COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY POWER COMPANY FOR (1) A GENERAL ADJUSTMENT OF ITS RATES FOR ELECTRIC SERVICE; (2) AN ORDER APPROVING ITS 2017 ENVIRONMENTAL COMPLIANCE PLAN; (3) AN ORDER APPROVING ITS TARIFFS AND RIDERS; (4) AN ORDER APPROVING ACCOUNTING PRACTICES TO ESTABLISH REGULATORY ASSETS AND LIABILITIES; AND (5) AN ORDER GRANTING ALL OTHER REQUIRED APPROVALS AND RELIEF	)	**Case No. 2017-00179**

DIRECT TESTIMONY OF

SATTERWHITE, BARTSCH, BUCK, CARLIN, CASH

ON BEHALF OF KENTUCKY POWER COMPANY

SECTION III

VOLUME 1 OF 4

June 28, 2017

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

Electronic Application Of Kentucky Power Company For (1) A General Adjustment Of Its Rates For Electric Service; (2) An Order Approving Its 2017 Environmental Compliance Plan; (3) An Order Approving Its Tariffs And Riders; (4) An Order Approving Accounting Practices To Establish Regulatory Assets And Liabilities; And (5) An Order Granting All Other Required Approvals And Relief	)	Case No. 2017-00179

DIRECT TESTIMONY OF

MATTHEW J. SATTERWHITE

ON BEHALF OF KENTUCKY POWER COMPANY

VERIFICATION

The undersigned, Matthew J. Satterwhite, being duly sworn, deposes and says he is the President and COO for Kentucky Power Company 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

Matthew J. Satterwhite

COMMONWEALTH OF KENTUCKY)
) 2017-00179
COUNTY OF BOYD)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Matthew J. Satterwhite, this 27th day of June 2017.

Trisha M. Young Blum
Notary Public

Notary ID Number: 530202

My Commission Expires: 3-18-19

TRISHA M. YOUNG
NOTARY ID 530202
COMMISSION EXPIRES 3-18-19

DIRECT TESTIMONY OF
MATTHEW J. SATTERWHITE, ON BEHALF OF
KENTUCKY POWER COMPANY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

CASE NO. 2017-00179

TABLE OF CONTENTS

I. Introduction …………………………………………………………………..1

II. Background ………………………………………………………………….. 1

III. Purpose of Testimony ……………………………………………………….. 2

IV. Overview of Kentucky Power's Operations ..……………………………….. 3

V. Kentucky Power's Customer Experience Focus ……………………………..7

VI. Kentucky Power's Economic Development Activities ..……………………..10

VII. Kentucky Power's Request to Adjust Its Rates …...…...……………………. 11

DIRECT TESTIMONY OF
MATTHEW J. SATTERWHITE, ON BEHALF OF
KENTUCKY POWER COMPANY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

I. INTRODUCTION

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

A. My name is Matthew J. Satterwhite, and I am the President and Chief Operating Officer of Kentucky Power Company ("Kentucky Power" or "Company"). My business address is 855 Central Avenue, Suite 200, Ashland, Kentucky 41101.

II. BACKGROUND

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. I graduated from the University of Kansas in 1995 with a Bachelor of Arts in Political Science and from Capital Law School in 1999. After graduation from law school, I joined the Ohio Attorney General's Office, representing the Public Utilities Commission of Ohio (PUCO) from 1999 to 2004. In 2004, I became the Legal Director for the PUCO's Service Monitoring and Enforcement Department where I served until 2006. I left the Commission to serve as a Master Commissioner with the Supreme Court of Ohio from 2006-2008. In Ohio, the cases from the utility commission have the right of direct appeal to the Supreme Court of Ohio, and I served as the public utility expert for the Court. In late 2008, I joined the American Electric Power Service Corporation ("AEPSC") legal department.

Q. WHEN DID YOU ASSUME THE DUTIES OF PRESIDENT AND CHIEF OPERATING OFFICER OF KENTUCKY POWER?

A. I formally assumed the duties of President and Chief Operating Officer of Kentucky Power on December 8, 2016. Immediately following the formal announcement of my appointment in November 2016, I began traveling Kentucky Power's service territory. During these travels I had the opportunity to meet with customers and employees, and through these meetings I have come to better understand the challenges facing our part of the Commonwealth. I also have gained a better appreciation for the talented men and women in our organization and in the communities we serve.

I have also met with local, state, and federal officials to discuss key issues impacting our region. Whenever possible, I spread the word about the skilled and available workforce in eastern Kentucky. I am convinced that a concerted effort by industry and the Commonwealth of Kentucky can effectively inform the world about the opportunity for industry to locate in eastern Kentucky with the goal of diversifying the economy and creating well-paying jobs.

III. PURPOSE OF TESTIMONY

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

A. My testimony addresses four topics. All are important, but I place special emphasis on Kentucky Power's focus on economic development and customer service. It is no secret that eastern Kentucky is in the midst of a fundamental transformation of its economy that in large part is driven by forces outside its control. The coal mining economy, once the primary driver of the eastern

Kentucky economy, has declined. While there have been some recent improvements in coal mining activity reported, the direct and indirect job losses over the past few years resulting from the downturn in coal mining activity are being felt throughout the Company's service territory. Kentucky Power is committed to working with its customers, public officials, and other stakeholders to address the challenges facing eastern Kentucky. Kentucky Power's customer experience focus and "Appalachian Sky" initiative, which I describe below, are important efforts to address those challenges, and underlie the Company's vision for eastern Kentucky.

Turning to the specifics of my testimony, I provide:

- an overview of Kentucky Power and its operations;
- detail on the Company's refocused customer experience focus;
- a description of Kentucky Power's efforts on economic development including its "Appalachian Sky" initiative; and
- an overview of Kentucky Power's application and request.

IV. OVERVIEW OF KENTUCKY POWER'S OPERATIONS

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

A. Kentucky Power is a wholly owned subsidiary of American Electric Power Company, Inc. ("AEP") and is engaged in the generation, purchase, transmission, and distribution of electric power. The Company serves approximately 168,000 retail customers located in 20 eastern Kentucky counties. The Company's total customer count has declined by approximately 2,300 customers since September 2014. The Company also sells electric power at wholesale rates to the City of

Olive Hill and the City of Vanceburg. Exhibit MJS-1 is a map detailing the Company's service territory. Kentucky Power's service territory includes some of the most economically and geographically challenging territory in the Commonwealth.

