTSEC    | 125,239,747   | 92,779,117   | 5,058,088   | 12,940,130   | -          | -          | 12,594,464   | -           | -           | -          | 381,317    | -            | -            | -           | -            | -           | 62,146     | 1,171,474   | 253,011    |
|              | ENERGY     | 62,775,823    | 22,157,602   | 1,142,478   | 4,987,091    | 87,669     | 9,334      | 5,571,635    | 1,141,118   | 309,497     | 6,230      | 218,873    | 3,163,003    | 3,232,884    | 632,898     | 16,721,444   | 2,664,154   | 38,258     | 342,120     | 79,537     |
|              | CUSTOMER   | 66,136,888    | 30,510,455   | 7,751,874   | 2,390,708    | 636,482    | 148,057    | 818,800      | 237,512     | 470,217     | 27,646     | 6,596      | 127,350      | 621,195      | 174,922     | 324,045      | 71,941      | 3,666      | 19,638,926  | 2,176,496  |
|              | TOTAL      | 1,158,186,516 | 616,814,372  | 34,492,915  | 96,587,516   | 1,717,708  | 211,664    | 103,152,623  | 17,616,122  | 3,927,380   | 65,094     | 3,608,164  | 43,788,162   | 32,848,544   | 6,183,658   | 151,692,839  | 21,015,516  | 575,126    | 21,337,177  | 2,551,935  |
| RATEBASE     | PRODUCTION | 0.29647495    | 0.13645795   | 0.00593330  | 0.02287178   | 0.00021891 | 0.00001587 | 0.02541521   | 0.00489317  | 0.00138788  | 0.00001144 | 0.00090041 | 0.01227820   | 0.01294035   | 0.00270029  | 0.06068557   | 0.00932926  | 0.00014040 | 0.00009333  | 0.00002190 |
| RATEBASE     | BULKTRAN   | 0.20871639    | 0.09738221   | 0.00425051  | 0.01614675   | 0.00023985 | 0.00002326 | 0.01764937   | 0.00359498  | 0.00100106  | 0.00001551 | 0.00062139 | 0.00854225   | 0.00933580   | 0.00194131  | 0.04183379   | 0.00645353  | 0.00009857 | 0.00006611  | 0.00001513 |
| RATEBASE     | SUBTRAN    | 0.05393953    | 0.02439667   | 0.00103713  | 0.00395057   | 0.00005918 | 0.00000773 | 0.00439334   | 0.00084639  | 0.00032881  | -          | 0.00014952 | 0.00212367   | 0.00305821   | -           | 0.01355769   | -           | 0.00002462 | -           | -          |
| RATEBASE     | DISTPRI    | 0.22143212    | 0.14874077   | 0.00628096  | 0.02288350   | 0.00033991 | -          | 0.02521407   | 0.00488521  | -           | -          | 0.00092011 | 0.01202245   | -            | -           | -            | -           | 0.00014513 | -           | -          |
| RATEBASE     | DISTSEC    | 0.10813435    | 0.08010723   | 0.00436725  | 0.01117275   | -          | -          | 0.01087430   | -           | -           | -          | 0.00032924 | -            | -            | -           | -            | -           | 0.00005366 | 0.00101147  | 0.00021845 |
| RATEBASE     | ENERGY     | 0.05420183    | 0.01913129   | 0.00121956  | 0.00430595   | 0.00007569 | 0.00000806 | 0.00481065   | 0.00098526  | 0.00026723  | 0.00000538 | 0.00018898 | 0.00273100   | 0.00027913   | 0.00054646  | 0.01443761   | 0.00023008  | 0.00003303 | 0.00029539  | 0.00068687 |
| RATEBASE     | CUSTOMER   | 0.05710383    | 0.02634330   | 0.00669311  | 0.00206418   | 0.00054955 | 0.00012783 | 0.00070697   | 0.00020507  | 0.00004599  | 0.00002387 | 0.00005070 | 0.00010996   | 0.00053635   | 0.00005103  | 0.00002799   | 0.00006211  | 0.00000317 | 0.01695662  | 0.00187923 |
| RATEBASE     | TOTAL      | 1.00000000    | 0.53256912   | 0.02978183  | 0.08339548   | 0.00148310 | 0.00018275 | 0.08906391   | 0.01521009  | 0.00339097  | 0.00005620 | 0.00311536 | 0.03780752   | 0.02836205   | 0.00553909  | 0.13097445   | 0.01814519  | 0.00049657 | 0.01842292  | 0.00220339 |
| System Sales | PRODUCTION | (519,481)     | (244,129)    | (10,694)    | (40,279)     | (721)      | (76)       | (43,618)     | (8,492)     | (2,512)     | (50)       | (1,524)    | (21,117)     | (22,376)     | (4,916)     | (102,721)    | (15,820)    | (237)      | (162)       | (37)       |
|              | BULKTRAN   | -             | -            | -           | -            | -          | -          | -            | -           | -           | -          | -          | -            | -            | -           | -            | -           | -          | -           | -          |
|              | SUBTRAN    | -             | -            | -           | -            | -          | -          | -            | -           | -           | -          | -          | -            | -            | -           | -            | -           | -          | -           | -          |
|              | DISTPRI    | -             | -            | -           | -            | -          | -          | -            | -           | -           | -          | -          | -            | -            | -           | -            | -           | -          | -           | -          |
|              | DISTSEC    | -             | -            | -           | -            | -          | -          | -            | -           | -           | -          | -          | -            | -            | -           | -            | -           | -          | -           | -          |
|              | ENERGY     | (219,455,800) | (77,981,782) | (4,920,352) | (17,369,201) | (311,952)  | (33,226)   | (19,353,287) | (3,738,507) | (1,112,395) | (21,875)   | (773,965)  | (11,030,593) | (11,298,980) | (2,159,419) | (58,116,624) | (9,517,569) | (133,390)  | (1,299,849) | (282,834)  |
|              | CUSTOMER   | -             | -            | -           | -            | -          | -          | -            | -           | -           | -          | -          | -            | -            | -           | -            | -           | -          | -           | -          |
|              | TOTAL      | (219,975,281) | (78,225,911) | (4,931,046) | (17,409,479) | (312,673)  | (33,301)   | (19,396,905) | (3,746,999) | (1,114,908) | (21,924)   | (775,490)  | (11,051,710) | (11,321,356) | (2,164,335) | (58,219,345) | (9,533,389) | (133,627)  | (1,300,011) | (282,872)  |
| EXP_OM_SS    | PRODUCTION | 0.00236154    | 0.00110980   | 0.00004861  | 0.00018310   | 0.00000328 | 0.00000034 | 0.00019828   | 0.00003860  | 0.00001142  | 0.00000023 | 0.00000693 | 0.00009600   | 0.00010172   | 0.00002235  | 0.00046697   | 0.00007192  | 0.00000108 | 0.00000074  | 0.00000017 |
| EXP_OM_SS    | BULKTRAN   | -             | -            | -           | -            | -          | -          | -            | -           | -           | -          | -          | -            | -            | -           | -            | -           | -          | -           | -          |
| EXP_OM_SS    | SUBTRAN    | -             | -            | -           | -            | -          | -          | -            | -           | -           | -          | -          | -            | -            | -           | -            | -           | -          | -           | -          |
| EXP_OM_SS    | DISTPRI    | -             | -            | -           | -            | -          | -          | -            | -           | -           | -          | -          | -            | -            | -           | -            | -           | -          | -           | -          |
| EXP_OM_SS    | DISTSEC    | -             | -            | -           | -            | -          | -          | -            | -           | -           | -          | -          | -            | -            | -           | -            | -           | -          | -           | -          |
| EXP_OM_SS    | ENERGY     | 0.99763846    | 0.35450248   | 0.02236775  | 0.07895978   | 0.00141812 | 0.00015104 | 0.08797937   | 0.01699512  | 0.00505691  | 0.00009944 | 0.00351842 | 0.05014469   | 0.05136477   | 0.00981664  | 0.26419616   | 0.04326654  | 0.00060639 | 0.00509097  | 0.00128576 |
| EXP_OM_SS    | CUSTOMER   | -             | -            | -           | -            | -          | -          | -            | -           | -           | -          | -          | -            | -            | -           | -            | -           | -          | -           | -          |
| EXP_OM_SS    | TOTAL      | 1.0000000     |              |             |              |            |            |              |             |             |            |            |              |              |             |              |             |            |             |            |

KENTUCKY POWER COMPANY  
 COST-OF-SERVICE STUDY  
 TWELVE MONTHS ENDING  
 SEPTEMBER 30, 2014

| ALLOCATOR                             | FUNCTION              | Total       | RS          | SGS        | MGS-SEC    | MGS-PRI    | MGS-SUB    | LGS-SEC    | LGS-PRI    | LGS-SUB    | LGS-TRA    | QP-SEC     | QP-PRI     | QP-SUB     | QP-TRA     | CIP-TOD-SUB | CIP-TOD-TRA | MW         | OL         | SL         |            |         |
|---------------------------------------|-----------------------|-------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|------------|------------|------------|------------|---------|
| 364 Poles                             | PRODUCTION            | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | BULKTRAN              | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | SUBTRAN               | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | DISTPRI               | 103,620,433 | 69,818,851  | 2,955,936  | 10,678,728 | 191,276    | -          | 11,654,891 | 2,269,753  | -          | -          | -          | 423,005    | 5,561,320  | -          | -           | -           | -          | 66,672     | -          | -          |         |
|                                       | DISTSEC               | 80,921,745  | 60,082,499  | 3,284,457  | 8,331,627  | -          | -          | -          | 8,032,192  | -          | -          | -          | -          | 241,819    | -          | -           | -           | -          | -          | 39,388     | 749,280    | 160,484 |
|                                       | ENERGY                | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          | -          |         |
|                                       | CUSTOMER              | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          | -          |         |
|                                       | TOTAL                 | 184,542,178 | 129,901,350 | 6,240,393  | 19,010,355 | 191,276    | -          | 19,687,083 | 2,269,753  | -          | -          | -          | 664,824    | 5,561,320  | -          | -           | -           | -          | 106,060    | 749,280    | 160,484    |         |
|                                       | 365 Overhead Lines    | PRODUCTION  | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          | -          |         |
| BULKTRAN                              | -                     | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| SUBTRAN                               | -                     | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| DISTPRI                               | 162,855,574           | 109,731,148 | 4,645,711   | 16,783,277 | 300,620    | -          | 18,317,468 | 3,567,269  | -          | -          | -          | 664,818    | 8,740,476  | -          | -          | -           | -           | -          | 104,786    | -          | -          |         |
| DISTSEC                               | 25,503,868            | 18,936,024  | 1,035,153   | 2,625,854  | -          | -          | 2,531,482  | -          | -          | -          | -          | 76,213     | -          | -          | -          | -           | -           | -          | 12,414     | 236,148    | 50,579     |         |
| ENERGY                                | -                     | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| CUSTOMER                              | -                     | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTAL                                 | 188,359,442           | 128,667,172 | 5,680,864   | 19,409,131 | 300,620    | -          | 20,848,951 | 3,567,269  | -          | -          | -          | 741,032    | 8,740,476  | -          | -          | -           | -           | 117,200    | 236,148    | 50,579     |            |         |
| TOTOHLINES                            | PRODUCTION            | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTOHLINES                            | BULKTRAN              | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTOHLINES                            | SUBTRAN               | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTOHLINES                            | DISTPRI               | 0.71460136  | 0.48149429  | 0.02038513 | 0.07364410 | 0.00131910 | -          | 0.08037605 | 0.01565298 | -          | -          | 0.00291719 | 0.03835273 | -          | -          | -           | -           | -          | 0.00045979 | -          | -          |         |
| TOTOHLINES                            | DISTSEC               | 0.28539864  | 0.21190180  | 0.01158378 | 0.02938437 | -          | -          | 0.02832831 | -          | -          | -          | 0.00085286 | -          | -          | -          | -           | -           | -          | 0.00013892 | 0.00264260 | 0.00056600 |         |
| TOTOHLINES                            | ENERGY                | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTOHLINES                            | CUSTOMER              | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTOHLINES                            | TOTAL                 | 1.00000000  | 0.69339608  | 0.03196891 | 0.10302848 | 0.00131910 | -          | 0.10870436 | 0.01565298 | -          | -          | 0.00377004 | 0.03835273 | -          | -          | -           | -           | 0.00059871 | 0.00264260 | 0.00056600 |            |         |
| 366 Underground Conduit               | PRODUCTION            | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | BULKTRAN              | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | SUBTRAN               | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | DISTPRI               | 4,919,948   | 3,315,032   | 140,349    | 507,031    | 9,082      | -          | 553,380    | 107,769    | -          | -          | -          | 20,084     | 264,054    | -          | -           | -           | -          | 3,166      | -          | -          |         |
|                                       | DISTSEC               | 1,841,937   | 1,367,595   | 74,761     | 189,644    | -          | -          | 182,828    | -          | -          | -          | -          | 5,504      | -          | -          | -           | -           | -          | 897        | 17,055     | 3,653      |         |
|                                       | ENERGY                | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | CUSTOMER              | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | TOTAL                 | 6,761,885   | 4,682,628   | 215,110    | 696,675    | 9,082      | -          | 736,208    | 107,769    | -          | -          | -          | 25,589     | 264,054    | -          | -           | -           | -          | 4,062      | 17,055     | 3,653      |         |
|                                       | 367 Underground Lines | PRODUCTION  | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          | -          |         |
| BULKTRAN                              | -                     | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| SUBTRAN                               | -                     | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| DISTPRI                               | 7,341,028             | 4,946,342   | 209,414     | 756,538    | 13,551     | -          | 825,695    | 160,801    | -          | -          | -          | 29,968     | 393,994    | -          | -          | -           | -           | -          | 4,723      | -          | -          |         |
| DISTSEC                               | 2,748,345             | 2,040,582   | 111,550     | 282,967    | -          | -          | 272,797    | -          | -          | -          | -          | 8,213      | -          | -          | -          | -           | -           | -          | 1,338      | 25,448     | 5,451      |         |
| ENERGY                                | -                     | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| CUSTOMER                              | -                     | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTAL                                 | 10,089,373            | 6,986,924   | 320,964     | 1,039,505  | 13,551     | -          | 1,098,492  | 160,801    | -          | -          | -          | 38,181     | 393,994    | -          | -          | -           | -           | 6,061      | 25,448     | 5,451      |            |         |
| TOTUGLINES                            | PRODUCTION            | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTUGLINES                            | BULKTRAN              | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTUGLINES                            | SUBTRAN               | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTUGLINES                            | DISTPRI               | 0.72760000  | 0.49025269  | 0.02075593 | 0.07498369 | 0.00134310 | -          | 0.08183810 | 0.01593771 | -          | -          | 0.00297025 | 0.03905037 | -          | -          | -           | -           | -          | 0.00046816 | -          | -          |         |
| TOTUGLINES                            | DISTSEC               | 0.27240000  | 0.20225061  | 0.01105619 | 0.02804605 | -          | -          | 0.02703808 | -          | -          | -          | 0.00081401 | -          | -          | -          | -           | -           | -          | 0.00013259 | 0.00252224 | 0.00054022 |         |
| TOTUGLINES                            | ENERGY                | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTUGLINES                            | CUSTOMER              | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTUGLINES                            | TOTAL                 | 1.00000000  | 0.69250331  | 0.03181212 | 0.10302974 | 0.00134310 | -          | 0.10887618 | 0.01593771 | -          | -          | 0.00378426 | 0.03905037 | -          | -          | -           | -           | 0.00060075 | 0.00252224 | 0.00054022 |            |         |
| Acct 581-589<br>(Excluding Severance) | PRODUCTION            | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | BULKTRAN              | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | SUBTRAN               | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | DISTPRI               | 4,303,952   | 2,899,978   | 122,777    | 443,549    | 7,945      | -          | 484,095    | 94,276     | -          | -          | -          | 17,570     | 230,994    | -          | -           | -           | -          | 2,769      | -          | -          |         |
|                                       | DISTSEC               | 1,735,476   | 1,288,550   | 70,440     | 178,683    | -          | -          | 172,261    | -          | -          | -          | -          | 5,186      | -          | -          | -           | -           | -          | 845        | 16,069     | 3,442      |         |
|                                       | ENERGY                | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | CUSTOMER              | 1,988,946   | 839,884     | 328,282    | 100,738    | 53,229     | 13,362     | 49,334     | 16,356     | 32,864     | 2,455      | 395        | 8,723      | 42,723     | 12,274     | 22,093      | 4,910       | 152        | 290,362    | 170,811    |            |         |
|                                       | TOTAL                 | 8,028,374   | 5,028,412   | 521,499    | 722,970    | 61,173     | 13,362     | 705,690    | 110,632    | 32,864     | 2,455      | 23,151     | 239,717    | 42,723     | 12,274     | 22,093      | 4,910       | 3,766      | 306,432    | 174,253    |            |         |
|                                       | TOTOXEXP              | PRODUCTION  | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          | -          |         |
| TOTOXEXP                              | BULKTRAN              | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTOXEXP                              | SUBTRAN               | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTOXEXP                              | DISTPRI               | 0.53609267  | 0.36121615  | 0.01529289 | 0.05524767 | 0.00098959 | -          | 0.06029797 | 0.01174284 | -          | -          | 0.00218847 | 0.02877215 | -          | -          | -           | -           | -          | 0.00034494 | -          | -          |         |
| TOTOXEXP                              | DISTSEC               | 0.21616776  | 0.16049949  | 0.00877383 | 0.02225643 | -          | -          | 0.02145654 | -          | -          | -          | 0.00064597 | -          | -          | -          | -           | -           | -          | 0.00010522 | 0.00200157 | 0.00042870 |         |
| TOTOXEXP                              | ENERGY                | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
| TOTOXEXP                              | CUSTOMER              | 0.24773957  | 0.10461445  | 0.04089024 | 0.01254772 | 0.00663006 | 0.00166440 | 0.00614495 | 0.00203733 | 0.00409342 | 0.00030576 | 0.00004923 | 0.00108657 | 0.00532145 | 0.00152880 | 0.00275184  | 0.00061152  | 0.00001888 | 0.03616703 | 0.02127591 |            |         |
| TOTOXEXP                              | TOTAL                 | 1.00000000  | 0.62633010  | 0.06495696 | 0.09005182 | 0.00761965 | 0.00166440 | 0.08789946 | 0.01378016 | 0.00409342 | 0.00030576 | 0.00288367 | 0.02985873 | 0.00532145 | 0.00152880 | 0.00275184  | 0.00061152  | 0.00046904 | 0.03816859 | 0.02170462 |            |         |
| Acct 591-598                          | PRODUCTION            | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | BULKTRAN              | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | SUBTRAN               | -           | -           | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |            |         |
|                                       | DISTPRI               | 25,000,290  | 16,845,051  | 713,173    | 2,576,435  | 46,149     | -          | 2,811,952  | 547,619    | -          | -          | -          | 102,058    | 1,341,768  | -          | -           | -           | -          | 16,086     | -          | -          |         |
|                                       | DISTSEC               | 9,718,683   | 7,215,894   | 394,463    | 1,000,626  | -          | -          | 964,664    | -          | -</        |            |            |            |            |            |             |             |            |            |            |            |         |

KENTUCKY POWER COMPANY  
 COST-OF-SERVICE STUDY  
 TWELVE MONTHS ENDING  
 SEPTEMBER 30, 2014

| ALLOCATOR    | FUNCTION    | Total      | RS         | SGS        | MGS-SEC    | MGS-PRI    | MGS-SUB    | LGS-SEC    | LGS-PRI    | LGS-SUB    | LGS-TRA    | QP-SEC     | QP-PRI     | QP-SUB     | QP-TRA     | CIP-TOD-SUB | CIP-TOD-TRA | MW         | OL          | SL         |            |
|--------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|------------|-------------|------------|------------|
| Acct 560-574 | PRODUCTION  | 10,874,895 | 5,110,633  | 223,870    | 843,197    | 15,100     | 1,581      | 913,101    | 177,772    | 52,596     | 1,038      | 31,908     | 442,070    | 468,432    | 102,903    | 2,150,373   | 331,181     | 4,963      | 3,400       | 777        |            |
|              | BULKTRAN    | 7,590,425  | 3,567,103  | 156,256    | 588,532    | 10,539     | 1,103      | 637,323    | 124,081    | 36,711     | -          | 22,271     | 308,554    | 326,955    | 71,824     | 1,500,911   | 231,156     | 3,464      | 2,373       | 542        |            |
|              | SUBTRAN     | 1,957,279  | 892,225    | 38,064     | 143,760    | 2,594      | 366        | 158,392    | 30,884     | 12,038     | -          | 5,351      | 76,586     | 110,482    | -          | 485,656     | -           | 882        | -           | -          |            |
|              | DISTPRI     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          | -          |
|              | DISTSEC     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          | -          |
|              | ENERGY      | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          | -          |
|              | CUSTOMER    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          | -          |
|              | TOTAL       | 20,422,599 | 9,569,961  | 418,189    | 1,575,488  | 28,234     | 3,050      | 1,708,816  | 332,736    | 101,346    | 1,763      | 59,530     | 827,210    | 905,870    | 174,727    | 4,136,941   | 562,337     | 9,309      | 5,773       | 1,319      |            |
|              | EXP_OM_TRAN | PRODUCTION | 0.53249320 | 0.25024400 | 0.01096186 | 0.04128744 | 0.00073938 | 0.00007740 | 0.04471032 | 0.00870467 | 0.00257540 | 0.00005084 | 0.00156240 | 0.02164610 | 0.02293697 | 0.00503869  | 0.10529382  | 0.01621638 | 0.00024302  | 0.00016649 | 0.00003804 |
|              | EXP_OM_TRAN | BULKTRAN   | 0.37166791 | 0.17466451 | 0.00765113 | 0.02881768 | 0.00051607 | 0.00005403 | 0.03120677 | 0.00607565 | 0.00179757 | 0.00003549 | 0.00109052 | 0.01510847 | 0.01600947 | 0.00351689  | 0.07348265  | 0.01131866 | 0.00016962  | 0.00011620 | 0.00002655 |
| EXP_OM_TRAN  | SUBTRAN     | 0.09583989 | 0.04368612 | 0.00186380 | 0.00703924 | 0.00012703 | 0.00001790 | 0.00775571 | 0.00151224 | 0.00058947 | -          | 0.00026199 | 0.00375008 | 0.00540980 | -          | 0.02378033  | -           | 0.00004318 | -           | -          |            |
| EXP_OM_TRAN  | DISTPRI     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
| EXP_OM_TRAN  | DISTSEC     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
| EXP_OM_TRAN  | ENERGY      | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
| EXP_OM_TRAN  | CUSTOMER    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
| EXP_OM_TRAN  | TOTAL       | 1.00000000 | 0.46859663 | 0.02047678 | 0.07714436 | 0.00138248 | 0.00014933 | 0.08367280 | 0.01629256 | 0.00496243 | 0.00008633 | 0.00291491 | 0.04050465 | 0.04435624 | 0.00855557 | 0.20256680  | 0.02753504  | 0.00045581 | 0.00028269  | 0.00006458 |            |
| Acct 580-598 | PRODUCTION  | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
|              | BULKTRAN    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
|              | SUBTRAN     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
|              | DISTPRI     | 29,667,747 | 19,989,957 | 846,319    | 3,057,445  | 54,765     | -          | 3,336,932  | 649,857    | -          | -          | -          | 121,111    | 1,592,271  | -          | -           | -           | -          | 19,089      | -          | -          |
|              | DISTSEC     | 11,600,711 | 8,613,256  | 470,850    | 1,194,398  | -          | -          | 1,151,472  | -          | -          | -          | -          | 34,666     | -          | -          | -           | -           | -          | 5,647       | 107,415    | 23,007     |
|              | ENERGY      | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
|              | CUSTOMER    | 2,477,973  | 944,457    | 375,688    | 115,308    | 61,744     | 15,502     | 57,068     | 18,970     | 38,124     | 2,848      | 457        | 10,117     | 49,562     | 14,239     | 25,629      | 5,695       | 173        | 504,446     | 237,945    |            |
|              | TOTAL       | 43,746,431 | 29,547,670 | 1,692,858  | 4,367,152  | 116,509    | 15,502     | 4,545,473  | 668,827    | 38,124     | 2,848      | 156,235    | 1,602,388  | 49,562     | 14,239     | 25,629      | 5,695       | 24,909     | 611,860     | 260,952    |            |
|              | EXP_OM_DIST | PRODUCTION | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          | -          |
|              | EXP_OM_DIST | BULKTRAN   | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          | -          |
| EXP_OM_DIST  | SUBTRAN     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
| EXP_OM_DIST  | DISTPRI     | 0.67817526 | 0.45695059 | 0.01934601 | 0.06989017 | 0.00125186 | -          | 0.07627896 | 0.01485509 | -          | -          | 0.00276849 | 0.03639774 | -          | -          | -           | -           | 0.00043636 | -           | -          |            |
| EXP_OM_DIST  | DISTSEC     | 0.26518074 | 0.19689048 | 0.01076317 | 0.02730276 | -          | -          | 0.02632151 | -          | -          | -          | 0.00079244 | -          | -          | -          | -           | -           | 0.00012907 | 0.00245539  | 0.00052591 |            |
| EXP_OM_DIST  | ENERGY      | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
| EXP_OM_DIST  | CUSTOMER    | 0.05664400 | 0.02158935 | 0.00858785 | 0.00263583 | 0.00014141 | 0.00035435 | 0.00130452 | 0.00043363 | 0.00087149 | 0.00006510 | 0.00001045 | 0.00023127 | 0.00113293 | 0.00032548 | 0.00058586  | 0.00013019  | 0.00000397 | 0.01153113  | 0.00543919 |            |
| EXP_OM_DIST  | TOTAL       | 1.00000000 | 0.67543042 | 0.03869704 | 0.09982875 | 0.00266327 | 0.00035435 | 0.10390499 | 0.01528872 | 0.00087149 | 0.00006510 | 0.00357138 | 0.03662901 | 0.00113293 | 0.00032548 | 0.00058586  | 0.00013019  | 0.00056940 | 0.01398652  | 0.00596509 |            |
| Acct 560-598 | PRODUCTION  | 10,874,895 | 5,110,633  | 223,870    | 843,197    | 15,100     | 1,581      | 913,101    | 177,772    | 52,596     | 1,038      | 31,908     | 442,070    | 468,432    | 102,903    | 2,150,373   | 331,181     | 4,963      | 3,400       | 777        |            |
|              | BULKTRAN    | 7,590,425  | 3,567,103  | 156,256    | 588,532    | 10,539     | 1,103      | 637,323    | 124,081    | 36,711     | -          | 22,271     | 308,554    | 326,955    | 71,824     | 1,500,911   | 231,156     | 3,464      | 2,373       | 542        |            |
|              | SUBTRAN     | 1,957,279  | 892,225    | 38,064     | 143,760    | 2,594      | 366        | 158,392    | 30,884     | 12,038     | -          | 5,351      | 76,586     | 110,482    | -          | 485,656     | -           | 882        | -           | -          |            |
|              | DISTPRI     | 29,667,747 | 19,989,957 | 846,319    | 3,057,445  | 54,765     | -          | 3,336,932  | 649,857    | -          | -          | 121,111    | 1,592,271  | -          | -          | -           | -           | -          | 19,089      | -          | -          |
|              | DISTSEC     | 11,600,711 | 8,613,256  | 470,850    | 1,194,398  | -          | -          | 1,151,472  | -          | -          | -          | 34,666     | -          | -          | -          | -           | -           | -          | 5,647       | 107,415    | 23,007     |
|              | ENERGY      | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
|              | CUSTOMER    | 2,477,973  | 944,457    | 375,688    | 115,308    | 61,744     | 15,502     | 57,068     | 18,970     | 38,124     | 2,848      | 457        | 10,117     | 49,562     | 14,239     | 25,629      | 5,695       | 173        | 504,446     | 237,945    |            |
|              | TOTAL       | 64,169,030 | 39,117,631 | 2,111,047  | 5,942,640  | 144,743    | 18,551     | 6,254,289  | 1,001,563  | 139,470    | 4,611      | 215,765    | 2,429,599  | 955,431    | 188,966    | 4,162,570   | 568,033     | 34,218     | 617,634     | 262,270    |            |
|              | TDOMX       | PRODUCTION | 0.16947264 | 0.07964329 | 0.00348875 | 0.01314025 | 0.00023532 | 0.00002464 | 0.01422962 | 0.00277037 | 0.00081965 | 0.00001618 | 0.00049725 | 0.00688914 | 0.00729998 | 0.00160363  | 0.03351108  | 0.00516107 | 0.00007734  | 0.00005299 | 0.00001211 |
|              | TDOMX       | BULKTRAN   | 0.11628798 | 0.05558917 | 0.00243507 | 0.00917159 | 0.00016425 | 0.00001719 | 0.00983195 | 0.00193365 | 0.00057210 | 0.00001129 | 0.00034707 | 0.00480846 | 0.00509522 | 0.00111929  | 0.02338996  | 0.00360231 | 0.00005388  | 0.00003698 | 0.00000845 |
| TDOMX        | SUBTRAN     | 0.03050193 | 0.01390429 | 0.00059318 | 0.00224033 | 0.00004043 | 0.00000570 | 0.00246835 | 0.00048129 | 0.00018760 | -          | 0.00083338 | 0.00119351 | 0.00172174 | -          | 0.00756839  | -           | 0.00001374 | -           | -          |            |
| TDOMX        | DISTPRI     | 0.46233747 | 0.31152033 | 0.01318890 | 0.04764674 | 0.00085344 | -          | 0.05200222 | 0.01012727 | -          | -          | 0.00188738 | 0.02481370 | -          | -          | -           | -           | 0.00029748 | -           | -          |            |
| TDOMX        | DISTSEC     | 0.18078364 | 0.13422762 | 0.00733766 | 0.01861331 | -          | -          | 0.01794436 | -          | -          | -          | 0.00054024 | -          | -          | -          | -           | -           | 0.00008800 | 0.000167393 | 0.00035853 |            |
| TDOMX        | ENERGY      | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
| TDOMX        | CUSTOMER    | 0.03861634 | 0.01471827 | 0.00585466 | 0.00179694 | 0.00096221 | 0.00024157 | 0.00088934 | 0.00029562 | 0.00059413 | 0.00004438 | 0.00000713 | 0.00015767 | 0.00077236 | 0.00022189 | 0.00039941  | 0.00008876  | 0.00000270 | 0.00786120  | 0.00370810 |            |
| TDOMX        | TOTAL       | 1.00000000 | 0.60960297 | 0.03289822 | 0.09260916 | 0.00225564 | 0.00028910 | 0.09746584 | 0.01560820 | 0.00217348 | 0.00007185 | 0.00336245 | 0.03786248 | 0.01488929 | 0.00294481 | 0.06486683  | 0.000885213 | 0.00053325 | 0.00962511  | 0.00408718 |            |
| Acct 902-904 | PRODUCTION  | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
|              | BULKTRAN    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
|              | SUBTRAN     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
|              | DISTPRI     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
|              | DISTSEC     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
|              | ENERGY      | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          |            |
|              | CUSTOMER    | 5,797,811  | 4,960,525  | 616,391    | 197,685    | 2,371      | 282        | 22,530     | 2,293      | 612        | 30         | 193        | 1,286      | 836        | 160        | 289         | 64          | 284        | (9,294)     | 1,273      |            |
|              | TOTAL       | 5,797,811  | 4,960,525  | 616,391    | 197,685    | 2,371      | 282        | 22,530     | 2,293      | 612        | 30         | 193        | 1,286      | 836        | 160        | 289         | 64          | 284        | (9,294)     | 1,273      |            |
|              | TOTOX234    | PRODUCTION | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -           | -          | -          |
|              | TOTOX234    | BULKTRAN   | -          | -          | -          | -          |            |            |            |            |            |            |            |            |            |             |             |            |             |            |            |

KENTUCKY POWER COMPANY  
 COST-OF-SERVICE STUDY  
 TWELVE MONTHS ENDING  
 SEPTEMBER 30, 2014

| ALLOCATOR       | FUNCTION   | Total        | RS           | SGS       | MGS-SEC     | MGS-PRI  | MGS-SUB | LGS-SEC    | LGS-PRI   | LGS-SUB   | LGS-TRA  | QP-SEC    | QP-PRI      | QP-SUB      | QP-TRA    | CIP-TOD-SUB | CIP-TOD-TRA | MW       | OL        | SL       |       |
|-----------------|------------|--------------|--------------|-----------|-------------|----------|---------|------------|-----------|-----------|----------|-----------|-------------|-------------|-----------|-------------|-------------|----------|-----------|----------|-------|
| Acct 901-905    | PRODUCTION | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
|                 | BULKTRAN   | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
|                 | SUBTRAN    | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
|                 | DISTPRI    | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
|                 | DISTSEC    | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
|                 | ENERGY     | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
|                 | CUSTOMER   | 6,109,997    | 5,227,627    | 649,580   | 208,329     | 2,499    | 297     | 23,743     | 2,417     | 645       | 31       | 204       | 1,355       | 881         | 169       | 305         | 68          | 300      | (9,795)   | 1,342    |       |
|                 | TOTAL      | 6,109,997    | 5,227,627    | 649,580   | 208,329     | 2,499    | 297     | 23,743     | 2,417     | 645       | 31       | 204       | 1,355       | 881         | 169       | 305         | 68          | 300      | (9,795)   | 1,342    |       |
| EXP_OM_CUSTACCT | PRODUCTION | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
| EXP_OM_CUSTACCT | BULKTRAN   | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
| EXP_OM_CUSTACCT | SUBTRAN    | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
| EXP_OM_CUSTACCT | DISTPRI    | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
| EXP_OM_CUSTACCT | DISTSEC    | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
| EXP_OM_CUSTACCT | ENERGY     | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
| EXP_OM_CUSTACCT | CUSTOMER   | 1,000,000    | 855,588      | 106,314   | 37,496      | 490      | 61      | 5,000      | 500       | 126       | 6        | 404       | 265         | 169         | 305       | 68          | 300         | 0        | (16,304)  | 1,957    |       |
| EXP_OM_CUSTACCT | TOTAL      | 1,000,000    | 855,588      | 106,314   | 37,496      | 490      | 61      | 5,000      | 500       | 126       | 6        | 404       | 265         | 169         | 305       | 68          | 300         | 0        | (16,304)  | 1,957    |       |
| A&G Regulatory  | REVENUES   | 1,000,000    | 419,678      | 304,202   | 102,225     | 1,171    | 15      | 1,034      | 121       | 1,479     | 562      | 4,783     | 1,213       | 3,565       | 4,399     | 1,009       | 2,690       | 6,065    | 3,637     | 1,772    | 367   |
| RB_GUP          | PRODUCTION | 5,511,515    | 2,501,124    | 1,134,596 | 407,343     | 7,652    | 99      | 62,765     | 6,909     | 967       | 2,665    | 4,000     | 6,174       | 22,406      | 3,406     | 1,524       | 10,983      | 25,153   | 16,859    | 10,025   | 153   |
|                 | BULKTRAN   | 1,442,672    | 607,981      | 292,998   | 111,852     | 2,003    | 207     | 11,328     | 1,235     | 384       | 6,977    | 1,377     | 4,230       | 5,864       | 1,427     | 612         | 8,327       | 15,705   | 10,669    | 4,394    | 37    |
|                 | SUBTRAN    | 3,071,371    | 1,092,893    | 500,722   | 175,491     | 5,649    | 790     | 51,437     | 5,674     | 583       | 1,298    | 2,827     | 10,152      | 10,543      | 2,092     | 812         | 26,656      | 30,144   | 20,180    | 12,717   | 300   |
|                 | DISTPRI    | 1,523,789    | 504,368      | 230,604   | 85,491      | 1,303    | 128     | 7,909      | 837       | 278       | 1,309    | 3,778     | 2,205       | 8,181       | 1,719     | 762         | 11,246      | 20,269   | 14,471    | 7,134    | 26    |
|                 | DISTSEC    | 1,074,716    | 350,343      | 161,608   | 56,936      | 1,159    | 107     | 4,716      | 506       | 191       | 110      | 238       | 1,015       | 4,534       | 967       | 305         | 4,176       | 7,904    | 5,080     | 2,476    | 163   |
|                 | ENERGY     | 1,001,209    | 398,333      | 182,513   | 65,872      | 1,159    | 107     | 4,716      | 506       | 191       | 110      | 238       | 1,015       | 4,534       | 967       | 305         | 4,176       | 7,904    | 5,080     | 2,476    | 163   |
|                 | CUSTOMER   | 3,068,843    | 1,194,170    | 541,716   | 191,411     | 6,045    | 790     | 41,749     | 4,195     | 413       | 1,113    | 2,890     | 10,152      | 10,543      | 2,092     | 812         | 26,656      | 30,144   | 20,180    | 12,717   | 300   |
|                 | TOTAL      | 1,000,000    | 520,221      | 388,188   | 131,888     | 1,567    | 207     | 13,247     | 1,567     | 207       | 13,247   | 1,567     | 207         | 13,247      | 1,567     | 207         | 13,247      | 1,567    | 207       | 13,247   | 1,567 |
| EXP_OM_AG_REG   | PRODUCTION | 5,632,394    | 2,085,270    | 1,043,999 | 355,684     | 11,122   | 146     | 9,825      | 985       | 2,695     | 3,285    | 2,170     | 9,251       | 5,728       | 1,312     | 1,059       | 6,896       | 13,121   | 8,996     | 4,970    | 85    |
| EXP_OM_AG_REG   | BULKTRAN   | 1,474,312    | 504,667      | 237,358   | 85,491      | 1,122    | 146     | 9,825      | 985       | 2,695     | 3,285    | 2,170     | 9,251       | 5,728       | 1,312     | 1,059       | 6,896       | 13,121   | 8,996     | 4,970    | 85    |
| EXP_OM_AG_REG   | SUBTRAN    | 3,071,371    | 1,092,893    | 500,722   | 175,491     | 5,649    | 790     | 51,437     | 5,674     | 583       | 1,298    | 2,827     | 10,152      | 10,543      | 2,092     | 812         | 26,656      | 30,144   | 20,180    | 12,717   | 300   |
| EXP_OM_AG_REG   | DISTPRI    | 1,523,789    | 504,368      | 230,604   | 85,491      | 1,303    | 128     | 7,909      | 837       | 278       | 1,309    | 3,778     | 2,205       | 8,181       | 1,719     | 762         | 11,246      | 20,269   | 14,471    | 7,134    | 26    |
| EXP_OM_AG_REG   | DISTSEC    | 1,074,716    | 350,343      | 161,608   | 56,936      | 1,159    | 107     | 4,716      | 506       | 191       | 110      | 238       | 1,015       | 4,534       | 967       | 305         | 4,176       | 7,904    | 5,080     | 2,476    | 163   |
| EXP_OM_AG_REG   | ENERGY     | 1,001,209    | 398,333      | 182,513   | 65,872      | 1,159    | 107     | 4,716      | 506       | 191       | 110      | 238       | 1,015       | 4,534       | 967       | 305         | 4,176       | 7,904    | 5,080     | 2,476    | 163   |
| EXP_OM_AG_REG   | CUSTOMER   | 4,658,182    | 1,680,603    | 806,641   | 270,213     | 9,950    | 139     | 8,109      | 809       | 3,590     | 2,115    | 6,933     | 22,917      | 14,521      | 3,768     | 7,070       | 23,760      | 30,174   | 20,180    | 12,717   | 300   |
| EXP_OM_AG_REG   | TOTAL      | 1,000,000    | 419,678      | 304,202   | 102,225     | 1,171    | 15      | 1,034      | 121       | 1,479     | 562      | 4,783     | 1,213       | 3,565       | 4,399     | 1,009       | 2,690       | 6,065    | 3,637     | 1,772    | 367   |
| Acct 907-916    | PRODUCTION | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
|                 | BULKTRAN   | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
|                 | SUBTRAN    | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
|                 | DISTPRI    | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
|                 | DISTSEC    | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
|                 | ENERGY     | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
|                 | CUSTOMER   | 5,025,154    | 3,188,254    | 549,196   | 166,052     | 1,936    | 231     | 17,428     | 1,729     | 461       | 23       | 138       | 922         | 599         | 115       | 207         | 46          | 254      | 1,096     | 271      | 1,291 |
|                 | TOTAL      | 5,025,154    | 3,188,254    | 549,196   | 166,052     | 1,936    | 231     | 17,428     | 1,729     | 461       | 23       | 138       | 922         | 599         | 115       | 207         | 46          | 254      | 1,096     | 271      | 1,291 |
| EXP_OM_CUSTSERV | PRODUCTION | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
| EXP_OM_CUSTSERV | BULKTRAN   | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
| EXP_OM_CUSTSERV | SUBTRAN    | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
| EXP_OM_CUSTSERV | DISTPRI    | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
| EXP_OM_CUSTSERV | DISTSEC    | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
| EXP_OM_CUSTSERV | ENERGY     | -            | -            | -         | -           | -        | -       | -          | -         | -         | -        | -         | -           | -           | -         | -           | -           | -        | -         | -        |       |
| EXP_OM_CUSTSERV | CUSTOMER   | 1,000,000    | 634,459      | 109,283   | 34,416      | 353      | 58      | 4,619      | 447       | 117       | 6        | 459       | 2,753       | 1,835       | 1,192     | 229         | 412         | 918      | 504       | 1,563    | 2,569 |
| EXP_OM_CUSTSERV | TOTAL      | 1,000,000    | 634,459      | 109,283   | 34,416      | 353      | 58      | 4,619      | 447       | 117       | 6        | 459       | 2,753       | 1,835       | 1,192     | 229         | 412         | 918      | 504       | 1,563    | 2,569 |
| O&M Expense     | PRODUCTION | 160,056,499  | 75,203,233   | 3,295,647 | 12,412,812  | 222,251  | 23,266  | 13,440,713 | 2,616,288 | 774,262   | 15,287   | 469,698   | 6,507,169   | 6,895,966   | 1,514,461 | 31,654,481  | 4,876,414   | 73,068   | 50,048    | 11,440   |       |
|                 | BULKTRAN   | (37,794,816) | (17,765,507) | (777,848) | (2,929,767) | (52,477) | (5,494) | (110,875)  | (617,873) | (182,755) | (3,607)  | (110,875) | (1,536,168) | (1,627,584) | (357,648) | (7,472,055) | (1,450,442) | (17,243) | (11,815)  | (2,698)  |       |
|                 | SUBTRAN    | (9,745,850)  | (4,443,620)  | (189,483) | (715,651)   | (12,918) | (1,821) | (788,566)  | (153,789) | (59,930)  | (26,638) | (381,294) | (549,982)   | (2,417,770) | (4,389)   | (17,400)    | (4,389)     | (17,400) | (4,389)   | (17,400) |       |
|                 | DISTPRI    | 33,598,642   | 22,635,178   | 958,844   | 3,463,913   | 62,031   | -       | 3,780,123  | 735,986   | -         | -        | 137,202   | 1,803,736   | -           | -         | 21,630      | -           | -        | -         | -        |       |
|                 | DISTSEC    | 13,141,215   | 9,755,465    | 533,663   | 1,353,711   | -        | -       | 1,304,872  | -         | -         | -        | 39,287    | -           | -           | -         | 6,401       | -           | -        | -         | -        |       |
|                 | ENERGY     | 160,343,876  | 56,976,826   | 3,595,023 | 12,890,692  | 227,925  | 24,276  | 14,140,349 | 2,731,514 | 812,764   | 15,982   | 565,493   | 8,059,428   | 8,255,525   | 1,577,764 | 42,462,524  | 6,953,952   | 97,461   | 949,726   | 206,651  |       |
|                 | CUSTOMER   | 12,164,983   | 8,561,594    | 1,427,581 | 447,317     | 73,747   | 18,015  | 100,078    | 25,075    | 44,176    | 3,276    | 817       | 13,454      | 16,382      | 57,481    | 29,500      | 6,559       | 859      | 1,067,365 | 271,906  |       |
|                 | TOTAL      | 331,764,550  | 150,923,170  | 8,843,427 | 26,723,028  | 520,560  | 58,242  | 28,804,608 | 5,337,201 | 1,388,518 | 30,938   | 1,074,983 | 14,466,326  | 13,031,406  | 2,750,960 | 64,256,681  | 10,686,478  | 177,587  | 2,117,045 | 513,395  |       |
| EXP_OM          | PRODUCTION | 4,824,403    | 2,266,752    | 1,009,939 | 307,415     | 3,452    | 460     | 3,150      | 307       | 712       | 6        | 460       | 2,337       | 1,576       | 912       | 1,456       | 487         | 9,541    | 2,249     | 1,000    |       |
| EXP_OM          | BULKTRAN   | (1,139,260)  | (535,485)    | (202,344) | (80,836)    | (1,581)  | (166)   | (9,825)    | (985)     | (3,285)   | (2,170)  | (9,251)   | (5,728)     | (1,312)     | (1,059)   | (6,896)     | (13,121)    | (8,996)  | (4,970)   | (85)     |       |
| EXP_OM          | SUBTRAN    | (1,029,371)  | (339,000)    | (153,990) | (51,491)    | (5,649)  | (790)   | (51,437)   | (5,674)   | (583)     | (1,298)  | (2,82     |             |             |           |             |             |          |           |          |       |