Q. WHERE ARE KENTUCKY POWER'S OFFICES LOCATED?

A. In December 2016, Kentucky Power moved its corporate headquarters from Frankfort, Kentucky to Ashland, Kentucky. In addition to returning jobs to Ashland, the move is an important step in Kentucky Power's enhanced commitment to its service territory. I and other members of the senior management live in the service territory and are involved on the front lines rebuilding our communities.

Q. DOES KENTUCKY POWER MAINTAIN OTHER OFFICES?

A. Yes. The Company maintains distribution operations centers in Hazard, Pikeville, and Ashland. These offices serve as a base of operations for each of the Company's three districts. Kentucky Power employs staff in each of these districts and maintains offices and equipment to assist in maintaining and restoring electric service. The Company also operates a state regulatory office in Frankfort, Kentucky.

Q. HOW LARGE IS KENTUCKY POWER'S WORKFORCE?

A. Kentucky Power currently directly employs 549 persons. The Company pays competitive wages and benefits enabling it to attract and retain the skilled workers required to provide safe, adequate, and efficient service to its customers. The Company proposes to adjust the test year complement of employees in this case to add five employees to meet safety and efficiency needs. The Company will continue to look for opportunities to add staff in our territory when the cost is justified by the service and customer benefits provided. While a few salaries may not have a material impact on the ultimate cost of providing service, I am mindful of the need to be measured in our spending.

Kentucky Power's employment impact also extends beyond its direct employees. Overall, the Company employs approximately 580 contractors on a regular basis in eastern Kentucky. The Company contracts with Nelson Tree Service, Inc., Asplundh Tree Expert Company, and Wright Tree Service, Inc. to perform most of the vegetation management work in connection with the Company's on-going vegetation management plan. The Company also uses Davis H. Elliot Company, Inc. and some flagging crews to perform much of its overhead and underground construction work. The use of independent contractors allows Kentucky Power to manage this work in a cost-effective manner.

Q. DO KENTUCKY POWER AND ITS EMPLOYEES SUPPORT THE COMMUNITIES AND INSTITUTIONS OF ITS SERVICE TERRITORY?

A. Absolutely. During 2016, the Company contributed to charitable, educational, and civic organizations serving the Company's service territory. None of these contributions, or the ones discussed below, are recovered through rates; all are "below-the-line" expenditures paid by the Company shareholder.

The Company's employees also support the communities they serve through employee involvement in organizations that promote economic development, civic pride, and customer safety.

Q. WHAT ARE AMERICAN ELECTRIC POWER FOUNDATION GRANTS?

A. The American Electric Power Foundation supports the communities served by AEP operating companies like Kentucky Power. Some of the more notable contributions during 2016 included a $25,000 donation to God's Pantry in Paintsville, Kentucky and a $10,000 donation to the Governors Scholar Program.

The Foundation also just announced a grant developed by Kentucky Power and the Kentucky Education Development Corporation in the amount of $500,000. The grant will be used to bring or enhance video distance learning equipment and curriculum to the high schools in Kentucky Power's service territory. This program will allow these schools to connect with each other and resources around the world. The Foundation also announced a grant in the amount of $150,000 to the American Red Cross in eastern Kentucky for the purchase of an emergency response vehicle for the region to assist in emergencies.

Q. KENTUCKY POWER'S SHAREHOLDER'S CONTRIBUTIONS TO THE COMPANY'S SERVICE TERRITORY HAVE NOT BEEN ADDRESSED IN DETAIL IN PAST RATE CASES. WHY ARE YOU ADDRESSING THE ISSUE NOW?

A. The discussion is included as the direct result of conversations with our customers. Our customers expressed surprise to learn about the level of corporate giving, and encouraged the Company to do more to explain its charitable and economic development efforts. The Foundation grants are not recovered through base rates, and therefore were not addressed in past filings. But as I learned from our customers, these Company actions are important to share and to show a more complete picture of the Company's impact on the provision of electric service.

V. <u>KENTUCKY POWER'S CUSTOMER EXPERIENCE FOCUS</u>

Q. WHAT HAS KENTUCKY POWER DONE TO CONNECT AND COMMUNICATE WITH ITS CUSTOMERS?

A. Kentucky Power understands the importance of open communication with its customers. Starting in January of 2017, the Company set up a new approach to reach customers and held a series of community meetings to listen to customer comments, address concerns, and be available to talk in the community. Since then the Company has conducted 12 such meetings. Kentucky Power worked with legislators and County Judge Executives, and also advertised these community meetings in an attempt to reach as many customers as possible.

The Company approached the meetings in a productive manner so that it could talk directly with customers about their specific concerns and circumstances. The Company asked customers with billing concerns to bring a copy of their bill with them. The customers that brought a copy of their bills were able to talk with customer service representatives who could access customer accounts and further evaluate their bills. The Company also held discussion stations with forestry personnel to discuss vegetation management, and energy efficiency staff to discuss the Company's programs that are available to help customers to make their homes and businesses more energy efficient. The Company also provided regulatory staff and an area dedicated to discussions concerning customer confusion about specific charges on the bill and regulatory matters.

Q. WHAT OTHER EFFORTS DID KENTUCKY POWER TAKE TO IMPROVE COMMUNICATION WITH ITS CUSTOMERS?

A. As part of this focus on the customer experience, Kentucky Power began in 2016 a series of monthly public meetings called Community Advisory Panels. Community Advisory Panels were established in Ashland, Pikeville, and Hazard and were designed so that the Company could meet with active community members to ensure the Company understood the full range of issues raised by customers. The topics for presentation at the Community Advisory Panels ranged from reliability and economic development to AEP corporate governance to how to read the bill. The Company also provided community members with examples of the issues being considered for this rate case. The introduction of the issues provided the Company an opportunity to understand how potential changes were viewed and to address community concerns with any new approach.

Q. WHAT HAS THE COMPANY LEARNED FROM ITS CUSTOMER EXPERIENCE FOCUS SO FAR?

A. First and foremost, the Community Advisory Panels reinforced the Company's understanding of the importance of communication and how such communication can better enable Kentucky Power to meet its customers' energy needs and expectations. In particular, the Company learned that the number of individual riders and surcharges appearing as line items on customer bills frustrates customers. In response to this concern, and in an effort to provide customers the type of service they want, the Company recently proposed in Case No. 2017-00231 to change its bill format. The interactions also helped customers better understand what the Company faces on a daily basis, how it operates, as well as the real value of the electricity provided by Kentucky Power.

Q. HOW DOES KENTUCKY POWER PLAN TO IMPROVE THE CUSTOMER EXPERIENCE GOING FORWARD?

A. Interaction with our customers is vital and will continue. The Company intends to continue to be in the community speaking and listening. The Company headquarters moving to Ashland puts our leadership team directly in the community we serve, interacting with our neighbors on a daily basis and being part of the rebuilding of eastern Kentucky. The Company will continue to hold its Community Advisory Panel meetings to ensure a consistent forum for community members to interact with Company management and provide a platform for open and honest discussion about the region and the impact of the electric utility. I also changed the organization structure of the Company by elevating the individual responsible for customer interaction to a director of customer service and business operations position. She now reports directly to me so that I am actively involved in ensuring we are communicating with our customers.

VI. <u>KENTUCKY POWER'S ECONOMIC DEVELOPMENT ACTIVITIES</u>

Q. WHAT CONTRIBUTIONS HAS KENTUCKY POWER'S SHAREHOLDER MADE TO ECONOMIC DEVELOPMENT?

A. As discussed in detail in the testimony of Company Witness Hall, the Company actively supports economic development in its service territory. Through grants and other investments, Kentucky Power has provided over $2.0 million toward economic development efforts since 2014.

Q. WHAT IS THE APPALACHIAN SKY INITIATIVE?

A. The Appalachian Sky Initiative is a plan to promote central Appalachia as the premier region in the Unites States for aerospace manufacturing. This plan was developed over time through the work of Kentucky Power in partnership with key local economic development agencies in the area. Eastern Kentucky and all of central Appalachia contain a highly skilled and available workforce. Kentucky Power and the economic development agencies it supports developed a workforce study that demonstrates the aptitude and skill set of Appalachian workers, particularly coal miners and steel workers. This study showed that central Appalachia has eight times the national per capita average of metal fabricators, the key skill set needed in aerospace manufacturing, making the region a potential leader in the industry. The Appalachian Sky Initiative seeks to leverage this existing skilled workforce into a dynamic new diversified economy for the region.

Q. WILL APPALACHIAN SKY SUCCEED?

The plan and expectation is to succeed. While there are no guarantees, the nature of the skilled workforce in eastern Kentucky strongly supports both the need for and the strategy embodied in the Appalachian Sky Initiative. I have worked to share this message with our state and federal officials as well as aerospace companies. Regardless of the future of the coal industry, eastern Kentucky must diversify its economy and find alternative sources of job creation.

Q. PLEASE DESCRIBE THE RECENTLY-ANNOUNCED PLAN BY BRAIDY INDUSTRIES TO CONSTRUCT A MANUFACTURING FACILITY IN GREENUP COUNTY.

A. Braidy Industries Inc. announced on April 26, 2017 its plan to construct a $1.3 billion aluminum mill near South Shore in Greenup County. My understanding is that the mill will produce Series 5000, 6000, and 7000 aluminum sheet and plate products for use in the automotive and aerospace industry. The mill is also reported to support research and development to advance the science and technology of molten-metal manufacturing. The 2.5 million square foot facility will provide approximately 550 advanced manufacturing and administrative jobs when it opens in 2020. The construction of the mill is reported to provide up to 1,000 additional jobs in that interim period. The location of the Braidy Industries aluminum mill in eastern Kentucky taps the strong available workforce and highlights the potential for the success of the Appalachian Sky Initiative. Kentucky Power intends to be a partner to help rejuvenate the region.

VII. KENTUCKY POWER'S REQUEST TO ADJUST ITS RATES

Q. WHAT RATE ADJUSTMENT IS KENTUCKY POWER PROPOSING?

A. The base rates proposed in the Company's application are designed to increase its annual revenues by $65,387,987. This increase is based on the historical test year ending February 28, 2017 with known and measurable adjustments to test year revenues and operating expenses. The Company is also seeking to increase the amount of the Home Energy Assistance Program ("HEAP") surcharge by $0.05 per residential meter per month and the Kentucky Economic Development Surcharge ("KEDS") by $0.10 per meter per month. The Company estimates that the combined increased surcharges will add $284,891 to the annual revenue amount. The Company will match dollar-for-dollar the additional economic development dollars produced by the request. The Company is also seeking approval pursuant to KRS 278.183 of the Company's 2017 Environmental Compliance Plan. Additional information about the 2017 Plan is included in the testimony of Company Witness Elliott. If approved, the 2017 Environmental Compliance Plan will result in an estimated additional $3,903,056 increase in the Company's annual environmental surcharge revenues. The rates proposed by Kentucky Power in this case are designed to produce a total of $69,575,934 in additional annual revenue.

Q. WHAT HAS CHANGED SINCE THE COMMISSION'S ORDER IN CASE NO. 2014-00396 THAT NECESSITATES THE FILING OF THE COMPANY'S APPLICATION?

A. Kentucky Power's service territory is undergoing historic changes, and it is critical that Kentucky Power act now to address those changes. The Company's customer base continues to shrink, and the decline in usage requires the Company to spread the costs of operations over the smaller number of remaining customers. The effect of a decreasing customer base is the single largest driver of the rate request.

The rate increase requested is also required to meet increasing costs related to the federally-regulated transmission system, as well as the costs of complying with environmental regulations. Transmission system costs are volatile and are billed directly to Kentucky Power by PJM. Other major changes since 2014 include but are not limited to declining off-system sales margins and increased depreciation expense. Waiting to address these changes will not benefit the people or the economy of eastern Kentucky.

Q. WHY IS ALLOWING KENTUCKY POWER THE OPPORTUNITY TO EARN A REASONABLE RETURN AND FINANCIAL PERFORMANCE IMPORTANT?

A. Kentucky Power is an important part of the fabric of eastern Kentucky as an employer, corporate citizen, and investor. It is important that public utilities provide a financial return on investment to ensure stockholder investment. Failure to perform financially will adversely affect the capital available to the Company and its cost, as well as Kentucky Power's ability to provide safe and reliable service to customers while remaining an important part of eastern Kentucky. Company Witness McKenzie discusses the basis for his recommended return on equity and the importance of Kentucky Power being permitted the opportunity to earn it.

In addition, as a general proposition, public utilities are typically viewed as safe investment opportunities and their securities are sought by teacher retirement systems, unions, and other mainstream risk adverse investors. These are the investors that provide the capital to support Kentucky Power's operations and look to the Commission to provide the opportunity to earn, and the Company to achieve, a fair return.