KENTUCKY POWER COMPANY  
 COST-OF-SERVICE STUDY  
 TWELVE MONTHS ENDING  
 SEPTEMBER 30, 2014

| ALLOCATOR            | FUNCTION   | Total        | RS           | SGS          | MGS-SEC      | MGS-PRI      | MGS-SUB      | LGS-SEC      | LGS-PRI      | LGS-SUB      | LGS-TRA    | QP-SEC       | QP-PRI       | QP-SUB       | QP-TRA       | CIP-TOD-SUB  | CIP-TOD-TRA  | MW           | OL           | SL         |
|----------------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------|
| Production O&M Labor | PRODUCTION | 8,609,401    | 4,045,969    | 177,232      | 667,539      | 11,954       | 1,251        | 722,881      | 140,738      | 41,639       | 822        | 25,261       | 349,976      | 370,847      | 81,466       | 1,702,401    | 262,188      | 3,929        | 2,692        | 615        |
|                      | BULKTRAN   | -            | -            | -            | -            | -            | -            | -            | -            | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
|                      | SUBTRAN    | -            | -            | -            | -            | -            | -            | -            | -            | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
|                      | DISTPRI    | -            | -            | -            | -            | -            | -            | -            | -            | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
|                      | DISTSEC    | -            | -            | -            | -            | -            | -            | -            | -            | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
|                      | ENERGY     | 1,195,224    | 424,713      | 26,798       | 94,598       | 1,699        | 181          | 105,404      | 20,361       | 6,058        | 119        | 4,215        | 60,076       | 61,538       | 11,761       | 316,521      | 51,836       | 726          | 7,079        | 1,540      |
|                      | CUSTOMER   | -            | -            | -            | -            | -            | -            | -            | -            | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
|                      | TOTAL      | 9,804,625    | 4,470,682    | 204,030      | 762,137      | 13,653       | 1,432        | 828,285      | 161,099      | 47,698       | 941        | 29,476       | 410,052      | 432,385      | 93,227       | 2,018,922    | 314,024      | 4,656        | 9,771        | 2,155      |
| LABOR_PROD           | PRODUCTION | 0.87809590   | 0.41265922   | 0.01807641   | 0.06808412   | 0.00121925   | 0.00012764   | 0.07372855   | 0.01435423   | 0.00424690   | 0.00008384 | 0.00257644   | 0.03569501   | 0.03782369   | 0.00830893   | 0.17363240   | 0.02674126   | 0.00040074   | 0.00027454   | 0.00006272 |
| LABOR_PROD           | BULKTRAN   | -            | -            | -            | -            | -            | -            | -            | -            | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
| LABOR_PROD           | SUBTRAN    | -            | -            | -            | -            | -            | -            | -            | -            | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
| LABOR_PROD           | DISTPRI    | -            | -            | -            | -            | -            | -            | -            | -            | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
| LABOR_PROD           | DISTSEC    | -            | -            | -            | -            | -            | -            | -            | -            | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
| LABOR_PROD           | ENERGY     | 0.12190410   | 0.04331760   | 0.00273318   | 0.00964831   | 0.00017328   | 0.00001846   | 0.01075043   | 0.00207668   | 0.00061792   | 0.00001215 | 0.00042993   | 0.00612731   | 0.00627640   | 0.00119952   | 0.03228283   | 0.00528685   | 0.00007410   | 0.00072204   | 0.00015711 |
| LABOR_PROD           | CUSTOMER   | -            | -            | -            | -            | -            | -            | -            | -            | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
| LABOR_PROD           | TOTAL      | 1.00000000   | 0.45597682   | 0.02080959   | 0.07773243   | 0.00139254   | 0.00014610   | 0.08447899   | 0.01643091   | 0.00486482   | 0.00009599 | 0.00300636   | 0.04182232   | 0.04410009   | 0.00950845   | 0.20591523   | 0.03202811   | 0.00047484   | 0.00099658   | 0.00021983 |
| T&D O&M Labor        | PRODUCTION | 571,598      | 268,621      | 11,767       | 44,320       | 794          | 83           | 47,994       | 9,344        | 2,765        | 55         | 1,677        | 23,236       | 24,621       | 5,409        | 113,026      | 17,407       | 261          | 179          | 41         |
|                      | BULKTRAN   | 398,962      | 187,492      | 8,213        | 30,934       | 554          | 58           | 33,499       | 6,522        | 1,930        | 38         | 1,171        | 17,181       | 17,185       | 3,775        | 78,890       | 12,150       | 182          | 125          | 28         |
|                      | SUBTRAN    | 102,877      | 46,896       | 2,001        | 7,556        | 136          | 19           | 8,325        | 1,623        | 633          | -          | 281          | 4,025        | 5,807        | -            | 25,527       | -            | 46           | -            | -          |
|                      | DISTPRI    | 5,789,083    | 3,900,651    | 165,143      | 596,601      | 10,686       | -            | 651,137      | 126,807      | -            | -          | 23,633       | 310,701      | -            | -            | -            | -            | 3,725        | -            | -          |
|                      | DISTSEC    | 2,263,653    | 1,680,709    | 91,877       | 233,064      | -            | -            | 224,687      | -            | -            | -          | 6,764        | -            | -            | -            | -            | -            | 1,102        | -            | 4,489      |
|                      | ENERGY     | -            | -            | -            | -            | -            | -            | -            | -            | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
|                      | CUSTOMER   | 483,528      | 184,292      | 73,308       | 22,500       | 12,048       | 3,025        | 11,136       | 3,702        | 7,439        | 556        | 89           | 1,974        | 9,671        | 2,778        | 5,001        | 1,111        | 34           | 98,433       | 46,430     |
|                      | TOTAL      | 9,609,702    | 6,268,662    | 352,309      | 934,974      | 24,218       | 3,185        | 976,778      | 147,998      | 12,766       | 648        | 33,615       | 57,285       | 64,848       | 11,962       | 222,444      | 30,669       | 5,350        | 119,696      | 50,989     |
| LABOR_TD             | PRODUCTION | 0.05948139   | 0.02795315   | 0.00122448   | 0.00461195   | 0.00008259   | 0.00000865   | 0.00499430   | 0.00097234   | 0.00028768   | 0.00000568 | 0.00017453   | 0.00241795   | 0.00256214   | 0.00056294   | 0.01176170   | 0.00018143   | 0.00002715   | 0.00001860   | 0.00000425 |
| LABOR_TD             | BULKTRAN   | 0.04151663   | 0.01951065   | 0.00085468   | 0.00321904   | 0.00005765   | 0.00000603   | 0.00348591   | 0.00067867   | 0.00020079   | 0.00000396 | 0.00012181   | 0.00168767   | 0.00178632   | 0.00039285   | 0.00820939   | 0.00126433   | 0.0001895    | 0.00001298   | 0.00000297 |
| LABOR_TD             | SUBTRAN    | 0.01070555   | 0.00488012   | 0.00020819   | 0.00078631   | 0.00001419   | 0.00000200   | 0.00086634   | 0.00016892   | 0.00006585   | -          | -            | -            | -            | -            | 0.00026535   | -            | -            | -            | -          |
| LABOR_TD             | DISTPRI    | 0.60242066   | 0.40590757   | 0.01718500   | 0.06208319   | 0.00111203   | -            | 0.06775833   | 0.01319572   | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
| LABOR_TD             | DISTSEC    | 0.23555910   | 0.17489711   | 0.00956089   | 0.02425294   | -            | -            | 0.02338130   | -            | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
| LABOR_TD             | ENERGY     | -            | -            | -            | -            | -            | -            | -            | -            | -            | -          | -            | -            | -            | -            | -            | -            | -            | -            | -          |
| LABOR_TD             | CUSTOMER   | 0.05031667   | 0.01917775   | 0.00762856   | 0.00234140   | 0.000125375  | 0.00031477   | 0.00115880   | 0.00038519   | 0.00077414   | 0.00005782 | 0.00000928   | 0.00020544   | 0.00100638   | 0.00028912   | 0.00052042   | 0.00011565   | 0.00000352   | 0.01024306   | 0.00483161 |
| LABOR_TD             | TOTAL      | 1.00000000   | 0.65232635   | 0.03666177   | 0.09729483   | 0.00252020   | 0.00033145   | 0.01064498   | 0.01540085   | 0.00132846   | 0.00006747 | 0.00349805   | 0.03706193   | 0.00596113   | 0.00124481   | 0.02314786   | 0.00319141   | 0.00055671   | 0.01245575   | 0.00530598 |
| Other Revenues       | PRODUCTION | 1,241,067    | 908,842      | 61,716       | 145,690      | 1,723        | 545          | 52,266       | 7,963        | 3,398        | 232        | 2,477        | 12,428       | 23,555       | 7,318        | 12,274       | -            | 638          | -            | -          |
|                      | BULKTRAN   | (328,019)    | (197,271)    | (748)        | (8,025)      | (323)        | (17)         | (21,725)     | (5,131)      | (1,031)      | 31         | (760)        | (11,828)     | (10,712)     | (3,461)      | (57,892)     | -            | (133)        | (71)         | (21)       |
|                      | SUBTRAN    | (84,081)     | (49,349)     | (179)        | (1,952)      | (79)         | (6)          | (5,397)      | (1,277)      | (338)        | -          | (183)        | (2,936)      | (3,818)      | -            | (18,732)     | -            | (34)         | -            | -          |
|                      | DISTPRI    | 4,283,560    | 2,940,080    | 140,688      | 459,390      | 7,720        | -            | 434,739      | 82,772       | -            | -          | 16,174       | 199,686      | -            | -            | -            | -            | 2,310        | -            | -          |
|                      | DISTSEC    | 2,872,880    | 2,137,891    | 127,779      | 302,637      | -            | -            | 265,433      | -            | -            | -          | 8,115        | -            | -            | -            | -            | -            | 1,243        | -            | 5,064      |
|                      | ENERGY     | 1,335,164    | 895,598      | 68,282       | 154,198      | 2,224        | 702          | 67,263       | 11,306       | 4,263        | 292        | 3,629        | 23,120       | 35,057       | 10,665       | 49,424       | 4,966        | 70           | 3,955        | 148        |
|                      | CUSTOMER   | 434,110      | 236,818      | 70,785       | 16,840       | 4,174        | 1,834        | 3,583        | 964          | 2,197        | 325        | 31           | 490          | 2,661        | 773          | 1,132        | 245          | 12           | 83,921       | 7,326      |
|                      | TOTAL      | 9,754,682    | 6,872,609    | 468,323      | 1,068,778    | 15,439       | 3,059        | 796,161      | 96,597       | 8,489        | 880        | 29,484       | 220,960      | 46,943       | 15,295       | (13,794)     | (3,686)      | 3,467        | 113,160      | 12,516     |
| REV_OTHER            | PRODUCTION | 0.12722787   | 0.09316990   | 0.00632886   | 0.01493540   | 0.00017664   | 0.00005592   | 0.00535807   | 0.00081634   | 0.00034833   | 0.00002379 | 0.00025395   | 0.00127407   | 0.00241475   | 0.00075025   | 0.00125827   | -            | -            | -            | -          |
| REV_OTHER            | BULKTRAN   | (0.0362678)  | (0.02022324) | (0.0007671)  | (0.00082270) | (0.00003312) | (0.00001777) | (0.00222718) | (0.00052604) | (0.00010568) | 0.00000321 | (0.00007791) | (0.00121259) | (0.00109811) | (0.00059348) | (0.00091218) | (0.00001367) | (0.00000730) | (0.00000214) |            |
| REV_OTHER            | SUBTRAN    | (0.00861952) | (0.00505903) | (0.00001837) | (0.00020014) | (0.00000814) | (0.00000058) | (0.00055331) | (0.00013092) | (0.00003463) | -          | (0.00001871) | (0.00030095) | (0.00037091) | -            | (0.00192033) | -            | (0.00000348) | -            |            |
| REV_OTHER            | DISTPRI    | 0.43912859   | 0.30140192   | 0.01442260   | 0.04709433   | 0.00079146   | -            | 0.04456725   | 0.00848538   | -            | -          | 0.00165807   | 0.02047073   | -            | -            | -            | -            | 0.00023684   | -            |            |
| REV_OTHER            | DISTSEC    | 0.29451295   | 0.21916568   | 0.01309927   | 0.03102481   | -            | -            | 0.02721080   | -            | -            | -          | 0.00083196   | -            | -            | -            | -            | -            | 0.00012742   | 0.00025387   | 0.00051915 |
| REV_OTHER            | ENERGY     | 0.13687416   | 0.09181215   | 0.00699994   | 0.01580760   | 0.00022800   | 0.00007198   | 0.00089544   | 0.00115900   | 0.00043702   | 0.00002998 | 0.00037201   | 0.00237018   | 0.00359388   | 0.00109336   | 0.00506672   | 0.000050914  | 0.00000714   | 0.00040550   |            |
| REV_OTHER            | CUSTOMER   | 0.04450272   | 0.02427736   | 0.00725649   | 0.00172637   | 0.00042790   | 0.00018801   | 0.00036730   | 0.00009886   | 0.00022518   | 0.00003328 | 0.00003018   | 0.00005027   | 0.00027276   | 0.00007924   | 0.00011600   | 0.00002516   | 0.00000123   | 0.00860313   | 0.00075098 |
| REV_OTHER            | TOTAL      | 1.00000000   | 0.70454464   | 0.04801008   | 0.10956566   | 0.00158274   | 0.00031356   | 0.08161840   | 0.00990262   | 0.00087022   | 0.00009026 | 0.00302255   | 0.02265171   | 0.00481237   | 0.00156801   | (0.00141414) | (0.00037788) | 0.00035547   | 0.01160062   | 0.00128312 |
| Total Revenues       | PRODUCTION | 206,469,696  | 85,237,287   | 5,534,336    | 20,401,815   | 294,412      | 30,535       | 20,400,692   | 4,050,235    | 1,075,527    | 20,118     | 652,807      | 8,788,094    | 10,157,524   | 1,890,903    | 40,835,070   | 6,432,175    | 117,360      | 455,149      | 95,666     |
|                      | BULKTRAN   | (5,306,655)  | (5,394,304)  | 414,026      | 1,850,027    | 12,340       | 1,208        | 984,217      | (127,996)    | 113,226      | 5,164      | 22,763       | 20,365       | 751,935      | (171,860)    | (428,965)    | 467,708      | 9,271        | 6,784        | 2,435      |
|                      | SUBTRAN    | (423,227)    | (1,349,829)  | 101,102      | 452,924      | 3,054        | 403          | 245,302      | (43,018)     | 37,206       | -          | 5,485        | 5,204        | 254,696      | -            | (138,122)    | -            | 2,365        | -            | -          |
|                      | DISTPRI    | 81,999,594   | 48,077,773   | 3,153,997    | 11,808,905   | 175,139      | -            | 11,501,599   | 2,031,841    | -            | -          | 382,805      | 4,796,436    | -            | -            | -            | -            | 71,100       | -            | -          |
|                      | DIST       |              |              |              |              |              |              |              |              |              |            |              |              |              |              |              |              |              |              |            |

KENTUCKY POWER COMPANY  
 COST-OF-SERVICE STUDY  
 TWELVE MONTHS ENDING  
 SEPTEMBER 30, 2014

| ALLOCATOR         | FUNCTION   | Total      | RS         | SGS        | MGS-SEC    | MGS-PRI    | MGS-SUB    | LGS-SEC    | LGS-PRI    | LGS-SUB    | LGS-TRA    | QP-SEC     | QP-PRI     | QP-SUB     | QP-TRA     | CIP-TOD-SUB | CIP-TOD-TRA | MW         | OL         | SL         |
|-------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|------------|------------|------------|
| PSC MAINT FEE     | PRODUCTION | 977,071    | 410,055    | 33,418     | 99,879     | 1,828      | 216        | 98,040     | 14,456     | 4,673      | 119        | 3,484      | 42,903     | 40,324     | 6,386      | 173,173     | 30,917      | 626        | 14,051     | 2,522      |
|                   | BULKTRAN   | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |
|                   | SUBTRAN    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |
|                   | DISTPRI    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |
|                   | DISTSEC    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |
|                   | ENERGY     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |
|                   | CUSTOMER   | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |
|                   | TOTAL      | 977,071    | 410,055    | 33,418     | 99,879     | 1,828      | 216        | 98,040     | 14,456     | 4,673      | 119        | 3,484      | 42,903     | 40,324     | 6,386      | 173,173     | 30,917      | 626        | 14,051     | 2,522      |
| Intermediate Step | PRODUCTION | 1,00000000 | 0.41967784 | 0.03420220 | 0.10222259 | 0.00187111 | 0.00022098 | 0.10034121 | 0.01479562 | 0.00478308 | 0.00012130 | 0.00356561 | 0.04391009 | 0.04126990 | 0.00653637 | 0.17723672  | 0.03164244  | 0.00064068 | 0.01438084 | 0.00258143 |
|                   | BULKTRAN   | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |
|                   | SUBTRAN    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |
|                   | DISTPRI    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |
|                   | DISTSEC    | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |
|                   | ENERGY     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |
|                   | CUSTOMER   | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          | -           | -           | -          | -          | -          |
|                   | TOTAL      | 1,00000000 | 0.41967784 | 0.03420220 | 0.10222259 | 0.00187111 | 0.00022098 | 0.10034121 | 0.01479562 | 0.00478308 | 0.00012130 | 0.00356561 | 0.04391009 | 0.04126990 | 0.00653637 | 0.17723672  | 0.03164244  | 0.00064068 | 0.01438084 | 0.00258143 |
| RATEBASE          | PRODUCTION | 0.29647495 | 0.13645765 | 0.00593330 | 0.02287178 | 0.00021891 | 0.00001587 | 0.02541521 | 0.00489317 | 0.00138788 | 0.00001144 | 0.00090041 | 0.01227820 | 0.01294035 | 0.00270029 | 0.06086557  | 0.00932926  | 0.00014040 | 0.00009333 | 0.00002190 |
|                   | BULKTRAN   | 0.20871639 | 0.09738921 | 0.00425051 | 0.01614675 | 0.00023985 | 0.00002326 | 0.01764937 | 0.00339498 | 0.00100106 | 0.00001551 | 0.00062139 | 0.00854225 | 0.00903580 | 0.00194131 | 0.04183379  | 0.00645353  | 0.00009657 | 0.00006611 | 0.00001513 |
|                   | SUBTRAN    | 0.05393653 | 0.02439967 | 0.00103713 | 0.00395057 | 0.00005918 | 0.00000773 | 0.00439334 | 0.00084639 | 0.00032881 | -          | 0.0014952  | 0.00212367 | 0.00305621 | -          | 0.01355769  | -           | 0.00002462 | -          | -          |
|                   | DISTPRI    | 0.22143212 | 0.14874077 | 0.00628098 | 0.02288350 | 0.00033991 | -          | 0.02521407 | 0.00488521 | -          | -          | 0.0002011  | 0.01202245 | -          | -          | -           | -           | 0.00014513 | -          | -          |
|                   | DISTSEC    | 0.10813435 | 0.08010723 | 0.00436725 | 0.01117275 | -          | -          | 0.01087430 | -          | -          | -          | 0.00032924 | -          | -          | -          | -           | -           | 0.00005366 | 0.00101147 | 0.00021845 |
|                   | ENERGY     | 0.05420183 | 0.01913129 | 0.00121956 | 0.00430595 | 0.00007569 | 0.00000806 | 0.00481065 | 0.00098526 | 0.00026723 | 0.00000538 | 0.00018898 | 0.00273100 | 0.00279133 | 0.00054646 | 0.01443761  | 0.00230028  | 0.00003303 | 0.00029539 | 0.00006867 |
|                   | CUSTOMER   | 0.05710383 | 0.02634330 | 0.00669311 | 0.00206418 | 0.00054955 | 0.00012783 | 0.00070697 | 0.00020507 | 0.00040599 | 0.00002387 | 0.00000570 | 0.00010996 | 0.00053635 | 0.00015103 | 0.00027979  | 0.00006211  | 0.00000317 | 0.01695662 | 0.00187923 |
|                   | TOTAL      | 1,00000000 | 0.53256912 | 0.02978183 | 0.08339548 | 0.00148310 | 0.00018275 | 0.08906391 | 0.01521009 | 0.00339097 | 0.00005620 | 0.00311536 | 0.03780752 | 0.02836205 | 0.00533909 | 0.13097445  | 0.01814519  | 0.00049657 | 0.01842292 | 0.00220339 |
| EXP_OTHTAX_PSC    | PRODUCTION | 0.31439089 | 0.10753205 | 0.00681395 | 0.02803525 | 0.00027619 | 0.00001919 | 0.02863329 | 0.00475984 | 0.00195766 | 0.00003470 | 0.00103055 | 0.01426005 | 0.01882963 | 0.00330583 | 0.08236427  | 0.01626881  | 0.00018114 | 0.00007285 | 0.00002566 |
|                   | BULKTRAN   | 0.22059642 | 0.07674515 | 0.00488140 | 0.01979200 | 0.00030260 | 0.00002812 | 0.01988414 | 0.00302337 | 0.00141202 | 0.00003340 | 0.00071120 | 0.00992106 | 0.01314808 | 0.00237664 | 0.05661016  | 0.01125398  | 0.00001240 | 0.00001240 | 0.00001773 |
|                   | SUBTRAN    | 0.05704768 | 0.01922755 | 0.00119107 | 0.00484243 | 0.00007466 | 0.00000934 | 0.00494963 | 0.00082333 | 0.00046380 | -          | 0.0017113  | 0.00246845 | 0.00445004 | -          | 0.1834648   | -           | 0.00003177 | -          | -          |
|                   | DISTPRI    | 0.20126525 | 0.11721146 | 0.00721321 | 0.02804981 | 0.00042884 | -          | 0.02840688 | 0.00475209 | -          | -          | 0.00105310 | 0.01396302 | -          | -          | -           | -           | 0.00018724 | -          | -          |
|                   | DISTSEC    | 0.09557978 | 0.06312651 | 0.00501546 | 0.01369508 | -          | -          | 0.01225120 | -          | -          | -          | 0.00037682 | -          | -          | -          | -           | -           | 0.00006823 | 0.00078955 | 0.00025594 |
|                   | ENERGY     | 0.06064753 | 0.01507594 | 0.00140057 | 0.00527805 | 0.00009550 | 0.00000974 | 0.00541978 | 0.00095841 | 0.00037693 | 0.00001161 | 0.00021629 | 0.00317181 | 0.00406170 | 0.00066900 | 0.01953720  | 0.00401134  | 0.00004262 | 0.00023058 | 0.00008046 |
|                   | CUSTOMER   | 0.05047244 | 0.02075918 | 0.00768654 | 0.00253019 | 0.00069332 | 0.00015457 | 0.00079648 | 0.00019948 | 0.00057267 | 0.00005152 | 0.00006652 | 0.00012770 | 0.00078045 | 0.00018490 | 0.00037861  | 0.00010832  | 0.00000408 | 0.01323625 | 0.00220165 |
|                   | TOTAL      | 1,00000000 | 0.41967784 | 0.03420220 | 0.10222259 | 0.00187111 | 0.00022098 | 0.10034121 | 0.01479562 | 0.00478308 | 0.00012130 | 0.00356561 | 0.04391009 | 0.04126990 | 0.00653637 | 0.17723672  | 0.03164244  | 0.00064068 | 0.01438084 | 0.00258143 |
| AFUDC Offset      | PRODUCTION | 3,128,143  | 1,470,064  | 64,396     | 242,544    | 4,343      | 455        | 262,652    | 51,136     | 15,129     | 299        | 9,178      | 127,160    | 134,744    | 29,600     | 618,551     | 95,263      | 1,428      | 978        | 223        |
|                   | BULKTRAN   | 1,514,512  | 711,742    | 31,178     | 117,429    | 2,103      | 220        | 127,165    | 24,758     | 7,325      | 145        | 4,444      | 61,566     | 65,237     | 14,331     | 299,476     | 46,122      | 691        | 474        | 108        |
|                   | SUBTRAN    | 390,335    | 178,025    | 7,595      | 28,684     | 518        | 73         | 31,604     | 6,162      | 2,402      | -          | 1,068      | 15,281     | 22,044     | -          | 96,903      | -           | 176        | -          | -          |
|                   | DISTPRI    | 269,200    | 181,385    | 7,679      | 27,743     | 497        | -          | 30,279     | 5,897      | -          | -          | 1,099      | 14,448     | -          | -          | -           | -           | 173        | -          | -          |
|                   | DISTSEC    | 132,132    | 98,105     | 5,363      | 13,604     | -          | -          | 13,115     | -          | -          | -          | 395        | -          | -          | -          | -           | -           | 64         | 1,223      | 262        |
|                   | ENERGY     | 1,836      | 652        | 41         | 145        | 3          | 0          | 162        | 31         | 9          | 0          | 6          | 92         | 95         | 18         | 486         | 80          | 1          | 11         | 2          |
|                   | CUSTOMER   | 69,130     | 31,518     | 8,144      | 2,489      | 811        | 204        | 853        | 249        | 501        | 37         | 7          | 133        | 652        | 187        | 337         | 75          | 4          | 20,674     | 2,255      |
|                   | TOTAL      | 5,505,487  | 2,671,491  | 124,396    | 432,639    | 8,275      | 952        | 465,829    | 88,233     | 25,367     | 481        | 16,197     | 218,681    | 222,771    | 44,136     | 1,015,752   | 141,540     | 2,537      | 23,360     | 2,851      |
| AFUDC_OFF         | PRODUCTION | 0.56818639 | 0.26701793 | 0.01169664 | 0.04405495 | 0.00078894 | 0.00008259 | 0.04770727 | 0.00928814 | 0.00274803 | 0.00005425 | 0.00166713 | 0.02309704 | 0.02447444 | 0.00537643 | 0.11235170  | 0.01730337  | 0.00025931 | 0.00017765 | 0.00004058 |
|                   | BULKTRAN   | 0.27509146 | 0.12927862 | 0.00566301 | 0.02132952 | 0.00038197 | 0.00003999 | 0.02309781 | 0.00449692 | 0.00133048 | 0.00002627 | 0.00080715 | 0.01118260 | 0.01184947 | 0.00260304 | 0.05439587  | 0.00837755  | 0.00012554 | 0.00008601 | 0.00001965 |
|                   | SUBTRAN    | 0.07093553 | 0.03233593 | 0.00137950 | 0.00521012 | 0.00009403 | 0.00001325 | 0.00574042 | 0.00111929 | 0.00043630 | -          | 0.00019392 | 0.00277564 | 0.00400409 | -          | 0.01760111  | -           | 0.00003196 | -          | -          |
|                   | DISTPRI    | 0.04888661 | 0.03294625 | 0.00139485 | 0.00503910 | 0.00009026 | -          | 0.00549873 | 0.00107106 | -          | -          | 0.00019861 | 0.00262429 | -          | -          | -           | -           | 0.00003146 | -          | -          |
|                   | DISTSEC    | 0.02400002 | 0.01781945 | 0.00097411 | 0.00247102 | -          | -          | 0.00238221 | -          | -          | -          | 0.00000172 | -          | -          | -          | -           | -           | 0.00001168 | 0.00022222 | 0.00004760 |
|                   | ENERGY     | 0.00033351 | 0.00011851 | 0.00000748 | 0.00002640 | 0.00000047 | 0.00000005 | 0.00002941 | 0.00000568 | 0.00000169 | 0.00000003 | 0.00000118 | 0.00001676 | 0.00001717 | 0.00000328 | 0.00000832  | 0.00001446  | 0.00000020 | 0.00000198 | 0.00000043 |
|                   | CUSTOMER   | 0.01255648 | 0.00572481 | 0.00147931 | 0.00045209 | 0.00014738 | 0.00003702 | 0.00015488 | 0.00004531 | 0.00009104 | 0.00000680 | 0.00000124 | 0.00002417 | 0.00011835 | 0.00003399 | 0.00006119  | 0.00001360  | 0.00000068 | 0.00375511 | 0.00040951 |
|                   | TOTAL      | 1,00000000 | 0.48524151 | 0.02259490 | 0.07858320 | 0.00150305 | 0.00017290 | 0.08461173 | 0.01602639 | 0.00460753 | 0.00008735 | 0.00294194 | 0.03927049 | 0.04046352 | 0.00801674 | 0.18449819  | 0.02570988  | 0.00046084 | 0.00424297 | 0.00051777 |

KENTUCKY POWER COMPANY  
 COST-OF-SERVICE STUDY  
 TWELVE MONTHS ENDING  
 SEPTEMBER 30, 2014

| ALLOCATOR             | FUNCTION   | Total        | RS           | SGS        | MGS-SEC      | MGS-PRI    | MGS-SUB    | LGS-SEC      | LGS-PRI    | LGS-SUB    | LGS-TRA    | QP-SEC     | QP-PRI     | QP-SUB     | QP-TRA     | CIP-TOD-SUB | CIP-TOD-TRA | MW         | OL         | SL         |             |
|-----------------------|------------|--------------|--------------|------------|--------------|------------|------------|--------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|------------|------------|------------|-------------|
| RBASE                 |            | 553,292,077  | 232,204,424  | 18,923,805 | 56,558,951   | 1,035,270  | 122,264    | 55,517,995   | 8,186,301  | 2,646,442  | 67,113     | 1,972,823  | 24,295,105 | 22,834,308 | 3,616,522  | 98,063,673  | 17,507,511  | 354,484    | 7,956,803  | 1,428,283  | 521,694,557 |
| Initial RSALE         |            | 553,292,078  | 232,204,424  | 18,923,805 | 56,558,951   | 1,035,270  | 122,264    | 55,517,995   | 8,186,301  | 2,646,442  | 67,113     | 1,972,823  | 24,295,105 | 22,834,308 | 3,616,522  | 98,063,673  | 17,507,511  | 354,484    | 7,956,803  | 1,428,283  | 539,556,553 |
| Initial Other Revenue |            | 9,607,185    | 5,247,943    | 555,565    | 1,312,783    | -          | -          | 1,419,480    | 1,911,204  | -204,043   | 901        | -48,857    | 228,741    | -344,061   | -1,060,486 | -           | -           | 3,599      | -813,148   | -          | -38,667     |
| Initial Total Expense |            | 485,021,545  | 211,916,612  | 15,158,967 | 44,953,836   | 827,270    | 97,347     | 46,331,866   | 8,941,352  | 1,955,507  | 50,696     | 1,610,554  | 21,307,132 | 18,939,638 | 3,750,717  | 88,914,524  | 13,998,042  | 287,683    | 4,974,931  | 1,004,869  | 549,680,581 |
| Net Operating Income  |            | 85,578,115   | 25,635,756   | 4,320,404  | 12,917,868   | 184,400    | 24,072     | 10,605,610   | 1,156,153  | 486,892    | 17,318     | 313,612    | 3,796,450  | 209,866    | 10,209,635 | 2,159,100   | 70,400      | 2,168,724  | 384,747    |            |             |
| RATEBASE              | PRODUCTION | 0.29647495   | 0.13645765   | 0.00593330 | 0.02287178   | 0.00021891 | 0.00001587 | 0.02541521   | 0.00489317 | 0.00138788 | 0.00001144 | 0.00090041 | 0.01227820 | 0.01294035 | 0.00270029 | 0.06086557  | 0.00932926  | 0.00014040 | 0.00009333 | 0.00002190 |             |
| RATEBASE              | BULKTRAN   | 0.20871639   | 0.09738921   | 0.00425051 | 0.01614675   | 0.00023985 | 0.00002326 | 0.01764937   | 0.00339498 | 0.00100106 | 0.00001551 | 0.00062139 | 0.00854225 | 0.00903580 | 0.00194131 | 0.04183379  | 0.00645353  | 0.00099657 | 0.00006611 | 0.00001513 |             |
| RATEBASE              | SUBTRAN    | 0.05393653   | 0.02439967   | 0.00103713 | 0.00395057   | 0.00005918 | 0.00000773 | 0.00403354   | 0.00064639 | 0.00032881 | -          | 0.00014952 | 0.00212367 | 0.00305821 | -          | 0.01355769  | -           | 0.00020262 | -          | -          |             |
| RATEBASE              | DISTPRI    | 0.22143212   | 0.14874077   | 0.00628096 | 0.02286350   | 0.00033991 | -          | 0.02521407   | 0.00488521 | -          | -          | 0.00092011 | 0.01202245 | -          | -          | -           | -           | 0.00014513 | -          | -          |             |
| RATEBASE              | DISTSEC    | 0.10313435   | 0.08010723   | 0.00436725 | 0.01117275   | -          | -          | 0.01087430   | -          | -          | -          | -          | -          | -          | -          | -           | -           | 0.00003366 | -          | 0.00101147 | 0.00021845  |
| RATEBASE              | ENERGY     | 0.05420183   | 0.01913129   | 0.00121956 | 0.00430595   | 0.00007569 | 0.00000806 | 0.00401805   | 0.00009526 | 0.00026723 | 0.00000538 | 0.00018898 | 0.00273100 | 0.00054646 | 0.01443761 | 0.00230028  | 0.00003303  | 0.00029539 | 0.00006867 |            |             |
| RATEBASE              | CUSTOMER   | 0.05710383   | 0.02634330   | 0.00669311 | 0.00206418   | 0.00054955 | 0.00012783 | 0.00070697   | 0.00020507 | 0.00040599 | 0.00002387 | 0.00005070 | 0.00010996 | 0.00005103 | 0.00002799 | 0.00006211  | 0.00000317  | 0.01695662 | 0.00187923 |            |             |
| RATEBASE              | TOTAL      | 1.00000000   | 0.53256912   | 0.02978183 | 0.08339548   | 0.00148310 | 0.00018275 | 0.08906391   | 0.01521009 | 0.00339097 | 0.00006520 | 0.00311536 | 0.03780752 | 0.02836205 | 0.00533909 | 0.13097445  | 0.01814519  | 0.00049657 | 0.01842292 | 0.00220339 |             |
| NOI - Functionalized  | PRODUCTION | 23,465,481   | 6,568,527    | 860,735    | 3,542,814    | 27,219     | 2,091      | 3,026,408    | 371,941    | 199,279    | 3,526      | 90,641     | 1,044,646  | 1,732,153  | 106,142    | 4,744,554   | 1,110,091   | 19,905     | 10,987     | 3,824      |             |
|                       | BULKTRAN   | 16,474,955   | 4,687,929    | 616,615    | 2,501,114    | 29,822     | 3,064      | 2,101,663    | 258,060    | 143,736    | 4,779      | 62,554     | 726,786    | 1,209,502  | 76,308     | 3,261,001   | 767,907     | 13,691     | 7,782      | 2,642      |             |
|                       | SUBTRAN    | 4,245,403    | 1,174,503    | 150,455    | 611,938      | 7,358      | 1,018      | 532,153      | 64,336     | 47,213     | -          | 15,052     | 180,684    | 409,362    | -          | 1,056,840   | -           | 3,490      | -          | -          |             |
|                       | DISTPRI    | 16,167,727   | 7,159,788    | 911,169    | 3,544,628    | 42,263     | -          | 3,002,457    | 371,336    | -          | -          | 92,625     | 1,022,886  | -          | -          | -           | -           | 20,575     | -          | -          |             |
|                       | DISTSEC    | 7,713,101    | 3,856,043    | 633,550    | 1,730,647    | -          | -          | 1,294,896    | -          | -          | -          | 33,143     | -          | -          | -          | -           | -           | 7,607      | 119,069    | 38,146     |             |
|                       | ENERGY     | 4,560,137    | 920,904      | 176,920    | 666,987      | 9,411      | 1,062      | 572,846      | 74,892     | 38,369     | 1,657      | 19,024     | 232,357    | 373,639    | 21,480     | 1,125,431   | 273,711     | 4,883      | 34,773     | 11,992     |             |
|                       | CUSTOMER   | 5,250,913    | 1,268,062    | 970,959    | 319,740      | 68,328     | 16,838     | 84,185       | 15,588     | 58,295     | 7,355      | 573        | 9,355      | 71,794     | 5,937      | 21,810      | 7,391       | 449        | 1,996,112  | 328,143    |             |
|                       | TOTAL      | 77,877,718   | 25,635,756   | 4,320,404  | 12,917,868   | 184,400    | 24,072     | 10,605,610   | 1,156,153  | 486,892    | 17,318     | 313,612    | 3,216,714  | 3,796,450  | 209,866    | 10,209,635  | 2,159,100   | 70,400     | 2,168,724  | 384,747    |             |
| Total Expenses        | PRODUCTION | 171,454,311  | 75,192,223   | 4,061,514  | 15,106,694   | 238,536    | 25,002     | 15,754,423   | 3,400,697  | 819,755    | 65,821     | 510,794    | 7,152,876  | 7,877,768  | 1,670,368  | 34,213,234  | 5,074,681   | 87,658     | 206,399    | 44,870     |             |
|                       | BULKTRAN   | (18,118,815) | (10,219,437) | (202,590)  | (16,081,087) | (17,482)   | (1,856)    | (11,174,446) | (431,056)  | (30,510)   | 18,385     | (39,790)   | (706,421)  | (457,567)  | (248,168)  | (3,689,965) | (300,199)   | (4,420)    | (998)      | (207)      |             |
|                       | SUBTRAN    | (4,702,964)  | (2,568,665)  | (49,353)   | (159,015)    | (4,304)    | (615)      | (277,851)    | (107,354)  | (10,006)   | -          | (9,567)    | (175,480)  | (154,666)  | -          | (1,194,962) | -           | (1,125)    | -          | -          |             |
|                       | DISTPRI    | 67,167,810   | 42,206,860   | 2,246,944  | 8,279,147    | 133,143    | -          | 8,515,370    | 1,663,866  | -          | -          | 290,769    | 3,781,293  | -          | -          | -           | -           | 50,618     | -          | -          |             |
|                       | DISTSEC    | 28,900,740   | 18,859,105   | 1,397,995  | 3,625,041    | -          | -          | 3,267,517    | -          | -          | -          | 92,399     | -          | -          | -          | -           | -           | 16,747     | 270,746    | 71,210     |             |
|                       | ENERGY     | 220,826,321  | 76,028,368   | 5,066,772  | 17,920,468   | 308,686    | 32,970     | 19,977,913   | 4,359,000  | 1,066,614  | 22,996     | 784,357    | 11,226,761 | 11,529,286 | 2,295,058  | 59,520,844  | 9,207,966   | 136,991    | 1,682,182  | 279,089    |             |
|                       | CUSTOMER   | 19,794,141   | 11,408,157   | 2,637,696  | 832,589      | 168,690    | 41,846     | 211,940      | 56,399     | 109,656    | 10,494     | 1,603      | 28,102     | 144,819    | 33,460     | 65,373      | 15,594      | 1,216      | 3,416,602  | 609,906    |             |
|                       | TOTAL      | 485,021,545  | 211,916,612  | 15,158,967 | 44,953,836   | 827,270    | 97,347     | 46,331,866   | 8,941,352  | 1,955,507  | 50,696     | 1,610,554  | 21,307,132 | 18,939,638 | 3,750,717  | 88,914,524  | 13,998,042  | 287,683    | 4,974,931  | 1,004,869  |             |
| Total Revenue         | PRODUCTION | 194,919,792  | 81,760,751   | 4,922,249  | 18,649,508   | 265,775    | 27,092     | 18,780,831   | 3,772,638  | 1,019,033  | 20,347     | 601,436    | 8,197,522  | 9,609,920  | 1,776,510  | 38,957,788  | 6,184,772   | 107,562    | 217,385    | 48,694     |             |
|                       | BULKTRAN   | (1,643,859)  | (5,531,508)  | 414,026    | 1,850,027    | 12,340     | 1,208      | 984,217      | (172,996)  | 113,226    | 5,164      | 22,763     | 20,365     | 751,935    | (171,860)  | (428,965)   | 467,708     | 9,271      | 6,784      | 2,435      |             |
|                       | SUBTRAN    | (457,561)    | (1,384,162)  | 101,102    | 452,924      | 3,054      | 403        | 245,302      | (43,018)   | 37,206     | -          | 5,485      | 5,204      | 254,696    | -          | (138,122)   | -           | 2,365      | -          | -          |             |
|                       | DISTPRI    | 83,335,537   | 49,366,648   | 3,158,113  | 11,823,775   | 175,406    | -          | 11,517,827   | 2,035,001  | -          | -          | 383,394    | 4,804,180  | -          | -          | -           | -           | 71,193     | -          | -          |             |
|                       | DISTSEC    | 36,313,841   | 23,715,148   | 2,031,535  | 5,355,688    | -          | -          | 4,562,413    | -          | -          | -          | 125,531    | -          | -          | -          | -           | -           | 24,354     | 389,816    | 109,356    |             |
|                       | ENERGY     | 225,386,458  | 76,949,272   | 5,243,691  | 18,587,454   | 318,097    | 34,031     | 20,550,759   | 4,433,892  | 1,104,983  | 24,653     | 783,381    | 11,459,118 | 11,902,924 | 2,316,538  | 60,646,275  | 9,481,676   | 141,674    | 1,116,956  | 291,081    |             |
|                       | CUSTOMER   | 25,045,055   | 12,676,218   | 3,608,656  | 1,152,329    | 237,018    | 58,684     | 296,125      | 71,987     | 162,990    | 17,849     | 2,176      | 37,457     | 216,613    | 39,396     | 87,183      | 22,985      | 1,664      | 5,412,714  | 938,049    |             |
| 0 TOTAL               |            | 562,899,263  | 237,552,368  | 19,479,370 | 57,871,704   | 1,011,671  | 121,419    | 56,937,475   | 10,097,505 | 2,442,999  | 68,014     | 1,924,166  | 24,523,846 | 22,736,089 | 3,960,583  | 99,124,159  | 16,157,142  | 358,083    | 7,143,655  | 1,389,616  |             |
| Total Other Revenue   | PRODUCTION | 1,241,067    | 908,842      | 61,716     | 145,690      | 1,723      | 545        | 52,266       | 7,963      | 3,998      | 32         | 2,477      | 12,428     | 23,555     | 7,318      | 12,274      | -           | -          | 638        | -          |             |
|                       | BULKTRAN   | (328,019)    | (197,271)    | (748)      | (8,025)      | (323)      | (17)       | (21,725)     | (5,131)    | (1,031)    | 21         | (760)      | (11,828)   | (10,712)   | (3,461)    | (57,892)    | (8,898)     | (133)      | (71)       | (21)       |             |
|                       | SUBTRAN    | (84,081)     | (49,349)     | (179)      | (1,952)      | (79)       | (6)        | (5,397)      | (1,277)    | (338)      | -          | (183)      | (2,936)    | (3,618)    | -          | (18,732)    | -           | (34)       | -          | -          |             |
|                       | DISTPRI    | 4,427,847    | 3,037,300    | 144,804    | 474,260      | 7,987      | -          | 450,968      | 85,933     | -          | -          | 16,763     | 207,429    | -          | -          | -           | -           | 2,403      | -          | -          |             |
|                       | DISTSEC    | 2,944,193    | 2,190,839    | 130,674    | 309,979      | -          | -          | 272,511      | -          | -          | -          | 8,329      | -          | -          | -          | -           | -           | 1,278      | 25,377     | 5,206      |             |
|                       | ENERGY     | 1,335,164    | 895,598      | 68,262     | 154,198      | 2,224      | 702        | 67,263       | 11,306     | 4,263      | 292        | 3,629      | 23,120     | 35,057     | 10,665     | 49,424      | 4,966       | 70         | 3,955      | 148        |             |
|                       | CUSTOMER   | 470,413      | 252,865      | 75,065     | 18,416       | 4,613      | 1,944      | 1,099        | 2,468      | 345        | 35         | 562        | 874        | 3,013      | 874        | 1,314       | 286         | 14         | 95,194     | 8,535      |             |
|                       | TOTAL      | 10,006,585   | 7,038,824    | 479,614    | 1,092,296    | 16,144     | 3,169      | 819,926      | 99,892     | 8,760      | 901        | 30,290     | 228,776    | 47,296     | 15,397     | (13,612)    | (3,646)     | 3,597      |            |            |             |

KENTUCKY POWER COMPANY  
 COST-OF-SERVICE STUDY  
 TWELVE MONTHS ENDING  
 SEPTEMBER 30, 2014

| ALLOCATOR                           | FUNCTION   | Total         | RS          | SGS        | MGS-SEC    | MGS-PRI     | MGS-SUB    | LGS-SEC    | LGS-PRI    | LGS-SUB    | LGS-TRA    | QP-SEC     | QP-PRI     | QP-SUB      | QP-TRA     | CIP-TOD-SUB | CIP-TOD-TRA | MW         | OL          | SL         |
|-------------------------------------|------------|---------------|-------------|------------|------------|-------------|------------|------------|------------|------------|------------|------------|------------|-------------|------------|-------------|-------------|------------|-------------|------------|
| REVENUES                            | PRODUCTION | 553,292,077   | 232,204,424 | 18,923,805 | 56,558,951 | 1,035,270   | 122,264    | 55,517,995 | 8,186,301  | 2,646,442  | 67,113     | 1,972,823  | 24,295,105 | 22,834,308  | 3,616,522  | 98,063,673  | 17,507,511  | 354,484    | 7,956,803   | 1,428,283  |
| REVENUES                            | BULKTRAN   | 1,000,000,000 | 0.41967784  | 0.03420220 | 0.10222259 | 0.00187111  | 0.00022098 | 0.10034121 | 0.01479562 | 0.00478308 | 0.00012130 | 0.00356561 | 0.04391009 | 0.04126990  | 0.00653637 | 0.17723672  | 0.03164244  | 0.00064068 | 0.01438084  | 0.00258143 |
| REVENUES                            | SUBTRAN    | -             | -           | -          | -          | -           | -          | -          | -          | -          | -          | -          | -          | -           | -          | -           | -           | -          | -           | -          |
| REVENUES                            | DISTPRI    | -             | -           | -          | -          | -           | -          | -          | -          | -          | -          | -          | -          | -           | -          | -           | -           | -          | -           | -          |
| REVENUES                            | DISTSEC    | -             | -           | -          | -          | -           | -          | -          | -          | -          | -          | -          | -          | -           | -          | -           | -           | -          | -           | -          |
| REVENUES                            | ENERGY     | -             | -           | -          | -          | -           | -          | -          | -          | -          | -          | -          | -          | -           | -          | -           | -           | -          | -           | -          |
| REVENUES                            | CUSTOMER   | -             | -           | -          | -          | -           | -          | -          | -          | -          | -          | -          | -          | -           | -          | -           | -           | -          | -           | -          |
| REVENUES                            | TOTAL      | 1,000,000,000 | 0.41967784  | 0.03420220 | 0.10222259 | 0.00187111  | 0.00022098 | 0.10034121 | 0.01479562 | 0.00478308 | 0.00012130 | 0.00356561 | 0.04391009 | 0.04126990  | 0.00653637 | 0.17723672  | 0.03164244  | 0.00064068 | 0.01438084  | 0.00258143 |
| O&M Expense w/ Adj                  | PRODUCTION | 111,487,020   | 51,119,133  | 2,335,813  | 8,794,947  | 146,160     | 15,402     | 9,622,625  | 2,371,320  | 473,700    | 10,757     | 309,782    | 4,577,408  | 4,805,882   | 1,173,293  | 22,585,332  | 3,064,325   | 51,420     | 22,354      | 7,367      |
| O&M Expense w/ Adj                  | BULKTRAN   | -37,803,272   | -17,592,695 | -782,645   | -2,947,224 | -50,145     | -5,275     | -3,216,175 | -744,274   | -166,181   | -3,610     | -106,129   | -1,538,026 | -1,618,381  | -383,745   | -1,064,615  | -1,064,615  | -17,259    | -8,781      | -2,534     |
| O&M Expense w/ Adj                  | SUBTRAN    | -9,767,426    | -4,400,393  | -190,651   | -719,916   | -12,344     | -1,748     | -799,307   | -185,251   | -54,495    | 0          | -25,497    | -381,756   | -546,874    | 0          | -2,444,801  | 0           | -4,393     | 0           | 0          |
| O&M Expense w/ Adj                  | DISTPRI    | 38,520,325    | 25,523,518  | 1,123,359  | 4,057,572  | 69,504      | 0          | 4,455,861  | 1,007,705  | 0          | 0          | 153,987    | 2,103,587  | 0           | 0          | 0           | 0           | 25,232     | 0           | 0          |
| O&M Expense w/ Adj                  | DISTSEC    | 14,983,437    | 11,025,772  | 628,011    | 1,592,781  | 0           | 0          | 1,544,895  | 0          | 0          | 0          | 44,296     | 0          | 0           | 0          | 0           | 0           | 7,500      | 111,189     | 28,993     |
| O&M Expense w/ Adj                  | ENERGY     | 219,883,154   | 76,989,049  | 4,974,258  | 17,556,944 | 303,780     | 32,463     | 19,668,804 | 4,320,335  | 1,045,839  | 22,032     | 754,676    | 11,109,972 | 11,325,154  | 2,287,792  | 58,959,799  | 9,061,502   | 134,351    | 1,064,189   | 272,214    |
| O&M Expense w/ Adj                  | CUSTOMER   | 11,349,709    | 8,158,007   | 1,397,349  | 437,914    | 66,148      | 16,214     | 37,944     | 28,834     | 3,585      | 747        | 12,745     | 53,749     | 16,582      | 28,060     | 5,682       | 642         | 750,152    | 239,209     | 750,152    |
| O&M Expense w/ Adj                  | TOTAL      | 348,652,947   | 150,822,391 | 9,485,494  | 28,773,018 | 523,104     | 57,056     | 31,373,746 | 6,798,669  | 1,336,409  | 32,265     | 1,131,861  | 15,883,930 | 14,019,530  | 3,093,922  | 71,572,812  | 11,066,894  | 197,493    | 1,939,103   | 545,249    |
| EXP_OM                              | PRODUCTION | 0.31976503    | 0.14661896  | 0.00669544 | 0.02522551 | 0.00041921  | 0.00004417 | 0.02759944 | 0.00680138 | 0.00135866 | 0.00000385 | 0.00088851 | 0.01312884 | 0.00464181  | 0.00336522 | 0.06477884  | 0.000578904 | 0.00014748 | 0.00006411  | 0.00002113 |
| EXP_OM                              | BULKTRAN   | 0.10842665    | 0.05045905  | 0.00224477 | 0.00845317 | 0.00014382  | 0.00001513 | 0.00922458 | 0.00213471 | 0.00047664 | 0.00001035 | 0.00030440 | 0.00441134 | 0.00464181  | 0.00110065 | 0.02167077  | 0.000305351 | 0.00004950 | 0.00002519  | 0.00007027 |
| EXP_OM                              | SUBTRAN    | 0.02801475    | 0.01262113  | 0.00054682 | 0.00206485 | 0.00003540  | 0.00000501 | 0.00229256 | 0.00053133 | 0.00015630 | -          | 0.00007313 | 0.00109494 | 0.00156853  | -          | 0.00701213  | -           | 0.00001260 | -           | -          |
| EXP_OM                              | DISTPRI    | 0.11048329    | 0.07320609  | 0.00322200 | 0.01163785 | 0.00019345  | -          | 0.01278022 | 0.00290208 | -          | -          | 0.00041166 | 0.00603347 | -           | -          | -           | -           | 0.00007237 | -           | -          |
| EXP_OM                              | DISTSEC    | 0.04297522    | 0.03162392  | 0.00180125 | 0.00456839 | -           | -          | 0.00443104 | -          | -          | -          | 0.00012705 | -          | -           | -          | -           | -           | 0.00002151 | 0.00031891  | 0.00008316 |
| EXP_OM                              | ENERGY     | 0.63066484    | 0.22081858  | 0.01426708 | 0.05035651 | 0.000087130 | 0.00009311 | 0.05641370 | 0.01239151 | 0.00299966 | 0.00006319 | 0.00216455 | 0.03186542 | 0.03248260  | 0.00656180 | 0.16910742  | 0.02599003  | 0.00038534 | 0.00305229  | 0.00078076 |
| EXP_OM                              | CUSTOMER   | 0.03255303    | 0.02339865  | 0.00400785 | 0.00125602 | 0.00018972  | 0.00004650 | 0.00027834 | 0.00008270 | 0.00010769 | 0.00000885 | 0.00000214 | 0.00003656 | 0.000015416 | 0.00004756 | 0.00008068  | 0.00001630  | 0.00000184 | 0.00215157  | 0.00068610 |
| EXP_OM                              | TOTAL      | 1,000,000,000 | 0.43258602  | 0.02720612 | 0.08252624 | 0.00150036  | 0.00016365 | 0.08998560 | 0.01949982 | 0.00383006 | 0.00002638 | 0.00324638 | 0.04555800 | 0.04021056  | 0.00087393 | 0.20528383  | 0.03174186  | 0.00056645 | 0.00556170  | 0.00156387 |
| Calculation of CUST_DEP_2 Allocator | PRODUCTION | -             | -           | -          | -          | -           | -          | -          | -          | -          | -          | -          | -          | -           | -          | -           | -           | -          | -           | -          |
| CUST_DEP                            | BULKTRAN   | -             | -           | -          | -          | -           | -          | -          | -          | -          | -          | -          | -          | -           | -          | -           | -           | -          | -           | -          |
| CUST_DEP                            | SUBTRAN    | -             | -           | -          | -          | -           | -          | -          | -          | -          | -          | -          | -          | -           | -          | -           | -           | -          | -           | -          |
| CUST_DEP                            | DISTPRI    | -             | -           | -          | -          | -           | -          | -          | -          | -          | -          | -          | -          | -           | -          | -           | -           | -          | -           | -          |
| CUST_DEP                            | DISTSEC    | -             | -           | -          | -          | -           | -          | -          | -          | -          | -          | -          | -          | -           | -          | -           | -           | -          | -           | -          |
| CUST_DEP                            | ENERGY     | -             | -           | -          | -          | -           | -          | -          | -          | -          | -          | -          | -          | -           | -          | -           | -           | -          | -           | -          |
| CUST_DEP                            | CUSTOMER   | 1,000,000,000 | 0.72944254  | 0.04391236 | 0.08643739 | 0.02180074  | 0.00367576 | 0.03714454 | 0.01517663 | 0.00616385 | 0.00136968 | -          | 0.01769325 | 0.01920157  | 0.01309038 | -           | -           | -          | -           | 0.00489131 |
| CUST_DEP                            | TOTAL      | 1,000,000,000 | 0.72944254  | 0.04391236 | 0.08643739 | 0.02180074  | 0.00367576 | 0.03714454 | 0.01517663 | 0.00616385 | 0.00136968 | -          | 0.01769325 | 0.01920157  | 0.01309038 | -           | -           | -          | -           | 0.00489131 |
| RB_GUP                              | PRODUCTION | 0.55115145    | 0.25901240  | 0.01134596 | 0.04273413 | 0.00076529  | 0.00008012 | 0.04627695 | 0.00900967 | 0.00266564 | 0.00002562 | 0.00161714 | 0.02240456 | 0.02374066  | 0.00521524 | 0.10898325  | 0.01678459  | 0.00025153 | 0.00017522  | 0.00003937 |
| RB_GUP                              | BULKTRAN   | 0.14426732    | 0.06779811  | 0.00296988 | 0.01118592 | 0.00020032  | 0.00002097 | 0.01211328 | 0.00235834 | 0.00069775 | 0.00001377 | 0.00042330 | 0.00586453 | 0.00621427  | 0.00136512 | 0.02852705  | 0.00439347  | 0.00006584 | 0.00042311  | 0.00001030 |
| RB_GUP                              | SUBTRAN    | 0.03713710    | 0.01692893  | 0.00072221 | 0.00272767 | 0.00004923  | 0.00000694 | 0.00300530 | 0.00058598 | 0.00022842 | -          | 0.00010152 | 0.00145314 | 0.00209627  | -          | 0.00921476  | -           | 0.00001673 | -           | -          |
| RB_GUP                              | DISTPRI    | 0.15237895    | 0.10267206  | 0.00434685 | 0.00028128 | -           | -          | 0.01713909 | 0.00333778 | -          | -          | 0.00062205 | 0.00817819 | -           | -          | -           | -           | 0.00009804 | -           | -          |
| RB_GUP                              | DISTSEC    | 0.07475165    | 0.0550135   | 0.00303403 | 0.00769636 | -           | -          | 0.00741976 | -          | -          | -          | 0.00022338 | -          | -           | -          | -           | -           | 0.00003638 | 0.00069215  | 0.00014825 |
| RB_GUP                              | ENERGY     | 0.00112097    | 0.00039833  | 0.00002513 | 0.00008872 | 0.00000159  | 0.00000017 | 0.00009886 | 0.00001910 | 0.00000568 | 0.00000011 | 0.00000395 | 0.00005634 | 0.00005771  | 0.00001103 | 0.00029686  | 0.00004862  | 0.00000688 | 0.00000664  | 0.00000144 |
| RB_GUP                              | CUSTOMER   | 0.03919256    | 0.01791070  | 0.00461710 | 0.00141118 | 0.00045897  | 0.00011528 | 0.00048254 | 0.00014113 | 0.00028349 | 0.00002117 | 0.00000387 | 0.00007528 | 0.00036854  | 0.00010586 | 0.00019054  | 0.00042334  | 0.00000213 | 0.01168628  | 0.00127606 |
| RB_GUP                              | TOTAL      | 1,000,000,000 | 0.52022188  | 0.02706116 | 0.08154759 | 0.00175667  | 0.00022347 | 0.08653587 | 0.00548200 | 0.00388097 | 0.00008768 | 0.00299521 | 0.03803206 | 0.03247746  | 0.00669725 | 0.14721246  | 0.02126902  | 0.00047134 | 0.01260249  | 0.00147542 |
| CUST_DEP_FXNL                       | PRODUCTION | 0.50619222    | 0.36318092  | 0.01841118 | 0.04529657 | 0.00131779  | 0.01986386 | 0.08489111 | 0.00423363 | 0.00082204 | -          | 0.01042304 | 0.01403614 | 0.01019366  | -          | -           | -           | -          | 0.0006688   | -          |
| CUST_DEP_FXNL                       | BULKTRAN   | 0.13249897    | 0.09506487  | 0.00481924 | 0.01185666 | 0.00024600  | 0.00034494 | 0.00519949 | 0.00231631 | 0.00110818 | -          | 0.00272830 | 0.00367405 | 0.00268825  | -          | -           | -           | -          | 0.00001751  | -          |
| CUST_DEP_FXNL                       | SUBTRAN    | 0.03266922    | 0.02373734  | 0.00117194 | 0.00289123 | 0.00061090  | 0.00011410 | 0.00128999 | 0.00057554 | 0.00036277 | -          | 0.00067603 | 0.00123937 | -           | -          | -           | -           | -          | -           | -          |
| CUST_DEP_FXNL                       | DISTPRI    | 0.18559366    | 0.14396428  | 0.00705367 | 0.01664522 | 0.00349077  | -          | 0.00735676 | 0.00327830 | -          | -          | 0.00380466 | -          | -           | -          | -           | -           | -          | -           | -          |
| CUST_DEP_FXNL                       | DISTSEC    | 0.09435732    | 0.07782265  | 0.00492334 | 0.00815785 | -           | -          | 0.00318485 | -          | -          | -          | -          | -          | -           | -          | -           | -           | -          | 0.00028684  | -          |
| CUST_DEP_FXNL                       | ENERGY     | 0.00087235    | 0.00055853  | 0.00004078 | 0.00009404 | 0.00001978  | 0.00000279 | 0.00004243 | 0.00001876 | 0.00000092 | 0.00000175 | -          | 0.00002621 | 0.00003412  | 0.00002156 | -           | -           | -          | 0.00000258  | -          |
| CUST_DEP_FXNL                       | CUSTOMER   | 0.04781626    | 0.02511396  | 0.00749221 | 0.00149580 | 0.00069589  | 0.00189614 | 0.00020717 | 0.00013861 | 0.00045024 | 0.00003072 | -          | 0.00003302 | 0.00021789  | 0.00020690 | -           | -           | -          | 0.000453570 | -          |
| CUST_DEP_FXNL                       | TOTAL      | 1,000,000,000 | 0.72944254  | 0.04391236 | 0.08643739 | 0.02180074  | 0.00367576 | 0.03714454 |            |            |            |            |            |             |            |             |             |            |             |            |