As a public utility the Company must abide by the rules and regulations of the Commonwealth and the Commission. Under the regulatory compact Kentucky Power provides safe and reliable service in return for a fair opportunity to earn a reasonable return on its investment. Kentucky Power's existing rates do not provide it an opportunity to earn a reasonable return.

Q. DID KENTUCKY POWER CONSIDER THE EFFECT OF ITS REQUESTED INCREASE ON ITS CUSTOMERS?

A. Yes. Kentucky Power balances its operations and requests for rate relief with the reality of the rapidly changing electric utility industry and the circumstances facing customers. Kentucky Power's request is reasonable and necessary to position the Company to meet the significant challenges it and its customers face, and will allow it to:

- meet customer expectations for safe and reliable electric service;
- continue to maintain and improve reliability;
- continue to invest in capital improvements in the distribution system; and
- provide a safe work environment that sends each and every employee home injury-free.

Kentucky Power provides a valuable service to its customers and is a leader in the eastern Kentucky economy. The Company, however, is significantly challenged under its existing rates to continue to provide energy that is safe, reliable, and efficient.

Q. WHAT IS THE COMPANY DOING TO ADDRESS THE ECONOMIC SITUATION FACING EASTERN KENTUCKY?

A. The Company and its employees understand the problems facing our customers. We live and work in the communities we serve. Kentucky Power has taken and is proposing a number of actions to align its rate proposal with the situation facing its service territory. For example, and as described below, Kentucky Power is proposing to increase its contribution to its successful K-PEGG economic development program. Additionally, Kentucky Power has increased its contribution to the Home Heating Assistance program by 50% since 2009.

The Company also is proposing to eliminate the employee discount currently included in the rate structure. The Company determined that now was the appropriate time to end the practice. Additionally, the Company recently proposed the change requested by customers for a simpler and more focused bill format. Our customers demanded a bill without the long list of line items and the Company is proposing a much simpler bill. As discussed by Company Witnesses Wohnhas and Miller, the Company earlier this month refinanced $325 million in outstanding debt to obtain lower interest rates. The Company proposes to file supplemental testimony addressing the post-test year refinancing.

As discussed above, Kentucky Power is also taking further steps to address the underlying issues driving unemployment and economic hardship in eastern Kentucky. In addition to the economic development efforts described by Company Witness Hall, the Company filed, and the Commission expeditiously approved, a “Coal Plus” program that provides the opportunity for coal operations to reopen with the help of a special contract or to take advantage of existing tariffs. The Company also held the first of an ongoing series of meetings with coal operators in its service territory and Kentucky Power's fuel procurement group in Columbus, Ohio to address strategies to make Kentucky-mined coal more competitive and more likely to be chosen in a competitive request for proposal.

Q. WHY IS KENTUCKY POWER MAKING THIS FILING NOW?

A. Kentucky Power's return on equity for the test year was 5.80 per cent. For the 12 months ended May 31, 2017 Kentucky Power's return on equity was 5.55 percent. This is far below the range of returns on equity found to be reasonable by the Commission in Case No. 2014-00396. In fact, Kentucky Power has never achieved its authorized return on equity since the Commission's June 22, 2015 Order. Kentucky Power cannot continue to provide safe, efficient, and adequate service without the opportunity to attract the capital required to make the investments necessary.

Q. DOES THE TESTIMONY PRESENTED IN SUPPORT OF THE COMPANY'S APPLICATION IDENTIFY ANY ALTERNATIVES TO THE PROPOSALS CONTAINED IN ITS APPLICATION?

A. Yes, but each of the alternatives involves trade-offs. For example, Company Witness Phillips presents proposed modifications to Kentucky Power's 2015 Distribution Vegetation Management Plan in connection with the Company's planned transition to performing Task 3 work on a five-year cycle. As part of its ongoing efforts to address customer impacts and as part of this case, Kentucky

Power also reviewed performing the Task 3 work on a six-year cycle. Although a six-year maintenance cycle would be less expensive on annual basis, it comes with both a higher total cost for a complete cycle and the risk of decreased service reliability.

The Company also examined depreciating its assets over longer period and thereby reducing its revenue requirement, as discussed by Company Witness Wohnhas. That choice, however, results in greater costs, albeit over a longer period of time, and customers paying more in the long run.

Q. WHY HAS THE COMPANY ASKED FOR AN INCREASE IN ECONOMIC DEVELOPMENT FUNDING?

A. Economic development is the most impactful means of mitigating the primary driver behind the current rate request. Kentucky Power is requesting that the Commission authorize an $0.10 per meter per month increase in the Company's Kentucky Economic Development Surcharge first approved by the Commission in its June 22, 2015 Order in Case No. 2014-00396. If approved, the KEDS surcharge will total $0.25 per meter per month or $3.00 per meter per year. The Company proposes to again match the increase with shareholder funds on a dollar for dollar basis. This expanded 50/50 partnership will add approximately $400,000 per year in funding for economic development in Kentucky Power's service territory. Company Witness Hall provides further information about the proposal and the success of the Company's economic development efforts.

Q. WHAT ADVANTAGE IS PROVIDED BY ADDRESSING VOLATILE PJM COSTS IN A TRACKER VERSUS WAITING FOR THE COMPANY TO FILE SUBSEQUENT RATE CASES?

A. Kentucky Power incurs charges and credits as a load serving entity ("LSE") in PJM under the FERC-approved open access transmission tariff ("OATT"). PJM LSE OATT charges and credits can be volatile and can have a significant effect on the Company's revenue requirement. As discussed in more detail by Company Witness Vaughan, the net level of jurisdictional PJM LSE OATT charges and credits increased by approximately $20.6 million since the last rate case filing. Including the net values of these charges and credits among the costs that are tracked and recovered through the annual Purchase Power Adjustment will allow these costs to be added gradually as they occur versus all at once in future rate case filings. The tracking and annual recovery also helps to potentially avoid the costs and administrative inefficiencies associated with more frequent rate cases by ensuring these significant and volatile costs that are charged to Kentucky Power already have an avenue for recovery in rates. Through the use of this tracking mechanism, the Company can ensure that its customers are charged no more and no less than the actual amount of these costs.

Q. HAS THE COMPANY CONSIDERED GREATER CAPITAL INVESTMENT IN ITS SERVICE TERRITORY?

A. Yes. The Company's capital investment plans include needed electric infrastructure in Kentucky. The Company's strategy to increase its capital investment for necessary transmission projects, in particular, aligns the pressing need to update aging transmission infrastructure in the Commonwealth and the Company's strategy to support and make investments in its service territory. These transmission investments not only represent direct investment, but also support the local economy and improved transmission reliability, making the region more attractive to other forms of economic development.