KENTUCKY POWER COMPANY  
COST-OF-SERVICE STUDY  
TWELVE MONTHS ENDING  
SEPTEMBER 30, 2014

| ALLOCATOR   | FUNCTION   | Total        | RS           | SGS        | MGS-SEC    | MGS-PRI    | MGS-SUB    | LGS-SEC    | LGS-PRI      | LGS-SUB    | LGS-TRA    | QP-SEC     | QP-PRI     | QP-SUB      | QP-TRA       | CIP-TOD-SUB  | CIP-TOD-TRA | MW         | OL          | SL         |  |
|---|------------|--------------|--------------|------------|------------|------------|------------|------------|--------------|------------|------------|------------|------------|-------------|--------------|--------------|-------------|------------|-------------|------------|--|
| REVSALSA_FXML allocator is the spreading of the REVSALSA allocator to all functions within each tariff class. It is spread using the RSALSA allocator as a basis. |            |              |              |            |            |            |            |            |              |            |            |            |            |             |              |              |             |            |             |            |  |
| REVSALSA TOTAL  |            | 1.00000000   | 0.41967784   | 0.03402220 | 0.10222259 | 0.00187111 | 0.00022098 | 0.10034121 | 0.01479562   | 0.00478308 | 0.00012130 | 0.00356561 | 0.04391009 | 0.04126990  | 0.00653637   | 0.17723672   | 0.03164244  | 0.00064068 | 0.01438084  | 0.00258143 |  |
| RSALSA  | PRODUCTION | 0.35030076   | 0.14623436   | 0.00879110 | 0.03346729 | 0.00047755 | 0.00004801 | 0.03383738 | 0.00680905   | 0.00183695 | 0.00003638 | 0.00108332 | 0.01480413 | 0.01733856  | 0.00319988   | 0.07043955   | 0.01118621  | 0.00019454 | 0.00039202  | 0.00008807 |  |
|   | BULKTRAN   | (0.00237992) | (0.00964787) | 0.00075019 | 0.00336060 | 0.00002290 | 0.00000222 | 0.00181942 | (0.00030361) | 0.00020665 | 0.00000298 | 0.00004255 | 0.00005823 | 0.00137938  | (0.00030458) | (0.00067115) | 0.00086202  | 0.00001701 | 0.00001240  | 0.00000444 |  |
|   | SUBTRAN    | (0.00067550) | (0.00241423) | 0.00018318 | 0.00082272 | 0.00000567 | 0.00000074 | 0.00045343 | (0.00007549) | 0.00006790 | -          | 0.00001025 | 0.00001472 | 0.000046720 | -            | (0.00021594) | -           | 0.00000434 | -           | -          |  |
|   | DISTPRI    | 0.14271792   | 0.08379447   | 0.00545008 | 0.02052752 | 0.00030281 | -          | 0.02001629 | 0.00352522   | -          | -          | 0.00066311 | 0.00831400 | -           | -            | -            | -           | 0.00012442 | -           | -          |  |
|   | DISTSEC    | 0.06035466   | 0.03893036   | 0.00343803 | 0.00912602 | -          | -          | 0.00775901 | -            | -          | -          | 0.00021198 | -          | -           | -            | -            | -           | 0.00004174 | 0.00065915  | 0.00018837 |  |
|   | ENERGY     | 0.40523469   | 0.13755594   | 0.00936060 | 0.03333966 | 0.00057131 | 0.00006028 | 0.03704787 | 0.00799900   | 0.00199084 | 0.00004406 | 0.00141031 | 0.02068394 | 0.02146505  | 0.00417056   | 0.10959966   | 0.01714023  | 0.00025611 | 0.00201305  | 0.00052620 |  |
|   | CUSTOMER   | 0.04444740   | 0.02246974   | 0.00639110 | 0.00205136 | 0.00042034 | 0.00010262 | 0.00052828 | 0.00012821   | 0.00029300 | 0.00003166 | 0.00000387 | 0.00006673 | 0.000038633 | 0.00006967   | 0.00015531   | 0.00004106  | 0.00000298 | 0.000961764 | 0.00168118 |  |
|   | TOTAL      | 1.00000000   | 0.41967784   | 0.03402220 | 0.10222259 | 0.00187111 | 0.00022098 | 0.10034121 | 0.01479562   | 0.00478308 | 0.00012130 | 0.00356561 | 0.04391009 | 0.04126990  | 0.00653637   | 0.17723672   | 0.03164244  | 0.00064068 | 0.01438084  | 0.00258143 |  |
| REVSALSA_FXML   | PRODUCTION | 0.34965613   | 0.14720070   | 0.00436428 | 0.03331328 | 0.00049625 | 0.00004961 | 0.03348768 | 0.00551230   | 0.00199613 | 0.00003638 | 0.00112766 | 0.01743717 | 0.01743717  | 0.00692609   | 0.01210954   | 0.00019440  | 0.00004411 | 0.00009137  | 0.00024882 |  |
| REVSALSA_FXML   | BULKTRAN   | (0.00229353) | (0.00971162) | 0.00074665 | 0.00334514 | 0.00002380 | 0.00000229 | 0.00179868 | (0.00024843) | 0.00002246 | 0.00000828 | 0.00004429 | 0.00005818 | 0.00138722  | (0.00027900) | (0.00066340) | 0.000093318 | 0.00001700 | 0.00001405  | 0.00000461 |  |
| REVSALSA_FXML   | SUBTRAN    | (0.00067586) | (0.00243019) | 0.00018233 | 0.00081893 | 0.00000569 | 0.00000076 | 0.00044826 | (0.00006177) | 0.00000737 | -          | 0.00001067 | 0.00001471 | 0.000046896 | -            | (0.00021344) | -           | 0.00000434 | -           | -          |  |
| REVSALSA_FXML   | DISTPRI    | 0.14231549   | 0.08438419   | 0.00542437 | 0.02043306 | 0.00031467 | -          | 0.01978814 | 0.00288446   | -          | -          | 0.00069026 | 0.00830801 | -           | -            | -            | -           | 0.00012433 | -           | -          |  |
| REVSALSA_FXML   | DISTSEC    | 0.06056854   | 0.03918761   | 0.00342181 | 0.00908402 | -          | -          | 0.00767058 | -            | -          | -          | 0.00022066 | -          | -           | -            | -            | -           | 0.00004171 | 0.00074672  | 0.00019543 |  |
| REVSALSA_FXML   | ENERGY     | 0.40451767   | 0.13846493   | 0.00931645 | 0.03318624 | 0.00059369 | 0.00006228 | 0.03662560 | 0.00654506   | 0.00216336 | 0.00004403 | 0.00148804 | 0.02066904 | 0.02158712  | 0.00382036   | 0.10833396   | 0.01855517  | 0.00025593 | 0.00228051  | 0.00054990 |  |
| REVSALSA_FXML   | CUSTOMER   | 0.04591156   | 0.02261622   | 0.00636095 | 0.00204192 | 0.00043681 | 0.00010603 | 0.00052226 | 0.00014091   | 0.00032524 | 0.00003166 | 0.00000403 | 0.00000668 | 0.00038853  | 0.00006382   | 0.00015351   | 0.00004444  | 0.00000298 | 0.01089545  | 0.00174412 |  |
| REVSALSA_FXML   | TOTAL      | 1.00000000   | 0.41967784   | 0.03402220 | 0.10222259 | 0.00187111 | 0.00022098 | 0.10034121 | 0.01479562   | 0.00478308 | 0.00012130 | 0.00356561 | 0.04391009 | 0.04126990  | 0.00653637   | 0.17723672   | 0.03164244  | 0.00064068 | 0.01438084  | 0.00258143 |  |

REVVECFXML is a spreading of the REVVECF allocator to each function within the tariff classes using the RSALSA allocator.

|               |            |              |              |              |              |            |              |              |              |            |            |            |             |              |              |              |              |              |             |            |
|---------------|------------|--------------|--------------|--------------|--------------|------------|--------------|--------------|--------------|------------|------------|------------|-------------|--------------|--------------|--------------|--------------|--------------|-------------|------------|
| REVVECF TOTAL |            | 1.00000000   | 4.23355166   | (0.19016430) | (0.55197020) | 0.09950877 | 0.01005002   | (1.50113670) | (4.53508245) | 0.53280655 | -          | 0.19766301 | 0.00008763  | 0.36433468   | (0.82289523) | (2.68927797) | 3.37186594   | (0.00005001) | 2.34912945  | 0.13153414 |
| RSALSA        | PRODUCTION | 0.35003076   | 0.14623436   | 0.00879110   | 0.03346729   | 0.00047755 | 0.00004801   | 0.03383738   | 0.00680905   | 0.00183695 | 0.00003638 | 0.00108332 | 0.01480413  | 0.01733856   | 0.00319988   | 0.07043955   | 0.01118621   | 0.00019454   | 0.00039202  | 0.00008807 |
|               | BULKTRAN   | (0.00237992) | (0.00964787) | 0.00075019   | 0.00336060   | 0.00002290 | 0.00000222   | 0.00181942   | (0.00030361) | 0.00020665 | 0.00000298 | 0.00004255 | 0.00005823  | 0.00137938   | (0.00030458) | (0.00067115) | 0.00086202   | 0.00001701   | 0.00001240  | 0.00000444 |
|               | SUBTRAN    | (0.00067550) | (0.00241423) | 0.00018318   | 0.00082272   | 0.00000567 | 0.00000074   | 0.00045343   | (0.00007549) | 0.00006790 | -          | 0.00001025 | 0.00001472  | 0.000046720  | -            | (0.00021594) | -            | 0.00000434   | -           | -          |
|               | DISTPRI    | 0.14271792   | 0.08379447   | 0.00545008   | 0.02052752   | 0.00030281 | -            | 0.02001629   | 0.00352522   | -          | -          | 0.00066311 | 0.00831400  | -            | -            | -            | -            | 0.00012442   | -           | -          |
|               | DISTSEC    | 0.06035466   | 0.03893036   | 0.00343803   | 0.00912602   | -          | -            | 0.00775901   | -            | -          | -          | 0.00021198 | -           | -            | -            | -            | -            | 0.00004174   | 0.00065915  | 0.00018837 |
|               | ENERGY     | 0.40523469   | 0.13755594   | 0.00936060   | 0.03333966   | 0.00057131 | 0.00006028   | 0.03704787   | 0.00799900   | 0.00199084 | 0.00004406 | 0.00141031 | 0.02068394  | 0.02146505   | 0.00417056   | 0.10959966   | 0.01714023   | 0.00025611   | 0.00201305  | 0.00052620 |
|               | CUSTOMER   | 0.04444740   | 0.02246974   | 0.00639110   | 0.00205136   | 0.00042034 | 0.00010262   | 0.00052828   | 0.00012821   | 0.00029300 | 0.00003166 | 0.00000387 | 0.00006673  | 0.000038633  | 0.00006967   | 0.00015531   | 0.00004106   | 0.00000298   | 0.000961764 | 0.00168118 |
|               | TOTAL      | 1.00000000   | 4.23355166   | (0.19016430) | (0.55197020) | 0.09950877 | 0.01005002   | (1.50113670) | (4.53508245) | 0.53280655 | -          | 0.19766301 | 0.00008763  | 0.36433468   | (0.82289523) | (2.68927797) | 3.37186594   | (0.00005001) | 2.34912945  | 0.13153414 |
| REVVECF_FXML  | PRODUCTION | 1.48490508   | (0.04864797) | (0.17988134) | 0.02639156   | 0.00225622 | (0.50098652) | (1.70771860) | 0.22325726   | -          | 0.06251300 | 0.00002952 | 0.15939703  | (0.36902159) | (1.05646224) | 1.29042117   | (0.00000152) | 0.07254583   | 0.00465564  | 0.0023485  |
| REVVECF_FXML  | BULKTRAN   | (0.11730396) | (0.09796721) | (0.00415138) | (0.01806270) | 0.00128577 | (0.02269083) | 0.07614610   | 0.02501477   | -          | 0.00245509 | 0.00000012 | 0.12246652  | 0.03512504   | 0.01006597   | 0.09944150   | (0.00000013) | 0.00229436   | 0.00023485  | 0.00023485 |
| REVVECF_FXML  | SUBTRAN    | (0.00117675) | (0.02451482) | (0.00101370) | (0.00442198) | 0.00031322 | (0.00003473) | (0.00670618) | 0.01893418   | 0.00821965 | -          | 0.00059152 | 0.00000003  | 0.00414739   | -            | 0.00323865   | -            | (0.00000003) | -           | -          |
| REVVECF_FXML  | DISTPRI    | (0.41477046) | 0.85087274   | (0.03015953) | (0.11033215) | 0.01673451 | -            | (0.29663696) | (0.88412980) | -          | -          | 0.03828512 | 0.00001658  | -            | -            | -            | -            | (0.00000097) | -           | -          |
| REVVECF_FXML  | DISTSEC    | 0.35664757   | 0.39530885   | (0.01902529) | (0.04905089) | -          | -            | (0.11475429) | -            | -          | -          | 0.01223240 | -           | -            | -            | -            | -            | (0.00000033) | 0.12197839  | 0.0095773  |
| REVVECF_FXML  | ENERGY     | (0.5806379)  | 1.39678195   | (0.05179951) | (0.17919539) | 0.03157342 | 0.00283263   | (0.54793069) | (2.00618546) | 0.24098515 | -          | 0.08138239 | 0.000004125 | 0.19057319   | (0.48096367) | (1.64379101) | 1.97726719   | (0.00000200) | 0.37252387  | 0.02781590 |
| REVVECF_FXML  | CUSTOMER   | 2.07276695   | 0.22816407   | (0.03636922) | 0.01102574   | 0.02323029 | 0.00482232   | (0.00781323) | (0.03215587) | 0.03622971 | -          | 0.00022349 | 0.000000013 | 0.000432996  | (0.00803501) | (0.00232934) | 0.00473608   | (0.00000002) | 1.77978700  | 0.08887003 |
| REVVECF_FXML  | TOTAL      | 1.00000000   | 4.23355166   | (0.19016430) | (0.55197020) | 0.09950877 | 0.01005002   | (1.50113670) | (4.53508245) | 0.53280655 | -          | 0.19766301 | 0.00008763  | 0.36433468   | (0.82289523) | (2.68927797) | 3.37186594   | (0.00005001) | 2.34912945  | 0.13153414 |

FORF\_DISC\_FXML Calculation - In order to properly assign forfeited discounts to the various functions within the customer classes, allocate it using the RSALSA allocator

|                 |            |              |              |            |            |            |            |            |              |            |            |            |            |             |              |              |            |            |            |            |
|-----------------|------------|--------------|--------------|------------|------------|------------|------------|------------|--------------|------------|------------|------------|------------|-------------|--------------|--------------|------------|------------|------------|------------|
| FORF_DISC TOTAL |            | 1.00000000   | 0.71112214   | 0.06620871 | 0.12269002 | 0.00178294 | 0.00066684 | 0.04297993 | 0.00580371   | 0.00223445 | 0.00021246 | 0.00214966 | 0.01012398 | 0.01530002  | 0.00447882   | 0.00857472   | -          | -          | 0.00567159 | -          |
| RSALSA          | PRODUCTION | 0.35030076   | 0.14623436   | 0.00879110 | 0.03346729 | 0.00047755 | 0.00004801 | 0.03383738 | 0.00680905   | 0.00183695 | 0.00003638 | 0.00108332 | 0.01480413 | 0.01733856  | 0.00319988   | 0.07043955   | 0.01118621 | 0.00019454 | 0.00039202 | 0.00008807 |
|                 | BULKTRAN   | (0.00237992) | (0.00964787) | 0.00075019 | 0.00336060 | 0.00002290 | 0.00000222 | 0.00181942 | (0.00030361) | 0.00020665 | 0.00000298 | 0.00004255 | 0.00005823 | 0.00137938  | (0.00030458) | (0.00067115) | 0.00086202 | 0.00001701 | 0.00001240 | 0.00000444 |
|                 | SUBTRAN    | (0.00067550) | (0.00241423) | 0.00018318 | 0.00082272 | 0.00000567 | 0.00000074 | 0.00045343 | (0.00007549) | 0.00006790 | -          | 0.00001025 | 0.00001472 | 0.000046720 | -            | (0.00021594) | -          | 0.00000434 | -          | -          |
|                 | DISTPRI    | 0.14271792   | 0.08379447   | 0.00545008 | 0.02052752 | 0.00030281 | -          | 0.02001629 | 0.00352522   | -          | -          | 0.00066311 | 0.00831400 | -           | -            | -            | -          | 0.00012442 | -          | -          |
|                 | DISTSEC    | 0.06035466   | 0.03893036   |            |            |            |            |            |              |            |            |            |            |             |              |              |            |            |            |            |

**Kentucky Power Company  
 Proposed Revenue Allocation  
 Twelve Months Ended September 30, 2014**

| Current Class<br>(1) | Current Revenue<br>(2) | Rate Base<br>(3)     | Current Income<br>(4) | Current ROR %<br>(5) | Proposed Revenue Allocation |                   |              |                         |                                    |                       |                          |  |
|----------------------|------------------------|----------------------|-----------------------|----------------------|-----------------------------|-------------------|--------------|-------------------------|------------------------------------|-----------------------|--------------------------|--|
|                      |                        |                      |                       |                      | Income Increase<br>(6)      | Income<br>(7)     | ROR %<br>(8) | Revenue Increase<br>(9) | Less: Adjust Trans to OATT<br>(10) | Sales Revenue<br>(11) | Percent Increase<br>(12) |  |
| RS                   | 230,140,574            | 616,814,372          | 28,051,963            | 4.55                 | (1,524,898)                 | 26,527,064        | 4.30         | (2,501,105)             | 7,903,930                          | 235,543,399           | 2.35                     |  |
| SGS                  | 19,611,844             | 34,492,915           | 5,062,042             | 14.68                | (85,275)                    | 4,976,767         | 14.43        | (139,867)               | (643,599)                          | 18,828,378            | -3.99                    |  |
| MGS                  | 59,677,591             | 98,516,888           | 15,372,414            | 15.60                | (243,556)                   | 15,128,858        | 15.36        | (399,476)               | (2,871,337)                        | 56,406,778            | -5.48                    |  |
| LGS                  | 70,569,638             | 124,761,218          | 14,825,960            | 11.88                | (308,437)                   | 14,517,523        | 11.64        | (505,892)               | (1,829,055)                        | 68,234,691            | -3.31                    |  |
| QP                   | 54,126,867             | 86,428,529           | 9,366,439             | 10.84                | (213,671)                   | 9,152,768         | 10.59        | (350,458)               | (1,348,509)                        | 52,427,900            | -3.14                    |  |
| CIP-TOD              | 117,423,244            | 172,708,356          | 15,707,857            | 9.10                 | (426,973)                   | 15,280,884        | 8.85         | (700,312)               | (1,313,469)                        | 115,409,463           | -1.71                    |  |
| MW                   | 364,284                | 575,126              | 82,849                | 14.41                | (1,422)                     | 81,427            | 14.16        | (2,332)                 | (14,795)                           | 347,157               | -4.70                    |  |
| OL                   | 7,256,325              | 21,337,177           | 2,429,925             | 11.39                | (52,750)                    | 2,377,175         | 11.14        | (86,520)                | (7,305)                            | 7,162,499             | -1.29                    |  |
| SL                   | 1,422,710              | 2,551,935            | 434,576               | 17.03                | (6,309)                     | 428,267           | 16.78        | (10,348)                | (2,769)                            | 1,409,592             | -0.92                    |  |
| <b>Total</b>         | <b>560,593,075</b>     | <b>1,158,186,516</b> | <b>91,334,026</b>     | <b>7.89</b>          | <b>(2,863,291)</b>          | <b>88,470,733</b> | <b>7.64</b>  | <b>(4,696,310)</b>      | <b>(126,908)</b>                   | <b>555,769,857</b>    | <b>-0.86</b>             |  |
|                      |                        |                      |                       |                      |                             |                   |              |                         | Net Revenue Increase               | (4,696,331)           |                          |  |

Gross Rev Conversion Factor: 1.640179

**Kentucky Power Company  
 Proposed Revenue Allocation  
 Twelve Months Ended September 30, 2014**

| <u>Current Class</u><br>(1) | <u>Current Revenue</u><br>(2) | <u>Rate Base</u><br>(3) | <u>Current Income</u><br>(4) | <u>Current ROR %</u><br>(5) | <u>Current Equalized Rate of Return</u> |                                |                               |                      |                      |                              |   |
|-----------------------------|-------------------------------|-------------------------|------------------------------|-----------------------------|---|--------------------------------|-------------------------------|----------------------|----------------------|------------------------------|---|
|                             |                               |                         |                              |                             | <u>Percent Increase</u><br>(6)          | <u>Revenue Increase</u><br>(7) | <u>Income Increase</u><br>(8) | <u>Income</u><br>(9) | <u>ROR %</u><br>(10) | <u>Sales Revenue</u><br>(11) | <u>Current Subsidy</u><br>(12)=(11)-(2) |
| RS                          | 230,140,574                   | 616,814,372             | 28,051,963                   | 4.55                        | 14.67                                   | 33,770,821                     | 20,589,717                    | 48,641,680           | 7.89                 | 263,911,395                  | 33,770,821                              |
| SGS                         | 19,611,844                    | 34,492,915              | 5,062,042                    | 14.68                       | -19.59                                  | (3,841,212)                    | (2,341,947)                   | 2,720,095            | 7.89                 | 15,770,632                   | (3,841,212)                             |
| MGS                         | 59,677,591                    | 98,516,888              | 15,372,414                   | 15.60                       | -20.90                                  | (12,470,969)                   | (7,603,420)                   | 7,768,994            | 7.89                 | 47,206,622                   | (12,470,969)                            |
| LGS                         | 70,569,638                    | 124,761,218             | 14,825,960                   | 11.88                       | -11.59                                  | (8,180,149)                    | (4,987,351)                   | 9,838,609            | 7.89                 | 62,389,489                   | (8,180,149)                             |
| QP                          | 54,126,867                    | 86,428,529              | 9,366,439                    | 10.84                       | -7.73                                   | (4,183,649)                    | (2,550,727)                   | 6,815,712            | 7.89                 | 49,943,218                   | (4,183,649)                             |
| CIP-TOD                     | 117,423,244                   | 172,708,356             | 15,707,857                   | 9.10                        | -2.92                                   | (3,424,957)                    | (2,088,160)                   | 13,619,697           | 7.89                 | 113,998,287                  | (3,424,957)                             |
| MW                          | 364,284                       | 575,126                 | 82,849                       | 14.41                       | -16.88                                  | (61,499)                       | (37,495)                      | 45,354               | 7.89                 | 302,785                      | (61,499)                                |
| OL                          | 7,256,325                     | 21,337,177              | 2,429,925                    | 11.39                       | -16.89                                  | (1,225,683)                    | (747,286)                     | 1,682,639            | 7.89                 | 6,030,642                    | (1,225,683)                             |
| SL                          | 1,422,710                     | 2,551,935               | 434,576                      | 17.03                       | -26.90                                  | (382,707)                      | (233,332)                     | 201,244              | 7.89                 | 1,040,003                    | (382,707)                               |
| <b>Total</b>                | <b>560,593,075</b>            | <b>1,158,186,516</b>    | <b>91,334,026</b>            | <b>7.89</b>                 | <b>0.00</b>                             | <b>(4)</b>                     | <b>(2)</b>                    | <b>91,334,024</b>    | <b>7.89</b>          | <b>560,593,071</b>           | <b>(4)</b>                              |

Gross Rev Conversion Factor: 1.640179

**Kentucky Power Company  
 Proposed Revenue Allocation  
 Twelve Months Ended September 30, 2014**

| <u>Current Class</u><br>(1) | <u>Current Revenue</u><br>(2) | <u>Rate Base</u><br>(3) | <u>Current Income</u><br>(4) | <u>Current ROR %</u><br>(5) | <u>Proposed Equalized Rate of Return</u> |                                |                               |  |                      | <u>100% of Current Subsidy</u><br>(12) | <u>Proposed Increase</u><br>(13)=(7)-(12) | <u>Percent Increase</u><br>(14) |                              |
|-----------------------------|-------------------------------|-------------------------|------------------------------|-----------------------------|--|--------------------------------|-------------------------------|--|----------------------|--|---|---------------------------------|------------------------------|
|                             |                               |                         |                              |                             | <u>Percent Increase</u><br>(6)           | <u>Revenue Increase</u><br>(7) | <u>Income Increase</u><br>(8) | <u>Income</u><br>(9)                           | <u>ROR %</u><br>(10) |  |   |                                 | <u>Sales Revenue</u><br>(11) |
| RS                          | 230,140,574                   | 616,814,372             | 28,051,963                   | 4.55                        | 13.59                                    | 31,269,716                     | 19,064,819                    | 47,116,782                                     | 7.64                 | 261,410,290                            | 33,770,821                                | (2,501,105)                     | -1.09                        |
| SGS                         | 19,611,844                    | 34,492,915              | 5,062,042                    | 14.68                       | -20.30                                   | (3,981,079)                    | (2,427,222)                   | 2,634,820                                      | 7.64                 | 15,630,765                             | (3,841,212)                               | (139,867)                       | -0.71                        |
| MGS                         | 59,677,591                    | 98,516,888              | 15,372,414                   | 15.60                       | -21.57                                   | (12,870,445)                   | (7,846,976)                   | 7,525,438                                      | 7.64                 | 46,807,146                             | (12,470,969)                              | (399,476)                       | -0.67                        |
| LGS                         | 70,569,638                    | 124,761,218             | 14,825,960                   | 11.88                       | -12.31                                   | (8,686,041)                    | (5,295,788)                   | 9,530,172                                      | 7.64                 | 61,883,597                             | (8,180,149)                               | (505,892)                       | -0.72                        |
| QP                          | 54,126,867                    | 86,428,529              | 9,366,439                    | 10.84                       | -8.38                                    | (4,534,107)                    | (2,764,398)                   | 6,602,041                                      | 7.64                 | 49,592,760                             | (4,183,649)                               | (350,458)                       | -0.65                        |
| CIP-TOD                     | 117,423,244                   | 172,708,356             | 15,707,857                   | 9.10                        | -3.51                                    | (4,125,269)                    | (2,515,133)                   | 13,192,724                                     | 7.64                 | 113,297,975                            | (3,424,957)                               | (700,312)                       | -0.60                        |
| MW                          | 364,284                       | 575,126                 | 82,849                       | 14.41                       | -17.52                                   | (63,831)                       | (38,917)                      | 43,932   | 7.64                 | 300,453                                | (61,499)                                  | (2,332)                         | -0.64                        |
| OL                          | 7,256,325                     | 21,337,177              | 2,429,925                    | 11.39                       | -18.08                                   | (1,312,203)                    | (800,036)                     | 1,629,889                                      | 7.64                 | 5,944,122                              | (1,225,683)                               | (86,520)                        | -1.19                        |
| SL                          | 1,422,710                     | 2,551,935               | 434,576                      | 17.03                       | -27.63                                   | (393,055)                      | (239,641)                     | 194,935  | 7.64                 | 1,029,655                              | (382,707)                                 | (10,348)                        | -0.73                        |
| <b>Total</b>                | <b>560,593,075</b>            | <b>1,158,186,516</b>    | <b>91,334,026</b>            | <b>7.89</b>                 | <b>-0.84</b>                             | <b>(4,696,314)</b>             | <b>(2,863,293)</b>            | <b>88,470,733</b> <sup>(a)</sup><br>88,470,733 | <b>7.64</b>          | <b>555,896,761</b>                     | <b>(4)</b>                                | <b>(4,696,310)</b>              | <b>-0.84</b>                 |

Gross Rev Conversion Factor: 1.640179

(a) Required net operating income from Section V, Schedule 2, Column (3), Line 3



**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**Application Of Kentucky Power Company For     )**  
**A General Adjustment Of Its Rates For Electric     )**  
**Service; (2) An Order Approving Its 2014             )**  
**Environmental Compliance Plan; (3) An Order     ) Case No. 2014-00396**  
**Approving Its Tariffs And Riders; And (4) An     )**  
**Order Granting All Other Required Approvals     )**  
**And Relief   )**

**DIRECT TESTIMONY OF**

**H. KEVIN STOGRAN**

**ON BEHALF OF KENTUCKY POWER COMPANY**



**DIRECT TESTIMONY OF  
H. KEVIN STOGRAN, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
H. KEVIN STOGRAN ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

2 A. My name is H. Kevin Stogran. I am the Managing Director of Cyber Risk and  
3 Security Services for the American Electric Power Service Corporation  
4 (“AEPSC”), a subsidiary of American Electric Power Company, Inc. (“AEP”).  
5 AEP is the parent company of Kentucky Power Company (“Kentucky Power” or  
6 “Company”) and AEPSC is Kentucky Power’s services provider company.

**II. BACKGROUND**

7 **Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EMPLOYMENT**  
8 **HISTORY.**

9 A. I received a Bachelor’s Degree in Mechanical Engineering from Clarkson  
10 University of Potsdam, New York in 1978. I joined AEPSC in Canton, Ohio that  
11 same year in the Plant Engineering Division supporting AEP’s power plants. In  
12 1985, I transferred to the Mechanical Engineering Division where I worked on  
13 AEP’s clean coal technology projects until I left AEP in 1995. I rejoined AEPSC  
14 in late 1996 supporting the daily operations of the power plants and interfacing  
15 with the trading functions relative to plant output. In 2000, I transferred to the  
16 Commercial Operations organization where I led efforts to interface power plant  
17 operations with AEP’s trading functions and generation dispatch. From 2006 thru  
18 2010 I oversaw the information systems support for Commercial Operations

1 market operations functions including support and compliance for NERC  
2 compliance. In 2010 I transferred to Information Technology where I led the  
3 enterprise cybersecurity and risk functions across AEP.

4 **Q. WHAT ARE YOUR RESPONSIBILITIES?**

5 A. As Managing Director of IT Cyber Risk and Security Services I led the enterprise  
6 functions which provide cybersecurity services across AEP's 11 state network,  
7 including: cybersecurity programs and awareness; cybersecurity intelligence and  
8 defense; cybersecurity monitor and response; cyber registration services;  
9 cybersecurity testing and assessment; enterprise business continuity; and IT's  
10 NERC and SOx compliance functions, all within the Information Technology  
11 organization.

12 **Q. HAVE YOU PREVIOUSLY TESTIFIED IN ANY REGULATORY**  
13 **PROCEEDINGS?**

14 A. No.

**III. PURPOSE OF DIRECT TESTIMONY**

15 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS**  
16 **PROCEEDING?**

17 A. The purpose of my testimony is to support the need for the proposed North  
18 American Electric Reliability Corporation ("NERC") Compliance and  
19 Cybersecurity Rider as proposed by Company Witness Wohnhas.

**IV. NERC COMPLIANCE AND CYBERSECURITY****1 Q. WHAT IS NERC?**

2 A. NERC is the North American Electric Reliability Corporation a not-for-profit  
3 international regulatory authority whose mission is to ensure the reliability of the  
4 bulk power system in North America. Beginning in 2007, all bulk power system  
5 owners, operators, and users were required to comply with reliability standards  
6 established by NERC, which are implemented and enforced through Federal  
7 Energy Regulatory Commission (“FERC”) approved delegation agreements to  
8 eight Regional Entities. Kentucky Power registered and operates within the  
9 region of the Reliability First Corporation.

**10 Q. WHAT IS CYBERSECURITY?**

11 A. Cybersecurity, also referred to as information technology security, focuses on  
12 protecting computers, networks, programs and data from unintended or  
13 unauthorized access, change or destruction.

14 Utility cybersecurity encompasses protection and security of physical distribution  
15 and transmission grids, substations, power plants, and business offices, as well as  
16 equipment, processes and systems that communicate, store, and act on data.

17 Cybersecurity encompasses not only utility-owned systems, but it also includes  
18 aspects of customer and third party components that interact with the grid, such as  
19 advanced meters and 3<sup>rd</sup> party cloud hosted services. Cybersecurity focuses on  
20 hardware and software, as well as the data and the networks that use the data to  
21 keep the system operating. Finally, there are human elements to cybersecurity,  
22 including system operators, customers, and potential criminals interacting at all

1 levels of a system. The dynamic and broad landscape that is covered by  
2 cybersecurity is continuously evolving, and emerging threats and exploits merits  
3 dedicated attention, flexibility to address emerging risks, and constant vigilance.  
4 With such a dynamic and broad landscape to consider, cybersecurity cannot be a  
5 stagnant prescription. A utility's cybersecurity measures must constantly evolve  
6 as technology, threats and vulnerabilities evolve, introducing the building blocks  
7 that stand the test of time while still being flexible enough to meet changing  
8 cybersecurity requirements.

9 **Q. WHAT DOES THE TERM "NERC COMPLIANCE AND**  
10 **CYBERSECURITY" MEAN WITH RESPECT TO AN ELECTRIC**  
11 **UTILITY LIKE KENTUCKY POWER COMPANY?**

12 A. For decades, electric system security was defined as the ability of the system to  
13 withstand sudden, unexpected disturbances, such as a short circuit or an  
14 unanticipated loss of system elements due to natural causes. In today's world, the  
15 security focus of utilities has expanded to include withstanding disturbances  
16 caused by manmade physical or cyber attacks. Cybersecurity refers to the  
17 prevention and mitigation of impacts from these types of cyberattacks. With the  
18 list of potential threats expanding, NERC has begun to implement new programs  
19 and requirements to counteract the increased threats. The Critical Infrastructure  
20 Protection (CIP) Standards have been under constant revision since their inception  
21 in 2008, when version 1 became enforceable. With the advent of CIP version 5  
22 and the introduction of a new standard for physical security, there will be a 37.5%  
23 increase in the number of CIP Standards that will be enforceable over the next

1 two years. It is worth noting that these new / revised standards will require  
2 significant investments required in both cyber security and physical security  
3 protection measures. The volume of these changes and the new standards being  
4 introduced are indicators of the continuously expanding reach of NERC security  
5 requirements and the Company's commensurately expanding compliance  
6 obligation.

7           Recent events further illustrate the heightened attention these issues are  
8 receiving. For example, the Grid 20/20 conference hosted by the PJM on  
9 November 11-12, 2013 focused on the need for the electric grid to become more  
10 resilient in the face of a rising number of physical challenges, such as sabotage  
11 attempts and cyberattacks. This forum was followed on November 13-14, 2013  
12 with the NERC conducting its second Grid Security Exercise (GridEx II) to  
13 exercise NERC and industry crisis response plans and identify actionable  
14 improvement recommendations for plans, security programs, and skills. Kentucky  
15 Power participated in this NERC event.

16           President Obama's administration and United States energy officials have  
17 also called on Congress to pass a bill to resolve questions about potential liability  
18 in the aftermath of cyberattacks, as well as how energy companies can share  
19 potential threat information with the government or each other. Further, President  
20 Obama issued Executive Order (EO) 13636, "Improving Critical Infrastructure  
21 Cybersecurity", in early 2013 that has resulted in NIST (National Institute of  
22 Standards and Technology) developing and issuing in February 2014 the  
23 "Framework for Improving Critical Infrastructure Cybersecurity" which the



1 Department of Energy is now working to develop into an implementation plan for  
2 the Electric Subsector.

3           Additionally, in February 2014, The National Association of Regulatory  
4 Utility Commissioners issued the “Cybersecurity for State Regulators Primer 2.0”  
5 which provided updated guidance on utility cybersecurity for state regulators  
6 while addressing the need for strong cybersecurity capabilities. On November  
7 20<sup>th</sup>, 2014, the House Select Intelligence Committee conducted a hearing to  
8 discuss the United States efforts to combat cybersecurity threats. During that  
9 hearing, Admiral Michael Rogers, National Security Agency (NSA) Director &  
10 U.S. Cyber Command Commander, addressed the current threat landscape against  
11 the nation’s critical infrastructure and the threats poised by a number of nation-  
12 state adversaries and their associates. The House Committee further raised the  
13 issue of the need to improve cybersecurity capabilities across the various critical  
14 infrastructure sectors.

15           These recent examples show the increased focus on these issues and  
16 evolving nature of the industry’s response.

17 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

18 A. Yes.

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

|   |   |                            |
|---|---|----------------------------|
| <b>Application Of Kentucky Power Company For:</b>         | ) |                            |
| <b>(1) A General Adjustment Of Its Rates For Electric</b> | ) |                            |
| <b>Service; (2) An Order Approving Its 2014</b>           | ) | <b>Case No. 2014-00396</b> |
| <b>Environmental Compliance Plan; (3) An Order</b>        | ) |                            |
| <b>Approving Its Tariffs And Riders; And (4) An</b>       | ) |                            |
| <b>Order Granting All Other Required Approvals</b>        | ) |                            |
| <b>And Relief</b>   | ) |                            |

**DIRECT TESTIMONY OF**  
**ALEX E. VAUGHAN**  
**ON BEHALF OF KENTUCKY POWER COMPANY**



**DIRECT TESTIMONY OF  
ALEX E. VAUGHAN, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
ALEX E. VAUGHAN  
FOR KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY  
CASE NO. 2014-00396**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND PRESENT**  
2 **POSITION.**

3 A. My name is Alex E. Vaughan. I am employed by American Electric Power Service  
4 Corporation (“AEPSC”) as Manager, Regulated Pricing and Analysis. My business  
5 address is 1 Riverside Plaza, Columbus, Ohio 43215. AEPSC is a wholly-owned  
6 subsidiary of American Electric Power Company (“AEP”), the parent Company of  
7 Kentucky Power Company (the “Company” or “Kentucky Power”).

8 **Q. PLEASE DESCRIBE YOUR CURRENT RESPONSIBILITIES.**

9 A. My responsibilities include the oversight of cost of service analyses, rate design and  
10 special contracts for the AEP East System operating companies

11 **Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE AND**  
12 **EDUCATIONAL BACKGROUND.**

13 A. I graduated from Bowling Green State University with a Bachelor of Science degree in  
14 Finance in 2005. Prior to joining AEP I worked for a retail bank and a holding company  
15 where I held various underwriting, finance and accounting positions. In 2007 I joined  
16 AEPSC as a Settlement Analyst in the Regional Transmission Organization (RTO)  
17 Settlements Group. I later became the PJM Settlements Lead Analyst where I was  
18 responsible for reconciling AEP’s settlement of its activities in the PJM market with the  
19 monthly PJM invoices and for resolving billing issues with PJM. In 2010 I transferred to

1 Regulatory Services as a Regulatory Analyst and was later promoted to the position of  
2 Regulatory Consultant. My responsibilities included supporting regulatory filings across  
3 AEP's 11 state jurisdictions and at the Federal Energy Regulatory Commission (FERC).  
4 In addition, I was responsible for performing financial analyses related to AEP's  
5 generation resources and loads, power pools and PJM. In September of 2012, I was  
6 promoted to my current position.

7 **Q. HAVE YOU PREVIOUSLY TESTIFIED IN REGULATORY PROCEEDINGS?**

8 A. Yes. I submitted direct testimony to the Kentucky Public Service Commission (the  
9 Commission) in Case No. 2013-00197 on behalf of Kentucky Power Company. I  
10 submitted direct testimony to the Indiana Utility Regulatory Commission in Cause No.  
11 43774-PJM-3 on behalf of Indiana Michigan Power Company, a Kentucky Power  
12 affiliate. Additionally, I submitted testimony to the Virginia State Corporation  
13 Commission in case numbers PUE-2012-00094, PUE-2013-00009, PUE-2013-00111,  
14 PUE-2014-00007 and PUE-2014-00026 on behalf of Appalachian Power Company. I  
15 also submitted direct testimony to the West Virginia Public Service Commission in Case  
16 No. 14-1152-E-42T on behalf of Appalachian Power Company and Wheeling Power  
17 Company, both of which are Kentucky Power affiliates.

18 **II. PURPOSE OF TESTIMONY**

19 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

20 A. The purpose of my testimony is to support the Company's proposed rate design,  
21 including the changes to the residential and small commercial service charges, and the  
22 combination of tariffs QP and CIP-TOD. Additionally, I sponsor certain operation and  
maintenance expense and operating revenue adjustments detailed in Section V, Exhibit 2.

1 Among these are adjustments related to (1) the removal of AEP East Pool costs and  
 2 revenues; (2) adjustments to the test year amount of PJM charges and credits and; (3)  
 3 adjustments to the test year level of Off System Sales (OSS) margins. Furthermore, I  
 4 support the proposed PJM Rider, the proposed Big Sandy Unit 1 Operation Rider  
 5 (BS1OR) and the Company’s proposed treatment of transmission function revenues and  
 6 expenses in base rates.

7 **Q. ARE YOU SPONSORING ANY EXHIBITS OR SCHEDULES?**

8 A. Yes, I am sponsoring the following exhibits:

- 9 - Exhibit AEV 1 – Base Rate Revenue Target Summary
- 10 - Exhibit AEV 2 – Fixed Distribution Cost Study
- 11 - Exhibit AEV 3 – Marginal Customer Connection Study
- 12 - Exhibit AEV 4 – BS1OR Revenue Requirement and Rate Design
- 13 - Exhibit AEV 5 – Adjusted Test Year PJM Charge and Credit Detail
- 14 - Exhibit AEV 6 – PJM Rider Rate Design
- 15 - Exhibit AEV 7– Adjusted Test Year OSS Margin Calculations

16 **Q. WERE THESE EXHIBITS PREPARED BY YOU OR UNDER YOUR**  
 17 **SUPERVISION?**

18 A. Yes.

**III. RATE DESIGN**

19 **Q. PLEASE DESCRIBE THE PROCESS USED TO DEVELOP THE COMPANY’S**  
 20 **PROPOSED RATES.**

21 A. In general, the Company’s approach is to design rates and rate components which reflect  
 22 the underlying costs of the Company. This includes collecting basic service-related costs

1 through basic service charges and recognizing the differences in the costs to serve  
2 customers at different service delivery voltages.

3 The rate design process involved a number of steps which varied with each tariff.  
4 The cost components developed by Witness Stegall in the class cost of service study  
5 provided guidance as to the relative amounts of revenue that should be recovered from  
6 service charges, energy charges and demand charges. In general, where sufficient  
7 metering data is available, full cost service charges, energy and demand rates were  
8 developed for each class by dividing the component-allocated proposed revenues by the  
9 test year billing units. These initial rates were then compared to the current rates to  
10 determine which price changes would need to be moderated to mitigate rate impacts that  
11 could cause individual bill impacts that might be considered too severe.

12 **Q. FOR WHICH TARIFFS IS THE COMPANY PROPOSING RATE DESIGN**  
13 **CHANGES IN THIS PROCEEDING?**

14 A. The Company is refining or proposing new rate designs for the following tariffs:

- 15 a. Residential Service (RS)
- 16 b. Small General Service (SGS)
- 17 c. Quantity Power (QP)
- 18 d. Commercial and Industrial Power – Time-of-day (CIP TOD)
- 19 e. Proposed new tariff Industrial General Service (IGS)

20 **i. Residential Service Rate Design**

21 **Q. WHAT CHANGES TO THE RESIDENTIAL SERVICE RATE DESIGN IS THE**  
22 **COMPANY PROPOSING IN THIS PROCEEDING?**



1 A. The Company is proposing to increase the basic service charge to \$16 per month from \$8  
2 and increase the energy charge.

3 **Q. WHAT IS THE RATIONALE FOR INCREASING THE RESIDENTIAL**  
4 **BASIC SERVICE CHARGE?**

5 A. The goal is to institute a basic service charge for residential customers that more  
6 accurately reflects the actual cost of providing service. The rate structures for rate classes  
7 that utilize demand charges are better aligned with cost causation principles than those  
8 that do not, such as the residential class, because fixed costs are generally recovered  
9 through a demand charge. Without a separate demand charge in the residential rate, the  
10 majority of fixed distribution costs are recovered through the energy charge. Such costs,  
11 or at least a larger portion of those costs, should be recovered in the basic service charge  
12 since these costs are fixed in nature and are the result of simply connecting a customer to  
13 the distribution system. The current basic service charge is low and only partially  
14 compensates the Company for the fixed cost of providing electric service.

15 As it currently stands, fixed costs are mostly recovered in the energy component  
16 of the bill, which penalizes higher usage customers who then pay more than their share of  
17 fixed cost recovery. Recouping these fixed costs through the energy charge results in an  
18 intra-class subsidy between high and low usage customers.

19 A higher basic service charge would also help eliminate the subsidy year-round  
20 customers provide to seasonal customers, who may only register normal usage a few  
21 months per year. With the current basic service charge, seasonal customers do not  
22 appropriately bear the costs they impose on the system.

1           To further illustrate this point, I offer the following example using three  
 2 hypothetical Kentucky residential customers. These three customers live next door to  
 3 each other on the same street. All three customers’ homes were connected to the  
 4 Company’s distribution system using the same equipment for the same cost. Let’s  
 5 assume that their electric rates are structured in the same fashion as the Company’s  
 6 current residential rate design in that the rates include a basic service charge of \$8 with  
 7 the balance of the distribution revenue requirement being recovered through a charge per  
 8 kWh.

|  | Customer 1  | Customer 2    | Customer 3   | Total    |
|--|-------------|---------------|--|----------|
| Home Size (Sq Ft)  | 2500        | 800           | 800  |          |
| Household Description  | Family of 5 | Single person | Retired couple,<br>spend 5 months of<br>the year in vacation<br>home |          |
| Avg Monthly Usage (kWh)  | 2,200       | 1,000         | 400  | 3,600    |
| Annual Avg Usage (kWh)   | 26,400      | 12,000        | 4,800  | 43,200   |
| Annual Fixed Dist Connection Cost  | \$ 480      | \$ 480        | \$ 480   | \$ 1,440 |
| Annual Basic Service Charge (\$8*12)   | \$ 96       | \$ 96         | \$ 96  | \$ 288   |
| Per kWh charge (\$/kWh)<br>= (\$1,440-\$288)/43,200                            | 0.0267      | 0.0267        | 0.0267   |          |
| Annual Example Bill for Fixed Distribution Costs = \$96 + (annual kWh* 0.0267) | \$ 800      | \$ 416        | \$ 224   | \$ 1,440 |
| Subsidy Received/(Paid)  | \$ (320)    | \$ 64         | \$ 256   | \$ -     |

9           As can be seen in the above table, Customer 1 is providing an intra-rate class subsidy to  
 10 Customers 2 and 3. In this simple example we have one customer paying in excess of its  
 11 appropriate share and two customers paying less than their appropriate share for the same  
 12 costs that each of the three customers equally caused by being connected to the  
 13 Company’s distribution system.