Q. ARE THERE OTHER OPTIONS THE COMPANY IS EXPLORING TO MITIGATE FUTURE CUSTOMER BILL IMPACTS?

A. The Company continues to explore all possible approaches to provide safe and reliable power, in compliance with all applicable regulations, in the most cost-effective manner. The Company is committed to continually review its operations and find more efficient and improved ways to achieve its core work providing electric service to customers. Ultimately, it is increased economic development within the Company's service territory, and with it the associated increased load across which costs can be spread, that is the best opportunity Kentucky Power and its customers have to address increasing rates. Kentucky Power is deeply committed to leveraging the economic growth opportunities presented by a highly skilled and available workforce into an eastern Kentucky region that serves as a destination for modern manufacturing options.

Q. WHY IS THE COMPANY ADDING ADDITIONAL EMPLOYEES?

A. Beginning in late 2016, the Company examined the need for additional staffing in areas focused on safety, reliability of service, and revenue protection. As Company Witness Wohnhas explains in his testimony, Kentucky Power is adjusting the test year to reflect the addition of five employees to its staff. This effort will aid the Company in improving safety and customer service, while limiting the cost borne by customers from energy theft, and by adding quality jobs in Kentucky Power's service territory.

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

A. Yes. Kentucky Power's goal is to provide reliable and cost-effective service to its customers while also producing a reasonable return for its shareholders. The evidence is provided by the Company for the Commission to review. Kentucky Power's proposed adjustments yield fair, just and reasonable rates that will allow it to continue to provide the service that customers and KRS 278.040 require.

Q. WHAT WITNESSES WILL BE OFFERING TESTIMONY IN SUPPORT OF KENTUCKY POWER'S APPLICATION AND THE GENERAL SUBJECT MATTER OF THEIR TESTIMONY?

A. The Company's proposed changes in its annual revenue requirement as well as the adjustments to test year revenues, operating expenses, rate base, capitalization, tariff changes, requests to establish regulatory assets or liabilities, and changes to its environmental compliance plan are sponsored by the following witnesses:

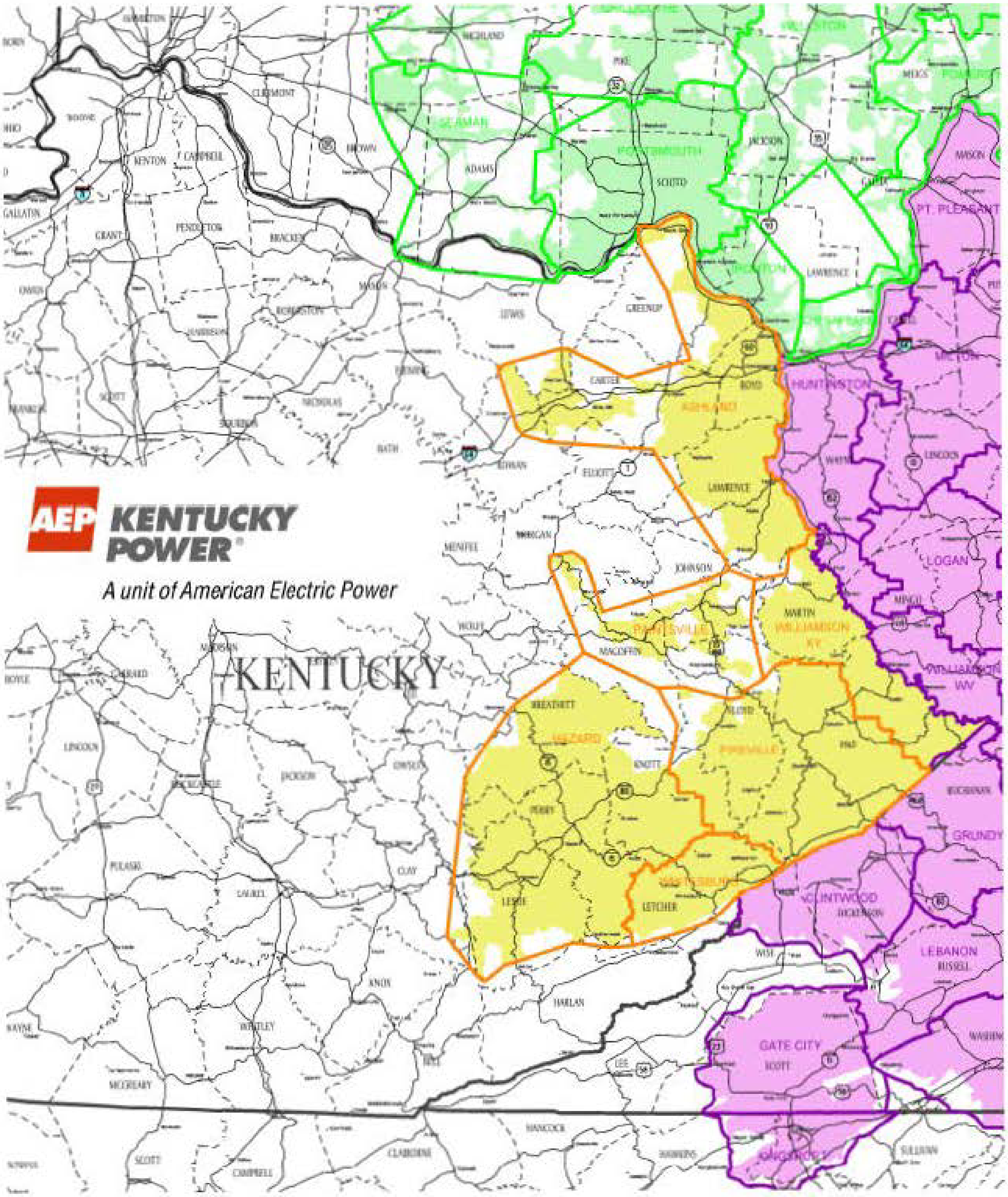
WITNESS	TOPICS
Adrien P. McKenzie	Calculation Of A Fair, Just, and Reasonable Return on Equity
Alex E. Vaughan	Overview Of The Relation Between The Company's Base Rates And Its Surcharges And Riders; Rate Design; Tariff Changes; Optional Renewable Power Tariff; Certain Revenue and Operating Expense Adjustments
Amy J. Elliott	2017 Environmental Compliance Plan; Changes To Tariff E.S.
Brad N. Hall	Kentucky Power's Investment In Economic Development
Andrew R. Carlin	Employee Compensation Strategy

WITNESS	TOPICS
Everett G. Phillips	Kentucky Power's Storm Preparedness, Response to Outages, and System Reliability; Kentucky Power's 2017 Vegetation Management Plan; Kentucky Power's Smart Grid Investments
Jason A. Cash	Revised Depreciation Rates For Big Sandy Unit 1
Jeffrey B. Bartsch	Calculation Of Gross Revenue Conversion Factor; Tax Effects Of Certain Ratemaking Adjustments
Debra L. Osborne	Kentucky Power Generation Assets; Generation Operation And Maintenance Expenses; Big Sandy Plant Status; Projects Added in 2017 Environmental Compliance Plan
John M. McManus	Environmental Requirements Met by the 2017 Environmental Compliance Plan; Environmental Requirements Under Evaluation
John A. Rogness III	Revenue And Operating Expense Adjustments; Certain Tariff Changes
Katharine I. Walsh	Jurisdictional Cost-of-Service Study
Douglas R. Buck	Class Cost-of-Service Study; Revenue Adjustments; Allocation Of Requested Increase To Customer Classes
Ranie K. Wohnhas	Proposed Revenue Requirement; Capitalization Adjustments; Establishment Of Regulatory Assets And Liabilities; Amortization Of Regulatory Assets And Liabilities
Stephen L. Sharp Jr.	Proposed Changes To Kentucky Power's Tariffs; Certain Adjustments To Test Year Revenues And Operating Expenses
Tyler H. Ross	Test Year Revenue And Operating Expense Adjustments; Capitalization And Rate Base Adjustments Related To The Decommissioning Rider
Zachary C. Miller	Kentucky Power's Proposed Capital Structure; Cost of Capital For Ratemaking Purposes; Kentucky Power's Financial Position And Credit Rating

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

A. Yes.

Map of the KPCo Service Area



COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

Electronic Application Of Kentucky Power Company For (1) A General Adjustment Of Its Rates For Electric Service; (2) An Order Approving Its 2017 Environmental Compliance Plan; (3) An Order Approving Its Tariffs And Riders; (4) An Order Approving Accounting Practices To Establish Regulatory Assets And Liabilities; And (5) An Order Granting All Other Required Approvals And Relief	**)**	**Case No. 2017-00179**

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 & Regulatory Support for American Electric Power, 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)
) 2017-00179
COUNTY OF FRANKLIN)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by (Insert Name), this the 19th day of June 2017.

Pauline A Lutz

Notary Public

NOTARIAL SEAL STATE OF OHIO

PAULINE A LUTZ
NOTARY PUBLIC - OHIO
MY COMM. EXP. 9-12-21

My Commission Expires

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

CASE NO. 2017-00179

TABLE OF CONTENTS

I. Introduction ……………………………………………….1

II. Background ……………………………………………….1

III. Purpose of Testimony …………………………………….3

IV. Gross Revenue Conversion Factor………………………...3

V. Jurisdictional State and Federal Income Taxes……………7

VI. Ratemaking Adjustments…………………………………..8

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

I. INTRODUCTION

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

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

II. BACKGROUND

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

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

Q. WHAT ARE YOUR RESPONSIBILITIES?

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

Q. HAVE YOU PREVIOUSLY TESTIFIED IN ANY REGULATORY PROCEEDINGS?

A. Yes. In addition to previous testimony before the Public Service Commission of Kentucky ("Commission"), I have filed testimony with the Public Utilities Commission of Ohio on behalf of Columbus Southern Power Company and Ohio Power Company; with the Michigan Public Service Commission on behalf of Indiana Michigan Power Company; with the Louisiana Public Service Commission on behalf of Southwestern Electric Power Company; and with the Federal Energy Regulatory Commission in a transmission rate case for the eastern AEP Operating Companies. I have also filed testimony with and testified before the Public Utility Commission of Texas on behalf of AEP Texas Central Company, AEP Texas North Company, Southwestern Electric Power Company and Electric Transmission Texas, LLC. In addition, I have filed testimony with and testified before the Virginia State Corporation Commission on behalf of Appalachian Power Company, the Public Service Commission of West Virginia on behalf of Appalachian Power Company and Wheeling Power Company and with the Indiana Utility Regulatory Commission on behalf of Indiana Michigan Power Company. Like Kentucky Power, all of these companies, except Electric Transmission Texas, LLC, are AEP operating companies.

III. PURPOSE OF DIRECT TESTIMONY

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

A. The purpose of my testimony in this proceeding is to calculate the Gross Revenue Conversion Factor, to present and support the jurisdictional federal, state, and local income taxes to which Kentucky Power is subject, and to support the tax effects of certain fixed, known and measurable ratemaking adjustments for the test year ended February 28, 2017.

IV. SECTION 199 DEDUCTION AND GROSS REVENUE CONVERSION FACTOR

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

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

Q. HOW WAS THE GRCF RATE DETERMINED?

A. The methodology used in this case also was utilized in the Company's prior base rate cases. The uncollectible accounts rate and commission assessment fees rate were provided to me by Company Witness Wohnhas; the state income tax rates and apportionment factors are based on the most recent state income tax return information and are currently being used in the monthly closing accrual process. Please see Section V, Workpaper S-2, Page 2.

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

A. No.

Q. HAS THE COMMISSION REQUIRED THAT THE COMPANY INCLUDE A SECTION 199 MANUFACTURING DEDUCTION AS A COMPONENT OF THE GRCF IN PREVIOUS CASES?

A. Yes. In Case No. 2005-00068, the Commission held that the Section 199 deduction "should be recognized and reflected in the gross-up factor … to the rate of return calculations for Big Sandy's environmental surcharge rate base."[1]

Q. HAS THE COMMISSION RECENTLY ALLOWED OTHER UTILITIES IN THE COMMONWEALTH TO EXCLUDE THE SECTION 199 DEDUCTION FROM THE CALCULATION OF THE GRCF?

A. Yes. In Case Nos. 2016-00214 and 2016-00215, the Commission did not require Kentucky Utilities Company and Louisville Gas and Electric Company (LG&E) to include the Section 199 deduction in their calculations of the GRCF. Specifically, the Commission held in the LG&E Case that the "gross-up factor excludes the Internal Revenue Code §199 manufacturing tax deduction ("§199 deduction"), as LG&E expects to incur a tax loss for 2015 and 2016 due to bonus

[1] 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).

depreciation. The §199 deduction is not available to companies that do not have taxable income."