1 These subsidies between like customers are exactly what the Company’s proposed  
 2 increase to the basic service charge is intended to reduce. Here is the same table with the  
 3 Company’s proposed basic service charge:

|  | Customer 1  | Customer 2    | Customer 3  | Total    |
|--|-------------|---------------|---|----------|
| Home Size (Sq Ft)  | 2500        | 800           | 800   |          |
| Household Description  | Family of 5 | Single person | Retired couple, spend 5 months of the year in vacation home |          |
| Avg Monthly Usage (kWh)  | 2,200       | 1,000         | 400   | 3,600    |
| Annual Avg Usage (kWh)   | 26,400      | 12,000        | 4,800   | 38,400   |
| Annual Fixed Dist Connection Cost  | \$ 480      | \$ 480        | \$ 480  | \$ 1,440 |
| Annual Basic Service Charge (\$16*12)  | \$ 192      | \$ 192        | \$ 192  | \$ 576   |
| Per kWh charge (\$/kWh)<br>= (\$1,440-\$576)/38,400                              | 0.0200      | 0.0200        | 0.0200  |          |
| Annual Example Bill for Fixed Distribution Costs<br>=\$192+ (annual kWh* 0.0200) | \$ 720      | \$ 432        | \$ 288  | \$ 1,440 |
| Subsidy Received/(Paid)  | \$ (240)    | \$ 48         | \$ 192  | \$ -     |

|  |         |       |       |      |
|--|---------|-------|-------|------|
| Proposed Subsidy Reduction (paid)/received | \$ (80) | \$ 16 | \$ 64 | \$ - |
|--|---------|-------|-------|------|

4 As can be seen, the Company’s proposal reduces the intraclass subsidies as it narrows the  
 5 gap between the service charge and the actual cost to provide each customer with  
 6 distribution service.

7 **Q. HOW WILL THE INCREASED BASIC SERVICE CHARGE IMPACT**  
 8 **MONTHLY BILL VOLATILITY?**

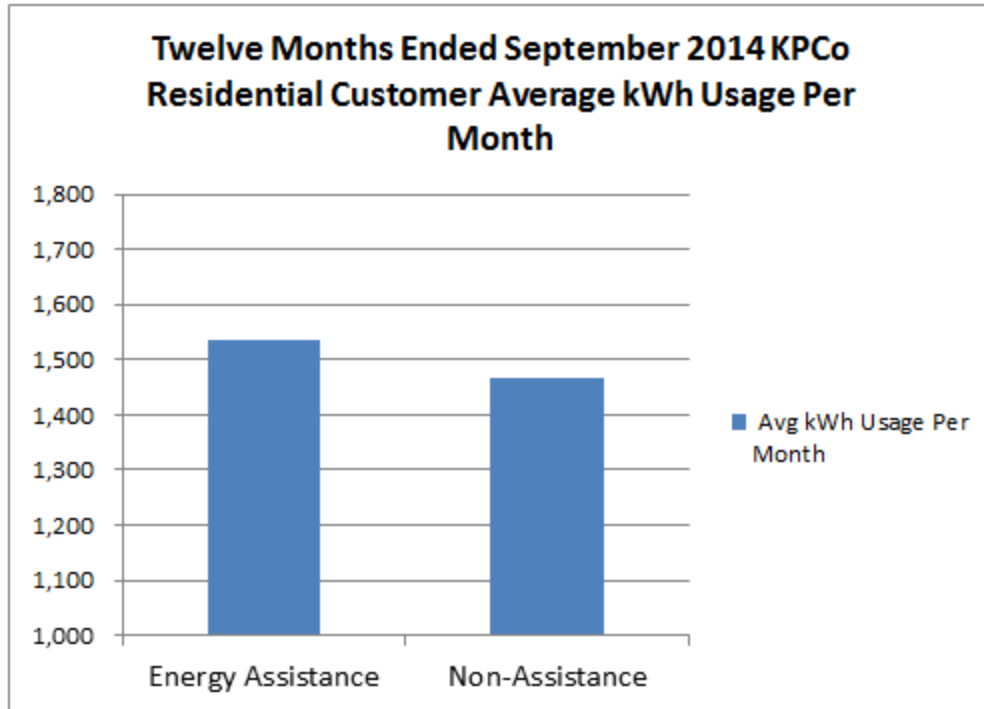
9 A. By removing a portion of the fixed costs from the energy charge, the average customer  
 10 will see less volatility in bills from high usage months. This is especially true the  
 11 Company’s electric heating customers. They tend to experience very high usage months  
 12 in the winter to heat their homes. This proposed rate design change will lessen the bill

1 impact in those months that results from their increased winter heating usage. This is a  
2 desirable result since these are the same months when customers tend to have the most  
3 difficulty paying their electricity bills. Further, as described above this is an appropriate  
4 result based upon cost causation principles.

5 **Q. WHAT IMPACT WOULD THE HIGHER BASIC SERVICE CHARGE HAVE ON**  
6 **LOWER INCOME CUSTOMERS?**

7 A. It is sometimes assumed that lower income customers are also low usage customers. For  
8 various reasons this often is not the case. For example, lower income customers often do  
9 not have the resources to invest in weatherization and energy efficient appliances.

10 The following graphic illustrates test year usage for residential low income energy  
11 assistance customers versus customers without assistance in Kentucky Power's service  
12 territory. The average kWh usage for the low income energy assistance customers (1,536  
13 kWh/month) is greater than the average usage by non-assistance customers (1,468  
14 kWh/month), so the average low income customer will benefit from the new rate  
15 structure.



1 **Q. HOW WAS THE NEW BASIC SERVICE CHARGE DETERMINED?**

2 A. I calculated the full cost basic service charge to be approximately \$40 per month.

3 However when taking the concept of gradualism into account, the Company proposes to  
 4 limit the basic service charge to \$16 per month in this proceeding. The \$40 per unit cost  
 5 represents the cost of the fixed portion of the distribution system used to serve the  
 6 residential class. Said another way, this is the full cost of the portion of the distribution  
 7 system that is required just to connect customers to the grid and stand ready to serve  
 8 them. It does not include costs that vary by kW demand or kWh usage. It should also be  
 9 noted that the \$40 per month full cost basic service charge is a distribution only figure; it  
 10 does not include any generation or transmission service costs.

11 Although the Company is only proposing to raise the basic service charge to \$16 in this  
 12 proceeding, cost causation principles would support a much higher basic service charge.

1 **Q. HOW DID YOU CALCULATE THE FULL COST BASIC SERVICE CHARGE**  
2 **OF \$40?**

3 A. I performed a fixed cost study of the Company's distribution plant. This study is attached  
4 to my testimony as Exhibit AEV-2. This study compares the actual components of the  
5 Kentucky Power's distribution system and their component costs by distribution plant  
6 account classification to what the total cost would be if all components of these  
7 distribution plant components were the typical or average size installed by the Company  
8 when connecting the average distribution level customer. All component costs up to the  
9 typical level are classified as fixed costs that only vary with the number of customers  
10 connected to the distribution system. The costs above the typical level are classified as  
11 being related to demand since the additional cost of these facilities was incurred due to  
12 the need to install additional facilities to meet customer kilowatt (kW) demands.

13 The fixed distribution plant costs are also separated between the primary and  
14 secondary voltage levels in this study. The fixed amount of costs in plant accounts 364-  
15 368 as determined in the study is then compared to the total costs in those account  
16 classifications by voltage level to determine what percent of primary and secondary  
17 distribution costs only varies with the number of customers on the system. For rate  
18 design discussion purposes I will refer to these percentages as the "fixed distribution  
19 allocation factors."

20 The primary and secondary distribution revenue requirements from the class cost of  
21 service study are then multiplied by the respective fixed distribution allocation factors to  
22 calculate the fixed portion of these revenue requirements. The revenue requirement  
23 associated with distribution plant accounts 369-371 and the O&M related to customer

1 accounts expense, customer information expense and customer service is also added to  
2 the fixed primary and secondary distribution revenue requirements to calculate the total  
3 fixed distribution revenue requirement. This amount was then divided by the total  
4 number of bills in the year, which produced the \$40 per month cost.

5 **Q. DID YOU EXPLORE ANY OTHER METHODS OF PRICING THE FULL COST**  
6 **BASIC SERVICE CHARGE?**

7 A. Yes, I also calculated what the full cost basic service charge would be using what I will  
8 refer to as “the marginal customer connection” method. The study itself is attached to my  
9 testimony as Exhibit AEV-3. This study takes the Company’s current average marginal  
10 cost to connect a residential customer to its distribution system. The total cost of the  
11 residential connection is then multiplied by the appropriate levelized carrying charge and  
12 divided by 12 to compute the monthly full cost basic service charge.

13 Using this method I calculated the full cost basic service charge for a Kentucky Power  
14 residential customer to be about \$41 per month. In other words, the fixed monthly cost  
15 associated with connecting the next customer to the distribution system for the  
16 Company’s jurisdiction is \$41. It should be noted that this is only the cost of connecting  
17 the customer to the distribution grid; the \$41 per month contains no generation costs,  
18 transmission costs or costs of existing distribution facilities.

19 **Q. WILL THE COMPANY’S PROPOSED RESIDENTIAL BASIC SERVICE**  
20 **CHARGE DETER ENERGY CONSERVATION?**

21 A. No. The Company is proposing to increase the basic service charge and the base rate  
22 kWh charge even before considering the Company’s environmental surcharge, BS1OR  
23 and BSRR. An increase in usage will still result in an increased bill. Therefore

1 customers are not receiving a price signal that would encourage additional consumption  
2 and it can't be credibly argued that the Company's proposal is anti-conservation.

3 Ideally, the Company would recover little to none of the residential class  
4 distribution revenue requirement through a kWh charge because the distribution revenue  
5 requirement does not vary with the amount of kWh consumed. However, the Company's  
6 current residential class metering infrastructure does not provide the information  
7 necessary to institute a kW demand charge which would be a better basis for collecting  
8 the distribution revenue requirement that is not collected in the basic service charge. This  
9 is because the fixed costs of the distribution system are incurred in two ways. First, by  
10 simply connecting a customer to the radial distribution system, these costs do not vary  
11 with the kWh consumed or the kW demands of customers; these are the portion of the  
12 distribution revenue requirement that the Company is proposing to include in its basic  
13 service charge. And, second, these costs are incurred by sizing the distribution system to  
14 meet customer(s) peak kW demand usage. These costs vary by peak demand  
15 requirements, not by kWh usage or by simply connecting a customer to the system. This  
16 second category of costs would ideally be collected through a demand charge but this  
17 cannot be done for all customers due to the current limitations of the Company's  
18 metering infrastructure. In fact, under the Company's proposal, nearly 90% of the  
19 Company's residential customer revenues are still being collected through a volumetric  
20 (per kWh) charge.

21 In the absence of a peak demand charge, the Company is proposing to move a  
22 portion of those fixed distribution costs that only vary with the number of customers  
23 connected to the system from the kWh charge to the basic service charge.



1 **Q. IS SENDING THE CORRECT PRICE SIGNALS TO CUSTOMERS THROUGH**  
2 **RATES THAT REFLECT THE TRUE COST OF SERVICE IMPORTANT TO**  
3 **THE LONG TERM SUCCESS OF CONSERVATION EFFORTS?**

4 A. Yes. While in the short term a higher kWh charge that does not reflect the true cost of  
5 service could encourage conservation, in the long term it provides confusion to customers  
6 and can result in customers making uneconomic decisions. Customers expect that when  
7 they use less energy, their bills will decrease, and initially, this is the result. But with  
8 fixed costs embedded in the kWh energy rate, the Company eventually will need to  
9 increase rates because it is not recovering its fixed cost of providing service and  
10 customers will therefore see their bills increase even though they have conserved energy.  
11 This example underlines the importance of sending accurate, cost based price signals to  
12 customers, which is exactly what the Company's proposed residential rate design takes a  
13 step towards.

14 **ii. Small General Service Rate Design**

15 **Q. IS THE COMPANY PROPOSING A SIMILAR RATE DESIGN CHANGE TO**  
16 **THE SGS TARIFF?**

17 A. Yes, the Company is proposing similar changes to the SGS tariff to increase the basic  
18 service charge. The SGS basic service charge is currently slightly higher than that of the  
19 Residential schedules. The Company is proposing to increase the basic service charges  
20 for SGS by the same \$8 that it proposed as a change for the Residential basic service  
21 charge. This results in a proposed basic service charge of \$19.50 for customers receiving  
22 service under Tariff SGS. The proposed SGS basic service charge is also below the full  
23 cost basic service charge I calculated for this tariff which can be seen in Exhibit AEV 2.

1 The Company is proposing this change for the same reasons discussed above regarding  
 2 the Residential rate design.

3 **iii. QP, CIP TOD and New Tariff IGS**

4 **Q. WHAT IS THE COMPANY PROPOSING IN REGARDS TO TARIFFS QP AND**  
 5 **CIP TOD?**

6 A. In order to comply with the Commission -approved Stipulation and Settlement  
 7 Agreement in Case No. 2012-00578 (“Stipulation and Settlement Agreement”), the  
 8 Company proposes to combine the QP and CIP TOD tariffs into a new tariff named  
 9 Industrial General Service (IGS). New tariff IGS utilizes the rate design of current tariff  
 10 CIP TOD which has an on-peak demand charge, an off-peak demand charge, a minimum  
 11 demand charge, an excess KVAR reactive demand charge, a flat kWh energy charge and  
 12 a basic service charge.

13 **Q. WHAT IS THE IMPACT OF THE IGS RATE DESIGN ON CURRENT QP AND**  
 14 **CIP TOD CUSTOMERS?**

15 A. The table below summarizes the impact of combining the QP and CIP TOD classes and  
 16 using the CIP TOD rate design under new tariff IGS.

| <b>% Impact of IGS Rate Design</b> |                  |                       |                     |
|------------------------------------|------------------|-----------------------|---------------------|
|                                    | <b><u>QP</u></b> | <b><u>CIP TOD</u></b> | <b><u>Total</u></b> |
| <b>Secondary</b>                   | 7.0%             | NA                    | 7.0%                |
| <b>Primary</b>                     | 8.2%             | NA                    | 8.2%                |
| <b>Sub</b>                         | 3.5%             | -3.2%                 | -1.9%               |
| <b>Tran</b>                        | 6.0%             | 0.3%                  | 1.4%                |
| <b>Total</b>                       | 6.0%             | -2.7%                 | 0%                  |

17 This table is a revenue neutral example of the impacts of the rate design change only. It  
 18 does not include the rate impacts of the new level of base rates and riders that are  
 19 proposed in this case.

**IV. PJM RIDER**

1 **Q. WHAT DOES THE COMPANY PROPOSE TO INCLUDE IN THE PJM RIDER?**

2 A. The Company is proposing to include various PJM Open Access Transmission Tariff  
3 (OATT), energy, ancillary and administrative service charges and credits that it incurs  
4 from its participation as a load serving entity (LSE) and generation resource owner in the  
5 organized wholesale power markets of the PJM RTO.

6 **Q. WHAT SPECIFIC PJM CHARGE AND CREDIT ITEMS IS THE COMPANY  
7 PROPOSING TO INCLUDE IN THE PJM RIDER?**

8 A. The Company is proposing to include all of its PJM LSE charges and credits which are  
9 currently made up of but not limited to the following items: congestion, Financial  
10 Transmission Rights (FTRs), meter corrections, operating reserve, inadvertent energy,  
11 economic load response, synchronous condensing, reactive service, black start service,  
12 regulation, synchronized reserve, day ahead scheduling reserve, peak hour PJM capacity  
13 availability charges, market defaults and administrative services. PJM LSE marginal loss  
14 charges and the marginal loss over collection credits will not be included since they are  
15 included in the Company's fuel clause.

16 The Company is also proposing to include the following PJM LSE transmission  
17 items: network integration transmission service (NITS) charges, transmission owner  
18 scheduling system control and dispatch service (TO) charges, regional transmission  
19 expansion plan (RTEP) charges, point-to-point (PTP) transmission service credits, RTO  
20 start-up cost recovery charges and expansion cost recovery (ECRC) charges. In addition  
21 to the above, the Company also proposes to include any new PJM LSE charges or credits  
22 that may arise and be billed to the Company per the PJM tariffs.

1 **Q. IS THE COMPANY PROPOSING TO REMOVE THESE PJM CHARGES AND**  
2 **CREDITS FROM BASE RATES ENTIRELY?**

3 A. No. The Company is proposing to include an adjusted test year level of the applicable  
4 PJM charges and credits in base rates. The PJM Rider would then on a monthly basis  
5 track the amount of PJM charges and credits above or below the base rate level as  
6 discussed further by Company Witness Yoder. The annual net over or under collection  
7 of PJM charges would then be collected from or credited to customers through the PJM  
8 Rider.

9 **Q. WHY IS THE COMPANY PROPOSING A TRACKING MECHANISM FOR**  
10 **THESE PJM CHARGES AND CREDITS?**

11 A. These PJM charges and credits can have a material financial impact on the Company; the  
12 annual level of such charges and credits can vary greatly and they are largely out of the  
13 Company's control. This volatility can be attributed to various economic conditions,  
14 wholesale power market trends and even tariff changes made by PJM.

15 **Q. ARE THERE ANY ADDITIONAL REASONS FOR INCLUDING THE PJM**  
16 **CHARGES AND CREDITS IN A TRACKING MECHANISM?**

17 A. Yes, there is expected to be a sustained amount of investment to the PJM transmission  
18 grid, which will increase transmission charges allocated to Kentucky Power. Tracking  
19 these PJM charges and credits via the PJM Rider could potentially reduce the frequency  
20 with which Kentucky Power may need to file costly general rate proceedings as these  
21 PJM charges and credits change.

1 **Q. WILL ALL KENTUCKY POWER PJM CHARGES AND CREDITS BE**  
2 **INCLUDED IN THE ADJUSTED BASE RATE AMOUNT THAT WILL BE**  
3 **TRACKED BY THE PROPOSED PJM RIDER?**

4 A. No. Only the amount of each charge and credit attributable to retail load, and the  
5 resources used to serve retail load, of Kentucky Power would be included. Kentucky  
6 Power incurs these charges and credits by acting as an LSE in PJM. Kentucky Power  
7 also incurs PJM charges and credits when it makes off system sales (OSS) in PJM. The  
8 amount of PJM charges and credits associated with making OSS are currently and will  
9 continue to be included in the determination of the Company's System Sales Rider.

10 Furthermore, per the Stipulation and Settlement Agreement, all Big Sandy plant  
11 coal operating costs have been removed from the Company's proposed base rates. This  
12 includes the PJM charges and credits from Big Sandy Unit 1 coal operations. The  
13 Company is proposing to recover these PJM charges and credits in the BS1OR which I  
14 will discuss later in my testimony.

15 **Q. WHAT IS THE PROPOSED LEVEL OF PJM CHARGES AND CREDITS TO BE**  
16 **INCLUDED IN BASE RATES?**

17 A. The adjusted test year Kentucky retail jurisdictional total is \$74,856,675. The line item  
18 detail behind this figure can be seen in Exhibit AEV 5.

19 **Q. IF THE COMMISSION APPROVES THE PROPOSED PJM RIDER, WHEN**  
20 **WOULD THE COMPANY PROPOSE TO UPDATE THE PJM RIDER RATES?**

21 A. As I previously indicated, the PJM Rider is designed to true-up the actual incurred PJM-  
22 related costs relative to the amount in the Company's base rates. As a result, the rider  
23 will be set at \$0 when the Company's new base rates go into effect. After that it will be

1           trued-up annually. The Company proposes filing the required true-up information  
2           beginning no later than March 31, 2016 and by March 31<sup>st</sup> of each subsequent year.

3   **Q.   PLEASE EXPLAIN THE COMPANY’S PROPOSED RATE DESIGN FOR THE**  
4   **PJM RIDER.**

5   A.   The annual net over or under recovery of PJM charges and credits compared to the  
6       approved base rate level would be separated into demand and energy costs to be allocated  
7       to the customer classes. The demand and energy classifications for each PJM charge can  
8       be found in Exhibit AEV 5. The demand revenue requirements for MGS, LGS and IGS  
9       will be recovered through an on-peak demand charge. The demand revenue requirements  
10      for all other classes will be recovered through the kWh energy charge. The Energy  
11      revenue requirements for all classes will be recovered through kWh energy charges. If  
12      approved, this PJM Rider would have a first year revenue requirement of \$0 since the  
13      Company is seeking to include the adjusted test year level of PJM charges and credits in  
14      base rates in this proceeding. Exhibit AEV 6 shows the mechanics of the proposed rate  
15      design.

**V.   BIG SANDY UNIT 1 OPERATION RIDER (BS1OR)**

16   **Q.   WHAT DOES THE COMPANY PROPOSE TO INCLUDE IN THE BS1OR**  
17   **RIDER?**

18   A.   In order to comply with the Stipulation and Settlement Agreement, the Company is  
19       proposing to remove all Big Sandy Unit 1 operating expenses from base rates in this case  
20       and recover them through the BS1OR. This is because Big Sandy Unit 1 will continue to  
21       operate as a coal fired generating plant for a period of time before it is converted to a  
22       natural gas fired generating plant. As discussed by Company Witness Wohnhas, the

1 BS1OR will recover all operating expenses of Big Sandy Unit 1 that are not otherwise  
2 included in the Company's fuel adjustment clause or the system sales clause.

3 **Q. WHAT IS THE BEGINNING ANNUAL REVENUE REQUIREMENT FOR THE**  
4 **BS1OR RIDER?**

5 A. The total annual revenue requirement for the BS1OR is \$18,245,413 on a Kentucky retail  
6 jurisdictional basis. The BS1OR revenue requirement and rates will be trued up to actual  
7 costs so that customers pay no more or no less than the actual cost to operate Big Sandy  
8 Unit 1 as described in the Company's proposed BS1OR tariff.

9 **Q. HOW DID YOU CALCULATE THE BEGINNING ANNUAL REVENUE**  
10 **REQUIREMENT FOR THE BS1OR RIDER?**

11 A. Using the Company's books and records, I performed a cost of service study for Big  
12 Sandy Unit 1 that separates Company Witness Yoder's adjustment to remove all Big  
13 Sandy operating expenses into those attributable to each of the plant's units. The cost of  
14 service study identifies all test year operating expenses attributable to the Big Sandy plant  
15 and then either directly assigns or allocates a portion of such expenses to Big Sandy Unit  
16 1. The study results in \$12.5 million of test year non-fuel operations and maintenance  
17 expense that is attributable to Big Sandy Unit 1. Added to that is an annual level of test  
18 year Big Sandy Unit 1 PJM charges and credits totaling \$5.65 million of net expense.  
19 The total \$18.16 million is then grossed up to account for uncollectible accounts expense  
20 and the KPSC maintenance fee to produce the total BS1OR revenue requirement of  
21 \$18.25 million. A summary of the revenue requirement calculations and the rate design  
22 for the BS1OR can be found in Company Exhibit AEV 4.

**VI. TREATMENT OF TRANSMISSION FUNCTION REVENUES AND EXPENSES****1 Q. PLEASE EXPLAIN THE COMPANY'S PROPOSED TREATMENT OF  
2 TRANSMISSION REVENUES AND EXPENSES IN BASE RATES.**

3 A. The Company proposes that its transmission costs should be based upon the charges it  
4 incurs as an LSE under PJM's OATT. These costs, which are included in the proposed  
5 PJM Rider, would be what Kentucky retail customers pay for transmission service rather  
6 than the Company's embedded cost of transmission service. The embedded cost of  
7 transmission service and the PJM OATT transmission owner revenues would be removed  
8 from the Company's cost of service, the PJM OATT charges are then the remaining cost  
9 for transmission service.

**10 Q. PLEASE EXPLAIN WHY IT IS MORE APPROPRIATE FOR TRANSMISSION  
11 COSTS TO BE BASED ON THE COMPANY'S PJM OATT CHARGES?**

12 A. Kentucky Power's customers' transmission costs should be based upon the charges under  
13 the PJM OATT for a number of reasons:

- 14 • Kentucky Power is charged by PJM for transmission service regardless of facility  
15 ownership.
- 16 • Kentucky Power no longer has exclusive control over its transmission costs  
17 because of its membership in PJM. For example, over 92% of the OATT costs  
18 that Kentucky Power is charged by PJM for transmission service are based on  
19 transmission facilities owned by other companies;
- 20 • The annual level of PJM charges and credits can vary significantly;
- 21 • Kentucky Power's transmission rates would be comparable to other customers  
22 within the AEP Transmission Zone;



- It provides proper separation of Kentucky Power's costs to provide retail service as an LSE from its costs and wholesale revenues as a transmission owner.

Under the Company's proposal, the rates Kentucky Power's customers pay for retail electric service will appropriately reflect the cost of transmission service that Kentucky Power incurs as their LSE.

**Q. WHAT IS THE PROPOSED LEVEL OF PJM OATT CHARGES TO BE INCLUDED IN BASE RATES?**

- A. The adjusted test year Kentucky retail jurisdictional PJM OATT charge is \$53,779,456. This amount is included in the \$74,856,675 already identified above as the base level to be tracked by the proposed PJM Rider. The line item detail behind this figure can be seen in AEV Exhibit 5.

**Q. WHAT IS THE NET EFFECT OF THE COMPANY'S PROPOSED CHANGE TO THE TREATMENT OF TRANSMISSION REVENUES AND EXPENSES?**

- A. The net effect of the Company's proposed treatment is a reduction in cost to Kentucky ratepayers of \$126,908 as can be seen in column 10 of page 1 of Company Witness Stegall's Exhibit JMS-3. It is important to note that this value will change to the extent any other aspect of the Company's requests in this proceeding are modified.

**VII. ADJUSTMENTS**

**Q. WHAT ADJUSTMENTS ARE YOU SPONSORING?**

- A. I am sponsoring three adjustments that affect non-firm revenues and operating expenses in Section V, Exhibit 2:

1. Adjustment 9 – Remove AEP East Pool Costs/Revenues
2. Adjustment 32 – Adjust Test Year PJM Charges and Credits

1                   3. Adjustment 10 – Adjust Test Year Off System Sales (OSS) Margins

2                   i. Adjustment 9 - Remove AEP East Pool Expenses/Revenues

3 **Q. PLEASE EXPLAIN THE ADJUSTMENT TO REMOVE TEST YEAR AEP EAST**  
4 **POOL ACTIVITY.**

5 A. This adjustment removes the revenues and expenses associated with the AEP East Pool  
6 Agreement (Pool) that terminated on January 1, 2014 that are reflected in the Company's  
7 base rates and were not otherwise removed through another adjustment. Adjustments 7,  
8 10 and 32 also remove Pool related expenses and revenues related to Fuel, PJM and OSS.  
9 This adjustment reduces sales for resale by \$14,295,833 on a Kentucky retail  
10 jurisdictional basis by removing these revenues related to energy sales through the Pool  
11 to other Pool member Company. This adjustment also reduces purchased power expense  
12 by \$24,776,674 on a Kentucky retail jurisdictional basis by removing the expenses  
13 associated with Pool capacity and energy purchases.

14                   This adjustment was calculated by using data from Kentucky Power's 4<sup>th</sup> quarter  
15 of 2013 income statement and then applying the proper Kentucky retail jurisdictional  
16 factors to arrive at the Kentucky retail jurisdictional adjustment amounts.

17                   ii. Adjustment 32 – Adjust Test Year PJM Charges and Credits

18 **Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO TEST YEAR PJM CHARGES**  
19 **AND CREDITS.**

20 A. There are multiple known and measureable items that must be accounted for to adjust the  
21 historic test year PJM charges and credits to an appropriate amount for the purpose of  
22 setting the Company's new base rates. All of the PJM charge and credit amounts  
23 discussed in this section are directly related to serving the Company's internal load

1 obligations which it incurs as a load serving entity (LSE) in PJM, all OSS amounts are  
2 accounted for in the Company's System Sales Clause and the OSS margin adjustment  
3 discussed later in my testimony. Also, LSE transmission loss PJM charges and credits  
4 are accounted for in the Company's fuel adjustment clause and therefore are not included  
5 in calculating this adjustment. The following known and measureable changes to the  
6 Company's historic test year PJM charges and credits will be discussed in this section:

- 7 • Termination of the Pool agreement
- 8 • Removal of Big Sandy Unit1 operating expenses from base rates
- 9 • Big Sandy Unit 2 retirement
- 10 • Replacing Big Sandy Unit 2 MWh that served internal load customers
- 11 • Annualizing the non OATT PJM charges and credits
- 12 • Annualizing new OATT rates in effect at the end of the test year

13 **Q. PLEASE EXPLAIN THE POOL TERMINATION PORTION OF ADJUSTMENT**  
14 **32.**

15 A. The former Pool settlement allocated the total Pool PJM charges and credits to the four  
16 member operating Company based upon their member load ratio ("MLR"). The MLR  
17 was a non-coincident peak demand calculation based on each Pool member's internal  
18 load peak on a historic twelve month basis. The MLR allocation was used for all PJM  
19 charges and credits except for the PJM OATT charges and credits which are allocated  
20 based on the AEP East Transmission Agreement which went into effect in November of  
21 2010. The MLR allocation of PJM charges ended when the Pool Agreement terminated  
22 on January 1, 2014. Since the termination of the Pool Agreement, Kentucky Power's  
23 PJM charges and credits that had been allocated based on the MLR are being directly

1 assigned to Kentucky Power. This change from an MLR allocation of total East Pool  
2 PJM charges and credits to direct assignment of Kentucky Power's PJM charges and  
3 credits will impact the overall level of net PJM charges Kentucky Power incurs. I used  
4 Kentucky Power's income statement to remove the fourth quarter 2013 Pool related PJM  
5 charges and credits from the historic test year. This portion of the total adjustment  
6 reduces historic test year PJM charges and credits by \$1.18 million.

7 **Q. PLEASE EXPLAIN THE BIG SANDY UNIT 1 PORTION OF ADJUSTMENT 32.**

8 A. In order to comply with the approved stipulation in Case No. 2012-00578, this portion of  
9 the total adjustment removes all Big Sandy Unit 1 PJM charges and credits from the test  
10 year. Using the Company's books and records along with information provided by  
11 PJM's market settlements reporting system, I was able to identify all Big Sandy Unit 1  
12 LSE PJM charges and credits. Removing these items will reduce test year PJM charges  
13 and credits by \$4.3 million of net expense.

14 **Q. PLEASE EXPLAIN THE BIG SANDY UNIT 2 PORTION OF ADJUSTMENT 32.**

15 A. I repeated the same process discussed above for Big Sandy Unit 1 to remove Big Sandy  
16 Unit 2 PJM charges and credits from the test year. This must be done to reflect the  
17 known retirement of Big Sandy Unit 2 and comply with the approved stipulation in Case  
18 No. 2012-00578. Removing these items will reduce test year PJM charges and credits by  
19 \$13.37 million of net expense.

20 **Q. PLEASE EXPLAIN THE PORTION OF ADJUSTMENT 32 RELATED TO**  
21 **REPLACING BIG SANDY UNIT 2 GENERATION THAT SERVED INTERNAL**  
22 **LOAD CUSTOMERS.**

1 A. A portion of Big Sandy Unit 2's generation served internal load customers during the test  
2 year and the PJM charges associated with that generation have been removed from the  
3 test year total as part of Adjustment 32. Because of this, a level of PJM charges must be  
4 added back as a substitute for the Big Sandy Unit 2 internal load generation since a cost  
5 will be incurred to serve that internal load in PJM. To be more specific, PJM  
6 transmission congestion (congestion) and administrative fees are the two items that affect  
7 this portion of Adjustment 32. The substitute PJM administrative fees level will equal  
8 the amount removed for the internal load portion of Big Sandy Unit 2 because all MWh  
9 of generation are charged the same rate by PJM for administrative fee purposes.

10 The substitute PJM congestion charges related to the internal load portion of Big  
11 Sandy Unit 2 however will not equal what was removed for Big Sandy Unit 2 because  
12 congestion prices vary by pricing node throughout the PJM RTO. To calculate a  
13 substitute amount of congestion charges I used the MWh of the Company's Mitchell and  
14 Rockport generation that had been assigned to serve OSS during the test year, since these  
15 would logically be the next MWh of Kentucky Power resources that the Company would  
16 use to serve its internal load customers, and calculated the average congestion price of  
17 those MWh by month and then multiplied the Big Sandy Unit 2 monthly internal load  
18 MWh by the calculated average congestion prices. During January and February of  
19 2014 there were not enough OSS MWh from the Company's shares of Mitchell and  
20 Rockport to replace the Big Sandy Unit 2 MWh that served internal load customers. For  
21 these deficit MWh, I priced the replacement congestion cost using the average monthly  
22 day ahead congestion prices for the AEP load zone. Had the Company actually not had  
23 Big Sandy Unit 2 and needed to purchase spot market energy from PJM to cover its

1 internal load obligation, the AEP load zone is the pricing point at which the spot market  
2 transactions would have settled. The net PJM charges to replace the Big Sandy Unit 2  
3 MWh that served the Company's internal load during the test year would have been  
4 \$14.68 million of net expense.

5 **Q. PLEASE EXPLAIN THE ANNUALIZATION OF THE NON OATT PJM**  
6 **CHARGES AND CREDITS.**

7 A. The Company's test year total of non OATT PJM charges and credits was a \$20.18  
8 million net expense. After the adjustments to remove the Pool and both Big Sandy Units,  
9 along with the adjustment to replace the internal load PJM charges of Big Sandy Unit 2,  
10 the new adjusted total for the PJM non OATT charges and credits is \$16.02 million  
11  $(20.18 - 1.18 - 4.3 - 13.3 + 14.68 = 16.02)$ . The \$16.02 million represents Kentucky  
12 Power's adjusted, stand-alone total of non OATT PJM charges and credits for January  
13 through September of 2014. After annualizing this amount to reflect a full 12 months  
14 instead of 9, the new adjusted total of non OATT PJM charges and credits is \$21.38  
15 million of net expense.

16 **Q. PLEASE EXPLAIN THE PORTION OF ADJUSTMENT 32 RELATED TO**  
17 **ANNUALIZING THE OATT RATES IN EFFECT AT THE END OF THE TEST**  
18 **YEAR.**

19 A. Each year on July 1<sup>st</sup> new OATT rates go into effect. I calculated the Company's PJM  
20 OATT charges based on the new rates that began on July 1, 2014 and will be in effect  
21 through June 30, 2015. The resulting level of PJM OATT charges is \$53.78 million  
22 which is \$6.41 million higher than the test year total of \$47.37 million.

23 **Q. WHAT IS THE NET IMPACT OF ADJUSTMENT 32?**

1 A. After comparing the adjusted total PJM charges and credits to the test year amount, the  
2 net impact of this adjustment is a \$7.60 million increase in expense. The Kentucky retail  
3 jurisdictional adjustment is then a \$7.58 million increase in expense.

4 **iii. Adjustment 10 – Adjust Test Year Off System Sales (OSS) Margins**

5 **Q. PLEASE EXPLAIN THE ADJUSTMENT YOU MADE TO TEST YEAR OSS**  
6 **MARGINS.**

7 A. The purpose of this adjustment is to account for several known and measurable changes  
8 to the Company's historic test year OSS margins and calculate a more appropriate OSS  
9 margin amount for setting base rates. This is necessary because the Company's historic  
10 test year OSS margins of \$76.09 million are in no way representative of the level of  
11 margins the Company will experience when its new base rates resulting from this case go  
12 into effect. The historic level of OSS margins cannot be used for rate making in this  
13 proceeding because they include 3 months of margins from the Pool which no longer  
14 exists, margins from Big Sandy Unit 2 which is retiring no later than May 31, 2015, a  
15 higher level of margins resulting from the Company owning a fifty percent share of the  
16 Mitchell plant while Big Sandy 2 was still in operation, and finally the historic test year  
17 contains extreme weather and pricing events in January and February of 2014.

18 **Q. HOW WAS THIS ADJUSTMENT CALCULATED?**

19 A. The total adjustment to OSS margins was calculated in steps. The first step was to  
20 separate the FERC accounts that make up the Company's System Sales Clause into those  
21 that account for PJM energy sales margins and those that account for other OSS margin  
22 items. FERC account 4470089 is used to record to the margins from sales of excess  
23 energy into the PJM day ahead and balancing energy markets. Only the energy portion of

1 the margins are recorded in this account, all other PJM charges associated with energy  
2 sales are recorded in other System Sales Clause FERC accounts. The next step was to  
3 remove the Pool OSS margins from the historic test year totals. This was done by  
4 removing the income statement amounts for the fourth quarter of 2013 from the test year  
5 total of OSS margins. This portion of the adjustment reduces test year OSS margins by  
6 roughly \$1.34 million.

7 The OSS PJM charges and credits associated with Big Sandy Unit 2 were then  
8 removed from the test year level of OSS margins. Using the Company's books and  
9 records, the portion of PJM charges and credits from Big Sandy Unit 2 that were  
10 allocated to OSS were identified and then removed from the test year amount of OSS  
11 margins because Big Sandy Unit 2 will retire on May 31, 2015. This adjustment  
12 increases test year OSS margins by roughly \$14.27 million. Also associated with the  
13 retirement of Big Sandy Unit 2 is the LSE/OSS PJM charge re-class. The OSS impact of  
14 this adjustment is the opposite side of the same adjustment to the test year PJM charges  
15 and credits that are related to Kentucky Power's internal load and are included in base  
16 rates. This portion of the total OSS margin adjustment increases test year OSS margins  
17 by \$15.97 million.

18 The Kentucky Power test year OSS margins for items other than the PJM energy  
19 sales in account 4470089 were negative \$36.24 million, combined with the three steps of  
20 the total adjustment discussed above produces an adjusted test year OSS margin amount  
21 (excluding PJM energy sales margins) of \$7.34 million ( $-36.24 - 1.34 + 14.27 + 15.97 = -$   
22  $7.34$ ) which represents an adjusted January – September 2014 total. Annualizing this



1 amount increases the negative \$7.34 million to negative \$9.79 million ( $7.34 / (9/12) =$   
2 9.79).

3 **Q. PLEASE DESCRIBE THE COMPANY'S METHODOLOGY FOR**  
4 **CALCULATING THE PJM ENERGY SALES PORTION OF TOTAL**  
5 **(ACCOUNT 4470089) GOING LEVEL OSS MARGINS.**

6 A. Due to three known differences in the generation resources which the Company will have  
7 in the rate year vs the test year, the actual level of off-system sales (OSS) margins  
8 received in the test year by the Company is not a reasonable estimate of a going level  
9 amount of OSS margins. These changes are that Big Sandy 2 will be retired prior to the  
10 rate year, the AEP Pool has been terminated, and Mitchell 1 and 2 will be owned for 12  
11 months of the rate year instead of 9 months in the test year. In order to support an  
12 adjustment to test year OSS margins, I oversaw the preparation of a model which  
13 emulated AEP's current resource stacking methodology to estimate what margins would  
14 have been in the test year with the new resource mix.

15 In addition to the resource mix change, other major assumptions embedded in the OSS  
16 margin model are as follows:

- 17 1. All PJM market purchases during the test year were ignored. Purchases were made  
18 either to serve internal load when the output of the available generation was below  
19 load, which would not have generated OSS, or because of hourly differences between  
20 day ahead load and generation schedules submitted to PJM and real time load and  
21 generation. Because of the different mix of resources described above, the hourly  
22 differences between day ahead schedules and real time generation and load would

1 have been different from what actually occurred in the test year, and therefore it  
2 would not be valid to include purchases resulting from these differences in the model.

3 2. The Company's resources were restacked hourly as they are currently through AEP's  
4 hourly settlements process, with most expensive incremental cost units assigned to  
5 off-system sales down to the unit minimums.

6 3. Internal load was normalized for weather, to match the load used in the Company's  
7 weather normalization revenue adjustment, as described by Company witness Stegall.

8 4. Any hourly resources in excess of load were sold into the PJM market at Day Ahead  
9 spot market energy component of the PJM market price, except during January and  
10 February of 2014, for reasons I will discuss.

11 All of the other components of OSS margins other than spot market energy margin,  
12 including congestion and losses, were recomputed using the same resource mix  
13 assumption and should be deducted from spot market energy margin to arrive at the total  
14 going level estimate of OSS margin.

15 **Q. DID YOU ADJUST FOR THE IMPACT OF THE EXTREME COLD WEATHER**  
16 **OF THIS PAST WINTER IN YOUR MARGIN CALCULATION?**

17 A. Yes. During the Polar Vortex and other extreme cold weather periods of January and  
18 February, 2014, market prices and internal load reached unprecedented levels for large  
19 blocks of time. During January and February of the six years from 2008 to 2013 the spot  
20 market energy component of the PJM Day Ahead market price averaged over \$100 (all  
21 prices in \$/MWh) in only five days and the highest single daily average was \$122.65. In  
22 contrast, during this past January and February, there were 17 days when the daily  
23 average was over \$100. Nine of those days averaged over \$200 and the highest daily

1 average was \$544.65. The daily average spot market energy price during January and  
2 February of 2008-2013 was \$47.35, while 2014's average was \$97.17.

3 These winter prices are clearly not representative of prices prior to the test year  
4 and should not be reflected in an OSS margin credit in customer rates. As a result the  
5 Company elected to model those months by setting the spot market energy price at the  
6 2008-2013 average of \$47.35 in every hour.

7 These prices were driven up because load across PJM, including Kentucky  
8 Power's load, was higher than normal due to the extreme cold weather, resulting in  
9 higher cost generators being dispatched to serve the load by PJM. The higher internal  
10 load reduced the Company's ability to make OSS. The residential portion of these high  
11 loads was reduced to normal levels through a normalization adjustment, which increased  
12 the amount of generation available to make OSS and the resulting OSS margins.

13 **Q. WHY DID YOU CHOOSE TO USE THE AVERAGE OF 2008-2013 TO**  
14 **NORMALIZE THE ENERGY PRICING DURING JANUARY AND FEBRUARY**  
15 **OF 2014?**

16 A. I chose the 2008-2013 period for my average of January and February prices because it is  
17 a long enough period to cover a variety of PJM market conditions and overall economic  
18 and weather conditions, without going so far back in time to when economic and PJM  
19 market conditions are less likely to be representative of current or future conditions.

20 **Q. WHAT LEVEL OF PJM ENERGY SALES MARGINS RESULTED FROM THIS**  
21 **ANALYSIS?**

22 A. The analysis yielded an estimate of going level spot market energy margins for the total  
23 company of \$24.28 million vs a test year value of \$112.3 million (recorded in FERC

1 account 4470089), resulting in a downward adjustment of \$88.0 million at the total  
2 company level.

3 **Q. PLEASE SUMMARIZE THE TOTAL IMPACT OF ADJUSTMENT NUMBER 10.**

4 A. When the \$24.28 million is added to the negative \$9.79 million of negative OSS margins  
5 discussed earlier in this section, the Kentucky Power adjusted OSS margin total is \$14.5  
6 million, which results in a total adjustment to test year OSS margins of \$61.59 million  
7 (\$76.09 – \$14.5 = \$61.59) Lastly, this amount is multiplied the Kentucky retail  
8 jurisdictional factor to arrive at the final OSS margin adjustment of \$61,585,035, which is  
9 a reduction to test year OSS margins. A summary of these calculations can be seen in  
10 Company Exhibit AEV 7. The resulting going level amount of OSS margin is estimated  
11 to be \$14.3 million. This is the amount the Company is proposing to credit to customers  
12 in base rates. It should be noted that if the Commission were to make changes to how the  
13 Company allocates no load or other fuel costs, this amount would need to be revised  
14 accordingly.