Q. DID THE COMPANY SIMILARLY EXCLUDE THE SECTION 199 MANUFACTURING DEDUCTION AS A COMPONENT OF THE GRCF?

A. Yes. The Company has not reflected a Section 199 manufacturing deduction in the calculation of the Federal income tax liability in Section V, Schedule 5, and Kentucky Power has historically not been able to claim this deduction on most of its stand-alone Federal income tax returns. As was the case with LG&E, the Company has not been eligible to take advantage of the Section 199 deduction as a result of its generation losses, primarily due to bonus tax depreciation. Accordingly, the Company has not included a Section 199 deduction in the calculation of its GRCF.

Q. DOES KENTUCKY POWER EXPECT TO CLAIM A SECTION 199 DEDUCTION ON ITS 2016 TAX RETURN?

A. No. In 2016, Kentucky Power accrued a large taxable loss (negative qualified manufacturing income) on its generation activities.

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

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

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

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

Q. WHAT IS THE IMPACT IF THE COMMISSION CONTINUES TO REQUIRE THE INCLUSION OF THE SECTION 199 MANUFACTURING DEDUCTION AS A COMPONENT OF THE GRCF?

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

V. JURISDICTIONAL STATE AND FEDERAL INCOME TAXES

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

A. The computation of jurisdictional Current Federal Income Tax is accomplished by first allocating Pre-Tax Book Income and the various Schedule M Adjustments used in the determination of the Company's total separate return federal taxable income to Kentucky Power's retail customers, and applying the statutory federal income tax rate of 35%, as shown in Section V, Exhibit 3. The computation of jurisdictional Deferred Federal income tax is accomplished by applying the appropriate federal income tax rate to the allocated normalized timing differences, as shown in Section V, Exhibit 3, and by amortizing the allocated balances of the embedded Deferred Federal income taxes balances over the appropriate remaining lives. The computation of jurisdictional Deferred Investment Tax Credit is accomplished by amortizing the allocated balances over the appropriate remaining lives. State income tax expense is calculated on the same basis as the Federal income tax expense as shown in Section V, Exhibit 3. Company Witness Walsh prepared the jurisdictional allocation factors.

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

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

VI. RATEMAKING ADJUSTMENTS

Q. WHICH RATEMAKING ADJUSTMENTS ARE YOU SPONSORING?

A. I am sponsoring the ratemaking adjustments in Schedule 5 related to State Gross Receipts Tax and Amortization of Deferred State Income taxes related to the Mitchell Plant. These adjustments are necessary to reflect an adjusted test year level of tax expense representative of ongoing operations. In addition, I have reviewed each of the ratemaking adjustments proposed by other Company witnesses and determined the proper income tax consequences as shown on Section V, Schedule 5.

Q. PLEASE DESCRIBE THE STATE GROSS RECEIPTS TAX ADJUSTMENT YOU ARE SPONSORING.

A. Adjustment 48 on tab W48 of Section V Exhibit 2 adjusts the State Gross Receipts Tax Expense to remove an out-of-period adjustment related to the settlement of a State Gross Receipts Tax Audit that was recorded during the test period.

Q. PLEASE DESCRIBE THE ACCUMULATED DEFERRED STATE INCOME TAX AMORTIZATION ADJUSTMENT YOU ARE SPONSORING.

A. In Case No. 2014-00396 the Commission held that the Accumulated Deferred State Income Tax (ADSIT) balance that was acquired from Ohio Power Company as a result of the acquisition of the Mitchell Plant should be amortized over a three-year period. Currently the Company is amortizing $1,574,616 (total company) of Accumulated Deferred State Income Tax to cost of service each year until June 2018, at which time the balance will be completely amortized. The unamortized total company Accumulated Deferred State Income Tax balance as of December 31, 2017, when the new rates are expected to go into effect, will be $787,325. The Company is proposing that the amortization of the Accumulated Deferred State Income Tax account balance be adjusted to reflect a new three-year period effective with the implementation of the new rates ($262,442 annually). The effect of this adjustment is to increase Kentucky Power's State Income tax expense by $1,312,174 or $1,292,491 on a jurisdictional basis as shown on Section V, Schedule 5.

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

A. Yes.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

Electronic Application Of Kentucky Power Company For (1) A General Adjustment Of Its Rates For Electric Service; (2) An Order Approving Its 2017 Environmental Compliance Plan; (3) An Order Approving Its Tariffs And Riders; (4) An Order Approving Accounting Practices To Establish Regulatory Assets And Liabilities; And (5) An Order Granting All Other Required Approvals And Relief	)))))))))	Case No. 2017-00179

DIRECT TESTIMONY OF

DOUGLAS R. BUCK

ON BEHALF OF KENTUCKY POWER COMPANY

VERIFICATION

The undersigned, Douglas R. Buck, being duly sworn, deposes and says he is a Regulatory Case Manager 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.

____
Douglas R. Buck

STATE OF OHIO)
) Case No. 2017-00179
County of FRANKLIN)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Douglas R. Buck, this the 21st day of June, 2017.

Amanda E Owen
Notary Public

Notary ID Number:_______________

My Commission Expires: Never

NOTARIAL SEAL
STATE OF OHIO

Amanda E. Owen, Attorney At Law
NOTARY PUBLIC - STATE OF OHIO
My commission has no expiration date
Sec. 147.03 R.C.

DIRECT TESTIMONY OF
DOUGLAS R. BUCK, ON BEHALF OF
KENTUCKY POWER COMPANY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

CASE NO. 2017-00179

TABLE OF CONTENTS

I) Introduction ………………………………………………1

II) Background ………………………………………………1

III) Purpose of Testimony ………………………………….2

IV) Class Cost of Service Study...…………………………..3

V) Allocation Basis………….……………………………….9

VI) Revenue Allocation..……………………..………………19

DIRECT TESTIMONY OF
DOUGLAS R. BUCK, ON BEHALF OF
KENTUCKY POWER COMPANY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

I. INTRODUCTION

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

A. My name is Douglas R. Buck. My business address is 1 Riverside Plaza, Columbus, Ohio 43215. I am employed by the American Electric Power Service Corporation ("AEPSC") as a Regulatory Case Manager, Federal Energy Regulatory Commission Regulatory Group, in the Regulatory Services Department. AEPSC, a wholly-owned subsidiary of American Electric Power Company, Inc. ("AEP"), provides centralized professional and other services to subsidiaries of AEP. AEP is the parent company of Kentucky Power Company ("Kentucky Power" or "Company").