15 **Q. DOES THIS CONCLUDE YOUR PREFILED DIRECT TESTIMONY?**

16 A. Yes.

**KPCo Kentucky Retail Jurisdiction  
Base Rate Revenue Target Summary**

|                   | Total<br>Retail                  | RS             | SGS           | Total<br>MGS  | Total<br>LGS  | Total<br>QP   | Total<br>CIP-TOD | Total IGS<br>(QP & CIP-TOD) | MW         | OL           | SL           |
|-------------------|----------------------------------|----------------|---------------|---------------|---------------|---------------|------------------|-----------------------------|------------|--------------|--------------|
| <b>a</b>          | Demand                           | \$ 186,439,680 | \$ 4,569,088  | \$ 18,095,605 | \$ 22,797,382 | \$ 19,692,588 | \$ 44,700,977    | \$ 64,393,565               | \$ 103,875 | \$ 64,535    | \$ 18,945    |
| <b>b</b>          | Energy                           | \$ 226,505,780 | \$ 5,219,426  | \$ 18,951,622 | \$ 26,244,196 | \$ 26,587,649 | \$ 70,591,022    | \$ 97,178,671               | \$ 142,805 | \$ 1,118,464 | \$ 293,154   |
| <b>c</b>          | Dist Primary                     | \$ 82,654,958  | \$ 3,227,757  | \$ 12,362,190 | \$ 14,076,296 | \$ 5,711,912  | \$ -             | \$ 5,711,912                | \$ 73,792  | \$ -         | \$ -         |
| <b>d</b>          | Dist Secondary                   | \$ 34,625,386  | \$ 2,049,932  | \$ 5,444,132  | \$ 4,548,249  | \$ 128,427    | \$ -             | \$ 128,427                  | \$ 24,925  | \$ 381,203   | \$ 110,798   |
| <b>e</b>          | Customer                         | \$ 25,544,050  | \$ 3,762,175  | \$ 1,553,231  | \$ 568,569    | \$ 307,323    | \$ 117,463       | \$ 424,786                  | \$ 1,760   | \$ 5,598,297 | \$ 986,695   |
| <b>f= sum a-e</b> | TOTAL                            | \$ 555,769,854 | \$ 18,828,379 | \$ 56,406,779 | \$ 68,234,690 | \$ 52,427,899 | \$ 115,409,462   | \$ 167,837,361              | \$ 347,156 | \$ 7,162,499 | \$ 1,409,592 |
| <b>g</b>          | <b>Adjustments</b>               |                |               |               |               |               |                  |                             |            |              |              |
| <b>h</b>          | Less Fuel Clause                 | \$ 13,251,150  | \$ 290,984    | \$ 1,048,409  | \$ 1,443,818  | \$ 1,555,897  | \$ 4,197,367     | \$ 5,753,265                | \$ 7,887   | \$ 76,829    | \$ 16,717    |
| <b>i</b>          | HEAP                             | \$ 249,045     |               |               |               |               |                  |                             |            |              |              |
|                   | Facilities Charge                | \$ 150,000     |               |               |               | \$ 150,000    |                  |                             |            |              |              |
| <b>j=a</b>        | <b>Base Rate Revenue Targets</b> |                |               |               |               |               |                  |                             |            |              |              |
| <b>k=b-g</b>      | Demand                           | \$ 186,439,680 | \$ 4,569,088  | \$ 18,095,605 | \$ 22,797,382 | \$ 19,692,588 | \$ 44,700,977    | \$ 64,393,565               | \$ 103,875 | \$ 64,535    | \$ 18,945    |
| <b>l=c-i</b>      | Energy                           | \$ 213,254,630 | \$ 4,928,442  | \$ 17,903,213 | \$ 24,800,378 | \$ 25,031,752 | \$ 66,393,655    | \$ 91,425,406               | \$ 134,918 | \$ 1,041,635 | \$ 276,437   |
| <b>m=d</b>        | Dist Primary                     | \$ 82,504,958  | \$ 3,227,757  | \$ 12,362,190 | \$ 14,076,296 | \$ 5,561,912  | \$ -             | \$ 5,561,912                | \$ 73,792  | \$ -         | \$ -         |
| <b>n=e-h</b>      | Dist Secondary                   | \$ 34,625,386  | \$ 2,049,932  | \$ 5,444,132  | \$ 4,548,249  | \$ 128,427    | \$ -             | \$ 128,427                  | \$ 24,925  | \$ 381,203   | \$ 110,798   |
| <b>o= sum j-n</b> | Customer                         | \$ 25,295,005  | \$ 3,762,175  | \$ 1,553,231  | \$ 568,569    | \$ 307,323    | \$ 117,463       | \$ 424,786                  | \$ 1,760   | \$ 5,598,297 | \$ 986,695   |
|                   | TOTAL                            | \$ 542,119,659 | \$ 18,537,394 | \$ 55,358,371 | \$ 66,790,874 | \$ 50,722,002 | \$ 111,212,095   | \$ 161,934,096              | \$ 339,270 | \$ 7,085,670 | \$ 1,392,875 |

**Full Cost Basic Service Charge Calculation  
Fixed Cost of Distribution Plant Method  
Kentucky**

| <b>Residential</b>                                  |                                       |                                   |  |                               |                   |
|---|---------------------------------------|-----------------------------------|--|-------------------------------|-------------------|
|   | <b>Dist. Primary<br/>Demand</b>       | <b>Dist. Secondary<br/>Demand</b> | <b>Distribution<br/>Customer Services &amp; Accounts</b> | <b>Distribution<br/>Total</b> |                   |
| Distribution Revenue Requirement (CCOS)             | \$47,203,012                          | \$21,937,720                      | \$12,399,493   | \$                            | 81,540,225        |
| Fixed Distribution Plant Allocation Factors         | 78%                                   | 77%                               | 100%   |                               |                   |
| <b>Fixed Distribution Plant Revenue Requirement</b> | <b>\$ 36,819,599</b>                  | <b>\$ 16,995,464</b>              | <b>\$12,399,493</b>                                      | <b>\$</b>                     | <b>66,214,557</b> |
| Residential Bills                                   | 1,660,309                             | 22.18                             | 10.24  | 7.47                          |                   |
|   | 1,658,209 RS                          |                                   |  |                               |                   |
|   | 2,100 RSTOD                           |                                   |  |                               |                   |
| <b>Full Cost Basic Service Charge</b>               | <b>\$39.88 per customer per month</b> |                                   |  |                               |                   |

| <b>Small General Service (SGS)</b>                  |  |                                   |  |                               |                  |
|---|--|-----------------------------------|--|-------------------------------|------------------|
|   | <b>Dist. Primary<br/>Demand</b>        | <b>Dist. Secondary<br/>Demand</b> | <b>Distribution<br/>Customer Services &amp; Accounts</b> | <b>Distribution<br/>Total</b> |                  |
| Distribution Revenue Requirement                    | \$ 3,227,757                           | \$ 2,049,932                      | \$ 3,762,175   | \$                            | 9,039,864        |
| Fixed Distribution Plant Allocation Factors         | 78%                                    | 77%                               | 100%   |                               |                  |
| <b>Fixed Distribution Plant Revenue Requirement</b> | <b>\$ 2,517,736</b>                    | <b>\$ 1,588,112</b>               | <b>\$ 3,762,175</b>                                      | <b>\$</b>                     | <b>7,868,022</b> |
| SGS Bills   | 289,172                                | 8.71                              | 5.49   | 13.01                         |                  |
|   | 271,566 Standard                       |                                   |  |                               |                  |
|   | 17,594 Non-metered                     |                                   |  |                               |                  |
|   | 12 LM TOD                              |                                   |  |                               |                  |
| <b>Full Cost Basic Service Charge</b>               | <b>\$ 27.21 per customer per month</b> |                                   |  |                               |                  |

Kentucky  
Distribution Plant Study  
Test Year Ending September 30, 2014

| Property Class                                 | Property Class Description | Classification  | Fixed Cost Distribution Plant Study |                   |       | Total Plant \$ |
|--|----------------------------|-----------------|-------------------------------------|-------------------|-------|----------------|
|  |                            |                 | Primary Voltage                     | Secondary Voltage | Total |                |
| 364  | Poles & Towers             | Demand Customer | 6.8%                                | 10.6%             | 17.4% | \$ 10,156,537  |
|  |                            |                 | 50.2%                               | 32.4%             | 82.6% | \$ 75,130,319  |
| 365  | OH Conductors              | Demand Customer | 19.4%                               | 10.6%             | 30.1% | \$ 31,393,719  |
|  |                            |                 | 43.4%                               | 26.5%             | 69.9% | \$ 70,122,353  |
| 367  | UG Conductors              | Demand Customer | 24.3%                               | 15.9%             | 40.2% | \$ 1,985,814   |
|  |                            |                 | 40.2%                               | 19.5%             | 59.8% | \$ 3,280,443   |
| 368  | Transformers               | Demand Customer | 3.3%                                | 13.4%             | 16.7% | \$ 4,086,271   |
|  |                            |                 | 16.6%                               | 66.6%             | 83.3% | \$ 20,335,787  |
| <b>Total Dist Plant</b>                        |                            |                 |                                     |                   |       | \$ 216,491,242 |
| <b>Customer Total</b>                          |                            |                 |                                     |                   |       | \$ 168,868,902 |
| <b>Fixed Allocation Factor for Rate Design</b> |                            |                 |                                     |                   |       | 78%            |
|  |                            |                 |                                     |                   |       | 77%            |

**Kentucky Power**  
**Account 364 - Poles**  
**Test Period Ending September 30, 2014**

| Height | Class   | Pole Usage | Number of poles | Primary Connections | Secondary Connections | cost per pole | Pri Investment | Sec Investment | Total Investment |
|--------|---------|------------|-----------------|---------------------|-----------------------|---------------|----------------|----------------|------------------|
| 0      |         | 0 PO       | 138             | 843                 | 0                     | 762           | \$105,156      | \$0            | \$105,156        |
| 0      |         | 0 PS       | 44              | 265                 | 174                   | 762           | \$20,239       | \$13,289       | \$33,528         |
| 0      |         | 0 PT       | 2               | 8                   | 2                     | 762           | \$1,219        | \$305          | \$1,524          |
| 0      |         | 0 PT       | 171             | 767                 | 382                   | 762           | \$86,981       | \$43,321       | \$130,302        |
| 0      |         | 0 SO       | 306             | 0                   | 1018                  | 762           | \$0            | \$233,172      | \$233,172        |
| 0      |         | 2 PO       | 3               | 28                  | 0                     | 762           | \$2,286        | \$0            | \$2,286          |
| 0      |         | 2 PT       | 2               | 12                  | 6                     | 762           | \$1,016        | \$508          | \$1,524          |
| 0      |         | 3 PO       | 1               | 6                   | 0                     | 762           | \$762          | \$0            | \$762            |
| 0      |         | 3 SO       | 1               | 0                   | 3                     | 762           | \$0            | \$762          | \$762            |
| 0      |         | 4 PO       | 8               | 40                  | 0                     | 762           | \$6,096        | \$0            | \$6,096          |
| 0      |         | 4 PT       | 9               | 41                  | 13                    | 762           | \$5,207        | \$1,651        | \$6,858          |
| 0      |         | 4 SO       | 10              | 0                   | 30                    | 762           | \$0            | \$7,620        | \$7,620          |
| 0      |         | 5 PO       | 12              | 54                  | 0                     | 762           | \$9,144        | \$0            | \$9,144          |
| 0      |         | 5 PS       | 1               | 6                   | 6                     | 762           | \$381          | \$381          | \$762            |
| 0      |         | 5 PT       | 18              | 67                  | 38                    | 762           | \$8,752        | \$4,964        | \$13,716         |
| 0      |         | 5 SO       | 40              | 0                   | 147                   | 762           | \$0            | \$30,480       | \$30,480         |
| 0      |         | 6 PO       | 9               | 46                  | 0                     | 762           | \$6,858        | \$0            | \$6,858          |
| 0      |         | 6 PS       | 3               | 10                  | 15                    | 762           | \$914          | \$1,372        | \$2,286          |
| 0      |         | 6 PT       | 8               | 20                  | 29                    | 762           | \$2,488        | \$3,608        | \$6,096          |
| 0      |         | 6 SO       | 13              | 0                   | 39                    | 762           | \$0            | \$9,906        | \$9,906          |
| 0      |         | 7 PO       | 5               | 22                  | 0                     | 762           | \$3,810        | \$0            | \$3,810          |
| 0      |         | 7 PS       | 2               | 10                  | 7                     | 762           | \$896          | \$628          | \$1,524          |
| 0      | N/A     | PO         | 1               | 8                   | 0                     | 762           | \$762          | \$0            | \$762            |
| 0      | N/A     | PS         | 1               | 8                   | 8                     | 762           | \$381          | \$381          | \$762            |
| 0      | N/A     | PT         | 4               | 31                  | 26                    | 762           | \$1,658        | \$1,390        | \$3,048          |
| 0      | N/A     | SO         | 13              | 0                   | 60                    | 762           | \$0            | \$9,906        | \$9,906          |
| 0      | Unknown | PO         | 1856            | 11307               | 0                     | 762           | \$1,414,272    | \$0            | \$1,414,272      |
| 0      | Unknown | PS         | 408             | 2487                | 1750                  | 762           | \$182,487      | \$128,409      | \$310,896        |
| 0      | Unknown | PT         | 1965            | 9051                | 4726                  | 762           | \$983,693      | \$513,637      | \$1,497,330      |
| 0      | Unknown | SO         | 2399            | 0                   | 8251                  | 762           | \$0            | \$1,828,038    | \$1,828,038      |
| 10     |         | 4 PT       | 1               | 2                   | 0                     | 518           | \$518          | \$0            | \$518            |
| 17     | N/A     | SO         | 10              | 0                   | 28                    | 518           | \$0            | \$5,180        | \$5,180          |
| 20     |         | 0 PO       | 1               | 8                   | 0                     | 508           | \$508          | \$0            | \$508            |
| 20     |         | 0 SO       | 1               | 0                   | 3                     | 508           | \$0            | \$508          | \$508            |
| 20     |         | 2 PT       | 1               | 8                   | 3                     | 518           | \$377          | \$141          | \$518            |
| 20     |         | 3 PS       | 1               | 8                   | 6                     | 518           | \$296          | \$222          | \$518            |
| 20     |         | 4 PT       | 1               | 8                   | 8                     | 508           | \$254          | \$254          | \$508            |
| 20     |         | 4 SO       | 1               | 0                   | 3                     | 518           | \$0            | \$518          | \$518            |
| 20     |         | 6 SO       | 3               | 0                   | 15                    | 518           | \$0            | \$1,554        | \$1,554          |
| 20     |         | 7 PO       | 2               | 16                  | 0                     | 508           | \$1,016        | \$0            | \$1,016          |
| 20     |         | 7 PS       | 1               | 10                  | 9                     | 508           | \$267          | \$241          | \$508            |
| 20     |         | 7 SO       | 6               | 0                   | 22                    | 508           | \$0            | \$3,048        | \$3,048          |
| 20     | N/A     | SO         | 1               | 0                   | 8                     | 508           | \$0            | \$508          | \$508            |
| 20     | Unknown | PO         | 1               | 8                   | 0                     | 508           | \$508          | \$0            | \$508            |
| 24     | N/A     | SO         | 2               | 0                   | 6                     | 508           | \$0            | \$1,016        | \$1,016          |
| 25     |         | 0 PT       | 1               | 4                   | 6                     | 508           | \$203          | \$305          | \$508            |
| 25     |         | 0 SO       | 3               | 0                   | 15                    | 508           | \$0            | \$1,524        | \$1,524          |
| 25     |         | 1 PS       | 1               | 9                   | 9                     | 518           | \$259          | \$259          | \$518            |
| 25     |         | 1 PT       | 1               | 8                   | 3                     | 518           | \$377          | \$141          | \$518            |
| 25     |         | 2 PS       | 1               | 6                   | 8                     | 518           | \$222          | \$296          | \$518            |
| 25     |         | 2 SO       | 4               | 0                   | 11                    | 518           | \$0            | \$2,072        | \$2,072          |
| 25     |         | 4 PS       | 1               | 4                   | 8                     | 518           | \$173          | \$345          | \$518            |
| 25     |         | 4 PT       | 2               | 14                  | 0                     | 518           | \$1,036        | \$0            | \$1,036          |
| 25     |         | 4 SO       | 3               | 0                   | 9                     | 518           | \$0            | \$1,554        | \$1,554          |
| 25     |         | 5 PO       | 2               | 15                  | 0                     | 518           | \$1,036        | \$0            | \$1,036          |
| 25     |         | 5 PS       | 1               | 4                   | 9                     | 518           | \$159          | \$359          | \$518            |
| 25     |         | 5 SO       | 39              | 0                   | 148                   | 518           | \$0            | \$20,202       | \$20,202         |
| 25     |         | 6 PO       | 1               | 4                   | 0                     | 518           | \$518          | \$0            | \$518            |
| 25     |         | 6 PS       | 1               | 10                  | 6                     | 518           | \$324          | \$194          | \$518            |



| Height     | Class | Pole Usage | Number of poles | Primary Connections | Secondary Connections | cost per pole | Pri Investment | Sec Investment | Total Investment |
|------------|-------|------------|-----------------|---------------------|-----------------------|---------------|----------------|----------------|------------------|
| 25         |       | 6 SO       | 17              | 0                   | 56                    | 518           | \$0            | \$8,806        | \$8,806          |
| 25         |       | 7 PO       | 3               | 14                  | 0                     | 508           | \$1,524        | \$0            | \$1,524          |
| 25         |       | 7 PS       | 1               | 11                  | 12                    | 508           | \$243          | \$265          | \$508            |
| 25         |       | 7 PT       | 1               | 3                   | 12                    | 508           | \$102          | \$406          | \$508            |
| 25         |       | 7 SO       | 33              | 0                   | 129                   | 508           | \$0            | \$16,764       | \$16,764         |
| 25 N/A     |       | PO         | 1               | 4                   | 0                     | 508           | \$508          | \$0            | \$508            |
| 25 N/A     |       | SO         | 1               | 0                   | 4                     | 508           | \$0            | \$508          | \$508            |
| 25 Unknown |       | PO         | 3               | 10                  | 0                     | 508           | \$1,524        | \$0            | \$1,524          |
| 25 Unknown |       | PT         | 2               | 12                  | 3                     | 508           | \$813          | \$203          | \$1,016          |
| 25 Unknown |       | SO         | 1               | 0                   | 2                     | 508           | \$0            | \$508          | \$508            |
| 30         |       | 0 PO       | 5               | 22                  | 0                     | 514           | \$2,570        | \$0            | \$2,570          |
| 30         |       | 0 PT       | 1               | 7                   | 0                     | 514           | \$514          | \$0            | \$514            |
| 30         |       | 0 SO       | 24              | 0                   | 84                    | 514           | \$0            | \$12,336       | \$12,336         |
| 30         |       | 1 PT       | 1               | 10                  | 9                     | 614           | \$323          | \$291          | \$614            |
| 30         |       | 1 SO       | 1               | 0                   | 2                     | 614           | \$0            | \$614          | \$614            |
| 30         |       | 2 PO       | 3               | 24                  | 0                     | 614           | \$1,842        | \$0            | \$1,842          |
| 30         |       | 2 PS       | 2               | 10                  | 12                    | 614           | \$558          | \$670          | \$1,228          |
| 30         |       | 2 SO       | 9               | 0                   | 29                    | 614           | \$0            | \$5,526        | \$5,526          |
| 30         |       | 3 PO       | 5               | 28                  | 0                     | 614           | \$3,070        | \$0            | \$3,070          |
| 30         |       | 3 PS       | 1               | 2                   | 6                     | 614           | \$154          | \$461          | \$614            |
| 30         |       | 3 PT       | 2               | 6                   | 13                    | 614           | \$388          | \$840          | \$1,228          |
| 30         |       | 3 SO       | 15              | 0                   | 69                    | 614           | \$0            | \$9,210        | \$9,210          |
| 30         |       | 4 PO       | 28              | 129                 | 0                     | 582           | \$16,296       | \$0            | \$16,296         |
| 30         |       | 4 PS       | 20              | 95                  | 80                    | 582           | \$6,319        | \$5,321        | \$11,640         |
| 30         |       | 4 PT       | 27              | 77                  | 72                    | 582           | \$8,121        | \$7,593        | \$15,714         |
| 30         |       | 4 SO       | 311             | 0                   | 1206                  | 582           | \$0            | \$181,002      | \$181,002        |
| 30         |       | 5 PO       | 165             | 775                 | 0                     | 555           | \$91,575       | \$0            | \$91,575         |
| 30         |       | 5 PS       | 42              | 198                 | 180                   | 555           | \$12,210       | \$11,100       | \$23,310         |
| 30         |       | 5 PT       | 129             | 434                 | 332                   | 555           | \$40,564       | \$31,031       | \$71,595         |
| 30         |       | 5 SO       | 935             | 0                   | 3269                  | 555           | \$0            | \$518,925      | \$518,925        |
| 30         |       | 6 PO       | 543             | 2525                | 0                     | 533           | \$289,419      | \$0            | \$289,419        |
| 30         |       | 6 PS       | 217             | 1036                | 843                   | 533           | \$63,771       | \$51,890       | \$115,661        |
| 30         |       | 6 PT       | 490             | 1778                | 1200                  | 533           | \$155,930      | \$105,240      | \$261,170        |
| 30         |       | 6 SO       | 31641           | 0                   | 96188                 | 533           | \$0            | \$16,864,653   | \$16,864,653     |
| 30         |       | 7 PO       | 349             | 1593                | 0                     | 514           | \$179,386      | \$0            | \$179,386        |
| 30         |       | 7 PS       | 24              | 117                 | 112                   | 514           | \$6,303        | \$6,033        | \$12,336         |
| 30         |       | 7 PT       | 72              | 274                 | 207                   | 514           | \$21,081       | \$15,927       | \$37,008         |
| 30         |       | 7 SO       | 1792            | 0                   | 4771                  | 514           | \$0            | \$921,088      | \$921,088        |
| 30         |       | 8 PO       | 23              | 96                  | 0                     | 514           | \$11,822       | \$0            | \$11,822         |
| 30         |       | 8 PS       | 2               | 7                   | 8                     | 514           | \$480          | \$548          | \$1,028          |
| 30         |       | 8 PT       | 1               | 4                   | 0                     | 514           | \$514          | \$0            | \$514            |
| 30         |       | 8 SO       | 12              | 0                   | 40                    | 514           | \$0            | \$6,168        | \$6,168          |
| 30         |       | 9 SO       | 2               | 0                   | 6                     | 514           | \$0            | \$1,028        | \$1,028          |
| 30 N/A     |       | SO         | 4               | 0                   | 11                    | 514           | \$0            | \$2,056        | \$2,056          |
| 30 Unknown |       | PO         | 5               | 23                  | 0                     | 514           | \$2,570        | \$0            | \$2,570          |
| 30 Unknown |       | PT         | 2               | 10                  | 9                     | 514           | \$541          | \$487          | \$1,028          |
| 30 Unknown |       | SO         | 31              | 0                   | 129                   | 514           | \$0            | \$15,934       | \$15,934         |
| 32 N/A     |       | SO         | 9               | 0                   | 47                    | 594           | \$0            | \$5,346        | \$5,346          |
| 33 Unknown |       | PS         | 1               | 8                   | 8                     | 594           | \$297          | \$297          | \$594            |
| 33 Unknown |       | SO         | 7               | 0                   | 44                    | 594           | \$0            | \$4,158        | \$4,158          |
| 35         |       | 0 PO       | 4               | 18                  | 0                     | 594           | \$2,376        | \$0            | \$2,376          |
| 35         |       | 0 PT       | 6               | 27                  | 26                    | 594           | \$1,816        | \$1,748        | \$3,564          |
| 35         |       | 0 SO       | 5               | 0                   | 15                    | 594           | \$0            | \$2,970        | \$2,970          |
| 35         |       | 1 PO       | 3               | 18                  | 0                     | 747           | \$2,241        | \$0            | \$2,241          |
| 35         |       | 1 PT       | 3               | 14                  | 9                     | 747           | \$1,364        | \$877          | \$2,241          |
| 35         |       | 1 SO       | 11              | 0                   | 43                    | 747           | \$0            | \$8,217        | \$8,217          |
| 35         |       | 2 PO       | 79              | 453                 | 0                     | 747           | \$59,013       | \$0            | \$59,013         |
| 35         |       | 2 PS       | 41              | 204                 | 182                   | 747           | \$16,186       | \$14,441       | \$30,627         |
| 35         |       | 2 PT       | 114             | 394                 | 256                   | 747           | \$51,619       | \$33,539       | \$85,158         |
| 35         |       | 2 SO       | 212             | 0                   | 816                   | 747           | \$0            | \$158,364      | \$158,364        |
| 35         |       | 3 PO       | 23              | 165                 | 0                     | 701           | \$16,123       | \$0            | \$16,123         |
| 35         |       | 3 PS       | 5               | 24                  | 31                    | 701           | \$1,529        | \$1,976        | \$3,505          |
| 35         |       | 3 PT       | 22              | 88                  | 68                    | 701           | \$8,700        | \$6,722        | \$15,422         |

| Height     | Class | Pole Usage | Number of poles | Primary Connections | Secondary Connections | cost per pole | Pri Investment | Sec Investment | Total Investment |
|------------|-------|------------|-----------------|---------------------|-----------------------|---------------|----------------|----------------|------------------|
| 35         |       | 3 SO       | 32              | 0                   | 118                   | 701           | \$0            | \$22,432       | \$22,432         |
| 35         |       | 4 PO       | 632             | 3693                | 0                     | 660           | \$417,120      | \$0            | \$417,120        |
| 35         |       | 4 PS       | 212             | 1122                | 1031                  | 660           | \$72,917       | \$67,003       | \$139,920        |
| 35         |       | 4 PT       | 947             | 3482                | 2428                  | 660           | \$368,244      | \$256,776      | \$625,020        |
| 35         |       | 4 SO       | 2020            | 0                   | 7341                  | 660           | \$0            | \$1,333,200    | \$1,333,200      |
| 35         |       | 5 PO       | 4207            | 20802               | 0                     | 615           | \$2,587,305    | \$0            | \$2,587,305      |
| 35         |       | 5 PS       | 1142            | 4930                | 5009                  | 615           | \$348,374      | \$353,956      | \$702,330        |
| 35         |       | 5 PT       | 5548            | 19328               | 12906                 | 615           | \$2,045,899    | \$1,366,121    | \$3,412,020      |
| 35         |       | 5 SO       | 20000           | 0                   | 67795                 | 615           | \$0            | \$12,300,000   | \$12,300,000     |
| 35         |       | 6 PO       | 2809            | 13193               | 0                     | 594           | \$1,668,546    | \$0            | \$1,668,546      |
| 35         |       | 6 PS       | 542             | 2371                | 2265                  | 594           | \$164,655      | \$157,293      | \$321,948        |
| 35         |       | 6 PT       | 2039            | 8142                | 4977                  | 594           | \$751,682      | \$459,484      | \$1,211,166      |
| 35         |       | 6 SO       | 2171            | 0                   | 7847                  | 594           | \$0            | \$1,289,574    | \$1,289,574      |
| 35         |       | 7 PO       | 943             | 4359                | 0                     | 594           | \$560,142      | \$0            | \$560,142        |
| 35         |       | 7 PS       | 154             | 689                 | 640                   | 594           | \$47,424       | \$44,052       | \$91,476         |
| 35         |       | 7 PT       | 406             | 1831                | 1112                  | 594           | \$150,041      | \$91,123       | \$241,164        |
| 35         |       | 7 SO       | 232             | 0                   | 957                   | 594           | \$0            | \$137,808      | \$137,808        |
| 35         |       | 8 PO       | 1               | 4                   | 0                     | 594           | \$594          | \$0            | \$594            |
| 35         |       | 8 PS       | 1               | 4                   | 6                     | 594           | \$238          | \$356          | \$594            |
| 35         |       | 8 PT       | 1               | 8                   | 0                     | 594           | \$594          | \$0            | \$594            |
| 35         |       | 9 PT       | 1               | 2                   | 0                     | 594           | \$594          | \$0            | \$594            |
| 35 N/A     |       | PO         | 1               | 8                   | 0                     | 594           | \$594          | \$0            | \$594            |
| 35 N/A     |       | PT         | 3               | 17                  | 14                    | 594           | \$977          | \$805          | \$1,782          |
| 35 N/A     |       | SO         | 14              | 0                   | 37                    | 594           | \$0            | \$8,316        | \$8,316          |
| 35 Unknown |       | PO         | 1               | 4                   | 0                     | 594           | \$594          | \$0            | \$594            |
| 35 Unknown |       | PS         | 1               | 8                   | 6                     | 594           | \$339          | \$255          | \$594            |
| 35 Unknown |       | PT         | 3               | 8                   | 3                     | 594           | \$1,296        | \$486          | \$1,782          |
| 35 Unknown |       | SO         | 6               | 0                   | 26                    | 594           | \$0            | \$3,564        | \$3,564          |
| 40         |       | 0 PO       | 3               | 22                  | 0                     | 712           | \$2,136        | \$0            | \$2,136          |
| 40         |       | 0 PS       | 3               | 24                  | 9                     | 712           | \$1,553        | \$583          | \$2,136          |
| 40         |       | 0 PT       | 14              | 97                  | 58                    | 712           | \$6,238        | \$3,730        | \$9,968          |
| 40         |       | 0 SO       | 3               | 0                   | 6                     | 712           | \$0            | \$2,136        | \$2,136          |
| 40         |       | 1 PO       | 4               | 32                  | 0                     | 788           | \$3,152        | \$0            | \$3,152          |
| 40         |       | 1 PS       | 9               | 51                  | 42                    | 788           | \$3,889        | \$3,203        | \$7,092          |
| 40         |       | 1 PT       | 9               | 41                  | 31                    | 788           | \$4,039        | \$3,054        | \$7,092          |
| 40         |       | 1 SO       | 1               | 0                   | 10                    | 788           | \$0            | \$788          | \$788            |
| 40         |       | 2 PO       | 974             | 6845                | 0                     | 869           | \$846,406      | \$0            | \$846,406        |
| 40         |       | 2 PS       | 243             | 1633                | 1232                  | 869           | \$120,362      | \$90,805       | \$211,167        |
| 40         |       | 2 PT       | 1341            | 6388                | 3654                  | 869           | \$741,299      | \$424,030      | \$1,165,329      |
| 40         |       | 2 SO       | 137             | 0                   | 620                   | 869           | \$0            | \$119,053      | \$119,053        |
| 40         |       | 3 PO       | 114             | 682                 | 0                     | 812           | \$92,568       | \$0            | \$92,568         |
| 40         |       | 3 PS       | 28              | 166                 | 167                   | 812           | \$11,334       | \$11,402       | \$22,736         |
| 40         |       | 3 PT       | 111             | 538                 | 333                   | 812           | \$55,673       | \$34,459       | \$90,132         |
| 40         |       | 3 SO       | 14              | 0                   | 53                    | 812           | \$0            | \$11,368       | \$11,368         |
| 40         |       | 4 PO       | 9037            | 50200               | 0                     | 762           | \$6,886,194    | \$0            | \$6,886,194      |
| 40         |       | 4 PS       | 1933            | 10541               | 8392                  | 762           | \$820,067      | \$652,879      | \$1,472,946      |
| 40         |       | 4 PT       | 15867           | 59787               | 34920                 | 762           | \$7,632,635    | \$4,458,019    | \$12,090,654     |
| 40         |       | 4 SO       | 1875            | 0                   | 7215                  | 762           | \$0            | \$1,428,750    | \$1,428,750      |
| 40         |       | 5 PO       | 6910            | 34105               | 0                     | 712           | \$4,919,920    | \$0            | \$4,919,920      |
| 40         |       | 5 PS       | 1777            | 8882                | 7613                  | 712           | \$681,280      | \$583,944      | \$1,265,224      |
| 40         |       | 5 PT       | 11216           | 40953               | 23168                 | 712           | \$5,100,391    | \$2,885,401    | \$7,985,792      |
| 40         |       | 5 SO       | 1987            | 0                   | 7452                  | 712           | \$0            | \$1,414,744    | \$1,414,744      |
| 40         |       | 6 PO       | 498             | 2572                | 0                     | 712           | \$354,576      | \$0            | \$354,576        |
| 40         |       | 6 PS       | 151             | 766                 | 666                   | 712           | \$57,510       | \$50,002       | \$107,512        |
| 40         |       | 6 PT       | 511             | 2467                | 1550                  | 712           | \$223,444      | \$140,388      | \$363,832        |
| 40         |       | 6 SO       | 115             | 0                   | 465                   | 712           | \$0            | \$81,880       | \$81,880         |
| 40         |       | 7 PO       | 49              | 262                 | 0                     | 712           | \$34,888       | \$0            | \$34,888         |
| 40         |       | 7 PS       | 14              | 71                  | 60                    | 712           | \$5,403        | \$4,565        | \$9,968          |
| 40         |       | 7 PT       | 21              | 97                  | 52                    | 712           | \$9,734        | \$5,218        | \$14,952         |
| 40         |       | 7 SO       | 5               | 0                   | 20                    | 712           | \$0            | \$3,560        | \$3,560          |
| 40 N/A     |       | PO         | 3               | 27                  | 0                     | 762           | \$2,286        | \$0            | \$2,286          |
| 40 N/A     |       | PS         | 12              | 104                 | 79                    | 762           | \$5,197        | \$3,947        | \$9,144          |
| 40 N/A     |       | PT         | 4               | 16                  | 12                    | 762           | \$1,742        | \$1,306        | \$3,048          |

| Height | Class   | Pole Usage | Number of poles | Primary Connections | Secondary Connections | cost per pole | Pri Investment | Sec Investment | Total Investment |
|--------|---------|------------|-----------------|---------------------|-----------------------|---------------|----------------|----------------|------------------|
| 40     | N/A     | SO         | 159             | 0                   | 827                   | 762           | \$0            | \$121,158      | \$121,158        |
| 40     | Unknown | PO         | 12              | 71                  | 0                     | 762           | \$9,144        | \$0            | \$9,144          |
| 40     | Unknown | PS         | 1               | 2                   | 3                     | 762           | \$305          | \$457          | \$762            |
| 40     | Unknown | PT         | 12              | 59                  | 25                    | 762           | \$6,423        | \$2,721        | \$9,144          |
| 40     | Unknown | SO         | 7               | 0                   | 29                    | 762           | \$0            | \$5,334        | \$5,334          |
| 45     | 0       | PO         | 7               | 54                  | 0                     | 820           | \$5,740        | \$0            | \$5,740          |
| 45     | 0       | PS         | 44              | 435                 | 314                   | 820           | \$20,954       | \$15,126       | \$36,080         |
| 45     | 0       | PT         | 28              | 214                 | 185                   | 820           | \$12,314       | \$10,646       | \$22,960         |
| 45     | 0       | SO         | 1               | 0                   | 6                     | 820           | \$0            | \$820          | \$820            |
| 45     | 1       | PO         | 8               | 67                  | 0                     | 1087          | \$8,696        | \$0            | \$8,696          |
| 45     | 1       | PS         | 4               | 27                  | 17                    | 1087          | \$2,668        | \$1,680        | \$4,348          |
| 45     | 1       | PT         | 24              | 146                 | 56                    | 1087          | \$18,856       | \$7,232        | \$26,088         |
| 45     | 2       | PO         | 2264            | 17411               | 0                     | 1012          | \$2,291,168    | \$0            | \$2,291,168      |
| 45     | 2       | PS         | 620             | 5091                | 2786                  | 1012          | \$405,522      | \$221,918      | \$627,440        |
| 45     | 2       | PT         | 2747            | 16192               | 7876                  | 1012          | \$1,870,250    | \$909,714      | \$2,779,964      |
| 45     | 2       | SO         | 69              | 0                   | 274                   | 1012          | \$0            | \$69,828       | \$69,828         |
| 45     | 3       | PO         | 196             | 1423                | 0                     | 940           | \$184,240      | \$0            | \$184,240        |
| 45     | 3       | PS         | 46              | 355                 | 214                   | 940           | \$26,978       | \$16,262       | \$43,240         |
| 45     | 3       | PT         | 174             | 954                 | 510                   | 940           | \$106,582      | \$56,978       | \$163,560        |
| 45     | 3       | SO         | 12              | 0                   | 57                    | 940           | \$0            | \$11,280       | \$11,280         |
| 45     | 4       | PO         | 9936            | 58788               | 0                     | 877           | \$8,713,872    | \$0            | \$8,713,872      |
| 45     | 4       | PS         | 2117            | 13617               | 8793                  | 877           | \$1,128,132    | \$728,477      | \$1,856,609      |
| 45     | 4       | PT         | 16856           | 71986               | 36230                 | 877           | \$9,833,558    | \$4,949,154    | \$14,782,712     |
| 45     | 4       | SO         | 507             | 0                   | 1967                  | 877           | \$0            | \$444,639      | \$444,639        |
| 45     | 5       | PO         | 1247            | 6873                | 0                     | 820           | \$1,022,540    | \$0            | \$1,022,540      |
| 45     | 5       | PS         | 328             | 2000                | 1491                  | 820           | \$154,088      | \$114,872      | \$268,960        |
| 45     | 5       | PT         | 2290            | 10186               | 5546                  | 820           | \$1,215,819    | \$661,981      | \$1,877,800      |
| 45     | 5       | SO         | 180             | 0                   | 755                   | 820           | \$0            | \$147,600      | \$147,600        |
| 45     | 6       | PO         | 43              | 249                 | 0                     | 820           | \$35,260       | \$0            | \$35,260         |
| 45     | 6       | PS         | 15              | 70                  | 61                    | 820           | \$6,573        | \$5,727        | \$12,300         |
| 45     | 6       | PT         | 71              | 361                 | 195                   | 820           | \$37,801       | \$20,419       | \$58,220         |
| 45     | 6       | SO         | 8               | 0                   | 22                    | 820           | \$0            | \$6,560        | \$6,560          |
| 45     | 7       | PO         | 1               | 8                   | 0                     | 820           | \$820          | \$0            | \$820            |
| 45     | 7       | PS         | 3               | 14                  | 17                    | 820           | \$1,111        | \$1,349        | \$2,460          |
| 45     | 7       | PT         | 10              | 53                  | 42                    | 820           | \$4,575        | \$3,625        | \$8,200          |
| 45     | 7       | SO         | 2               | 0                   | 7                     | 820           | \$0            | \$1,640        | \$1,640          |
| 45     | N/A     | PS         | 3               | 23                  | 26                    | 820           | \$1,155        | \$1,305        | \$2,460          |
| 45     | N/A     | SO         | 2               | 0                   | 14                    | 820           | \$0            | \$1,640        | \$1,640          |
| 45     | Unknown | PO         | 6               | 32                  | 0                     | 820           | \$4,920        | \$0            | \$4,920          |
| 45     | Unknown | PS         | 2               | 20                  | 11                    | 820           | \$1,058        | \$582          | \$1,640          |
| 45     | Unknown | PT         | 8               | 55                  | 21                    | 820           | \$4,747        | \$1,813        | \$6,560          |
| 45     | Unknown | SO         | 1               | 0                   | 3                     | 820           | \$0            | \$820          | \$820            |
| 50     | 0       | PS         | 2               | 28                  | 19                    | 1149          | \$1,369        | \$929          | \$2,298          |
| 50     | 1       | PO         | 9               | 78                  | 0                     | 1247          | \$11,223       | \$0            | \$11,223         |
| 50     | 1       | PS         | 1               | 8                   | 2                     | 1247          | \$998          | \$249          | \$1,247          |
| 50     | 1       | PT         | 20              | 157                 | 41                    | 1247          | \$19,776       | \$5,164        | \$24,940         |
| 50     | 2       | PO         | 2961            | 23614               | 0                     | 1149          | \$3,402,189    | \$0            | \$3,402,189      |
| 50     | 2       | PS         | 789             | 6958                | 3396                  | 1149          | \$609,219      | \$297,342      | \$906,561        |
| 50     | 2       | PT         | 3419            | 24114               | 9571                  | 1149          | \$2,812,236    | \$1,116,195    | \$3,928,431      |
| 50     | 2       | SO         | 77              | 0                   | 286                   | 1149          | \$0            | \$88,473       | \$88,473         |
| 50     | 3       | PO         | 435             | 2797                | 0                     | 1068          | \$464,580      | \$0            | \$464,580        |
| 50     | 3       | PS         | 88              | 684                 | 331                   | 1068          | \$63,335       | \$30,649       | \$93,984         |
| 50     | 3       | PT         | 577             | 3161                | 1487                  | 1068          | \$419,088      | \$197,148      | \$616,236        |
| 50     | 3       | SO         | 14              | 0                   | 43                    | 1068          | \$0            | \$14,952       | \$14,952         |
| 50     | 4       | PO         | 1039            | 7348                | 0                     | 994           | \$1,032,766    | \$0            | \$1,032,766      |
| 50     | 4       | PS         | 273             | 2107                | 1135                  | 994           | \$176,360      | \$95,002       | \$271,362        |
| 50     | 4       | PT         | 1651            | 9658                | 4162                  | 994           | \$1,146,866    | \$494,228      | \$1,641,094      |
| 50     | 4       | SO         | 42              | 0                   | 164                   | 994           | \$0            | \$41,748       | \$41,748         |
| 50     | 5       | PO         | 9               | 62                  | 0                     | 952           | \$8,568        | \$0            | \$8,568          |
| 50     | 5       | PS         | 8               | 48                  | 42                    | 952           | \$4,062        | \$3,554        | \$7,616          |
| 50     | 5       | PT         | 24              | 137                 | 78                    | 952           | \$14,559       | \$8,289        | \$22,848         |
| 50     | 5       | SO         | 1               | 0                   | 6                     | 952           | \$0            | \$952          | \$952            |
| 50     | 6       | PO         | 4               | 32                  | 0                     | 952           | \$3,808        | \$0            | \$3,808          |

| Height     | Class | Pole Usage | Number of poles | Primary Connections | Secondary Connections | cost per pole | Pri Investment | Sec Investment | Total Investment |
|------------|-------|------------|-----------------|---------------------|-----------------------|---------------|----------------|----------------|------------------|
| 50         |       | 6 PT       | 2               | 18                  | 3                     | 952           | \$1,632        | \$272          | \$1,904          |
| 50         |       | 6 SO       | 2               | 0                   | 4                     | 952           | \$0            | \$1,904        | \$1,904          |
| 50         |       | 7 PT       | 2               | 12                  | 3                     | 952           | \$1,523        | \$381          | \$1,904          |
| 50         |       | 7 SO       | 1               | 0                   | 2                     | 952           | \$0            | \$952          | \$952            |
| 50         |       | 9 PO       | 1               | 4                   | 0                     | 1149          | \$1,149        | \$0            | \$1,149          |
| 50 N/A     |       | PO         | 1               | 9                   | 0                     | 1149          | \$1,149        | \$0            | \$1,149          |
| 50 N/A     |       | PS         | 1               | 3                   | 8                     | 1149          | \$313          | \$836          | \$1,149          |
| 50 N/A     |       | PT         | 1               | 8                   | 0                     | 1149          | \$1,149        | \$0            | \$1,149          |
| 50 Unknown |       | PO         | 1               | 4                   | 0                     | 1149          | \$1,149        | \$0            | \$1,149          |
| 55         |       | 0 PT       | 3               | 17                  | 16                    | 1276          | \$1,972        | \$1,856        | \$3,828          |
| 55         |       | 0 SO       | 4               | 0                   | 40                    | 1276          | \$0            | \$5,104        | \$5,104          |
| 55         |       | 1 PO       | 14              | 140                 | 0                     | 1395          | \$19,530       | \$0            | \$19,530         |
| 55         |       | 1 PS       | 1               | 8                   | 8                     | 1395          | \$698          | \$698          | \$1,395          |
| 55         |       | 1 PT       | 12              | 102                 | 58                    | 1395          | \$10,672       | \$6,068        | \$16,740         |
| 55         |       | 1 SO       | 1               | 0                   | 8                     | 1276          | \$0            | \$1,276        | \$1,276          |
| 55         |       | 2 PO       | 1500            | 13068               | 0                     | 1276          | \$1,914,000    | \$0            | \$1,914,000      |
| 55         |       | 2 PS       | 392             | 3648                | 1568                  | 1276          | \$349,828      | \$150,364      | \$500,192        |
| 55         |       | 2 PT       | 1567            | 12629               | 4680                  | 1276          | \$1,458,870    | \$540,622      | \$1,999,492      |
| 55         |       | 2 SO       | 24              | 0                   | 84                    | 1276          | \$0            | \$30,624       | \$30,624         |
| 55         |       | 3 PO       | 50              | 340                 | 0                     | 1196          | \$59,800       | \$0            | \$59,800         |
| 55         |       | 3 PS       | 21              | 156                 | 87                    | 1196          | \$16,124       | \$8,992        | \$25,116         |
| 55         |       | 3 PT       | 80              | 507                 | 213                   | 1196          | \$67,375       | \$28,305       | \$95,680         |
| 55         |       | 3 SO       | 5               | 0                   | 17                    | 1196          | \$0            | \$5,980        | \$5,980          |
| 55         |       | 4 PO       | 102             | 708                 | 0                     | 1100          | \$112,200      | \$0            | \$112,200        |
| 55         |       | 4 PS       | 26              | 192                 | 122                   | 1100          | \$17,488       | \$11,112       | \$28,600         |
| 55         |       | 4 PT       | 121             | 770                 | 328                   | 1100          | \$93,340       | \$39,760       | \$133,100        |
| 55         |       | 4 SO       | 9               | 0                   | 32                    | 1100          | \$0            | \$9,900        | \$9,900          |
| 55         |       | 5 PO       | 3               | 18                  | 0                     | 1100          | \$3,300        | \$0            | \$3,300          |
| 55         |       | 5 PS       | 6               | 50                  | 33                    | 1100          | \$3,976        | \$2,624        | \$6,600          |
| 55         |       | 5 PT       | 6               | 42                  | 19                    | 1100          | \$4,544        | \$2,056        | \$6,600          |
| 55         |       | 5 SO       | 3               | 0                   | 7                     | 1100          | \$0            | \$3,300        | \$3,300          |
| 55         |       | 6 PO       | 2               | 18                  | 0                     | 1100          | \$2,200        | \$0            | \$2,200          |
| 55 Unknown |       | PO         | 2               | 14                  | 0                     | 1276          | \$2,552        | \$0            | \$2,552          |
| 60         |       | 0 PS       | 1               | 15                  | 3                     | 1472          | \$1,227        | \$245          | \$1,472          |
| 60         |       | 1 PO       | 2               | 18                  | 0                     | 1630          | \$3,260        | \$0            | \$3,260          |
| 60         |       | 1 PT       | 5               | 60                  | 20                    | 1630          | \$6,113        | \$2,038        | \$8,150          |
| 60         |       | 2 PO       | 375             | 3350                | 0                     | 1472          | \$552,000      | \$0            | \$552,000        |
| 60         |       | 2 PS       | 108             | 1059                | 479                   | 1472          | \$109,464      | \$49,512       | \$158,976        |
| 60         |       | 2 PT       | 320             | 2923                | 1018                  | 1472          | \$349,366      | \$121,674      | \$471,040        |
| 60         |       | 2 SO       | 2               | 0                   | 5                     | 1472          | \$0            | \$2,944        | \$2,944          |
| 60         |       | 3 PO       | 18              | 142                 | 0                     | 1374          | \$24,732       | \$0            | \$24,732         |
| 60         |       | 3 PS       | 3               | 24                  | 8                     | 1374          | \$3,092        | \$1,031        | \$4,122          |
| 60         |       | 3 PT       | 18              | 134                 | 49                    | 1374          | \$18,110       | \$6,622        | \$24,732         |
| 60         |       | 3 SO       | 3               | 0                   | 10                    | 1374          | \$0            | \$4,122        | \$4,122          |
| 60         |       | 4 PO       | 6               | 43                  | 0                     | 1374          | \$8,244        | \$0            | \$8,244          |
| 60         |       | 4 PT       | 10              | 67                  | 23                    | 1374          | \$10,229       | \$3,511        | \$13,740         |
| 60         |       | 5 PO       | 2               | 14                  | 0                     | 1374          | \$2,748        | \$0            | \$2,748          |
| 60         |       | 6 PO       | 2               | 18                  | 0                     | 1374          | \$2,748        | \$0            | \$2,748          |
| 60         |       | 6 SO       | 2               | 0                   | 7                     | 1374          | \$0            | \$2,748        | \$2,748          |
| 60 N/A     |       | SO         | 1               | 0                   | 3                     | 1472          | \$0            | \$1,472        | \$1,472          |
| 60 Unknown |       | PO         | 1               | 8                   | 0                     | 1472          | \$1,472        | \$0            | \$1,472          |
| 65         |       | 1 PO       | 4               | 38                  | 0                     | 2160          | \$8,640        | \$0            | \$8,640          |
| 65         |       | 1 PS       | 2               | 16                  | 15                    | 2160          | \$2,230        | \$2,090        | \$4,320          |
| 65         |       | 1 PT       | 2               | 16                  | 5                     | 2160          | \$3,291        | \$1,029        | \$4,320          |
| 65         |       | 2 PO       | 172             | 1515                | 0                     | 1837          | \$315,964      | \$0            | \$315,964        |
| 65         |       | 2 PS       | 28              | 250                 | 110                   | 1837          | \$35,719       | \$15,717       | \$51,436         |
| 65         |       | 2 PT       | 121             | 1064                | 357                   | 1837          | \$166,434      | \$55,843       | \$222,277        |
| 65         |       | 2 SO       | 4               | 0                   | 13                    | 1837          | \$0            | \$7,348        | \$7,348          |
| 65         |       | 3 PO       | 6               | 46                  | 0                     | 1613          | \$9,678        | \$0            | \$9,678          |
| 65         |       | 3 PS       | 1               | 3                   | 3                     | 1613          | \$807          | \$807          | \$1,613          |
| 65         |       | 3 PT       | 7               | 46                  | 16                    | 1613          | \$8,377        | \$2,914        | \$11,291         |
| 65         |       | 4 PT       | 3               | 22                  | 11                    | 1613          | \$3,226        | \$1,613        | \$4,839          |
| 65         |       | 4 SO       | 1               | 0                   | 12                    | 1613          | \$0            | \$1,613        | \$1,613          |

| Height | Class   | Pole Usage | Number of poles | Primary Connections | Secondary Connections | cost per pole | Pri Investment | Sec Investment | Total Investment |
|--------|---------|------------|-----------------|---------------------|-----------------------|---------------|----------------|----------------|------------------|
| 65     |         | 5 PT       | 1               | 4                   | 0                     | 1613          | \$1,613        | \$0            | \$1,613          |
| 70     |         | 1 PO       | 1               | 8                   | 0                     | 2459          | \$2,459        | \$0            | \$2,459          |
| 70     |         | 1 PT       | 1               | 8                   | 0                     | 2459          | \$2,459        | \$0            | \$2,459          |
| 70     |         | 2 PO       | 54              | 462                 | 0                     | 2278          | \$123,012      | \$0            | \$123,012        |
| 70     |         | 2 PS       | 8               | 96                  | 37                    | 2278          | \$13,154       | \$5,070        | \$18,224         |
| 70     |         | 2 PT       | 42              | 322                 | 100                   | 2278          | \$73,004       | \$22,672       | \$95,676         |
| 70     |         | 2 SO       | 1               | 0                   | 4                     | 2278          | \$0            | \$2,278        | \$2,278          |
| 70     |         | 3 PO       | 2               | 16                  | 0                     | 2278          | \$4,556        | \$0            | \$4,556          |
| 70     |         | 4 PT       | 1               | 2                   | 2                     | 2278          | \$1,139        | \$1,139        | \$2,278          |
| 70     |         | 6 PT       | 1               | 7                   | 5                     | 2278          | \$1,329        | \$949          | \$2,278          |
| 75     |         | 1 PO       | 1               | 10                  | 0                     | 2753          | \$2,753        | \$0            | \$2,753          |
| 75     |         | 2 PO       | 17              | 157                 | 0                     | 3156          | \$53,652       | \$0            | \$53,652         |
| 75     |         | 2 PS       | 4               | 33                  | 16                    | 3156          | \$8,502        | \$4,122        | \$12,624         |
| 75     |         | 2 PT       | 5               | 45                  | 8                     | 3156          | \$13,398       | \$2,382        | \$15,780         |
| 75     |         | 4 PT       | 1               | 8                   | 3                     | 3156          | \$2,295        | \$861          | \$3,156          |
| 80     |         | 1 PO       | 2               | 20                  | 0                     | 3188          | \$6,376        | \$0            | \$6,376          |
| 80     |         | 2 PO       | 9               | 76                  | 0                     | 3188          | \$28,692       | \$0            | \$28,692         |
| 80     |         | 2 PS       | 1               | 12                  | 5                     | 3188          | \$2,250        | \$938          | \$3,188          |
| 80     |         | 2 PT       | 1               | 12                  | 6                     | 3188          | \$2,125        | \$1,063        | \$3,188          |
| 80     | Unknown | PO         | 1               | 6                   | 0                     | 3188          | \$3,188        | \$0            | \$3,188          |
| 85     |         | 2 PO       | 3               | 19                  | 0                     | 7087          | \$21,261       | \$0            | \$21,261         |
| 85     | Unknown | PO         | 2               | 12                  | 0                     | 7087          | \$14,174       | \$0            | \$14,174         |
| 90     |         | 1 PO       | 1               | 8                   | 0                     | 8722          | \$8,722        | \$0            | \$8,722          |
| 90     | Unknown | PO         | 1               | 6                   | 0                     | 8722          | \$8,722        | \$0            | \$8,722          |
| 100    | Unknown | PO         | 1               | 6                   | 0                     | 9780          | \$9,780        | \$0            | \$9,780          |
| 105    | Unknown | PO         | 1               | 6                   | 0                     | 9780          | \$9,780        | \$0            | \$9,780          |

**Kentucky Power**  
**Account 364 - Poles**  
**Test Period Ending September 30, 2014**

| <u>Summary</u> | Number of poles | Primary Connections | Secondary Connections | Primary                | Secondary              |
|----------------|-----------------|---------------------|-----------------------|------------------------|------------------------|
| <b>Total</b>   | 201,026         | 679,968             | 438,956               | \$85,286,856<br>57.00% | \$64,345,659<br>43.00% |

|                         | Number of poles | Primary Connections | Secondary Connections | Size to use | Cost  | Primary                   | Secondary              |
|-------------------------|-----------------|---------------------|-----------------------|-------------|-------|---------------------------|------------------------|
| <b>Customer-related</b> | 201,026         | 679,968             | 438,956               | 35'         | \$615 | \$75,130,318.96<br>50.21% | \$48,500,671<br>32.41% |
| <b>Demand-related</b>   |                 |                     |                       |             |       | \$10,156,537<br>6.79%     | \$15,844,988<br>10.59% |

Note: Current installed cost of 35 foot pole (material and labor) is \$615.

**Kentucky Power**  
**Account 365 - Overhead Conductors**  
**Test Period Ending September 30, 2014**

| Conductor<br>Size/Type | Pri. Est.                     | Sec. Est.                     | Pri Neutral              |                      |                          |                                  | Pri Investment | Sec<br>Investment | Total<br>Investment |
|------------------------|-------------------------------|-------------------------------|--------------------------|----------------------|--------------------------|----------------------------------|----------------|-------------------|---------------------|
|                        | Installed<br>Cost per<br>Foot | Installed<br>Cost per<br>Foot | Pri Span Total<br>(feet) | Span Total<br>(feet) | Sec Span Total<br>(feet) | Sec Neutral Span<br>Total (feet) |                |                   |                     |
| 1/0AA                  | 1.38                          | 2.45                          | 5,039,221                | 2,593,876            | 58,701                   | 36,398                           | \$10,533,674   | \$232,994         | \$10,766,668        |
| 1/0AL                  | 1.38                          | 2.45                          | 264,644                  | 293,363              | 6,514,521                | 3,066,587                        | \$770,050      | \$23,473,715      | \$24,243,765        |
| 1/0AS                  | 1.38                          | 2.45                          | 455,168                  | 158,540              | 106,674                  | 60,914                           | \$846,917      | \$410,592         | \$1,257,510         |
| 1/OCC                  | 2.79                          | 4.95                          | 198                      | 198                  | 139                      | 139                              | \$1,102        | \$1,381           | \$2,484             |
| 1/OCU                  | 2.79                          | 4.95                          | 34,148                   | 14,982               | 8,601                    | 4,274                            | \$137,074      | \$63,769          | \$200,843           |
| 1/OCW                  | 2.79                          |                               | 31,996                   | 1,985                | -                        | -                                | \$94,808       | \$0               | \$94,808            |
| 1/0Un                  | 1.38                          | 2.45                          | 5,523                    | 2,367                | 854                      | 558                              | \$10,888       | \$3,460           | \$14,348            |
| 159AA                  | 1.88                          |                               | -                        | 877                  | -                        | -                                | \$1,649        | \$0               | \$1,649             |
| 159AL                  | 1.88                          |                               | -                        | 3,519                | -                        | -                                | \$6,617        | \$0               | \$6,617             |
| 159AS                  | 1.88                          | 3.34                          | -                        | 98,990               | -                        | 539                              | \$186,102      | \$1,799           | \$187,900           |
| 159Un                  | 1.88                          |                               | -                        | 399                  | -                        | -                                | \$751          | \$0               | \$751               |
| 1AA                    | 1.38                          | 2.45                          | 244                      | 284                  | 94                       | 47                               | \$728          | \$346             | \$1,074             |
| 1AL                    |                               | 2.45                          | -                        | -                    | 570                      | 285                              | \$0            | \$2,093           | \$2,093             |
| 1AS                    | 1.38                          |                               | -                        | 115                  | -                        | -                                | \$159          | \$0               | \$159               |
| 1CU                    | 2.79                          | 4.95                          | -                        | 213                  | -                        | 68                               | \$593          | \$339             | \$932               |
| 2/0AA                  | 1.88                          |                               | 179                      | 304                  | -                        | -                                | \$909          | \$0               | \$909               |
| 2/0AL                  | 1.88                          | 3.34                          | 21                       | 21                   | 92,467                   | 31,853                           | \$78           | \$415,293         | \$415,372           |
| 2/0AS                  | 1.88                          | 3.34                          | 12,038                   | 4,895                | 2,908                    | 1,454                            | \$31,862       | \$14,569          | \$46,431            |
| 2/OCU                  | 4.00                          | 7.09                          | 2,085                    | 295                  | 79                       | 26                               | \$9,511        | \$749             | \$10,260            |
| 2A5                    | 0.82                          | 1.52                          | 1,439                    | 1,239                | 536                      | 346                              | \$2,196        | \$1,341           | \$3,536             |
| 2AA                    | 0.82                          | 1.52                          | 19,267,487               | 15,217,518           | 460,095                  | 257,042                          | \$28,277,704   | \$1,090,048       | \$29,367,752        |
| 2ACC                   | 0.82                          | 1.52                          | 28,433                   | 21,695               | -                        | 17                               | \$41,106       | \$26              | \$41,132            |
| 2AL                    | 0.82                          | 1.52                          | 438,405                  | 351,622              | 5,342,887                | 2,484,578                        | \$647,822      | \$11,897,747      | \$12,545,569        |
| 2AS                    | 0.82                          | 1.52                          | 4,445,346                | 3,294,943            | 587,086                  | 346,058                          | \$6,347,037    | \$1,418,380       | \$7,765,417         |
| 2CC                    | 2.36                          | 4.37                          | 2,371                    | 2,371                | 764                      | 413                              | \$11,190       | \$5,150           | \$16,340            |
| 2CU                    | 2.36                          | 4.37                          | 252,787                  | 59,503               | 35,841                   | 22,175                           | \$737,006      | \$253,531         | \$990,537           |
| 2CW                    | 2.36                          | 4.37                          | 42,513                   | 1,753                | 653                      | 156                              | \$104,469      | \$3,539           | \$108,007           |
| 2Un                    | 0.82                          | 1.52                          | 735                      | 2,194                | 490                      | 320                              | \$2,401        | \$1,231           | \$3,632             |
| 3/0AA                  | 2.38                          | 4.23                          | 4,464                    | 18,428               | 174                      | 87                               | \$54,554       | \$1,106           | \$55,660            |
| 3/0AL                  | 2.38                          | 4.23                          | 9,565                    | 3,302                | 14,378                   | 6,878                            | \$30,666       | \$89,936          | \$120,602           |
| 3/0AS                  | 2.38                          | 4.23                          | 267,579                  | 18,013               | 4,724                    | 2,576                            | \$680,624      | \$30,885          | \$711,509           |
| 3/OCU                  | 5.20                          | 9.24                          | 2,315                    | -                    | 343                      | 171                              | \$12,043       | \$4,752           | \$16,794            |
| 336AA                  | 2.04                          | 5.93                          | 31,060                   | 11,112               | 418                      | 304                              | \$86,029       | \$4,285           | \$90,314            |
| 336AL                  | 2.04                          | 5.93                          | 19,595                   | 19,012               | 81,854                   | 29,733                           | \$78,757       | \$661,706         | \$740,463           |
| 336AS                  | 2.12                          | 6.63                          | 75,760                   | 3,066                | 237                      | 179                              | \$167,113      | \$2,759           | \$169,871           |
| 350AL                  |                               | 4.40                          | -                        | -                    | 1,797                    | 706                              | \$0            | \$11,015          | \$11,015            |
| 397AS                  | 2.12                          |                               | 307                      | -                    | -                        | -                                | \$651          | \$0               | \$651               |
| 4/0A5                  | 1.66                          |                               | 1,323                    | -                    | -                        | -                                | \$2,196        | \$0               | \$2,196             |
| 4/0AA                  | 1.66                          | 3.21                          | 7,160,936                | 1,473,248            | 3,159                    | 4,352                            | \$14,332,747   | \$24,111          | \$14,356,857        |
| 4/0AL                  | 1.66                          | 3.21                          | 543,956                  | 123,911              | 1,305,561                | 603,682                          | \$1,108,660    | \$6,128,668       | \$7,237,327         |
| 4/0AS                  | 1.66                          | 3.21                          | 307,130                  | 102,267              | 2,200                    | 1,100                            | \$679,600      | \$10,595          | \$690,195           |
| 4/0AW                  | 1.66                          |                               | -                        | 246                  | -                        | -                                | \$408          | \$0               | \$408               |
| 4/OCU                  | 4.52                          | 8.74                          | 73,217                   | 76,332               | 3,271                    | 2,188                            | \$675,963      | \$47,712          | \$723,676           |
| 4/0Un                  | 1.66                          | 3.21                          | -                        | 293                  | 610                      | 305                              | \$487          | \$2,936           | \$3,423             |
| 4A5                    | 0.78                          |                               | 742                      | 742                  | -                        | -                                | \$1,158        | \$0               | \$1,158             |
| 4AA                    | 0.78                          | 1.15                          | 25,299                   | 17,578               | 12,708                   | 7,729                            | \$33,444       | \$23,503          | \$56,947            |
| 4AAA                   | 0.78                          |                               | -                        | 1,312                | -                        | -                                | \$1,023        | \$0               | \$1,023             |
| 4AAS                   | 0.78                          |                               | 260                      | 260                  | -                        | -                                | \$406          | \$0               | \$406               |
| 4ACC                   | 1.26                          | 3.62                          | 244,736                  | 151,858              | 3,362                    | 1,990                            | \$499,708      | \$19,374          | \$519,082           |
| 4ACU                   | 1.26                          |                               | -                        | 708                  | -                        | -                                | \$892          | \$0               | \$892               |
| 4AL                    | 0.78                          | 1.15                          | 17,293                   | 14,444               | 2,150,359                | 1,653,808                        | \$24,755       | \$4,374,792       | \$4,399,547         |
| 4AS                    | 0.78                          | 1.15                          | 973,852                  | 886,849              | 70,229                   | 40,974                           | \$1,451,347    | \$127,883         | \$1,579,230         |
| 4CC                    | 1.26                          | 3.62                          | 227                      | 3,325                | 294                      | 454                              | \$4,476        | \$2,705           | \$7,180             |
| 4CO                    | 1.26                          |                               | 236                      | -                    | -                        | -                                | \$298          | \$0               | \$298               |
| 4CU                    | 1.26                          | 3.62                          | 5,021,795                | 3,204,502            | 1,114,140                | 621,072                          | \$10,365,134   | \$6,281,466       | \$16,646,600        |
| 4CW                    | 1.26                          | 3.62                          | 14,083                   | 14,331               | 4,826                    | 2,584                            | \$35,802       | \$26,822          | \$62,623            |
| 4Un                    | 0.78                          | 1.15                          | 269                      | 156                  | -                        | 157                              | \$331          | \$180             | \$511               |
| 500AL                  |                               | 6.15                          | -                        | -                    | 2,916                    | 740                              | \$0            | \$22,485          | \$22,485            |
| 500CU                  |                               | 35.96                         | -                        | -                    | 278                      | 86                               | \$0            | \$13,060          | \$13,060            |
| 556AL                  | 2.52                          | 4.87                          | 5,657,769                | 14,244               | 9,563                    | 2,658                            | \$14,293,473   | \$59,550          | \$14,353,022        |
| 6AA                    | 0.78                          |                               | 7,507                    | 6,164                | -                        | -                                | \$10,664       | \$0               | \$10,664            |
| 6AAL                   |                               | 1.15                          | -                        | -                    | 644                      | 644                              | \$0            | \$1,481           | \$1,481             |

| Conductor Size/Type | Pri. Est. Installed Cost per Foot | Sec. Est. Installed Cost per Foot | Pri Span Total (feet) | Pri Neutral Span Total (feet) | Sec Span Total (feet) | Sec Neutral Span Total (feet) | Pri Investment     | Sec Investment    | Total Investment   |
|---------------------|-----------------------------------|-----------------------------------|-----------------------|-------------------------------|-----------------------|-------------------------------|--------------------|-------------------|--------------------|
| 6ACC                | 1.26                              | 3.62                              | 2,179,307             | 1,863,959                     | 99,859                | 65,288                        | \$5,094,516        | \$597,832         | \$5,692,348        |
| 6ACU                | 1.26                              |                                   | 1,637                 | 1,122                         | -                     | -                             | \$3,476            | \$0               | \$3,476            |
| 6AL                 | 0.78                              | 1.15                              | 3,929                 | 4,152                         | 2,168                 | 1,313                         | \$6,304            | \$4,004           | \$10,308           |
| 6AS                 | 0.78                              | 1.15                              | 6,101                 | 3,259                         | 791                   | 791                           | \$7,300            | \$1,820           | \$9,120            |
| 6CC                 | 1.26                              | 3.62                              | 886,177               | 677,418                       | 138,726               | 75,394                        | \$1,970,130        | \$775,116         | \$2,745,246        |
| 6CU                 | 1.26                              | 3.62                              | 224,462               | 117,418                       | 145,612               | 84,235                        | \$430,768          | \$832,049         | \$1,262,817        |
| 6CW                 | 1.26                              | 3.62                              | 1,342                 | 1,291                         | 29,858                | 20,770                        | \$3,318            | \$183,271         | \$186,588          |
| 6Un                 | 0.78                              |                                   | 523                   | 523                           | -                     | -                             | \$816              | \$0               | \$816              |
| 750AL               | 10.52                             | 9.87                              | 373                   | -                             | 3,147                 | 820                           | \$3,925            | \$39,154          | \$43,079           |
| 795AL               | 3.06                              |                                   | 83                    | -                             | -                     | -                             | \$255              | \$0               | \$255              |
| 8AA                 | 0.78                              |                                   | 1,008                 | 1,008                         | -                     | -                             | \$1,573            | \$0               | \$1,573            |
| 8ACC                | 1.26                              | 3.62                              | 115,190               | 86,322                        | 1,061                 | 747                           | \$253,905          | \$6,546           | \$260,451          |
| 8CC                 | 1.26                              | 3.62                              | 87,595                | 67,134                        | 1,492                 | 1,374                         | \$194,959          | \$10,374          | \$205,334          |
| 8CU                 | 1.26                              | 3.62                              | -                     | 580                           | 549                   | 172                           | \$731              | \$2,610           | \$3,341            |
| UnknownAA           | 0.82                              |                                   | 726                   | 13,289                        | -                     | -                             | \$11,493           | \$0               | \$11,493           |
| UnknownAL           | 0.82                              | 1.52                              | 656                   | 2,371                         | 7,868                 | 4,232                         | \$2,482            | \$18,392          | \$20,873           |
| UnknownAS           | 0.82                              |                                   | -                     | 1,516                         | -                     | -                             | \$1,243            | \$0               | \$1,243            |
| UnknownAW           | 0.82                              |                                   | -                     | 93                            | -                     | -                             | \$76               | \$0               | \$76               |
| UnknownCC           | 2.36                              |                                   | 7,222                 | 5,491                         | -                     | -                             | \$30,005           | \$0               | \$30,005           |
| UnknownCU           | 2.36                              |                                   | 898                   | 495                           | -                     | -                             | \$3,287            | \$0               | \$3,287            |
| UnknownUn           | 0.82                              | 1.52                              | 24,020                | 46,348                        | 91,697                | 74,450                        | \$57,702           | \$252,543         | \$310,245          |
| <b>Total</b>        |                                   |                                   | <b>54,327,507</b>     | <b>31,187,557</b>             | <b>18,524,834</b>     | <b>9,628,991</b>              | <b>101,516,072</b> | <b>59,989,569</b> | <b>161,505,641</b> |

| Summary      | Primary       | Secondary    | Total         |
|--------------|---------------|--------------|---------------|
| <b>Total</b> | \$101,516,072 | \$59,989,569 | \$161,505,641 |
|              | 62.86%        | 37.14%       | 100.00%       |

|                         | Pri Span Total (feet)       | Pri Neutral Span Total (feet) | Sec Span Total (feet)         | Sec Neutral Span Total (feet) | Primary      | Secondary    | Total         |
|-------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|--------------|--------------|---------------|
|                         | <b>54,327,507</b>           | <b>31,187,557</b>             | <b>18,524,834</b>             | <b>9,628,991</b>              |              |              |               |
| <b>Customer-related</b> | Primary cost: <b>\$0.82</b> |                               | Secondary cost: <b>\$1.52</b> |                               | \$70,122,353 | \$42,793,814 | \$112,916,166 |
|                         |                             |                               |                               |                               | 43.42%       | 26.50%       | 69.91%        |
| <b>Demand-related</b>   |                             |                               |                               |                               | \$31,393,719 | \$17,195,756 | \$48,589,475  |
|                         |                             |                               |                               |                               | 19.44%       | 10.65%       | 30.09%        |

Note: \$0.82 is the average installed cost (material & labor) of a foot of overhead primary conductor (#2 Aluminum Alloy - 2AA).  
 Note: \$1.52 is the average installed cost (material & labor) of a foot of overhead secondary conductor (1 Oht - 1/OAA).

**Kentucky Power**  
**Account 367 - Underground Conductors**  
**Test Period Ending September 30, 2014**

| Conductor Size/Type | Pri. Est. Installed Cost per Foot | Sec. Est. Installed Cost per Foot | Pri Span Total (Feet) | Pri Neutral Span Total (Feet) | Sec Span Total (Feet) | Sec Neutral Span Total (Feet) | Pri Investment   | Sec Investment   | Total Investment |
|---------------------|-----------------------------------|-----------------------------------|-----------------------|-------------------------------|-----------------------|-------------------------------|------------------|------------------|------------------|
| 1/0AL               | 4.485                             | 2.26                              | 814816.4              | 35908.75                      | 54975.1               | 25895.91                      | \$3,815,502      | \$182,768        | \$3,998,271      |
| 1/0CU               | 26.91                             | 13.56                             | 8043.41               | 769.86                        | 0                     | 48.75                         | \$237,165        | \$661            | \$237,826        |
| 2/0AL               |                                   | 3.33                              | 0                     | 0                             | 2544.86               | 964.45                        | \$0              | \$11,686         | \$11,686         |
| 2/0CU               | 26.91                             |                                   | 2660.91               | 0                             | 0                     | 0                             | \$71,605         | \$0              | \$71,605         |
| 2AL                 | 3.24                              | 2.26                              | 36053                 | 2876.44                       | 2643.95               | 1478.08                       | \$126,131        | \$9,316          | \$135,447        |
| 2CU                 | 19.44                             |                                   | 5183.27               | 58.07                         | 0                     | 0                             | \$101,892        | \$0              | \$101,892        |
| 350AL               | 2.52                              | 4.4                               | 356.3                 | 5351.66                       | 192633.49             | 85268.29                      | \$14,384         | \$1,222,768      | \$1,237,152      |
| 350CU               | 24.93                             | 24.93                             | 0                     | 295.9                         | 620.6                 | 7438.83                       | \$7,377          | \$200,922        | \$208,298        |
| 4/0AL               | 6.38                              | 2.99                              | 33981.08              | 7500.17                       | 49562.78              | 23408.79                      | \$264,650        | \$218,185        | \$482,835        |
| 4/0CU               | 23.85                             | 23.85                             | 0                     | 860.23                        | 543.98                | 271.99                        | \$20,516         | \$19,457         | \$39,973         |
| 4AL                 |                                   | 1.16                              | 0                     | 0                             | 19949.71              | 16763.54                      | \$0              | \$42,587         | \$42,587         |
| 4CU                 |                                   | 4.28                              | 0                     | 0                             | 281.12                | 140.56                        | \$0              | \$1,805          | \$1,805          |
| 500AL               | 6.03                              | 6.15                              | 1428.87               | 90.8                          | 10437.46              | 4372.14                       | \$9,164          | \$91,079         | \$100,243        |
| 500CU               | 35.96                             | 35.96                             | 751.38                | 0                             | 15452.06              | 0                             | \$27,020         | \$555,656        | \$582,676        |
| 6AAL                | 0.78                              | 1.08                              | 0                     | 0                             | 406.23                | 406.23                        | \$0              | \$877            | \$877            |
| 6AL                 | 0.78                              | 1.08                              | 636.15                | 84.54                         | 85068.58              | 71532.02                      | \$562            | \$169,129        | \$169,691        |
| 6CC                 |                                   | 3.57                              | 0                     | 0                             | 116.73                | 116.73                        | \$0              | \$833            | \$833            |
| 6CU                 | 1.26                              | 3.57                              | 443.92                | 206.47                        | 8286.95               | 6406.77                       | \$819            | \$52,457         | \$53,276         |
| 750AL               | 10.52                             | 9.87                              | 46596.14              | 224.14                        | 145.65                | 48.55                         | \$492,549        | \$1,917          | \$494,466        |
| 750CU               | 54.23                             | 54.23                             | 887.7                 | 0                             | 729.24                | 40.7                          | \$48,140         | \$41,754         | \$89,894         |
| 8CU                 |                                   | 3.57                              | 0                     | 0                             | 4620.98               | 2310.49                       | \$0              | \$24,745         | \$24,745         |
| UnknownA            | 4.485                             | 4.4                               | 1175.97               | 0                             | 308.85                | 284.44                        | \$5,274          | \$2,610          | \$7,885          |
| UnknownU            | 4.485                             | 4.4                               | 4199.97               | 1041.03                       | 5338.69               | 3728.99                       | \$23,506         | \$39,898         | \$63,404         |
| <b>Total</b>        | <b>5.20</b>                       | <b>4.10</b>                       | <b>957,214</b>        | <b>55,268</b>                 | <b>454,667</b>        | <b>250,926</b>                | <b>5,266,258</b> | <b>2,891,110</b> | <b>8,157,368</b> |

| Summary      | Primary     | Secondary   | Total       |
|--------------|-------------|-------------|-------------|
| <b>Total</b> | \$5,266,258 | \$2,891,110 | \$8,157,368 |
|              | 64.56%      | 35.44%      | 100.00%     |

|                         | Pri Span Total (Feet)      | Pri Neutral Span Total (Feet) | Sec Span Total (Feet)        | Sec Neutral Span Total (Feet) | Primary     | Secondary   | Total       |
|-------------------------|----------------------------|-------------------------------|------------------------------|-------------------------------|-------------|-------------|-------------|
|                         | <b>957,214</b>             | <b>55,268</b>                 | <b>454,667</b>               | <b>250,926</b>                |             |             |             |
| <b>Customer-related</b> | Primary cost <b>\$3.24</b> |                               | Secondary cost <b>\$2.26</b> |                               | \$3,280,443 | \$1,594,641 | \$4,875,084 |
|                         |                            |                               |                              |                               | 40.21%      | 19.55%      | 59.76%      |
| <b>Demand-related</b>   |                            |                               |                              |                               | \$1,985,814 | \$1,296,470 | \$3,282,284 |
|                         |                            |                               |                              |                               | 24.34%      | 15.89%      | 40.24%      |

Note: \$3.24 is the current installed cost (material & labor) of a foot of underground primary conductor (#2 Aluminum - 2AL).  
Note: \$2.26 is the current installed cost (material & labor) of a foot of underground secondary conductor (1 Oht - 1/OAL).



Kentucky  
Account 368 - Transformers  
Test Period Ending September 30, 2014

| company                | major location                   | utility account           | state | retirement unit                    | activity cost @ 9/2014  | secondary voltage allocation | primary voltage allocation |
|------------------------|----------------------------------|---------------------------|-------|------------------------------------|-------------------------|------------------------------|----------------------------|
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Cutout or Fuse Mounting - Inactive | \$ 828.71               |                              | \$829                      |
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Protector                          | \$ 2,368.10             |                              | \$2,368                    |
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Transformer                        | \$ 87,776.74            | \$87,777                     |                            |
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Switch, Time All Types             | \$ 94,358.76            |                              | \$94,359                   |
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Switch, Oil 1 Ph Remote Control    | \$ 114,379.60           |                              | \$114,380                  |
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Arrester                           | \$ 117,080.93           |                              | \$117,081                  |
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Capacitor Switch                   | \$ 236,243.36           |                              | \$236,243                  |
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Controller, Capacitor              | \$ 393,682.33           |                              | \$393,682                  |
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Non-unitized                       | \$ 906,864.12           |                              | \$906,864                  |
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Regulator Controller               | \$ 1,217,406.87         |                              | \$1,217,407                |
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Capacitor, Unit or Bank            | \$ 1,583,501.73         |                              | \$1,583,502                |
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Regulator                          | \$ 5,655,520.59         |                              | \$5,655,521                |
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Cutout or Fuse Mounting            | \$ 14,099,822.48        |                              | \$14,099,822               |
| Kentucky Power - Distr | Distribution Mass Prop - KY, KEP | 36800 - Line Transformers | KY    | Transformer, Line                  | \$ 97,811,788.95        | \$97,811,789                 |                            |
| <b>VA Total</b>        |                                  |                           |       |                                    | <b>\$122,321,623.27</b> | <b>\$97,899,565.69</b>       | <b>\$24,422,057.58</b>     |
| <b>Summary</b>         |                                  |                           |       |                                    |                         | <b>Secondary</b>             | <b>Primary</b>             |
| <b>Total</b>           |                                  |                           |       |                                    |                         | <b>80.03%</b>                | <b>19.97%</b>              |

|   | # of Transformers | \$/Transformer |                          | Secondary   | Primary               |
|---|-------------------|----------------|--------------------------|---|-----------------------|
| OH Distribution Transformers            | 89,197            | \$1,116        | \$ 99,543,852.00         |   |                       |
| UG Distribution Transformers            | 1,459             | \$1,584        | \$ 2,311,056.00          |   |                       |
| <b>Total Customer Related</b>           | <b>90,656</b>     |                | <b>\$ 101,854,908.00</b> | <b>Total Customer Related \$ 81,519,121</b>             | <b>\$ 20,335,787</b>  |
| <b>Remaining Demand Related Portion</b> |                   |                | <b>\$20,466,715.27</b>   | <b>Remaining Demand Related Portion \$16,380,444.29</b> | <b>\$4,086,270.98</b> |
| <b>Customer-related</b>                 |                   |                |                          | <b>66.64%</b>   | <b>16.62%</b>         |
| <b>Demand-related</b>                   |                   |                |                          | <b>13.39%</b>   | <b>3.34%</b>          |

Note: Current installed cost (material & labor) of 25 kVA single phase overhead transformer is \$1,116.  
 Note: Current installed cost (material & labor) of 25 kVA single phase underground transformer is \$1,584.

Marginal Customer Connection Study  
 Kentucky Power 2014

| Kentucky Power MCAC (Customer Hookup Cost): 7.2kV |                          |                      |                 |                     |
|---|--------------------------|----------------------|-----------------|---------------------|
| Account   | Description              | Total Installed Cost | % of Total Cost | Avg Serv Life (yrs) |
| 3640000   | Poles, Towers & Fixtures | \$1,464.10           | 36.63%          | 31                  |
| 3650000   | OH Conductor & Devices   | \$935.71             | 23.41%          | 40                  |
| 3680000   | Transformer Devices      | \$1,221.01           | 30.55%          | 32                  |
| 3690000   | Services                 | \$271.47             | 6.79%           | 33                  |
| 5860000   | Meter Expense            | \$105.06             | 2.63%           | 25                  |
| <b>Total Work Request Charges</b>                 |                          | <b>\$3,997.35</b>    |                 |                     |

| Marginal Cost Per Month to Connect a Residential Customer |                |
|---|----------------|
| Weighted Avg Accounting Life                              | 33             |
| Levelized 33 Year Carrying Charge                         | 12.43%         |
| Total Capital Cost  | \$3,997.35     |
| Monthly Capital Recovery \$                               | \$41.41        |
| <b>Total Basic Service Charge \$/month</b>                | <b>\$41.41</b> |

**Big Sandy 1 Operations Rider (BS1OR)**

Big Sandy 1 Coal Operations

Revenue Requirement

|                                      | KY Retail            |               |
|--------------------------------------|----------------------|---------------|
| Non Fuel Plant O&M - Demand          | \$ 9,150,077         | a             |
| Non Fuel Plant O&M - Energy          | \$ 3,351,767         | b             |
| Jan- Sept 14 PJM Charges and Credits | \$ 4,239,908         | c             |
| Annualize PJM Charges and Credits    | \$ 5,653,211         | $d = c/9*12$  |
| <u>Total BS1 Operational Expense</u> | <u>\$ 18,155,055</u> | $e = a+b+d$   |
| gross up factor                      | 1.004977             | f             |
| <u>KY Retail Total</u>               | <u>\$ 18,245,413</u> | $g = e*f$     |
| <br>                                 |                      |               |
| Demand Total                         | \$ 9,195,617         | $h = a*f$     |
| Energy Total                         | \$ 9,049,796         | $i = (b+d)*f$ |
| <u>Total</u>                         | <u>\$ 18,245,413</u> |               |

**Kentucky Power Company**  
**Big Sandy 1 Operation Rider Rate Design**

|                        | Demand      | Energy      | Total        |
|------------------------|-------------|-------------|--------------|
| KY Retail Jurisdiction | \$9,195,617 | \$9,049,796 | \$18,245,413 |
| Revenue Requirement    |             |             | \$18,243,719 |

| Class<br>(1)                    | Historic Period<br>Billing<br>Energy<br>(2) | Historic Period<br>Billing<br>Demand<br>(3) | Test Year<br>CP / kWh<br>Ratio<br>(4) | CP<br>Demand<br>Allocation<br>Factor<br>(5) = (2) x (4) | Allocated<br>Demand<br>Related<br>Costs<br>(6)<br>on (5) | Allocated<br>Energy<br>Related<br>Costs<br>(7)<br>on (2) | \$ / kW<br>Rate<br>(8) = (6) / (3) | \$ / kWh<br>Rate<br>(9) = (7) / (2) | Revenue<br>Verification<br>(10) | Difference<br>(11) =<br>(10) - (9) |
|---------------------------------|---|---|---------------------------------------|---|--|--|------------------------------------|-------------------------------------|---------------------------------|------------------------------------|
|                                 |   |   |                                       |   |  |  |                                    |                                     |                                 |                                    |
| RES                             | 2,260,149,747                               |   | 0.0236060%                            | 533,531   | \$4,315,835  | \$3,150,585  | \$ -                               | \$0.00330                           | \$7,458,494                     | -\$7,926                           |
| SGS                             | 142,560,729                                 |   | 0.0163937%                            | 23,371  | 189,053  | 198,726  | \$ -                               | \$0.00272                           | 387,765                         | -\$14                              |
| MGS                             | 507,158,704                                 | 2,119,598                                   | 0.0177002%                            | 89,768  | 726,151  | 706,965  | 0.34                               | \$0.00141 <sup>2</sup>              | 1,435,757                       | \$2,641                            |
| Non Demand MGS Sec <sup>1</sup> | 6,484,718                                   |   | 0.0177002%                            | 1,148   | 9,286  | 9,040  | \$ -                               | \$0.00283                           | 18,352                          | \$26                               |
| LGS                             | 705,405,060                                 | 2,169,269                                   | 0.0169381%                            | 119,482   | 966,513  | 983,315  | 0.45                               | \$0.00139                           | 1,956,684                       | \$6,856                            |
| LGS LMTOD                       | 1,959,939                                   |   | 0.0169381%                            | 332   | 2,686  | 2,732  | \$ -                               | \$0.00276                           | 5,409                           | -\$9                               |
| IGS (QP / CIP-TOD)              | 2,818,677,591                               | 5,429,712                                   | 0.0130626%                            | 368,192   | 2,978,376  | 3,929,159  | 0.55                               | \$0.00139                           | 6,904,303                       | -\$3,232                           |
| MW                              | 3,864,039                                   |   | 0.0134057%                            | 518   | 4,190  | 5,386  | \$ -                               | \$0.00248                           | 9,583                           | \$7                                |
| OL                              | 37,640,598                                  |   | 0.0009431%                            | 355   | 2,872  | 52,470   | \$ -                               | \$0.00147                           | 55,332                          | -\$10                              |
| SL                              | 8,190,082                                   |   | 0.0008990%                            | 81  | 655  | 11,417   | \$ -                               | \$0.00147                           | 12,039                          | -\$33                              |
| <b>Total</b>                    | <b>6,492,091,207</b>                        | <b>9,718,579</b>                            |                                       | <b>1,136,778</b>  | <b>\$9,195,617</b>                                       | <b>\$9,049,795</b>                                       |                                    |                                     | <b>\$18,243,719</b>             | <b>(\$1,693)</b>                   |

Notes:

<sup>1</sup> Non Demand MGS Sec includes MGS RL, MGS LMTOD and MGS TOD

<sup>2</sup> Revised after Revenue Verification

**KPCo KY Retail PSC Jurisdiction  
Class Billing Determinants  
12 Months Ended Sept 2014**

| <u>Class</u><br>(1) | <u>kWh Energy</u> | <u>kW 12 CP</u> |
|---------------------|-------------------|-----------------|
| RES                 | 2,260,149,747     | 533,531         |
| SGS                 | 142,560,729       | 23,371          |
| MGS                 | 507,158,704       | 89,768          |
| Non Demand MGS Sec  | 6,484,718         |                 |
| LGS                 | 705,405,060       | 119,482         |
| LGS LMTOD           | 1,959,939         |                 |
| QP/CIP              | 2,818,677,591     | 368,192         |
| MW                  | 3,864,039         | 518             |
| OL                  | 37,640,598        | 355             |
| SL                  | 8,190,082         | 81              |
| Total               | 6,492,091,207     | 1,135,298       |

**Kentucky Power Company**

**Adjustment to PJM Charges and Credits to Reflect the AEP East Pool Termination, Removal of Big Sandy 1 & 2 PJM Charges and Annualization of Stand Alone PJM Charges  
Test Year Twelve Months Ended 9/30/2014**

| LINE NO. | DESCRIPTION               | KPCO TOTAL COMPANY ADJUSTMENT | ALLOCATION FACTOR | KENTUCKY PSC RETAIL JURISDICTION ADJUSTMENT |
|----------|---------------------------|-------------------------------|-------------------|---|
|          | <u>Operating Expenses</u> |                               |                   |   |
| 1        | Energy Related            | \$ 1,593,344                  | Energy            | \$ 1,571,037                                |
| 2        | Demand Related            | \$ 6,007,677                  | PDAF/Specific     | \$ 6,013,265                                |
| 3        | Total                     | \$ 7,601,021                  |                   | \$ 7,584,302                                |
|          |                           |                               |                   | <b>Increase Operating Expense</b>           |

Exhibit AEV 5 - PIM Adjustment Calculations  
KPCO 12 Months Ended September 30, 2014  
Positive amounts are charges (expense) negative amounts are credits (revenue)

| Line                                    | Acct    | Description                             | Classification | Test Year Per Books |                |                |                 |                |                |                 |                |                 |                     | Total of Adjustments | Kentucky PSC Jurisdiction Allocation Factor | Kentucky PSC Jurisdiction Total Adjustment |              |
|---|---------|---|----------------|---------------------|----------------|----------------|-----------------|----------------|----------------|-----------------|----------------|-----------------|---------------------|----------------------|---|--|--------------|
|   |         |   |                | A                   | B              | C              | D               | E              | F              | G               | H              | I               | J                   |                      |   |  | K            |
| 1-PIM                                   | 447003  | PIM Implicit Congestion-ISE             | Energy         | \$ 20,004,934       | \$ (1,250,751) | \$ (4,562,334) | \$ (14,017,902) | \$ 11,822,355  | \$ 2,783,354   | \$ 14,775,673   | \$ 4,926,558   | \$ 19,706,230   | \$ 13,430,243       | \$ (2,967,704)       | Energy                                      | 0.986                                      | \$ (294,522) |
| 2-PIM                                   | 447001  | PIM FTR Revenue-ISE                     | Energy         | \$ (9,650,822)      | \$ 826,791     | \$ -           | \$ (8,824,172)  | \$ (2,941,391) | \$ (1,765,562) | \$ (11,600,846) | \$ (1,765,562) | \$ (13,366,408) | \$ (2,114,600)      | Energy               | 0.986                                       | \$ (2,094,996)                             |              |
| 3-PIM                                   | 447015  | PIM Meter Corrections-ISE               | Energy         | \$ (1,323,263)      | \$ 29,889      | \$ -           | \$ (1,293,374)  | \$ (1,289,922) | \$ (1,289,922) | \$ (2,583,296)  | \$ (31,697)    | \$ (2,614,993)  | \$ (34,994)         | Energy               | 0.986                                       | \$ 12,885                                  |              |
| 4-PIM                                   | 447003  | PIM OMB&LS Charge                       | Energy         | \$ 5,512,329        | \$ (748,077)   | \$ 115,355     | \$ 137,461      | \$ 4,789,252   | \$ 1,596,417   | \$ 6,385,669    | \$ 6,385,669   | \$ 6,385,669    | \$ 848,340          | Energy               | 0.986                                       | \$ 836,463                                 |              |
| 5-PIM                                   | 550004  | PIM Inadvertent MTR Res-ISE             | Energy         | \$ (62,077)         | \$ 16,213      | \$ -           | \$ (45,864)     | \$ (6,613)     | \$ (52,477)    | \$ (52,477)     | \$ (52,477)    | \$ (33,990)     | \$ 7,605            | Energy               | 0.986                                       | \$ 7,609                                   |              |
| 6-PIM                                   | 550004  | PIM Ancillary Serv-Sync                 | Energy         | \$ 5,611            | \$ 50          | \$ -           | \$ 5,661        | \$ 1,887       | \$ 7,548       | \$ 7,548        | \$ 7,548       | \$ 7,442        | \$ 1,910            | Energy               | 0.986                                       | \$ 1,910                                   |              |
| 7-PIM                                   | 550007  | PIM Reactive Charge                     | Demand         | \$ (10,125)         | \$ (28,448)    | \$ -           | \$ (11,816)     | \$ (3,942)     | \$ (15,758)    | \$ (15,758)     | \$ (15,758)    | \$ (15,548)     | \$ (5,644)          | POAF                 | 0.986                                       | \$ (5,955)                                 |              |
| 8-PIM                                   | 550007  | PIM Reactive Charge                     | Demand         | \$ 2,032,226        | \$ (776,819)   | \$ -           | \$ 1,255,407    | \$ 408,784     | \$ 1,664,191   | \$ 1,664,191    | \$ 1,664,191   | \$ 1,612,246    | \$ (8,645)          | POAF                 | 0.986                                       | \$ (8,645)                                 |              |
| 9-PIM                                   | 550007  | PIM Reactive Charge                     | Demand         | \$ 1,914,421        | \$ (225,120)   | \$ -           | \$ 1,689,301    | \$ 565,100     | \$ 2,254,401   | \$ 2,254,401    | \$ 2,254,401   | \$ 2,200,858    | \$ (53,543)         | POAF                 | 0.986                                       | \$ (53,543)                                |              |
| 10-PIM                                  | 550007  | PIM Reactive Charge                     | Energy         | \$ (4,341,828)      | \$ 21,886      | \$ -           | \$ (4,319,942)  | \$ 63,089      | \$ (4,256,853) | \$ (4,256,853)  | \$ (4,256,853) | \$ (4,256,853)  | \$ (4,256,853)      | Energy               | 0.986                                       | \$ (4,256,853)                             |              |
| 11-PIM                                  | 550007  | PIM Spinning Reserve-Charge             | Energy         | \$ 1,348,828        | \$ (33,959)    | \$ -           | \$ 1,314,869    | \$ 449,276     | \$ 1,764,145   | \$ 1,764,145    | \$ 1,764,145   | \$ 1,711,946    | \$ (52,199)         | Energy               | 0.986                                       | \$ (52,199)                                |              |
| 12-PIM                                  | 550008  | PIM Spinning Reserve-Credit             | Energy         | \$ (340,672)        | \$ 17,297      | \$ -           | \$ (323,375)    | \$ 85,007      | \$ (238,368)   | \$ (238,368)    | \$ (238,368)   | \$ (238,368)    | \$ (238,368)        | Energy               | 0.986                                       | \$ (238,368)                               |              |
| 13-PIM                                  | 550009  | PIM 30m Signl Reserv Charge-ISE         | Energy         | \$ 382,926          | \$ 3,731       | \$ -           | \$ 386,657      | \$ 128,886     | \$ 515,543     | \$ 515,543      | \$ 515,543     | \$ 508,325      | \$ (7,218)          | Energy               | 0.986                                       | \$ (7,218)                                 |              |
| 14-PIM                                  | 550009  | PIM 30m Signl Reserv Charge-ISE         | Energy         | \$ (87,133)         | \$ (3,344)     | \$ -           | \$ (90,477)     | \$ 163,959     | \$ 73,482      | \$ (16,995)     | \$ (16,995)    | \$ (16,995)     | \$ (16,995)         | POAF                 | 0.986                                       | \$ (16,995)                                |              |
| 15-PIM                                  | 561801  | PIM Admin R&S-Internal                  | Energy         | \$ 149,126          | \$ (32,823)    | \$ -           | \$ 116,303      | \$ 38,958      | \$ 155,261     | \$ 155,261      | \$ 155,261     | \$ 153,653      | \$ (1,608)          | Energy               | 0.986                                       | \$ (1,608)                                 |              |
| 16-PIM                                  | 5757001 | PIM Admin AMBS-C-Internal               | Energy         | \$ 688,231          | \$ (144,210)   | \$ -           | \$ 544,021      | \$ 181,334     | \$ 725,357     | \$ 725,357      | \$ 725,357     | \$ 715,182      | \$ (1,175)          | Energy               | 0.986                                       | \$ (1,175)                                 |              |
| 21-PIM Subtotal                         |         |   |                | \$ 20,182,261       | \$ (1,177,091) | \$ (4,390,110) | \$ (13,372,829) | \$ 11,900,004  | \$ 2,783,354   | \$ 16,015,584   | \$ 5,360,906   | \$ 21,376,490   | \$ 21,077,219       | \$ 1,194,279         |   |  | \$ 1,177,510 |
| 22-OAT                                  | 4561035 | Network Integrated Transmission Service | Demand         | \$ 372,38,858       | \$ -           | \$ -           | \$ 37,238,858   | \$ 4,353,853   | \$ 41,592,711  | \$ 41,592,711   | \$ 41,592,711  | \$ 41,592,711   | \$ 4,353,853        | Direct to KY Retail  | 0.986                                       | \$ 4,353,853                               |              |
| 23-OAT                                  | 560016  | Network Integrated Transmission Service | Demand         | \$ 5,140,478        | \$ -           | \$ -           | \$ 5,140,478    | \$ 601,009     | \$ 5,741,487   | \$ 5,741,487    | \$ 5,741,487   | \$ 601,009      | Direct to KY Retail | 0.986                | \$ 601,009                                  |  |              |
| 24-OAT                                  | 4561005 | Revenues                                | Demand         | \$ (680,082)        | \$ -           | \$ -           | \$ (680,082)    | \$ -           | \$ (680,082)   | \$ (680,082)    | \$ (680,082)   | \$ -            | Direct to KY Retail | 0.986                | \$ -  |  |              |
| 25-OAT                                  | 560015  | Schedule 1A Charges                     | Energy         | \$ 41,137           | \$ -           | \$ -           | \$ 41,137       | \$ -           | \$ 41,137      | \$ 41,137       | \$ 41,137      | \$ -            | Direct to KY Retail | 0.986                | \$ -  |  |              |
| 26-OAT                                  | 4561066 | Transmission Enhancement Charges        | Demand         | \$ 459,418          | \$ -           | \$ -           | \$ 459,418      | \$ 147,476     | \$ 606,894     | \$ 606,894      | \$ 606,894     | \$ 147,476      | Direct to KY Retail | 0.986                | \$ 147,476                                  |  |              |
| 27-OAT                                  | 560012  | Transmission Enhancement Charges-AMR    | Demand         | \$ 3,976,612        | \$ -           | \$ -           | \$ 3,976,612    | \$ 1,276,511   | \$ 5,253,123   | \$ 5,253,123    | \$ 5,253,123   | \$ 1,276,511    | Direct to KY Retail | 0.986                | \$ 1,276,511                                |  |              |
| 28-OAT                                  | 560012  | Transmission Enhancement Charges-AMR    | Demand         | \$ 355,174          | \$ -           | \$ -           | \$ 355,174      | \$ 114,013     | \$ 469,187     | \$ 469,187      | \$ 469,187     | \$ 114,013      | Direct to KY Retail | 0.986                | \$ 114,013                                  |  |              |
| 29-OAT                                  | 4561002 | RTD Formation Costs                     | Demand         | \$ 140,253          | \$ -           | \$ -           | \$ 140,253      | \$ -           | \$ 140,253     | \$ 140,253      | \$ 140,253     | \$ -            | Direct to KY Retail | 0.986                | \$ -  |  |              |
| 30-OAT                                  | 4561003 | Expansion Cost Recovery Charge          | Demand         | \$ 86,070           | \$ -           | \$ -           | \$ 86,070       | \$ 6,006,792   | \$ 6,092,862   | \$ 6,092,862    | \$ 6,092,862   | \$ 6,006,792    | Direct to KY Retail | 0.986                | \$ 6,006,792                                |  |              |
| 31-OAT Subtotal                         |         |   |                | \$ 47,372,664       | \$ -           | \$ -           | \$ 47,372,664   | \$ 6,006,792   | \$ 53,379,456  | \$ 53,379,456   | \$ 53,379,456  | \$ 74,856,673   | \$ 7,601,021        |                      |   | \$ 7,601,021                               |              |
| Total of Test Year PIM Tracker Accounts |         |   |                | \$ 67,954,925       | \$ (1,177,091) | \$ (4,390,110) | \$ (13,372,829) | \$ 11,900,004  | \$ 2,783,354   | \$ 63,386,248   | \$ 11,767,808  | \$ 74,856,673   | \$ 74,856,673       |                      |   |  | \$ 7,601,021 |

\*\*\*Peak hour availability charges are calculated once each year by PIM, no annualization adjustment

PTCPT\_CD LSEKPD  
STTL\_PUB\_CD FINAL

Sum of SETTLE\_AMT Column Labels

| Row Labels                | 1/1/2014   | 2/1/2014  | 3/1/2014  | 4/1/2014 | 5/1/2014 | 6/1/2014 | 7/1/2014 | 8/1/2014 | 9/1/2014 | Grand Total |
|---------------------------|------------|-----------|-----------|----------|----------|----------|----------|----------|----------|-------------|
| BAKER 26 KV BS2_GEN       | 11,534,827 | 782,111   | 231,558   | 114,130  | 162,409  | 226,128  | 598,256  | 129,712  | 238,771  | 14,017,902  |
| 1210 - Day-Ahead Transm   | 12,531,920 | 966,501   | 263,477   | 116,865  | 125,643  | 248,196  | 592,789  | 122,729  | 248,964  | 15,217,084  |
| 1215 - Balancing Transmis | -997,094   | -184,390  | -31,919   | -2,736   | 36,767   | -22,068  | 5,467    | 6,983    | -10,193  | -1,199,183  |
| BIGSANDY22 KV BS1_GEN     | 2,958,922  | 415,035   | 830,687   | 29,465   | 14,200   | 65,590   | 167,216  | 37,983   | 43,236   | 4,562,334   |
| 1210 - Day-Ahead Transm   | 3,379,045  | 471,154   | 923,093   | 31,800   | 10,924   | 74,812   | 173,308  | 32,421   | 45,322   | 5,141,879   |
| 1215 - Balancing Transmis | -420,123   | -56,119   | -92,406   | -2,335   | 3,276    | -9,221   | -6,092   | 5,562    | -2,086   | -579,544    |
| Grand Total               | 14,493,748 | 1,197,146 | 1,062,245 | 143,595  | 176,610  | 291,719  | 765,472  | 167,696  | 282,007  | 18,580,238  |

PTCPT\_CD LSEKPD  
STTL\_PUB\_CD FINAL

Sum of STTL\_ITEM\_QNTY Column Labels

| Row Labels                | 1/1/2014  | 2/1/2014  | 3/1/2014  | 4/1/2014  | 5/1/2014  | 6/1/2014  | 7/1/2014  | 8/1/2014  | 9/1/2014 | Grand Total |
|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-------------|
| BAKER 26 KV BS2_GEN       | (283,901) | (226,244) | (52,310)  | (157,978) | (145,001) | (191,815) | (183,490) | (215,730) | (82,548) | (1,539,017) |
| 1210 - Day-Ahead Transm   | (299,373) | (251,899) | (55,908)  | (165,186) | (156,843) | (196,816) | (207,287) | (238,925) | (82,477) | (1,654,714) |
| 1215 - Balancing Transmis | 15,472    | 25,655    | 3,598     | 7,208     | 11,842    | 5,001     | 23,797    | 23,195    | (71)     | 115,697     |
| BIGSANDY22 KV BS1_GEN     | (82,836)  | (75,943)  | (99,841)  | (35,521)  | (49,944)  | (59,530)  | (36,197)  | (58,146)  | (9,035)  | (506,993)   |
| 1210 - Day-Ahead Transm   | (95,975)  | (83,670)  | (107,792) | (42,612)  | (54,670)  | (64,631)  | (41,039)  | (65,873)  | (9,661)  | (565,923)   |
| 1215 - Balancing Transmis | 13,138    | 7,727     | 7,951     | 7,090     | 4,725     | 5,102     | 4,842     | 7,727     | 627      | 58,929      |
| Grand Total               | (366,737) | (302,186) | (152,151) | (193,499) | (194,945) | (251,345) | (219,687) | (273,876) | (91,582) | (2,046,008) |



PTCPT\_CD OSSKPD  
 STTL\_PUB\_CD FINAL

Sum of SETTLE\_AMT Column Labels

| Row Labels                | 1/1/2014  | 2/1/2014  | 3/1/2014  | 4/1/2014 | 5/1/2014 | 6/1/2014 | 7/1/2014  | 8/1/2014 | Grand Total |
|---------------------------|-----------|-----------|-----------|----------|----------|----------|-----------|----------|-------------|
| KAMM26 KV ML1_R           | 921,640   | 152,553   | 888,095   | 110,240  | 38,016   | 103,019  | 237,174   | 70,210   | 2,520,947   |
| 1210 - Day-Ahead Transm   | 835,649   | 130,396   | 833,817   | 110,212  | 38,581   | 87,795   | 246,027   | 72,043   | 2,354,519   |
| 1215 - Balancing Transmis | 85,991    | 22,157    | 54,279    | 28       | -566     | 15,224   | -8,853    | -1,833   | 166,428     |
| KAMM26 KV ML2_R           | 2,632,896 | 426,901   | 534,387   | 87,510   | 69,447   | 80,398   | 322,001   | 57,615   | 4,211,154   |
| 1210 - Day-Ahead Transm   | 2,555,967 | 430,001   | 541,926   | 88,395   | 69,360   | 79,181   | 333,186   | 61,496   | 4,159,512   |
| 1215 - Balancing Transmis | 76,929    | -3,100    | -7,540    | -885     | 87       | 1,217    | -11,185   | -3,881   | 51,642      |
| ROCKPOR226 KV RP1_GEI     | 2,041,428 | 348,373   | 704,391   | 110,833  |          | 296,466  | 278,161   | 125,331  | 3,904,983   |
| 1210 - Day-Ahead Transm   | 1,935,231 | 355,876   | 709,152   | 108,901  |          | 374,204  | 294,224   | 126,585  | 3,904,174   |
| 1215 - Balancing Transmis | 106,197   | -7,503    | -4,761    | 1,932    |          | -77,738  | -16,063   | -1,255   | 810         |
| ROCKPOR226 KV RP2_GEI     | 1,918,542 | 241,449   | 582,193   | 80,390   | 66,107   | 327,079  | 309,372   | 95,919   | 3,621,051   |
| 1210 - Day-Ahead Transm   | 1,843,883 | 248,951   | 586,206   | 76,264   | 65,430   | 376,139  | 311,716   | 97,916   | 3,606,506   |
| 1215 - Balancing Transmis | 74,659    | -7,502    | -4,013    | 4,126    | 676      | -49,061  | -2,344    | -1,997   | 14,545      |
| Grand Total               | 7,514,506 | 1,169,276 | 2,709,066 | 388,972  | 173,569  | 806,961  | 1,146,709 | 349,075  | 14,258,134  |

PTCPT\_CD OSSKPD  
 STTL\_PUB\_CD FINAL

Sum of STTL\_ITEM\_QNTY Column Labels

| Row Labels                | 1/1/2014 | 2/1/2014 | 3/1/2014 | 4/1/2014 | 5/1/2014 | 6/1/2014 | 7/1/2014 | 8/1/2014 | Grand Total |
|---------------------------|----------|----------|----------|----------|----------|----------|----------|----------|-------------|
| KAMM26 KV ML1_R           | -15,328  | -9,259   | -79,491  | -103,340 | -49,918  | -66,549  | -96,630  | -110,037 | -530,551    |
| 1210 - Day-Ahead Transm   | -13,125  | -8,312   | -77,149  | -104,498 | -51,269  | -63,481  | -99,549  | -112,988 | -530,371    |
| 1215 - Balancing Transmis | -2,203   | -947     | -2,341   | 1,158    | 1,351    | -3,068   | 2,919    | 2,952    | -179        |
| KAMM26 KV ML2_R           | -46,399  | -83,996  | -74,137  | -67,373  | -48,423  | -93,712  | -106,323 | -77,063  | -597,424    |
| 1210 - Day-Ahead Transm   | -46,528  | -85,137  | -73,650  | -63,970  | -45,388  | -95,312  | -110,948 | -73,410  | -594,342    |
| 1215 - Balancing Transmis | 129      | 1,141    | -487     | -3,403   | -3,035   | 1,601    | 4,624    | -3,653   | -3,082      |
| ROCKPOR226 KV RP1_GEI     | -49,563  | -34,060  | -53,897  | -64,711  | -58,176  | -58,176  | -44,755  | -73,057  | -378,219    |
| 1210 - Day-Ahead Transm   | -45,808  | -33,767  | -53,890  | -65,043  | -60,398  | -60,398  | -45,711  | -73,122  | -377,740    |
| 1215 - Balancing Transmis | -3,755   | -293     | -8       | 332      | 2,222    | 2,222    | 956      | 65       | -479        |
| ROCKPOR226 KV RP2_GEI     | -41,425  | -23,578  | -45,385  | -50,853  | -57,803  | -60,632  | -58,364  | -54,499  | -392,539    |
| 1210 - Day-Ahead Transm   | -39,744  | -23,604  | -45,393  | -49,327  | -58,951  | -63,299  | -58,941  | -52,759  | -392,018    |
| 1215 - Balancing Transmis | -1,680   | 26       | 7        | -1,526   | 1,148    | 2,667    | 577      | -1,740   | -520        |
| Grand Total               | -152,714 | -150,892 | -252,910 | -286,277 | -156,144 | -279,068 | -306,073 | -314,656 | -1,898,733  |



**Kentucky Power Company  
PJM Rider Rate Design**

|  |               |               |              |
|--|---------------|---------------|--------------|
| KY Retail Jurisdiction Revenue Requirement | <u>Demand</u> | <u>Energy</u> | <u>Total</u> |
|  | \$0           | \$0           | \$0          |

| Class<br>(1)                    | Historic Period Billing Energy<br>(2) | Historic Period Billing Demand<br>(3) | Test Year CP / kWh Ratio<br>(4) | CP Demand Allocation Factor<br>(5) = (2) x (4) | Allocated Demand Related Costs<br>(6) | Allocated Energy Related Costs<br>(7) | \$ / kW Rate<br>(8) = (6) / (3) | \$ / kWh Rate<br>(9) = (7) / (2) | Revenue Verification<br>(10) | Difference<br>(11) = (10) - (9) - (7) |
|---------------------------------|---------------------------------------|---------------------------------------|---------------------------------|--|---------------------------------------|---------------------------------------|---------------------------------|----------------------------------|------------------------------|---------------------------------------|
|                                 |                                       |                                       |                                 |  |                                       |                                       |                                 |                                  |                              |                                       |
| RES                             | 2,260,149,747                         |                                       | 0.0236060%                      | 533,531  | \$0                                   | \$0                                   | \$ -                            | \$0.00000                        | \$0                          | \$0                                   |
| SGS                             | 142,560,729                           |                                       | 0.0163937%                      | 23,371   | 0                                     | 0                                     | \$ -                            | \$0.00000                        | 0                            | \$0                                   |
| MGS                             | 507,158,704                           | 2,119,598                             | 0.0177002%                      | 89,768   | 0                                     | 0                                     | \$ -                            | \$0.00000                        | 0                            | \$0                                   |
| Non Demand MGS Sec <sup>1</sup> | 6,484,718                             |                                       | 0.0177002%                      | 1,148  | 0                                     | 0                                     | \$ -                            | \$0.00000                        | 0                            | \$0                                   |
| LGS                             | 705,405,060                           | 2,169,269                             | 0.0169381%                      | 119,482  | 0                                     | 0                                     | \$ -                            | \$0.00000                        | 0                            | \$0                                   |
| LGS LMTOD                       | 1,959,939                             |                                       | 0.0169381%                      | 332  | 0                                     | 0                                     | \$ -                            | \$0.00000                        | 0                            | \$0                                   |
| IGS (QP / CIP-TOD)              | 2,818,677,591                         | 5,429,712                             | 0.0130626%                      | 368,192  | 0                                     | 0                                     | \$ -                            | \$0.00000                        | 0                            | \$0                                   |
| MW                              | 3,864,039                             |                                       | 0.0134057%                      | 518  | 0                                     | 0                                     | \$ -                            | \$0.00000                        | 0                            | \$0                                   |
| OL                              | 37,640,598                            |                                       | 0.0009431%                      | 355  | 0                                     | 0                                     | \$ -                            | \$0.00000                        | 0                            | \$0                                   |
| SL                              | 8,190,082                             |                                       | 0.0009890%                      | 81   | 0                                     | 0                                     | \$ -                            | \$0.00000                        | 0                            | \$0                                   |
| <b>Total</b>                    | <b>6,492,091,207</b>                  | <b>9,718,579</b>                      |                                 | <b>1,136,778</b>                               | <b>\$0</b>                            | <b>\$0</b>                            | <b>\$0</b>                      | <b>\$0</b>                       | <b>\$0</b>                   | <b>\$0</b>                            |

Notes:

<sup>1</sup>Non Demand MGS Sec includes MGS RL, MGS LMTOD and MGS TOD

KPCo KY Retail PSC Jurisdiction  
Class Billing Determinants  
12 Months Ended Sept 2014

| <u>Class</u><br>(1) | <u>kWh Energy</u> | <u>kW 12 CP</u> |
|---------------------|-------------------|-----------------|
| RES                 | 2,260,149,747     | 533,531         |
| SGS                 | 142,560,729       | 23,371          |
| MGS                 | 507,158,704       | 89,768          |
| Non Demand MGS Sec  | 6,484,718         |                 |
| LGS                 | 705,405,060       | 119,482         |
| LGS LMTOD           | 1,959,939         |                 |
| QP/CIP              | 2,818,677,591     | 368,192         |
| MW                  | 3,864,039         | 518             |
| OL                  | 37,640,598        | 355             |
| SL                  | 8,190,082         | 81              |
| Total               | 6,492,091,207     | 1,135,298       |

Exhibit AEV 7 - OSS Adjustment Calculations  
KPCo 12 Months Ended September 30, 2014  
Positive amounts are charges (expense) negative amounts are credits (revenue)

| Line | Acct    | Description                              | Test Year Total |             | Remove Pool | Remove Btg Sandy2 | LSE/OSS Reclass | Jan-Sept 2014 | Annualization   | Total KPCo   |            | Kentucky Retail |              | Kentucky Retail |
|------|---------|--|-----------------|-------------|-------------|-------------------|-----------------|---------------|-----------------|--------------|------------|-----------------|--------------|-----------------|
|      |         |  | A               | B           |             |                   |                 |               |                 | Going Level  | Total KPCo | PSC Juris       | PSC Juris    |                 |
|      |         |  | (112,332,338)   | 1,882,476   | 86,161,517  |                   | E = Sum A-D     | F = G-E       | G = E/(9/12)    | H = G-A      | I          | J = G*1         |              |                 |
| 1    | 4470089 | PJM Energy Sales-Margin                  | (997,118)       | 993,987     |             |                   | (3,131)         | (1,044)       | (24,288,344)    | 88,043,994   | Energy     | 0.986           | 86,811,378   |                 |
| 2    | 4470002 | Sales for Resale - NonAssoc              | (16,025,313)    | 3,267,142   |             |                   | (12,758,170)    | (4,252,723)   | (4,175)         | 992,943      | Energy     | 0.986           | 979,042      |                 |
| 3    | 4470006 | Sales for Resale-Bookout Sales           | 14,698,090      | (2,236,243) |             |                   | 12,461,847      | 4,153,949     | 16,615,796      | 1,917,706    | Energy     | 0.986           | 1,890,858    |                 |
| 4    | 4470028 | Sale/Resale - NA - Fuel Rev              | (1,137,563)     | 986,000     |             |                   | (151,564)       | (50,521)      | (202,085)       | 935,478      | Energy     | 0.986           | 922,382      |                 |
| 5    | 4470066 | Power Trading Transmission Expense       | 124             | (40)        |             |                   | 84              | 28            | 112             |              | Energy     | 0.986           | (12)         |                 |
| 6    | 4470081 | Financial Spark Gas - Realized           | (119,589)       | 81,641      |             |                   | (37,948)        | (12,649)      | (50,597)        | 68,991       | Energy     | 0.986           | 68,025       |                 |
| 7    | 4470082 | Financial Electric Realized              | (722,279)       | (999,271)   |             |                   | (1,721,551)     | (573,850)     | (2,295,401)     | (1,573,122)  | Energy     | 0.986           | (1,551,098)  |                 |
| 8    | 4470098 | PJM Oper/Reserve Rev-OSS                 | 2,782,692       | 181,140     |             | 44,609            | 3,008,441       | 1,002,814     | 4,011,255       | 1,228,563    | Energy     | 0.986           | 1,211,363    |                 |
| 9    | 4470099 | Capacity Cr. Net Sales                   | (549,664)       | 117,100     |             |                   | (432,564)       | (144,188)     | (576,752)       | (27,088)     | Demand     | 0.986           | (26,708)     |                 |
| 10   | 4470100 | PJM FTR Revenue-OSS                      | (827,287)       | 19,983      |             |                   | (807,303)       | (269,101)     | (1,076,405)     | (249,118)    | Energy     | 0.986           | (245,630)    |                 |
| 11   | 4470106 | PJM P2PT Trans-Purch-NonAff              | 358             | (331)       |             |                   | 27              | 9             | 37              | (32)         | Energy     | 0.986           | (317)        |                 |
| 12   | 4470107 | PJM NITS Purch-NonAff                    | (8,673)         | (4,803)     |             |                   | (13,477)        | (4,492)       | (17,969)        | (9,296)      | Energy     | 0.986           | (9,165)      |                 |
| 13   | 4470109 | PJM FTR Revenue-Spec                     | 36,316          | 17,090      |             |                   | 53,406          | 17,802        | 71,207          | 34,891       | Energy     | 0.986           | 34,403       |                 |
| 14   | 4470110 | PJM TO Admin. Exp.-NonAff                | (34,378)        | (953)       |             |                   | (35,331)        | (11,777)      | (47,108)        | (12,730)     | Energy     | 0.986           | (12,552)     |                 |
| 15   | 4470112 | Non-Trading Bookout Sales-OSS            | (4,943)         | -           |             |                   | (4,943)         | (1,648)       | (6,591)         | (1,648)      | Energy     | 0.986           | (1,625)      |                 |
| 16   | 4470115 | PJM Meter Corrections-OSS                | (14,217)        | 31,708      |             |                   | 17,491          | 5,830         | 23,322          | 37,539       | Energy     | 0.986           | 37,013       |                 |
| 17   | 4470124 | PJM Incremental Spot-OSS                 | (1)             | 1           |             |                   | 0               | 0             | 0               | 1            | Energy     | 0.986           | 1            |                 |
| 18   | 4470126 | PJM Incremental Imp Cong-OSS             | 28,632,134      | (670,134)   |             | (8,583,469)       | 7,556,175       | 2,518,725     | 10,074,900      | (18,557,233) | Energy     | 0.986           | (18,297,432) |                 |
| 19   | 4470143 | Financial Hedge Realized                 | (2,242,312)     | 44,899      |             |                   | (2,197,413)     | (732,471)     | (2,929,884)     | (687,572)    | Energy     | 0.986           | (677,946)    |                 |
| 20   | 4470144 | Realiz Sharing - 06 SIA                  | (318)           | 318         |             |                   | -               | -             | -               | 318          | Energy     | 0.986           | 314          |                 |
| 21   | 4470168 | Interest Rate Swaps-Power                | 18,648          | (5,089)     |             |                   | 13,559          | 4,520         | 18,079          | (569)        | Energy     | 0.986           | (561)        |                 |
| 22   | 4470170 | Non-ECR Auction Sales-OSS                | (2,274,237)     | 888,839     |             |                   | (1,385,398)     | (461,799)     | (1,847,197)     | 427,040      | Energy     | 0.986           | 421,061      |                 |
| 23   | 4470174 | PJM Whise FTR Rev - OSS                  | (6,635)         | 6,635       |             |                   | (0)             | (0)           | (0)             | 6,635        | Energy     | 0.986           | 6,542        |                 |
| 24   | 4470209 | PJM Trans loss credits-OSS               | (1,868,448)     | 173,334     |             |                   | (1,695,115)     | (565,038)     | (2,260,153)     | (391,705)    | Energy     | 0.986           | (386,221)    |                 |
| 25   | 4470214 | PJM 30m Suppl Reserve CR OSS             | 14,804,122      | (920,700)   |             | (5,665,550)       | 4,066,534       | 1,355,511     | 5,422,045       | (9,382,077)  | Energy     | 0.986           | (9,250,728)  |                 |
| 26   | 4470220 | PJM Regulation - OSS                     | (28,587)        | 379         |             |                   | (28,208)        | (9,403)       | (37,610)        | (9,023)      | Energy     | 0.986           | (8,897)      |                 |
| 27   | 4470221 | PJM Spinning Reserve - OSS               | (184,599)       | 2,432       |             |                   | (182,167)       | (60,722)      | (242,889)       | (58,290)     | Energy     | 0.986           | (57,474)     |                 |
| 28   | 4470222 | PJM Reactive - OSS                       | (42,868)        | 32,607      |             |                   | (10,260)        | (3,420)       | (13,681)        | 29,187       | Energy     | 0.986           | 28,779       |                 |
| 29   | 4470222 | PJM Reactive - OSS                       | (568,359)       | 107,300     |             |                   | (461,059)       | (153,686)     | (614,746)       | (46,387)     | Energy     | 0.986           | (45,737)     |                 |
| 30   | 4470222 | PJM Reactive - OSS                       | (568,359)       | 107,300     |             |                   | (461,059)       | (153,686)     | (614,746)       | (46,387)     | Energy     | 0.986           | (45,737)     |                 |
| 31   | 5550039 | PJM Inadvertent Mtr Res-OSS              | (66,033)        | 7,851       |             |                   | (58,182)        | (19,394)      | (77,576)        | (11,543)     | Energy     | 0.986           | (11,382)     |                 |
| 32   | 5550099 | PJM Purchases-non-ECR-Auction            | 2,098,111       | (646,802)   |             |                   | 1,451,310       | 483,770       | 1,935,079       | (163,032)    | Demand     | 0.986           | (160,749)    |                 |
| 33   | 5550100 | Capacity Purchases-Auction               | 118,556         | (56,942)    |             |                   | 61,614          | 20,538        | 82,152          | (36,404)     | Energy     | 0.986           | (35,895)     |                 |
| 34   | 5550107 | Capacity purchases - Trading             | 248,187         | (28,824)    |             |                   | 219,363         | 73,121        | 292,484         | 44,297       | Energy     | 0.986           | 43,676       |                 |
| 35   | 5614000 | PJM Admin-SSC&DS-OSS                     | 472,517         | (68,206)    |             | (66,009)          | 338,302         | 112,767       | 451,070         | (21,448)     | Energy     | 0.986           | (21,148)     |                 |
| 36   | 5614008 | PJM Admin-PP&SDS-OSS                     | 2,417           | -           |             |                   | 2,417           | 806           | 3,223           | 806          | Energy     | 0.986           | 794          |                 |
| 37   | 5618000 | PJM Admin-MAM&SC-OSS                     | 113,053         | (16,332)    |             |                   | 96,721          | 32,240        | 128,961         | 15,908       | Energy     | 0.986           | 15,685       |                 |
| 38   | 5757000 | PJM Admin-MAM&SC-OSS                     | 510,751         | (74,196)    |             |                   | 436,556         | 145,519       | 582,074         | 71,323       | Energy     | 0.986           | 70,325       |                 |
| 39   |         |  | 36,244,296      | 1,338,819   |             |                   | 7,339,003       | 2,446,334     | 9,785,337       | (26,458,959) |            |                 | (26,088,533) |                 |
|      |         | <b>Non PJM Energy Margin Acct Totals</b> | (112,332,338)   | 1,882,476   |             | 86,161,517        |                 |               | (24,288,344)    | 88,043,994   |            |                 | 86,811,378   |                 |
|      |         | <b>PJM Energy SLES Margin Totals</b>     |                 |             |             |                   |                 |               | (14,503,007)    | 61,585,035   |            |                 | 60,722,844   |                 |
|      |         | <b>Total OSS Margin</b>                  |                 |             |             |                   |                 |               | (14,299,954.43) |              |            |                 |              |                 |

(14,299,954.43) KPCo KY Retail Going Level OSS Margins

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

|   |   |                            |
|---|---|----------------------------|
| <b>Application Of Kentucky Power Company For:</b>         | ) |                            |
| <b>(1) A General Adjustment Of Its Rates For Electric</b> | ) |                            |
| <b>Service; (2) An Order Approving Its 2014</b>           | ) | <b>Case No. 2014-00396</b> |
| <b>Environmental Compliance Plan; (3) An Order</b>        | ) |                            |
| <b>Approving Its Tariffs And Riders; And (4) An</b>       | ) |                            |
| <b>Order Granting All Other Required Approvals</b>        | ) |                            |
| <b>And Relief</b>   | ) |                            |

**DIRECT TESTIMONY OF**

**RANIE K. WOHNHAS**

**ON BEHALF OF KENTUCKY POWER COMPANY**



**DIRECT TESTIMONY OF  
RANIE K. WOHNHAS, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
RANIE K. WOHNHAS, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

2 A. My name is Ranie K. Wohnhas. My position is Managing Director, Regulatory  
3 and Finance, Kentucky Power Company (“Kentucky Power” or “Company”). My  
4 business address is 101 A Enterprise Drive, Frankfort, Kentucky 40601.

**II. BACKGROUND**

5 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**  
6 **BUSINESS EXPERIENCE.**

7 A. I received a Bachelor of Science degree with a major in accounting from Franklin  
8 University, Columbus, Ohio in December 1981. I began work with Columbus  
9 Southern Power in 1978 working in various customer services and accounting  
10 positions. In 1983, I transferred to Kentucky Power Company working in  
11 accounting, rates and customer services. I became the Billing and Collections  
12 Manager in 1995 overseeing all billing and collection activity for the Company.  
13 In 1998, I transferred to Appalachian Power Company working in rates. In 2001,  
14 I transferred to the AEP Service Corporation working as a Senior Rate  
15 Consultant. In July 2004, I assumed the position of Manager, Business  
16 Operations Support and was promoted to Director in April 2006. I was promoted  
17 to my current position as Managing Director, Regulatory and Finance effective  
18 September 1, 2010.

1 **Q. WHAT ARE YOUR RESPONSIBILITIES AS MANAGING DIRECTOR,**  
2 **REGULATORY AND FINANCE?**

3 A. I am primarily responsible for managing the regulatory and financial strategy for  
4 Kentucky Power. This includes planning and executing rate filings for both  
5 federal and state regulatory agencies and certificate of public convenience and  
6 necessity (“CPCN”) filings before this Commission. I am also responsible for  
7 managing the Company’s financial operating plans including various capital and  
8 O&M operational budgets that interface with all other AEP organizations  
9 affecting the Company’s performance. As part of the financial strategy, I work  
10 with various AEPSC departments to ensure that adequate resources such as debt,  
11 equity and cash are available to build, operate, and maintain Kentucky Power’s  
12 electric system assets providing service to our retail and wholesale customers. In  
13 my role as Managing Director, Regulatory and Finance, I report directly to  
14 Gregory G. Pauley, President and Chief Operating Officer of Kentucky Power.

15 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

16 A. Yes. I have testified before this Commission in various fuel review proceedings  
17 and filed testimony in the Company’s three most recent base rate case filings,  
18 Case No. 2005-00341, Case No. 2009-00459 and Case No. 2013-00197. Other  
19 cases in which I have testified include an environmental compliance plan, Case  
20 No. 2011-00401; a real-time pricing proceeding, Case No. 2012-00226; the  
21 transfer of the Mitchell Generating Station to Kentucky Power, Case No. 2012-  
22 00578; the CPCN filing to convert Big Sandy Unit 1 to gas, Case No. 2013-  
23 00430; the current DSM application before the Commission, Case No. 2014-

1 00271; and the current FAC review before the Commission, Case No. 2014-  
2 00225.

**III. PURPOSE OF TESTIMONY**

3 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**  
4 **PROCEEDING?**

5 A. The purpose of my testimony is to support: (1) the revenue requirement being  
6 proposed by the Company; (2) adjustments to the Company’s capitalization; (3)  
7 certain known and measurable adjustments to test year revenues and operating  
8 expenses; and (4) certain tariff revisions.

**IV. FILING REQUIREMENTS**

9 **Q. PLEASE DESCRIBE SECTION IV OF THE COMPANY’S FILING.**

10 A. Section IV of the Company’s filing is the financial exhibit required by the  
11 Commission regulation in 807 KAR 5:001, Section 12. Balance sheet data is  
12 shown as of September 30, 2014, and income statement data is for the twelve  
13 months ended September 30, 2014. This complies with the ninety-day rule set  
14 forth in 807 KAR 5:001, Section 12(1)(a).

1 **Q. HAS THE COMPANY COMPLIED WITH THE COMMISSION’S**  
2 **REGULATIONS REQUIRING CERTAIN ADDITIONAL DATA TO BE**  
3 **FILED?**

4 A. Yes. This information required to be filed with a general rate case, including  
5 those set forth in 807 KAR 5:001, Section 16, has been incorporated into Section  
6 II of the Company’s filing.

7 **Q. HAVE YOU PREPARED ANY SCHEDULES OR WORKPAPERS IN**  
8 **CONNECTION WITH YOUR TESTIMONY?**

9 A. Yes. The summaries and details of the Capitalization and Rate Base amounts, and  
10 the adjustments to the “per books” results of operations that I am sponsoring are  
11 set forth in various schedules of Section V of the Company’s filing. In particular,  
12 I am sponsoring the following Schedules:

- 13 • Schedule 1: Fully Adjusted Base Case Summary
- 14 • Schedule 2: Revenue Requirement
- 15 • Schedule 3: Capitalization
- 16 • Schedule 4: Adjustment Summary

17 I am also sponsoring a number of specific adjustments contained within Schedule  
18 4 (Adjustment Summary) and identify the specific workpaper sheet number where  
19 appropriate.

20 **Q. WERE THESE SCHEDULES AND EXHIBITS PREPARED BY YOU OR**  
21 **UNDER YOUR DIRECTION?**

22 A. Yes.

1 **Q. WHAT INFORMATION ON THE SUMMARIES AND ADJUSTMENTS**  
2 **ARE YOU SPONSORING?**

3 A. I am responsible for the total Company amounts shown or used to derive the  
4 Kentucky Power retail jurisdictional amounts. Company Witness Listebarger  
5 furnished the Kentucky Power retail jurisdictional amounts and the allocation  
6 factors required to calculate such amounts. Company Witness Listebarger is also  
7 responsible for the allocation methodology.

**V. PROPOSED INCREASE IN ANNUAL REVENUES**

8 **Q. PLEASE DESCRIBE THE REVENUE REQUIREMENT BEING**  
9 **PROPOSED BY THE COMPANY.**

10 A. The Company is proposing an annual revenue requirement of \$630,570,077. This  
11 represents an increase of \$69,977,002 over the Test Year ended September 30,  
12 2014 adjusted revenues of \$560,593,075 or an increase of approximately 12.48%.  
13 This annual revenue requirement presumes the Company's proposed treatment of  
14 transmission revenues and expenses in base rates ("Transmission Adjustment") is  
15 approved by the Commission. Without the proposed Transmission Adjustment,  
16 the increase in annual revenue requirement will be \$70,103,910 – an increase of  
17 approximately 12.51% The derivation of the Transmission Adjustment is  
18 described in the testimony of Company Witness Vaughan.

19 **Q. CAN YOU SUMMARIZE THE DEVELOPMENT OF THE PROPOSED**  
20 **ANNUAL REVENUE REQUIREMENT?**

21 A. Kentucky Power's proposed annual revenue requirement is the sum of five  
22 distinct components.

1 First, the annual revenue requirement for base rates was developed. The  
2 development of this requirement is shown on Schedule 1 (Fully Adjusted Base  
3 Case Summary) of Section V of the Company's filing. Schedule 1 summarizes the  
4 components of Net Electric Operating Income for the twelve months ended  
5 September 30, 2014, as adjusted, under present rates in Column 3; and the effects  
6 of the proposed rate decrease on those components in Column 4. Also shown are  
7 the components of Net Electric Operating Income after giving effect to the  
8 proposed rate decrease in Column 5. Finally, the total amount of rate base and  
9 capitalization is also shown as well as the calculated overall rates of return.

10 **Q. PLEASE EXPLAIN WHAT SCHEDULE 2 (REVENUE REQUIREMENT)**  
11 **OF SECTION V ILLUSTRATES.**

12 A. Schedule 2 shows how Kentucky Power derived the proposed decrease of  
13 \$4,696,331 in the Company's annual revenue requirement *without* the proposed  
14 Transmission Adjustment.. Schedule 1, Line 24 shows the proposed decrease of  
15 \$4,823,239 in the Company's annual revenue requirement *with* the proposed  
16 Transmission Adjustment.

17 **Q. PLEASE DESCRIBE THE INFORMATION PROVIDED BY SCHEDULES**  
18 **3 (CAPITALIZATION) AND 4 (ADJUSTMENTS) OF SECTION V.**

19 A. Schedule 3 shows the Company's development of the adjusted capitalization  
20 amount used to develop the decrease in annual revenue requirement. Schedule 4  
21 identifies the known and measurable adjustments to test year revenue, expenses  
22 and rate base. Details of each adjustment are shown in the workpapers to  
23 Schedule 4.

1 **Q. WHAT WAS THE SECOND COMPONENT OF THE COMPANY’S**  
2 **PROPOSED ANNUAL REVENUE REQUIREMENT?**

3 A. Next, pursuant to Paragraphs 4 and 14 of the July 2, 2103 Stipulation and  
4 Settlement Agreement in Case No. 2012-00578, Kentucky Power is authorized to  
5 recover through a separate rider the Big Sandy Unit 2 retirement costs, as well as  
6 the coal-related Big Sandy Unit 1 retirement costs on a levelized basis, including  
7 a weighted average cost of capital carry charge, over 25 years. In the Stipulation  
8 and Settlement Agreement the Company denominated the rider as Asset Transfer  
9 Rider 2 (“A.T.R.-2”); however, the Company is proposing to change the name of  
10 this rider to Big Sandy Retirement Rider (“BSRR”) to avoid any confusion to the  
11 Company’s customers as they see specific line items on their bills. The annual  
12 BSRR revenue requirement is \$21,855,982.

13 **Q. PLEASE EXPLAIN THE NEXT COMPONENT OF THE COMPANY’S**  
14 **ANNUAL REVENUE REQUIREMENT.**

15 A. Third, the Company is proposing to recover through the new Big Sandy Unit 1  
16 Operation Rider (“BS1OR”) the following: (1) the non-fuel costs of operating the  
17 Big Sandy Unit 1 as a coal facility until the conversion of the unit to natural gas,  
18 (2) the non-fuel costs of operating Big Sandy Unit 1 as a natural gas-fired  
19 generating station, and (3) the return on and of the capital investment required for  
20 the conversion of Big Sandy Unit 1 to a natural gas-fired unit once the gas-fired  
21 unit is placed in service. The BS1OR will remain in place until the rates  
22 established in the Company’s next base rate case become effective. At that time  
23 the costs to be recovered through BS1OR will be rolled into base rates and the

1 BS1OR will be discontinued. The annual revenue requirement for BS1OR,  
2 without recovery of any capital costs associated with the conversion of the unit to  
3 natural gas, is \$18,245,413.

4 **Q. WHAT IS THE NEXT COMPONENT OF THE COMPANY'S ANNUAL**  
5 **REVENUE REQUIREMENT**

6 A. Fourth, pursuant to Paragraph 6 of the Stipulation and Settlement Agreement,  
7 Kentucky Power's share of the capital and O&M costs associated with the flue  
8 gas desulfurization (FGD) system at the Mitchell station is to be collected through  
9 the Environmental Surcharge Tariff and not base rates. As a result this amount  
10 was removed from base rates. The annual revenue requirement for the Mitchell  
11 FGD to be recovered through the Environmental Surcharge is \$34,391,339.

12 **Q. WHAT IS THE FINAL COMPONENT OF KENTUCKY POWER'S**  
13 **ANNUAL REVENUE REQUIREMENT?**

14 A. Finally, the Company is proposing the Kentucky Economic Development  
15 Surcharge ("K.E.D.S."), which imposes a \$0.15 per month charge on each  
16 customer bill that will produce a fund to support needed economic development in  
17 the Company's service territory. Based on the test year data, the K.E.D.S. will  
18 collect \$307,506 annually from the Company's customers. The Company will  
19 match the annual amount collected from customers with shareholder funds.  
20 Additional information about the K.E.D.S. can be found in the testimony of  
21 Company Witness Rogness.

22 These five components produce a total increase, with the Transmission  
23 Adjustment, in the Company's annual revenue requirement of \$69,977,002.



1 **Q. WHAT PART OF THE REVENUE REQUIREMENT INCREASE IS**  
2 **RELATED TO THE CHANGES IN KENTUCKY POWER’S**  
3 **GENERATION PORTFOLIO?**

4 A. Kentucky Power’s addition of the 50% undivided interest in the Mitchell  
5 generating station, the retirement of the coal-related assets at Big Sandy, and the  
6 termination of the AEP-East Pool are responsible for approximately \$37.7 million  
7 dollars of the increase in revenue requirement. This is 54% of the total increase.

8 **Q. WHAT EFFECT ON RATES DOES THE CHANGE IN REVENUE**  
9 **REQUIREMENT DUE TO CHANGES IN THE COMPANY’S**  
10 **GENERATION PORTFOLIO HAVE?**

11 A. The generation portfolio change related revenue requirement increase results in a  
12 6.73 % increase in rates based on the test year revenue.

13 **Q. HOW DOES THE CHANGE IN REVENUE REQUIREMENT DUE TO**  
14 **CHANGES IN THE COMPANY’S GENERATION PORTFOLIO**  
15 **COMPARE WITH THE PROJECTED CHANGE PROVIDED DURING**  
16 **CASE NO. 2012-00578?**

17 A. Calculating the percent increase in revenue requirement arising from the change  
18 in the Company’s generation portfolio utilizing the Case 2013-00197  
19 jurisdictional revenue amounts results in a non-fuel increase of 6.79%. This  
20 compares favorably, on an “apples to apples” basis, with the 8.21% non-fuel  
21 increase projected in the Company’s response to Staff Data Request 5-10 in Case  
22 No. 2012-00578.

1 **Q. IS KENTUCKY POWER PROPOSING TO EQUALIZE RATES OF**  
 2 **RETURN ACROSS ALL CUSTOMER CLASSES?**

3 A. No. Kentucky Power is not proposing to equalize its rates of return over all  
 4 customer classes because the impact of doing so would be significant on certain  
 5 customer classes, especially residential. As shown in the testimony of Company  
 6 Witness Stegall, the residential customer class has the lowest rate of return. To  
 7 equalize the rates of return across classes would result in a far greater increase in  
 8 rates for the Company’s residential customers. The Company is proposing to  
 9 make a slight movement towards equalizing rates of return across all customer  
 10 classes.

**VI. CAPITALIZATION ADJUSTMENTS**

11 **Q. WOULD YOU PLEASE DESCRIBE EACH OF THE CAPITALIZATION**  
 12 **ADJUSTMENTS THAT YOU ARE SPONSORING?**

13 A. Yes. The details of the Capitalization adjustments are set forth on Section V,  
 14 Schedule 3, as follows:

|    | <b><u>Adjustment</u></b>               | <b><u>Schedule 3</u></b> |
|----|--|--------------------------|
| 15 | 1. Pro Forma Debt                      | Column 4                 |
| 16 | 2. Big Sandy Coal Stock                | Column 5                 |
| 17 | 3. Big Sandy Coal-Related Assets       | Column 6                 |
| 18 | 4. Big Sandy Material & Supplies (M&S) | Column 7                 |
| 19 | 5. Big Sandy CWIP                      | Column 8                 |
| 20 | 6. Mitchell FGD                        | Column 9                 |
| 21 | 7. Mitchell Coal Stock                 | Column 10                |

|   |                                    |           |
|---|------------------------------------|-----------|
| 1 | 8. Franklin Realty Company A/C 124 | Column 11 |
| 2 | 9. Carrs Site                      | Column 12 |
| 3 | 10. Non-Utility Property           | Column 13 |

4 **Q. HOW ARE THE CAPITALIZATION ADJUSTMENTS ALLOCATED**  
5 **AMONG LONG-TERM DEBT, SHORT-TERM DEBT, AND COMMON**  
6 **EQUITY?**

7 A. With the exception of the pro forma debt adjustment and the adjustment relating  
8 to coal stocks, the Company allocated the capitalization adjustments ratably  
9 among long-term debt, short-term debt, and common equity based on each  
10 components percent share of total capitalization at the end of the test year on  
11 September 30, 2014. The Company calculated the percentage of short term debt  
12 by summing the accounts receivable financing and short-term debt balances on  
13 September 30, 2014 and dividing that amount by the total capitalization on  
14 September 30, 2014.

**Pro Forma Debt Adjustment**  
**(Schedule 3, Column 4)**

15 The Company increased the long-term debt component of its capitalization by a  
16 net of \$5 million as a result of transactions completed after the end of the test  
17 year. The specifics of these transactions are described in more detail in the  
18 testimony of Company Witness Reitter.

**Big Sandy Coal Stock Adjustment**  
**(Schedule 3, Column 5)**

19 Kentucky Power removed the entire coal inventory at the Big Sandy Plant to  
20 comply with the Stipulation and Settlement Agreement. Because the coal

1 inventory is usually financed with short-term debt, the Company made this  
2 adjustment to its September 30, 2014 short-term debt.

**Big Sandy Coal-Related Asset Adjustment**  
**(Schedule 3, Column 6)**

3 Kentucky Power removed all coal-related assets at the Big Sandy Plant to comply  
4 with the Stipulation and Settlement Agreement. The remaining value of the coal  
5 assets will be recovered through the BSRR.

**Big Sandy M&S Adjustment**  
**(Schedule 3, Column 7)**

6 Kentucky Power removed the entire M&S value at the Big Sandy Plant to comply  
7 with the Stipulation and Settlement Agreement. The M&S needed to operate Big  
8 Sandy Unit 1 until it is converted to gas and until the Company's next base rate  
9 case will be recovered through the BS1OR.

**Big Sandy CWIP Adjustment**  
**(Schedule 3, Column 8)**

10 Kentucky Power removed the entire CWIP value at the Big Sandy Plant to  
11 comply with the Stipulation and Settlement Agreement. The CWIP needed to  
12 operate Big Sandy Unit 1 until it is converted to gas and until the rates established  
13 in the Company's next base rate case become effective will be recovered through  
14 the BS1OR.

**Mitchell FGD Adjustment**  
**(Schedule 3, Column 9)**

15 Kentucky Power removed the entire Mitchell FGD balance from base rates.  
16 Those costs will be recovered through the Company's Environmental Surcharge  
17 Tariff in compliance with the terms of the Stipulation and Settlement Agreement.

**Mitchell Coal Stock Adjustment**  
**(Schedule 3, Column 10)**

1           The coal inventory target at the Mitchell Plant is separately developed for the low  
2           and high sulfur coal. On September 30, 2014 the Mitchell Plant had 53,851 tons  
3           (Kentucky Power’s 50% share) of low sulfur coal on hand at an average cost of  
4           \$66.77 per ton and a total value (on September 30, 2014) of \$3,595,618. The  
5           target low sulfur coal inventory is 111,480 tons (Kentucky Power’s 50% share).  
6           Thus, the difference between the September 30, 2014 low sulfur coal inventory  
7           and the target low sulfur coal inventory is 57,629 tons with a value of \$3,847,902.

8                     On September 30, 2014 the Mitchell Plant had 110,692 tons (Kentucky  
9           Power’s 50% share) of high sulfur coal on hand at an average cost of \$57.76 per  
10          ton and a total value (on September 30, 2014) of \$6,393,935. The target high  
11          sulfur coal inventory is 55,740 tons (Kentucky Power’s 50% share). Thus, the  
12          difference between the September 30, 2014 high sulfur coal inventory and the  
13          target high sulfur coal inventory is (54,952) tons with a value of (\$3,174,393).

14                    The net difference between coal inventory value at Mitchell on September  
15          30, 2014 and the target inventory value \$673,509. Because the coal inventory is  
16          usually financed with short-term debt, the Company made this adjustment to its  
17          September 30, 2014 short-term debt.

**Franklin Realty Company Account No. 124 Property**  
**(Schedule 3, Column 11)**

18           The Franklin Realty Company (FRECO) investment, recorded in Account No.  
19           124, was removed from the Company’s capitalization.

**Carrs Site Adjustment**  
**(Schedule 3, Column 12)**

1 The Carrs Site investment was removed from the Company’s capitalization.

**Non-Utility Property**  
**(Schedule 3, Column 13)**

2 The Non-Utility property investment was removed from the Company’s  
3 capitalization.

**VII. REVENUE AND OPERATING EXPENSE ADJUSTMENTS**

4 **Q. WOULD YOU PLEASE IDENTIFY AND DISCUSS EACH OF THE**  
5 **REVENUE AND OPERATING EXPENSE ADJUSTMENTS THAT YOU**  
6 **ARE SPONSORING?**

7 A. Yes. The details of the revenue and operating expense adjustments are set forth on  
8 various pages of Section V, Exhibit 2. Specifically, I am sponsoring the  
9 following adjustments:

| <b><u>Adjustment Name</u></b>                                  | <b><u>Adjustment No.</u></b> |
|--|------------------------------|
| 10 1. Normalization Major Storms                               | W13                          |
| 11 2. Amortization Storm Cost Deferral                         | W14                          |
| 12 3. Amortization of Deferred IGCC Costs                      | W21                          |
| 13 4. Amortization of Deferred CCS FEED Study                  | W22                          |
| 14 5. Amortization of Deferred CARRS Site Costs                | W23                          |
| 15 6. Amortization of Deferred Preliminary Big Sandy FGD Costs | W24                          |
| 16 7. Mitchell Plant Maintenance Normalization                 | W34                          |
| 17 8. Amortization of Intangible Plant                         | W38                          |
| 18 9. Interest Synchronization                                 | W48                          |



1 recovery of the costs authorized under Case No. 2012-00445, the net adjustment  
2 is a reduction of \$2,237,475 from the test year.

**Amortization of Deferred IGCC Costs**  
**(Section V, Exhibit 2, Adjustment W21)**

3 **Q. PLEASE DESCRIBE THE IGCC RELATED COSTS THE COMPANY IS**  
4 **SEEKING TO RECOVER.**

5 A. The Company incurred preliminary engineering and development costs relating to  
6 the potential construction and operation of an integrated gasification combined  
7 cycle (“IGCC”) generation facility in Kentucky. The feasibility of the IGCC  
8 facility depended on the Kentucky General Assembly adopting legislation that  
9 would support the recovery of the facility’s costs through rates. The General  
10 Assembly failed to adopt such legislation and, as a result, the facility became  
11 uneconomic. The preliminary engineering and development costs were, however,  
12 prudently incurred in support of this facility. The Company is seeking to recover  
13 these costs amortized over twenty-five years. Company Witness Yoder describes  
14 the derivation of the adjustment amount in his testimony.

**Amortization of Deferred CCS FEED Study**  
**(Section V, Exhibit 2, Adjustment W22)**

15 **Q. PLEASE DESCRIBE THE COSTS ASSOCIATED WITH THE CCS FEED**  
16 **STUDY.**

17 A. As part of its investigations to address emerging environmental regulations, AEP  
18 conducted a carbon capture and sequestration (“CCS”) study at its Mountaineer  
19 generating station in West Virginia. Because the benefits of the study would be  
20 enjoyed by each operating company with coal-fired generation, AEP allocated the



1 costs among those companies. The Company is now seeking to amortize and  
2 recover its share of the CCS study costs. The Company prudently incurred these  
3 costs as part of the investigation of mechanisms to address emerging  
4 environmental regulations. The Company is seeking to recover these costs  
5 amortized over twenty-five years. Company Witness Yoder describes the  
6 derivation of the adjustment amount in his testimony.

**Amortization of Deferred CARRS Site Costs**  
**(Section V, Exhibit 2, Adjustment W23)**

7 **Q. PLEASE DESCRIBE THE COSTS RELATED TO THE CARRS SITE THE**  
8 **COMPANY IS SEEKING TO RECOVER.**

9 A. As part of its long-term planning, the Company purchased property (the “Carrs  
10 Site”) in Lewis County, Kentucky as a potential site for a new generation facility.  
11 In addition, the Company conducted preliminary site design and engineering work  
12 to support developing the property. The Company has elected not to pursue the  
13 construction of new generation at the Carrs Site at this time and has removed the  
14 land-related costs for this site from rate base. The Company is seeking, however,  
15 to recover the engineering and site design costs. The Company prudently  
16 incurred these costs as part of its long-term generation resource planning. The  
17 Company is seeking to recover these costs amortized over twenty-five years.  
18 Company Witness Yoder describes the derivation of the adjustment amount in his  
19 testimony.

**Amortization of Deferred Preliminary Big Sandy FGD Costs**  
**(Section V, Exhibit 2, Adjustment W24)**

1 **Q. PLEASE DESCRIBE THE COSTS INCURRED BY KENTUCKY POWER**  
2 **IN CONNECTION WITH ITS INVESTIGATION OF THE LEAST-COST**  
3 **DISPOSITION OF THE BIG SANDY PLANT IN LIGHT OF**  
4 **ENVIRONMENTAL REQUIREMENTS.**

5 A. Beginning in 2004, the Company began evaluating potential alternatives to  
6 comply at the Big Sandy Plant with emerging environmental regulations under the  
7 Clean Air Act. This investigation included engineering and design work related  
8 to the potential installation of wet and dry flue gas desulfurization systems at the  
9 plant. In the end, the Company's evaluation showed that the transfer of a 50%  
10 interest in the already-scrubbed Mitchell Plant was the least cost-alternative for  
11 the Company and its customers. The Company prudently incurred the  
12 preliminary Big Sandy FGD investigation costs as part of its comprehensive  
13 evaluation of options to address the effect of emerging environmental regulations  
14 at Big Sandy Unit 2.

15 **Q. DID THE COMPANY SEEK RECOVERY OF THE BIG SANDY**  
16 **PRELIMINARY INVESTIGATION COSTS IN CASE NO. 2012-00578?**

17 A. Yes. Kentucky Power sought recovery of the Big Sandy FGD investigation costs  
18 in its application in Case No. 2012-00578. The July 2, 2013 Stipulation and  
19 Settlement Agreement among Kentucky Power, Kentucky Industrial Utility  
20 Customers, Inc. and the Sierra Club contained a provision allowing Kentucky  
21 Power to accumulate and defer for review and recovery \$28,113,304 of Big Sandy

1 FGD investigation costs. The agreement further provided that the costs would be  
2 recovered over a five year period.

3 **Q. DID THE COMMISSION APPROVE THE JULY 2, 2013 STIPULATION**  
4 **AND SETTLEMENT AGREEMENT WITHOUT MODIFICATION?**

5 A. No, as a condition of its approval of the Stipulation and Settlement the  
6 Commission required the Company to agree to four modifications to the  
7 agreement. Among these was the elimination of Paragraph 8, which provided for  
8 the deferral and recovery of the Big Sandy FGD investigation costs. On October  
9 14, 2013, Kentucky Power filed its written acceptance of the modifications.

10 **Q. WHAT WAS THE COMMISSION’S EXPLANATION FOR REQUIRING**  
11 **THE MODIFICATION OF THE STIPULATION AND SETTLEMENT**  
12 **AGREEMENT?**

13 A. Although the Commission’s Order speaks for itself, the following excerpt seems  
14 to contain the most important considerations:

15 [G]iven the uniqueness of the situation presented herein, the Commission  
16 finds that this provision of the Stipulation is not reasonable and should be  
17 stricken. We note that the proposed acquisition will result in a 5.33 percent  
18 rate increase to Kentucky Power’s customers ... [during the interim period  
19 and] Kentucky Power projects that its ratepayers will see an additional  
20 increase of approximately 8.21 percent ... [in connection with this  
21 application.] The Commission finds that the potential imposition of the  
22 \$28 million Scrubber Study Costs, in addition to the costs associated with  
23 the Mitchell acquisition, is not reasonable, particularly when the Scrubber  
24 Study Costs, although spanning a significant period of time, did not result  
25 in a formal Kentucky Power proposal upon which the Commission  
26 rendered a decision based on its merits. The Commission likewise finds  
27 the potential imposition of the Scrubber Study Costs on ratepayers not  
28 reasonable due to the fact that a study of this magnitude did not result in  
29 the addition of a scrubber or other pollution control facilities at Big Sandy  
30 Unit 2.

1 **Q. WHY SHOULD THIS COMMISSION APPROVE THE RECOVERY OF**  
2 **COSTS ASSOCIATED WITH A PROJECT THAT ULTIMATELY WAS**  
3 **NOT CONSTRUCTED?**

4 A. The transfer of the 50% undivided interest in the Mitchell generating station to  
5 Kentucky Power first became available in 2012. The cumulative present worth of  
6 the Mitchell Transfer, coupled with the conversion of Big Sandy Unit 1 to a  
7 natural gas fired unit, was approximately \$626 to \$819 million less expensive  
8 than the cost of retrofitting Big Sandy Unit 2 with a FGD. The Commission  
9 recognized this savings in its Order approving the Mitchell Transfer.

10 In addition, denying recovery of investigation expense because a much  
11 less expensive alternative ultimately becomes available discourages the sort of  
12 open-minded investigation that yielded the Mitchell Transfer.

13 **Q. WHAT IS THE PROPOSED AMORTIZATION PERIOD FOR THESE**  
14 **COSTS?**

15 A. The Company is seeking to recover over twenty-five (25) years the costs incurred  
16 in connection with the Big Sandy Unit 2 FGD investigation. This amortization  
17 period corresponds with the expected remaining life of the Mitchell Units.  
18 Spreading the costs over this longer period (the Stipulation and Settlement  
19 Agreement provided for recovery over a five year period), should address the  
20 Commission's concerns about the impact of the request on Kentucky Power's  
21 customers.

**Mitchell Plant Maintenance Normalization**  
**(Section V, Exhibit 2, Adjustment W34)**

1 **Q. HOW WAS THE MITCHELL PLANT MAINTENANCE ADJUSTMENT**  
2 **CALCULATED?**

3 A. Because Kentucky Power plant maintenance is performed on a cyclical basis, an  
4 adjustment to the test year plant maintenance expense is required to reflect an  
5 annualized on-going level of plant maintenance in the Company's test year cost of  
6 service. The Company took the level of Mitchell steam plant maintenance  
7 expense for the twelve months ended September 30, 2012, 2013, and an  
8 annualized 2014 maintenance expense and adjusted those levels of plant  
9 maintenance expense to a constant dollar amount using the Handy-Whitman total  
10 steam production plant index. Once the annual constant dollar amounts were  
11 calculated, the three year total was divided by three to arrive at an annual  
12 normalized level of steam plant maintenance expense of \$15,744,373. That result  
13 was compared to the test year level amount of \$12,474,790. The difference of  
14 \$3,269,583, when allocated to retail customers based on the PDAF allocation  
15 factor, results in an increase to O&M expense to the test year cost of service of  
16 \$3,223,809.

17 **Q. HAS KENTUCKY POWER HISTORICALLY NORMALIZED STEAM**  
18 **PLANT MAINTENANCE EXPENSES?**

19 A. Yes. In past rate cases, Kentucky Power has historically normalized steam plant  
20 maintenance expenses for the Big Sandy Plant.

**Amortization of Intangible Plant**  
**(Section V, Exhibit 2, Adjustment W38)**

1 **Q. WHY IS INTANGIBLE PLANT AMORTIZATION ANNUALIZED?**

2 A. The Company annualized the September 30, 2014 monthly intangible plant  
3 amortization expense and compared the result with the level of intangible plant  
4 amortization expense included in the test year. The annualized value better  
5 represents the on-going level of expense for intangible plant amortization  
6 expense. The effect of this adjustment is to increase Kentucky Power's  
7 depreciation expense and decrease the deferred taxes, as explained by Witness  
8 Bartsch, by \$209,475 and \$73,316 respectively.

**Interest Synchronization Adjustment**  
**(Section V, Exhibit 2, Adjustment W48)**

9 **Q. WHY IS AN INTEREST SYNCHRONIZATION ADJUSTMENT**  
10 **NECESSARY?**

11 A. The purpose of this adjustment is synchronize the capital costs and capital  
12 structure included by the Company in this filing with the Federal and State  
13 Income Taxes included in the test period cost of service and the interest expense  
14 tax deduction that will result. The adjustment resulted in an increase to state  
15 income tax of \$311,143 and an increase to federal income tax of \$1,790,035 for a  
16 total increase to expenses of \$2,101,178.

**AFUDC Offset Adjustment**  
**(Section V, Exhibit 2, Adjustment W52)**

17 **Q. PLEASE EXPLAIN THE AFUDC OFFSET ADJUSTMENT.**

18 A. The September 30, 2014 balance of Construction Work In Progress ("CWIP")  
19 was used in the determination of Rate Base. The adjustment eliminates all CWIP

1 related to Big Sandy in compliance with the Stipulation and Settlement  
2 Agreement. All AFUDC related to Big Sandy is also eliminated. Consistent with  
3 prior Commission practice for the Company, an Allowance for Funds Used  
4 During Construction (AFUDC) “offset” adjustment is being made to record  
5 AFUDC above the line. The non-Big Sandy CWIP balance was \$76,287,594 on  
6 September 30, 2014, of which \$2,007,095 is not subject to AFUDC. The  
7 remaining balance of \$74,280,499 is subject to AFUDC. Using the requested  
8 overall return of 7.71%, the annualized AFUDC is \$5,664,029. The AFUDC  
9 booked during the test year was \$5,521,834 requiring an adjustment to increase  
10 the AFUDC offset by \$250,424. The Deferred Federal Income Taxes (DFIT)  
11 associated with the borrowed funds portion of the \$5,664,029 is \$748,162. The  
12 booked DFIT on the borrowed funds portion was \$658,123. This increases DFIT  
13 by \$90,039.

## **VIII. TARIFF REVISIONS**

### **System Sales Clause** **(Tariff S.S.C.)**

14 **Q. IS THE COMPANY PROPOSING ANY MODIFICATIONS TO THE**  
15 **TREATMENT OF SYSTEM SALES OR TARIFF S.S.C. IN THIS**  
16 **PROCEEDING?**

17 A. Yes. First, as has been the practice in past cases, the Company proposes to update  
18 the system sales margin amount included as a credit in base rates. This updated  
19 system sales margin amount is reflected in Tariff S.S.C., the System Sales Clause.  
20 Company Witness Vaughan describes the derivation of the proposed updated  
21 system sales margin base rate credit amount in his testimony. The Company is

1 also proposing to return to the same 60/40 customer sharing mechanism found in  
2 versions of Tariff S.S.C. in place prior to the changes instituted in accordance  
3 with the Stipulation and Settlement Agreement.

4 **Q. HOW WERE FUEL COSTS ALLOCATED IN DETERMINING THE**  
5 **SYSTEM SALES MARGIN BASE RATE CREDIT?**

6 A. Fuel costs were allocated utilizing the Company's historical methodology through  
7 which the highest incremental costs are assigned to off-system sales and the  
8 remaining costs are assigned to native load customers. As discussed in the  
9 Company's most recent fuel adjustment clause review, Case No. 2014-00225, any  
10 change to that allocation methodology would result in a corresponding change in  
11 the amount of system sales margins to be credited against base rates.

12 **Q. ARE THERE ANY OTHER CHANGES PROPOSED TO TARIFF S.S.C.?**

13 A. Yes. Some wording changes are proposed to reflect the elimination of the Pool  
14 Agreement as of January 1, 2014. Kentucky Power's system sales will be as  
15 recorded on its books, and references to the AEP System or related allocations are  
16 no longer necessary.

**Asset Transfer Rider**  
**(Tariff A.T.R.)**

17 **Q. WHAT CHANGES ARE BEING PROPOSED TO THE ASSET**  
18 **TRANSFER RIDER (ATR)?**

19 A. Pursuant to Paragraph 4 of the Stipulation and Settlement Agreement, Kentucky  
20 Power is entitled to recover through Tariff A.T.R. \$44 million annually during the  
21 period between January 1, 2014 and the effective date of new base rates that  
22 include Mitchell Units 1 and 2. However, because of the lag in cost recovery the



1 Company will not recover its pro rata share of the \$44 million for 2015 if Tariff  
 2 A.T.R. is terminated at the time new base rates become effective. Accordingly,  
 3 the Company is proposing to continue Tariff A.T.R. until it recovers its pro rata  
 4 share of the ordered \$44 million. The ATR will terminate once the pro rata share  
 5 of the annual revenue requirement authorized under tariff ATR is recovered.

**Big Sandy Retirement Rider**  
**(Tariff B.S.R.R.)**

6 **Q. OTHER THAN THE NAME CHANGE DESCRIBED ABOVE DID THE**  
 7 **COMPANY MAKE ANY ADDITIONAL CHANGES TO TARIFF A.T.R.-2**  
 8 **(BSRR)?**

9 A. Yes, upon further review of the Stipulation and Settlement Agreement the  
 10 Company discovered that the definition of the term “Retirement Costs” included  
 11 in the agreement was omitted from Tariff A.T.R.-2 attached to the agreement as  
 12 Exhibit 1-A. The Company has remedied that omission by copying the definition  
 13 verbatim into Tariff B.S.R.R.

14 **Q. HOW WILL THE COMPANY TRUE-UP THE COSTS ESTIMATED IN**  
 15 **THE CALCULATION OF THE REVENUE REQUIREMENT FOR**  
 16 **TARIFF B.S.R.R.?**

17 A. At each subsequent base rate case filing, the Company will re-calculate the  
 18 revenue requirement based upon actual costs incurred versus estimated at the  
 19 previous base rate case filing, revised estimates for future costs, and any  
 20 over/under recovery during the current period base rates were in effect. This true-  
 21 up will then be recovered on a levelized basis over the remaining 25 year life.

**Big Sandy Unit 1 Operation Rider**  
**(Tariff B.S.1.O.R.)**

1   **Q.   WHAT IS THE PURPOSE OF THE BIG SANDY UNIT 1 OPERATION**  
2   **RIDER (BS1OR)?**

3   A.   Because of the operational transitions associated with the conversion of Big  
4   Sandy Unit 1, and the treatment of Big Sandy coal-related asset retirement costs  
5   through the BSRR in accordance with the Stipulation and Settlement Agreement,  
6   the Company is proposing to recover the operational costs of Big Sandy Unit 1 as  
7   both a coal facility and a converted gas facility via the new Tariff BS1OR. Tariff  
8   BS1OR will provide transparency and allow the Commission and other interested  
9   parties to review contemporaneously the costs associated with the operation of the  
10   unit. Company Witness Vaughan explains how costs included in the BS1OR  
11   were calculated. Tariff BS1OR will continue in effect through the natural gas  
12   conversion of Big Sandy Unit 1 and until the rates established in the Company's  
13   next base rate case become effective. At that time, Tariff BS1OR will be deleted  
14   and all operational costs for Big Sandy Unit 1 will again be recovered through  
15   base rates.

**NERC Compliance and Cybersecurity Rider**  
**(Tariff N.C.C.R.)**

16   **Q.   WHAT IS THE INTENT OF THE PROPOSED NERC COMPLIANCE**  
17   **AND CYBERSECURITY RIDER?**

18   A.   With the increasingly expansive scope of NERC compliance and cybersecurity  
19   activities (see Company Witness Stogran's testimony), Kentucky Power is  
20   proposing a NERC Compliance and Cybersecurity Rider (NCCR) to serve as a

1 placeholder (established at a level of zero) for the cost of compliance effective  
2 July 1, 2015. The intent is, effective with the Commission’s approval, to track  
3 and defer the capital and operations and maintenance (O&M) expense costs  
4 associated with compliance and cybersecurity activities for new NERC  
5 requirements or new interpretations of existing requirements. The NERC capital-  
6 related costs to be deferred would include carrying costs at the Company’s  
7 weighted average cost of capital as shown in Section V, Schedule 2. Kentucky  
8 Power would in a subsequent proceeding, request recovery for these deferred  
9 NERC costs through the NCCR, subject to the Commission’s review for  
10 prudence.

11 **Q. HAS THE COMMISSION BEEN ACTIVE IN LEARNING ABOUT THE**  
12 **MANY NERC COMPLIANCE AND CYBER SECURITY ISSUES?**

13 A. Yes. I am aware of at least three presentations provided to the Commissioners  
14 and the commission staff. First, on December 19, 2013, at the request of the  
15 Commissioners, Company Witness Stogran made a confidential presentation  
16 overviewing what AEP had been doing to protect itself and its customers across  
17 the entire AEP footprint against cyber security attacks. Second, on March 18,  
18 2014 Yulin Bingle, from the Department of Homeland Security made a  
19 presentation at the Chairman’s Forum addressing cyber security from the  
20 Homeland Security perspective. Third, on December 4, 2014 Mike Kormus from  
21 PJM made a presentation at another Chairman’s Forum addressing cyber security  
22 from the PJM perspective. During this presentation, Mr. Kormus made reference

1 to AEP and the excellent work it has been doing for not only its companies, but  
2 for the entire utility network across the country.

3 **Q. WHY IS THE NCCR NECESSARY?**

4 A. As detailed in the testimony of Company Witness Stogran, NERC continues to  
5 revise existing reliability standards and issue new reliability standards, and a  
6 similar or increased level of activity in the future would be difficult to continue to  
7 absorb and recover only through base rates. Cybersecurity needs also continue to  
8 grow as new threats emerge and new vulnerabilities are identified. The NCCR  
9 provides a mechanism for Kentucky Power to recover compliance costs for  
10 cybersecurity in a timely fashion.

11 **Q. WHAT WILL BE RECOVERED THROUGH THE NCCR?**

12 A. The NCCR initially would be established at zero as a placeholder. Going  
13 forward, the NCCR is intended to recover capital related costs and O&M  
14 compliance costs associated with items such as information technology  
15 infrastructure, physical security, workforce training, supervisory control and data  
16 acquisition (SCADA) systems, smart grid security systems, internal and external  
17 audits, external reporting, and recordkeeping. For example, program costs to  
18 perform vulnerability assessments due to a specific identified threat could be a  
19 type of cost proposed for inclusion in the NCCR. The Company would ensure  
20 that only NERC-related capital and O&M costs are recovered through this  
21 mechanism.

22 AEP is at the forefront of industry efforts to plan and prepare for these  
23 types of NERC compliance and cybersecurity obligations. Kentucky Power

1 intends to continue planning and preparing for future compliance and  
2 cybersecurity obligations, but unforeseen increases in compliance costs cannot  
3 simply be absorbed within existing budgets. If new NERC compliance and  
4 cybersecurity costs materialize, Kentucky Power will propose to the Commission,  
5 in a rider application, recovery of these identified costs through the NCCR.  
6 Company witness Rogness discusses the mechanics of how the NCCR will  
7 recover the costs associated with these compliance activities in the event that  
8 recovery is pursued.

9 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

10 A. Yes.

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

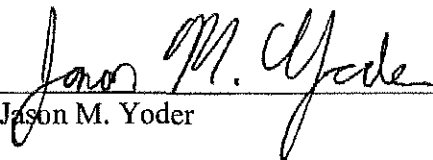
**In the Matter of:**

|   |   |                            |
|---|---|----------------------------|
| <b>Application Of Kentucky Power Company For:</b>         | ) |                            |
| <b>(1) A General Adjustment Of Its Rates For Electric</b> | ) |                            |
| <b>Service; (2) An Order Approving Its 2014</b>           | ) | <b>Case No. 2014-00396</b> |
| <b>Environmental Compliance Plan; (3) An Order</b>        | ) |                            |
| <b>Approving Its Tariffs And Riders; And (4) An</b>       | ) |                            |
| <b>Order Granting All Other Required Approvals</b>        | ) |                            |
| <b>And Relief</b>   | ) |                            |

**DIRECT TESTIMONY OF**  
**JASON M. YODER**  
**ON BEHALF OF KENTUCKY POWER COMPANY**

**VERIFICATION**

The undersigned, Jason M. Yoder, being duly sworn, deposes and says he is Staff Accountant Accounting Policy and Research for American Electric Power Service Corporation and that he has personal knowledge of the set forth in the forgoing testimony for which he is identified as the witness and the information contained therein is true and correct to the best of his information, knowledge and belief.

  
\_\_\_\_\_  
Jason M. Yoder

STATE OF OHIO

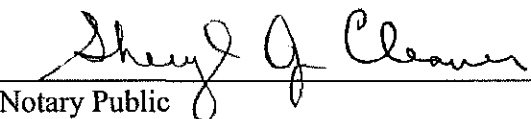
)

) Case No. 2014-00396

COUNTY OF FRANKLIN

)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Jason M. Yoder, this the 10<sup>th</sup> day of December, 2014.

  
\_\_\_\_\_  
Notary Public

My Commission Expires: June 13, 2017

**DIRECT TESTIMONY OF  
JASON M. YODER ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**CASE NO. 2014-00396**

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**DIRECT TESTIMONY OF  
JASON M. YODER, ON BEHALF OF  
KENTUCKY POWER COMPANY  
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY**

**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

2 A. My name is Jason M. Yoder. My business address is 1 Riverside Plaza,  
3 Columbus, Ohio 43215. I am employed by the American Electric Power Service  
4 Corporation (AEPSC) as a Staff Accountant in Accounting Policy and Research  
5 (AP&R). AEPSC is a wholly owned subsidiary of American Electric Power  
6 Company, Inc. (AEP). AEP is the parent company of Kentucky Power Company  
7 (Kentucky Power or the Company).

**II. BACKGROUND**

8 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**  
9 **BUSINESS EXPERIENCE.**

10 A. I graduated with a Bachelor of Science Degree in Accounting from The Ohio State  
11 University in 1998 and have been a Certified Public Accountant since 2000. I  
12 joined AEPSC, in December 2003 as an Internal Auditor. I transferred to  
13 Regulatory Accounting Services (RAS) in August 2010 and transferred to my  
14 current position as Staff Accountant in AP&R in November 2014.

15 **Q. WHAT WERE YOUR RESPONSIBILITIES AS STAFF ACCOUNTANT IN**  
16 **RAS AND NOW AS A STAFF ACCOUNTANT IN AP&R?**

17 A. My primary responsibilities in RAS included providing the AEP System operating  
18 subsidiaries, including Kentucky Power, with accounting support for regulatory

1 filings. This accounting support includes the preparation of cost of service  
2 adjustments, accounting schedules and testimony. As a Staff Accountant in AP&R,  
3 I am responsible for performing accounting research, recommending accounting  
4 policy and procedures, reporting on the financial effects of potential transactions,  
5 and developing accounting instructions for certain non-routine transactions and new  
6 accounting rules.

7 **Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE OTHER**  
8 **UTILITY REGULATORY COMMISSIONS?**

9 A. Yes. I have filed testimony before the Indiana Utility Regulatory Commission in the  
10 annual review of Indiana Michigan Power Company's PJM and off-system sales  
11 riders. Indiana Michigan Power Company is an affiliate of Kentucky Power.

**III. PURPOSE OF DIRECT TESTIMONY**

12 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS**  
13 **PROCEEDING?**

14 A. The purpose of my direct testimony is to: (1) support certain known and  
15 measurable adjustments to Kentucky Power's operating expenses for the test year  
16 ended September 30, 2014; (2) support adjustments for the amortization of  
17 various regulatory assets and deferred costs that Company Witness Wohnhas  
18 discusses in his testimony; (3) sponsor the annualization of the nine months of  
19 actual total costs for the Mitchell Generating Station Units 1 and 2 (Mitchell  
20 Plant); (4) support the adjustments to rate base to remove the coal-related Big  
21 Sandy Generation Station, Units 1 and 2 (Big Sandy Plant) based on the approved  
22 Commission-approved Stipulation and Settlement Agreement in Case No. 2012-

1 00578 (“Stipulation and Settlement Agreement”) and discussed further by  
2 Company Witness Wohnhas; and (5) support adjustments to remove the Big  
3 Sandy Plant related expenses.

4 In addition to the above, I provide certain components of the coal related  
5 retirement costs of Big Sandy Unit 1, retirement costs of Big Sandy Unit 2 and  
6 other site-related retirement costs that will not continue in use (Retirement Costs)  
7 including calculation of the Weighted Average Cost of Capital (WACC) carrying  
8 charges that are to be recovered over a 25 year period in compliance with the  
9 approved Stipulation and Settlement Agreement.

10 Finally, I discuss over/under deferral accounting for the proposed PJM rider  
11 mechanism, the Big Sandy Retirement Rider (BSRR) and the Big Sandy Unit 1  
12 Operation Rider (BSIOR) discussed by Company Witness Vaughan and  
13 Company Witness Wohnhas.

14 With the exception of the components of the Retirement Costs of Big Sandy  
15 Plant which are total company amounts, the values I used in my adjustments are  
16 Kentucky Power jurisdictional amounts which have been provided by Company  
17 Witness Listebarger who supports Kentucky Power’s jurisdictional cost of service  
18 allocation. The jurisdictional amounts are the Kentucky Power retail portion of  
19 the total Company adjustments that I calculated and support.

20 **Q. HAVE YOU PREPARED ANY EXHIBITS IN CONNECTION WITH**  
21 **YOUR TESTIMONY?**

22 A. Yes. I prepared the following exhibit JMY-1: Amortization of Coal-Related Big  
23 Sandy Retirement and Retirement Related Costs Including Carrying Costs.

**IV. OPERATING EXPENSE ADJUSTMENTS**

1 **Q. WOULD YOU PLEASE IDENTIFY AND DISCUSS EACH OF THE**  
 2 **OPERATING EXPENSE ADJUSTMENTS THAT YOU ARE**  
 3 **SPONSORING?**

4 A. Yes. The details of the operating expense adjustments are set forth on various  
 5 pages of Section V, Exhibit 2. Specifically, I am sponsoring the following  
 6 adjustments:

| Description                                   | Reference in Section V, Exhibit 2 |
|---|-----------------------------------|
| Amortization of Deferred IGCC Costs           | W21                               |
| Amortization of Deferred Carbon Capture Costs | W22                               |
| Amortization of Deferred CARRS Site Costs     | W23                               |
| Amortization of Deferred Big Sandy FGD Costs  | W24                               |
| Incentive Compensation Plan                   | W25                               |
| Annualization of Employee Related Expenses    | W26 - 30                          |
| Annualization of Mitchell Plant Costs         | W33                               |
| Reclassification of Cost of Removal Credit    | W36                               |
| Annualization of ARO Depreciation             | W41                               |
| Removal of RTO Amortization                   | W42                               |
| Annualization of ARO Accretion                | W43                               |

7 I will provide additional information regarding each of these adjustments below.

8 **Q. PLEASE EXPLAIN THE AMORTIZATION ADJUSTMENTS IN**  
 9 **SECTION V, EXHIBIT 2 W21 – W24 THAT YOU ARE SPONSORING?**

1 A. I am sponsoring the amortization of various regulatory assets and deferred costs  
 2 listed in the table below. The recovery of these assets is supported by Company  
 3 Witness Wohnhas.

| Deferred Cost                      | Account | Section V,<br>Exhibit 2<br>Adjustment<br># | Proposed<br>Amortization<br>Periods<br>(Years) | Annual<br>Jurisdictional<br>Amortization<br>Increase to<br>Expense |
|------------------------------------|---------|--|--|--|
| IGCC                               | 183     | W21  | 25   | \$52,505   |
| CCS FEED Study                     | 182.3   | W22  | 25   | \$34,425   |
| CARRS Site                         | 183     | W23  | 25   | \$103,330  |
| Preliminary Big<br>Sandy FGD Costs | 183     | W24  | 25   | \$1,105,293  |

4 **Q. HOW WERE THE ANNUAL AMORTIZATIONS CALCULATED?**

5 A. I obtained the deferred total company balance as of September 30, 2014 for each  
 6 regulatory asset and deferred cost from Kentucky Power's financial records and  
 7 divided each of those balances by the proposed 25 year amortization period. The  
 8 total company annual amortization was jurisdictionalized by Company Witness  
 9 Listebarger. Company Witness Wohnhas supports the proposed amortization  
 10 period of 25 years.

11 **Q. WILL THERE BE ANY OVER OR UNDER RECOVERY OF THE**  
 12 **AMOUNTS PROVIDED FOR THE RECOVERY OF THE PROPOSED**  
 13 **AMORTIZATION OF THESE DEFERRED ASSETS?**

14 A. No. If approved, the amortization will be calculated using the Commission  
 15 approved amortization periods on a straight-line basis as the recovery is proposed  
 16 to be included in base rates and not in a separate rider/tracker mechanism.

1 **Q. IS KENTUCKY POWER PROPOSING ANY RECOVERY OF CARRYING**  
2 **CHARGES ON THESE DEFERRED REGULATORY ASSETS AND**  
3 **DEFERRED COSTS?**

4 A. No. Kentucky Power is proposing only to recover the deferred incurred costs,  
5 without any carrying charges.

6 **Q. WHAT IS THE PURPOSE OF THE INCENTIVE COMPENSATION**  
7 **ADJUSTMENT IN SECTION V, EXHIBIT 2 W25?**

8 A. The O&M adjustment in Section V, Exhibit 2 W25 decreases Kentucky Power's  
9 test year Transmission and Distribution incentive compensation expense by  
10 \$973,508. This adjustment is necessary to reflect an annual level of incentive  
11 compensation expense at a base payout level of one times the incentive target to  
12 be paid to employees. Company Witness Carlin discusses the annual incentive  
13 compensation plan that this adjustment relates to. Generation was excluded from  
14 this adjustment because I sponsor an adjustment to remove Big Sandy Plant  
15 expenses and an adjustment to annualize Mitchell Plant expenses in total. These  
16 adjustments are discussed later in my testimony.

17 **Q. PLEASE EXPLAIN THE ANNUALIZATION OF EMPLOYEE RELATED**  
18 **EXPENSES IN SECTION V, EXHIBIT 2 W26 – W30.**

19 A. The O&M adjustments in Section V, Exhibit 2 W26 and W27 increase Kentucky  
20 Power's payroll labor expense and savings plan expense by \$28,383 and \$1,193,  
21 respectively for a total increase of \$29,576. This adjustment annualizes wages  
22 and salaries based upon the number of employees and the wages and salaries in  
23 effect as of September 26, 2014 which were paid October 3, 2014. Adjustments

1 on pages W28, W29 and W30 increase taxes other than income taxes for Social  
2 Security, Medicare and FICA by \$1,414, \$411 and \$5,186, respectively as a result  
3 of the increase in payroll on Section V, Exhibit 2 W26. As discussed above in the  
4 incentive compensation adjustment, these employee related expenses adjustments  
5 also exclude Generation.

6 **Q. WHAT COSTS HAVE YOU ANNUALIZED FOR MITCHELL PLANT?**

7 A. I identified total non-fuel Mitchell Plant costs for the nine months that Mitchell  
8 Plant costs were included in the test year as discussed in the section below and  
9 annualized them to a twelve month period. My adjustment does not include  
10 depreciation expense which is addressed by Company Witness Davis.  
11 Additionally, this annualization of Mitchell Plant costs includes taxes other than  
12 income taxes but excludes specific adjustments supported by Company Witness  
13 Bartsch.

14 **Q. WHAT WERE THE RESULTS OF THE ANNUALIZATION?**

15 A. As shown on Section V, Exhibit 2 W33, Mitchell Plant costs were increased by  
16 \$10,712,560 (\$8,839,850 for operating expenses and \$1,872,710 for other taxes).  
17 I provided the annualized amounts to Company Witness LaFleur who supports the  
18 overall reasonableness of the Mitchell Plant expenses. In addition, I provided  
19 Company Witness Wohnhas the maintenance accounts 510 through 514 who  
20 calculated a Mitchell Plant maintenance normalization adjustment.

1 **Q. WHAT IS THE PURPOSE OF THE RECLASSIFICATION OF THE COST**  
2 **OF REMOVAL CREDIT ON SECTION V, EXHIBIT 2 W36?**

3 A. This adjustment increases O&M expense by \$69,695 and also decreases rate base  
4 by the same amount to reflect the reclassification of a credit for removal costs  
5 from account 506 to account 108 recorded by Kentucky Power in October 2014.  
6 This adjustment corrects an accounting misclassification recorded in the test year  
7 which should have been recorded as a credit in account 108 instead of account  
8 506.

9 **Q. PLEASE DESCRIBE THE ANNUALIZATION OF ARO DEPRECIATION**  
10 **EXPENSE IN SECTION V, EXHIBIT 2 W41.**

11 A. This adjustment increases depreciation expense by \$237,400 to annualize the  
12 ARO depreciation expense by multiplying the September 2014 ARO monthly  
13 depreciation expense by twelve for those ARO assets related to the Mitchell Plant,  
14 general plant and gas-related assets of Big Sandy Plant. This annualized amount  
15 of \$605,925 was compared to the test year amount of \$365,154 which produced a  
16 total company increase of \$240,771. The jurisdictionalized amount is the  
17 \$237,400 increase on Section V, Exhibit 2 W41.

18 **Q. WHAT IS THE PURPOSE OF THE REGIONAL TRANSMISSION**  
19 **ORGANIZATION (RTO) AMORTIZATION ADJUSTMENT IN SECTION**  
20 **V EXHIBIT 2 W42?**

21 A. This adjustment reduces expense by \$149,718 because a portion of the deferred  
22 RTO costs amortized over 10 years will be fully amortized by December 31,



1 2014. I made no adjustment to the RTO costs amortized over 15 years because  
2 the amortization continues until December 2019.

3 **Q. PLEASE DESCRIBE THE ANNUALIZATION OF ARO ACCRETION**  
4 **EXPENSE IN SECTION V, EXHIBIT 2 W43.**

5 A. This adjustment increases other expense by \$363,539 to reflect the known amount  
6 of ARO accretion expense for October 2014 through September 2015 related to  
7 legal obligations as calculated in the Company's PowerPlant accounting system to  
8 recognize the interest element of ARO costs.

**V. ADJUSTMENT TO REMOVE BIG SANDY O&M AND CERTAIN**  
**BIG SANDY RATE BASE ITEMS**

9 **Q. WHY IS IT NECESSARY TO MAKE ADJUSTMENTS TO REMOVE BIG**  
10 **SANDY O&M AND CERTAIN BIG SANDY RATE BASE ITEMS?**

11 A. I support adjustments to remove Big Sandy coal-related operating expenses and  
12 rate base items. This is done in accordance with the approved Stipulation and  
13 Settlement Agreement as discussed by Company Witness Wohnhas. The items  
14 are removed because they are subject to recovery through various proposed riders  
15 in this case including the BSRR and the BS1OR. The BSRR provides recovery of  
16 Big Sandy coal-related Retirement Costs in accordance with the approved  
17 Stipulation and Settlement Agreement. I will discuss the components of the  
18 BSRR later in my testimony. The proposed BS1OR is to recover the current  
19 operating expenses of Big Sandy Unit 1 which is discussed further by Company  
20 Witness Vaughan.

1 **Q. WHICH ADJUSTMENTS IN SECTION V, EXHIBIT 2 RELATE TO THE**  
 2 **REMOVAL OF BIG SANDY PLANT FROM OPERATING EXPENSES**  
 3 **AND RATE BASE?**

4 A. The table below identifies the adjustments that I sponsor related to the removal of  
 5 Big Sandy Plant.

| Description  | Reference in Section V, Exhibit 2 |
|--|-----------------------------------|
| Remove Big Sandy Generation Expense  | W31                               |
| Remove Big Sandy Coal-Related Net Book Value (NBV) from Rate Base  | W56                               |
| Remove Big Sandy Coal-Related Materials and Supplies (M&S) from Rate Base  | W57                               |
| Remove Big Sandy Coal-Related Construction Work in Progress (CWIP) and Retirement Work in Progress (RWIP) from Rate Base | W58                               |

6 **Q. HOW WERE BIG SANDY PLANT GENERATION EXPENSES**  
 7 **IDENTIFIED AND REMOVED IN SECTION V, EXHIBIT 2 W31?**

8 A. The Kentucky Power generation expenses for the twelve months ended September  
 9 30, 2014 included expenses for both the Big Sandy Plant and the Mitchell Plant. I  
 10 identified Kentucky Power's 50% undivided interest in Mitchell Plant costs and  
 11 subtracted those expenses from the total generation expenses to get Big Sandy  
 12 Plant expenses and provided them to Company Witness Vaughan.

13 **Q. HOW DID YOU IDENTIFY MITCHELL PLANT EXPENSES?**

14 A. I obtained the Mitchell Plant joint book billing information which included total  
 15 billable Mitchell Plant costs and the amount billed to AEP Generation Resources

1 for its 50% undivided interest in the Mitchell Plant. I used this information to  
2 determine the amount of Mitchell Plant costs that remained with Kentucky Power  
3 for its 50% undivided interest in the Mitchell Plant.

4 **Q. DID THE JOINT BOOK BILLING INFORMATION FROM THE**  
5 **ACCOUNTING RECORDS IDENTIFY ALL THE KENTUCKY**  
6 **MITCHELL PLANT COSTS?**

7 A. No. Further analysis was necessary because not all costs related to Mitchell Plant  
8 were processed through the Company's joint book billing process. The joint book  
9 billing process identified \$20.1 million of the \$32.6 million of Mitchell Plant  
10 Costs shown on Section V, Exhibit 2 W33. The remaining \$12.5 million was  
11 mainly for accounts that do not run through the joint book billing process because  
12 they are recorded after the joint book billing process is completed during the  
13 Company's monthly close process.

14 **Q. WHAT WERE THE TOTAL BIG SANDY COSTS THAT WERE**  
15 **REMOVED?**

16 A. Section V, Exhibit 2 W31 shows that \$44,412,600 was identified as Big Sandy  
17 costs to be removed. I then provided these amounts to Company Witness  
18 Vaughan who performed a study to identify the amount of Big Sandy Unit 1 costs  
19 for inclusion in the BS1OR. Big Sandy Unit 2 costs are included in the BSRR  
20 and are discussed later in my testimony.

21 **Q. PLEASE DESCRIBE YOUR ADJUSTMENT TO REMOVE COAL-**  
22 **RELATED BIG SANDY NBV FROM RATE BASE.**

1 A. To identify the NBV to remove from rate base on Section V, Exhibit 2 W56, the  
 2 original construction costs were identified from original property records for Big  
 3 Sandy Unit 1 and Unit 2 by property account. Next, additions greater than \$10  
 4 million were identified and assigned to each unit. Ratios were then calculated by  
 5 property account 311 through 316 based on the total costs identified compared to  
 6 the costs assigned to each unit. Finally, those ratios were applied to the book cost  
 7 of \$551.6 million for Big Sandy Plant as of September 30, 2014. The table below  
 8 summarizes the results.

| Allocation of Big Sandy Plant to Unit 1 and Unit 2 |                       |                       |                       |
|--|-----------------------|-----------------------|-----------------------|
| Account  | Unit 1                | Unit 2                | Total                 |
| 311  | \$ 11,730,411         | \$ 31,890,230         | \$ 43,620,641         |
| 312  | 20,932,300            | 349,850,013           | 370,782,313           |
| 314  | 61,210,357            | 50,669,422            | 111,879,779           |
| 315  | 3,652,831             | 12,873,680            | 16,526,511            |
| 316  | 2,919,986             | 5,843,495             | 8,763,481             |
| Total  | <u>\$ 100,445,885</u> | <u>\$ 451,126,840</u> | <u>\$ 551,572,725</u> |

9 **Q. HOW WERE THE GSU ACCOUNTS 352 AND 353 IDENTIFIED.**

10 A. For accounts 352 and 353 the total cost of the accounts was compared to the costs  
 11 by Unit and then those ratios were used to allocate the accounts between the units  
 12 which allocated 37.24% of account 352 and 353 costs to Unit 1 and 62.76% to  
 13 Unit 2 or \$603,417 and \$1,016,717, respectively.

14 **Q. ONCE THE BIG SANDY PLANT ORIGINAL COSTS WERE ASSIGNED**  
 15 **BETWEEN UNITS 1 AND 2, HOW WERE THE COSTS ASSIGNED TO**  
 16 **COAL-RELATED RETIREMENT COSTS?**

1 A. All of Unit 2 which is scheduled to be retired in May 2015, was considered coal  
2 related. For Unit 1, the engineering services organization within AEPSC  
3 developed percentages of costs by property account that will be retired when the  
4 unit is converted to gas. Company Witness LaFleur reviewed these percentages  
5 for reasonableness and provided them to me. The jurisdictional amount to remove  
6 from rate base for Big Sandy coal-related original cost was \$453,590,240.

7 **Q. ONCE THE BIG SANDY PLANT ORIGINAL COSTS WERE ASSIGNED**  
8 **BETWEEN UNITS 1 AND 2 AND IDENTIFIED AS COAL-RELATED**  
9 **RETIREMENT COSTS, HOW WAS THE ACCOMPANYING**  
10 **ACCUMULATED DEPRECIATION CALCULATED?**

11 A. First a reserve ratio for the total Big Sandy Plant was calculated which compared  
12 the book accumulated depreciation to the book costs. These ratios were then  
13 applied to each Big Sandy Unit original cost identified as coal-related retirement  
14 to calculate an accumulated reserve. The jurisdictional net amount to remove  
15 from rate base for Big Sandy coal-related accumulated depreciation was  
16 \$248,316,699.

17 **Q. HOW IS THE JURISDICTIONAL NET RATE BASE REDUCTION ON**  
18 **SECTION V, EXHIBIT 2 W56 CALCULATED?**

19 A. In addition to the original cost of \$453,590,240 which is reduced by the  
20 accumulated depreciation of \$248,316,699, Company Witness Bartsch provided  
21 the related removal of Accumulated Deferred Federal Income Tax (ADFIT) of  
22 \$57,290,476 which provides a net rate base reduction of \$147,983,065.

1 **Q. PLEASE DESCRIBE YOUR ADJUSTMENT ON SECTION V, EXHIBIT 2**  
2 **W57 TO REMOVE BIG SANDY MATERIALS AND SUPPLIES FROM**  
3 **RATE BASE.**

4 A. This adjustment reduces rate base by \$6,268,345 for the material and supplies  
5 inventory identified as coal-related. The inventory balance as of October 8, 2014  
6 was reviewed by individual inventory item to identify the inventory items that  
7 were coal-related. A ratio was then developed comparing inventory identified as  
8 coal-related (67.74%) and gas-related (32.26%) to total inventory. The gas-  
9 related ratio was then applied to the inventory balance in account 1540001 as of  
10 September 30, 2014 to determine the \$2,524,107 (total company) amount of  
11 inventory to subtract out of total Big Sandy inventory at September 30, 2014 of  
12 \$8,881,455 (total company) with the resultant jurisdictional amount on Section V,  
13 Exhibit 2 W57 being the Big Sandy inventory to remove from rate base.

14 **Q. PLEASE DESCRIBE YOUR ADJUSTMENT TO REMOVE BIG SANDY**  
15 **RWIP AND CWIP FROM RATE BASE.**

16 A. On Section V, Exhibit 2 W57, CWIP is reduced by \$1,584,601 and account 108  
17 (RWIP) is reduced by \$3,720,953. These reductions to rate base were based on a  
18 review of the current CWIP and RWIP balances by work order to identify the  
19 coal-related work orders.

**VI. COMPONENTS OF THE BIG SANDY COAL-RELATED RETIREMENT**  
**COSTS TO BE INCLUDED IN THE BIG SANDY RETIREMENT RIDER**

20 **Q. WHAT COMPONENTS HAVE YOU IDENTIFIED RELATED TO THE**  
21 **COAL-RELATED RETIREMENT COSTS OF BIG SANDY PLANT TO**

1 **BE COLLECTED IN THE BSRR ON A LEVELIZED BASIS OVER 25**  
 2 **YEARS?**

3 A. I have identified the Big Sandy Plant coal-related Retirement Costs defined in the  
 4 approved Stipulation and Settlement Agreement that is discussed by Company  
 5 Witness Wohnhas. The components that I have identified are the Retirement  
 6 Costs of Big Sandy Plant for the net book value, materials and supplies that  
 7 cannot be used at other plants and removal costs and salvage credits.  
 8 Additionally, these costs are subject to a WACC and an ADFIT offset.

9 **Q. CAN YOU PLEASE SUMMARIZE THE RETIREMENT COSTS**  
 10 **COMPONENTS AND THEIR AMOUNTS?**

11 A. Yes. I have identified each component and its cost in the table below.

| <u>Component</u>                  | <u>Amount</u>       |
|-----------------------------------|---------------------|
| NBV                               | \$201,911,435       |
| Unusable M&S                      | 4,342,987           |
| Removal Costs and Salvage         | 43,797,850          |
| Ongoing Big Sandy Unit 2 Expense  | 6,058,782           |
| ARO Costs                         | 56,025,824          |
| <i>less:</i> ADFIT                | <u>(72,189,048)</u> |
| Net Retirement Costs              | \$239,947,830       |
| Carrying Costs                    | 314,209,917         |
| Total Retirement Costs            | \$554,157,747       |
| Total Retirement Costs / 25 Years | <u>\$22,166,310</u> |

12 **Q. ARE THESE VALUES ESTIMATES?**

13 A. Yes. I have obtained the most recent information available and these amounts are  
 14 the Company's estimates of what the Retirement Costs will be. As shown in the

1 table below, some of these costs are yet to be incurred and in the case of removal  
2 and ARO, costs will not be spent for some time into the future.

| Components Subject<br>to WACC Return: | Estimated June 30,<br>2015 Balance | Estimated<br>Future Costs | Grand<br>Total |
|---------------------------------------|------------------------------------|---------------------------|----------------|
| <u>Components of NBV</u>              |                                    |                           |                |
| Original Cost                         | \$ 460,030,669                     | \$ -                      | \$ 460,030,669 |
| Accumulated Depreciation              | (263,500,120)                      | -                         | (263,500,120)  |
| CWIP to transfer to OC                | 1,607,100                          | -                         | 1,607,100      |
| RWIP to transfer to AD                | 3,773,786                          | -                         | 3,773,786      |
| NBV:                                  | 201,911,435                        |                           | 201,911,435    |
| Unusable M&S                          | 4,342,987                          | -                         | 4,342,987      |
| Removal Costs and Salvage             | -                                  | 43,797,850                | 43,797,850     |
| Unit 2 Ongoing Misc. Exp.             | -                                  | 6,058,782                 | 6,058,782      |
| ARO                                   | 1,473,491                          | 54,552,333                | 56,025,824     |
| ADIT                                  | (72,189,048)                       | -                         | (72,189,048)   |
| Total                                 | \$ 135,538,865                     | \$ 104,408,965            | \$ 239,947,830 |

3 Company Witness Wohnhas is supporting a periodic true-up for this rider to  
4 ensure that the amount collected is based on actual costs. As actual costs are  
5 incurred, they will be compared to these estimates and adjustments will be  
6 reflected in the BSRR amount to be collected.

7 **Q. HOW WAS THE NBV AMOUNT OBTAINED?**

8 A. To quantify the NBV of Big Sandy Plant, I took the NBV removed from rate base  
9 as shown in Section V, Exhibit 2 W56 and calculated depreciation expense for  
10 Big Sandy Unit 1 until June 30, 2015 and Big Sandy Unit 2 until May 31, 2015 to  
11 rollforward the NBV of each unit. I was provided the depreciation rates by  
12 Company Witness Davis. These values are summarized in the table below.



| Component  | Unit 1      | Unit 2         | Total          |
|--|-------------|----------------|----------------|
| Estimated Cost from<br>Section V, Exhibit 2 W56    | \$7,870,700 | \$ 452,159,969 | \$ 460,030,669 |
| <i>less:</i> Estimated<br>Accumulated Depreciation | 5,012,515   | 258,487,605    | 263,500,120    |
| Estimated NBV @<br>June 30, 2015                   | 2,858,185   | 193,672,364    | 196,530,549    |
| Big Sandy CWIP @<br>September 30, 2014             |             |                | 1,607,100      |
| Big Sandy RWIP @<br>September 30, 2014             |             |                | 3,773,786      |
| Total  |             |                | \$ 201,911,435 |

1 **Q. WHY IS THE NBV OF EACH UNIT UPDATED TO DIFFERENT**  
2 **PERIODS?**

3 A. Big Sandy Unit 1 was updated to June 30, 2015 because it is the expected NBV  
4 prior to the approximate July 1, 2015 effective date for the rates proposed in this  
5 proceeding. Big Sandy Unit 2 was updated to May 31, 2015 because that is when  
6 the unit will be retired.

7 **Q. PLEASE DESCRIBE THE ESTIMATE FOR UNUSABLE M&S.**

8 A. The process used to determine the value of unusable coal-related M&S was  
9 described previously in my testimony where I supported the removal of Big  
10 Sandy Plant M&S from rate base. Based on review of historical results from the  
11 inventory system, it is anticipated that 15% of the M&S will be either used or  
12 transferred by the time the units are shutdown. Of the 85% remaining balance,  
13 the salvage value is estimated at 4%. The results are summarized in the table  
14 below.

| Estimated Coal-Related Inventory at Shutdown |           |             |             |
|--|-----------|-------------|-------------|
|  | Unit 1    | Unit 2      | Total       |
| Estimated Coal Related                       | \$648,925 | \$4,673,364 | \$5,322,289 |
| Estimated Usage/Transfer @ 15%               | 97,339    | 701,005     | 798,344     |
| Estimated Value at Shutdown                  | 551,586   | 3,972,359   | 4,523,945   |
| Estimated Salvage                            | 4%        | 4%          |             |
| Net Estimated at Shutdown                    | \$529,522 | \$3,813,465 | \$4,342,987 |

1 Actual results will vary from these estimates. As discussed previously, the actual  
2 results will be included in the periodic true-up proposed by Company Witness  
3 Wohnhas.

4 **Q. WHAT IS THE BASIS FOR THE REMOVAL COSTS AND SALVAGE**  
5 **CREDITS?**

6 A. I obtained the cost estimate for demolition costs and salvage from the most recent  
7 demolition study prepared by Sargent & Lundy, LLC in March 2013 for Big  
8 Sandy Plant. The value is the estimated removal costs of total Big Sandy Plant  
9 net of the estimated salvage. The cost was then inflated to 2031 in the same  
10 manner as the removal cost inflation for the Mitchell Plant described in the  
11 testimony of Company Witness Davis.

12 **Q. WHY ARE THERE AMOUNTS FOR ONGOING EXPENSE FOR BIG**  
13 **SANDY UNIT 2?**

14 A. As discussed by Company Witness LaFleur, there are certain ongoing expenses  
15 after Big Sandy Unit 2 is shutdown in the amount of \$6,058,782 which he  
16 provided to me to include in the total costs to be recovered through the BSRR.

17 **Q. PLEASE DESCRIBE THE ADFIT OFFSET AMOUNT.**

1 A. I have calculated the ADFIT using the current statutory federal income tax rate of  
2 35% as applied to the sum total of the NBV of Big Sandy Plant and the unusable  
3 M&S. I calculated the ADFIT in this manner as directed by Company Witness  
4 Bartsch.

5 **Q. WHAT WACC RATE WAS USED TO CALCULATE CARRYING**  
6 **CHARGES?**

7 A. I calculated carrying charges using the 7.70% WACC presented in this proceeding  
8 and sponsored by Company Witness Reitter. A gross-up factor was applied to the  
9 appropriate WACC components resulting in a pre-tax WACC of 10.7873%.

10 **Q. HOW WERE THE CARRYING CHARGES CALCULATED AND HOW**  
11 **WILL THE BSRR REVENUES BE COLLECTED BETWEEN PRINCIPAL**  
12 **AND CARRYING CHARGES FOR ACCOUNTING PURPOSES?**

13 A. A yearly summary of the carrying charges is provided on Exhibit JMY-1. The  
14 actual calculation will be performed monthly and will be calculated on the previous  
15 month balance. The increment of the current month net BSRR revenues that  
16 exceed the current month carrying charges will be used to reduce the principal  
17 balance.

**VII. OVER/UNDER RECOVERY OF DEFERRAL ACCOUNTING**

18 **Q. WHAT IS THE BASIS FOR OVER/UNDER DEFERRAL ACCOUNTING**  
19 **FOR THE PJM RIDER, BSRR AND BS1OR PROPOSED BY COMPANY**  
20 **WITNESSES VAUGHAN AND WOHNHAS?**

21 A. Financial Accounting Standards Board's Accounting Standards Codification  
22 (FASB ASC) 980 requires deferral accounting when a regulatory commission

1 requires future rates to be reduced to refund an over recovery and when a  
2 regulatory commission provides for the future recovery of incurred expenses or it  
3 is probable that a regulatory commission will provide for such future recovery of  
4 an incurred expense. Therefore, in order to record regulatory liabilities or  
5 regulatory assets and perform regulatory deferral over/under recovery true-up  
6 accounting, it must be probable that the regulatory liability will be refunded or  
7 that the regulatory asset will be recovered in the future.

8 **Q. WHAT IS NEEDED TO ESTABLISH PROBABILITY AND THUS MEET**  
9 **THE ACCOUNTING CRITERIA FOR RECORDING A REGULATORY**  
10 **LIABILITY OR ASSET FOR THE FOR THE PJM RIDER, BSRR AND**  
11 **BS1OR PROPOSED BY COMPANY WITNESSES VAUGHAN AND**  
12 **WOHNHAS?**

13 A. In order to meet the probability standard, the final order in this proceeding should  
14 clearly provide for both the future recovery or the future refund in the next  
15 applicable filing of any difference between incurred expenses (plus a carrying  
16 cost where appropriate) compared with the actual revenues collected.

17 **Q. HOW WILL THE OVER/UNDER ACCOUNTING WORK FOR THE**  
18 **BSRR?**

19 A. Regarding the BSRR, the regulatory asset for the costs described previously (or  
20 regulatory liability) will be amortized commensurate with the recovery via the  
21 BSRR net of carrying charges, Commission fees and bad debt expense over the 25  
22 year recovery period starting July 1, 2014.

1 **Q. HOW WILL THE OVER/UNDER ACCOUNTING WORK FOR THE**  
2 **BS1OR?**

3 A. Regarding the BS1OR, the actual Big Sandy operations expense including  
4 depreciation, production O&M and other expenses will be compared to the net  
5 monthly revenues collected through the BS1OR with any difference being  
6 deferred on the balance sheet as a regulatory asset or regulatory liability.

7 **Q. HOW WILL THE OVER/UNDER ACCOUNTING WORK FOR THE PJM**  
8 **RIDER MECHANISM RECOMMENDED BY WITNESS VAUGHAN?**

9 A. If the monthly actual incurred PJM rider charges and credits are less than the  
10 respective monthly amounts (1/12 of Company Witness Vaughan's recommended  
11 net level of approximately \$74.9 million shown on AEV Exhibit 5) included in  
12 the monthly approved revenues, the Company will credit a regulatory liability and  
13 charge the appropriate accounts. Similarly, if the monthly actual incurred PJM  
14 rider charges and credits are more than the respective monthly amounts as  
15 described above, the Company will charge a regulatory asset while crediting the  
16 appropriate accounts.

17 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

18 A. Yes.

Amortization of Coal-Related Big Sandy Retirement and Retirement Related Costs

Illustrative Example

WACC 10.7873%

Annual Payment \$ 22,166,309.89

| Year | Bg               | Additions               | Payments                | CC                      | Ending           |
|------|------------------|-------------------------|-------------------------|-------------------------|------------------|
| 1    | \$135,538,865.72 | \$19,471,535.00         | (\$22,166,309.89)       | \$15,228,668.57         | \$148,072,759.40 |
| 2    | \$148,072,759.40 | \$12,618,110.00         | (\$22,166,309.89)       | \$16,300,422.81         | \$154,824,982.32 |
| 3    | \$154,824,982.32 | \$14,527,661.00         | (\$22,166,309.89)       | \$17,163,217.84         | \$164,349,551.27 |
| 4    | \$164,349,551.27 | \$8,509,280.00          | (\$22,166,309.89)       | \$17,936,354.94         | \$168,628,876.31 |
| 5    | \$168,628,876.31 | \$2,240,926.00          | (\$22,166,309.89)       | \$18,102,104.16         | \$166,805,596.58 |
| 6    | \$166,805,596.58 | \$368,869.00            | (\$22,166,309.89)       | \$17,800,011.56         | \$162,808,167.24 |
| 7    | \$162,808,167.24 | \$371,840.00            | (\$22,166,309.89)       | \$17,346,976.26         | \$158,360,673.61 |
| 8    | \$158,360,673.61 | \$374,886.00            | (\$22,166,309.89)       | \$16,842,921.21         | \$153,412,170.93 |
| 9    | \$153,412,170.93 | \$378,008.00            | (\$22,166,309.89)       | \$16,282,070.87         | \$147,905,939.91 |
| 10   | \$147,905,939.91 | \$250,000.00            | (\$22,166,309.89)       | \$15,651,309.58         | \$141,640,939.59 |
| 11   | \$141,640,939.59 | \$250,000.00            | (\$22,166,309.89)       | \$14,941,049.44         | \$134,665,679.14 |
| 12   | \$134,665,679.14 | \$250,000.00            | (\$22,166,309.89)       | \$14,150,267.45         | \$126,899,636.70 |
| 13   | \$126,899,636.70 | \$250,000.00            | (\$22,166,309.89)       | \$13,269,834.88         | \$118,253,161.68 |
| 14   | \$118,253,161.68 | \$250,000.00            | (\$22,166,309.89)       | \$12,289,588.08         | \$108,626,439.87 |
| 15   | \$108,626,439.87 | \$250,000.00            | (\$22,166,309.89)       | \$11,198,211.17         | \$97,908,341.15  |
| 16   | \$97,908,341.15  | \$250,000.00            | (\$22,166,309.89)       | \$9,983,105.37          | \$85,975,136.62  |
| 17   | \$85,975,136.62  | \$43,797,850.00         | (\$22,166,309.89)       | \$10,849,167.77         | \$118,455,844.50 |
| 18   | \$118,455,844.50 | \$0.00                  | (\$22,166,309.89)       | \$12,299,827.71         | \$108,589,362.32 |
| 19   | \$108,589,362.32 | \$0.00                  | (\$22,166,309.89)       | \$11,181,269.28         | \$97,604,321.70  |
| 20   | \$97,604,321.70  | \$0.00                  | (\$22,166,309.89)       | \$9,935,900.40          | \$85,373,912.21  |
| 21   | \$85,373,912.21  | \$0.00                  | (\$22,166,309.89)       | \$8,549,344.64          | \$71,756,946.95  |
| 22   | \$71,756,946.95  | \$0.00                  | (\$22,166,309.89)       | \$7,005,595.71          | \$56,596,232.77  |
| 23   | \$56,596,232.77  | \$0.00                  | (\$22,166,309.89)       | \$5,286,832.69          | \$39,716,755.56  |
| 24   | \$39,716,755.56  | \$0.00                  | (\$22,166,309.89)       | \$3,373,214.31          | \$20,923,659.97  |
| 25   | \$20,923,659.97  | \$0.00                  | (\$22,166,309.89)       | \$1,242,649.92          | \$0.00           |
|      |                  | <u>\$104,408,965.00</u> | <u>\$554,157,747.34</u> | <u>\$314,209,916.61</u> |                  |

|   |                                |
|---|--------------------------------|
| Estimated June 30, 2015 Beginning Costs | \$135,538,865.72               |
| Additions                               | <u>104,408,965.00</u>          |
| Subtotal                                | \$239,947,830.72               |
| Carrying Costs                          | \$314,209,916.61               |
| Total Estimated Costs                   | <u><b>\$554,157,747.34</b></u> |