II. BACKGROUND

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE AND EDUCATIONAL BACKGROUND.

A. I received my Bachelor of Science Degree in Mechanical Engineering in 1985 from Valparaiso University and am a Registered Professional Engineer (PE) in Ohio. I received my Master of Business Administration Degree in 1993 from Northern Illinois University. I began my career with AEP in 1997 as a Financial Analyst, Financial Forecasting group, in the Corporate Planning and Budgeting Department. In 2000 I became a Financial Analyst Coordinator, Resource Planning and Operational Analysis group, also in the Corporate Planning and

Budgeting Department. In 2006 I became the Director of Enterprise Risk Management in the Risk and Strategic Initiatives Department. From 2010 to 2016 I held various Regulatory Consultant positions in Regulated Pricing and Analysis, in the Regulatory Services Department. As a regulatory consultant in the Regulated Pricing and Analysis group, I prepared numerous cost of service studies. I accepted my current position in June 2016. Prior to joining AEP I worked for approximately 9 years in various engineering departments and the Strategic Analysis Department of Commonwealth Edison (now Exelon) in Chicago, Illinois.

Q. HAVE YOU PREVIOUSLY TESTIFIED IN ANY REGULATORY PROCEEDINGS?

A. Yes. I have sponsored testimony before the Virginia State Corporation Commission, the Public Service Commission of West Virginia, the Tennessee Regulatory Authority, and this Commission.

III. PURPOSE OF DIRECT TESTIMONY

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

A. The purpose of my testimony in this proceeding is as follows:

- to support and describe the development of the Company’s Class Cost of Service Study, and
- to address the allocation of the requested rate increase to Kentucky Power’s customer classes.

Q. WHAT EXHIBITS ARE YOU SPONSORING IN THIS PROCEEDING?

A. I am sponsoring the following exhibits:

Exhibit DRB-1 Class Cost of Service Study

Exhibit DRB-2 Revenue Allocation

Q. WAS YOUR TESTIMONY EITHER PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes.

Q. DO YOU AGREE WITH THE MANNER IN WHICH THE EXHIBITS YOU ARE SPONSORING WERE PREPARED AND WITH THEIR CONCLUSION?

A. Yes. The class cost of service study and related revenue allocation were prepared by staff within the Regulatory Pricing and Analysis group of the Regulatory Services Department. Shortly before the filing deadline, the staff member who prepared the class cost of service study left AEPSC for a position with another employer. I have reviewed the class cost of service study and agree with the manner in which it was prepared and its conclusions. Accordingly, I am sponsoring the class cost of service study and the revenue allocation in this case.

IV. CLASS COST OF SERVICE STUDY

Q. PLEASE DESCRIBE THE GENERAL PURPOSE OF A CLASS COST OF SERVICE STUDY.

A. A class cost of service study is a basic analytical tool used in traditional utility rate design to determine the revenue requirement for the services offered by the utility. It analyzes, at a very detailed level, the costs that different classes of customers impose on the utility system. A class cost of service study calculates the total functional costs the Company incurs in serving each retail rate class as well as the rate of return on rate base earned from each class during the test year. This is accomplished by classifying and allocating the jurisdictional and functionalized costs of serving Kentucky's retail customers to the various rate classes. When a cost of service study is completed and all of the costs are allocated to the customer classes, the Company is able to establish rates based on the costs to serve each customer class. A copy of the class cost of service study prepared for this case is included as Exhibit DRB-1.

Q. WHAT DATA SOURCE WAS USED IN THE DEVELOPMENT OF THE CLASS COST OF SERVICE STUDY?

A. Company witness Walsh sponsors the Company's jurisdictional cost-of-service study, shown in Section V of this filing, and describes the methods used to allocate the total Company costs between the Commission's retail jurisdictional (retail) and the non-jurisdictional customers, and to the various functions. Using various allocators derived from historic accounting records and Company data, the results of the Jurisdictional study are classified and allocated to the rate classes in order to prepare the class cost-of service study.

Q. AFTER THE COSTS RECORDED IN FERC ACCOUNTS ARE EXAMINED AND ADJUSTED, WHERE APPROPRIATE, HOW ARE THESE COSTS ASSIGNED TO EACH CUSTOMER CLASS?

A. This accounting cost information is assigned to the different customer classes in a way that reflects the costs of providing utility service to the customer classes. The

Company assigns costs to customer classes using a standard three-step process: functionalization of costs, classification of costs, and finally, allocation of costs.

Q. PLEASE EXPLAIN THE FUNCTIONALIZATION PROCESS.

A. Functionalization is the process of separating costs according to electric system functions. Typically, functions in an electric utility include the following:

1) Production and Purchased Power costs,
2) Transmission costs,
3) Distribution costs,
4) Customer Service costs, and
5) Administrative and General ("A&G") costs.

The production function includes the costs associated with power generation and power purchases and their delivery to the bulk transmission system. The transmission function consists of costs associated with the high voltage system utilized for the bulk transmission of power to and from interconnected utilities to load centers of the utility's system. The distribution function includes the radial distribution system that connects the transmission system and the ultimate customer. The customer service function encompasses the costs associated with providing meter reading, billing and collection, and customer information and services. The A&G function is comprised of costs that may not be directly assignable to other cost functions. These costs include such items as management costs and administrative buildings. A&G costs are generally allocated to the remaining functions based on labor.

Q. PLEASE EXPLAIN THE CLASSIFICATION PROCESS.

A. The second step is to separate the functionalized costs into classifications of demand costs, energy costs, and customer costs.

Typical cost classifications used in cost studies include the following:

Function	Classification
Production	Demand, Energy
Transmission	Demand
Distribution	Demand, Customer
Customer Service	Customer

Demand costs are associated with the kilowatt (kW) demand imposed by the customer. These are fixed costs which are incurred regardless of the level of energy sales. An example of a demand-related cost is the investment in production, transmission or distribution facilities, such as a generating unit including transmission and distribution poles and lines.

Energy costs vary with the number of kilowatt hours (kWh) used by the customer. Production costs such as fuel and certain production operation and maintenance expenses are energy-related since they vary with the level of sales of electricity.

Customer costs are directly related to the number of customers served. These are fixed costs which are incurred regardless of the level of energy sales. Meter and customer service costs are examples of costs whose levels are fixed by the number of customers.

The classification process provides a basis on which to allocate different categories of costs (demand, energy or customer) to the Company's classes.

Q. PLEASE EXPLAIN THE ALLOCATION PROCESS.

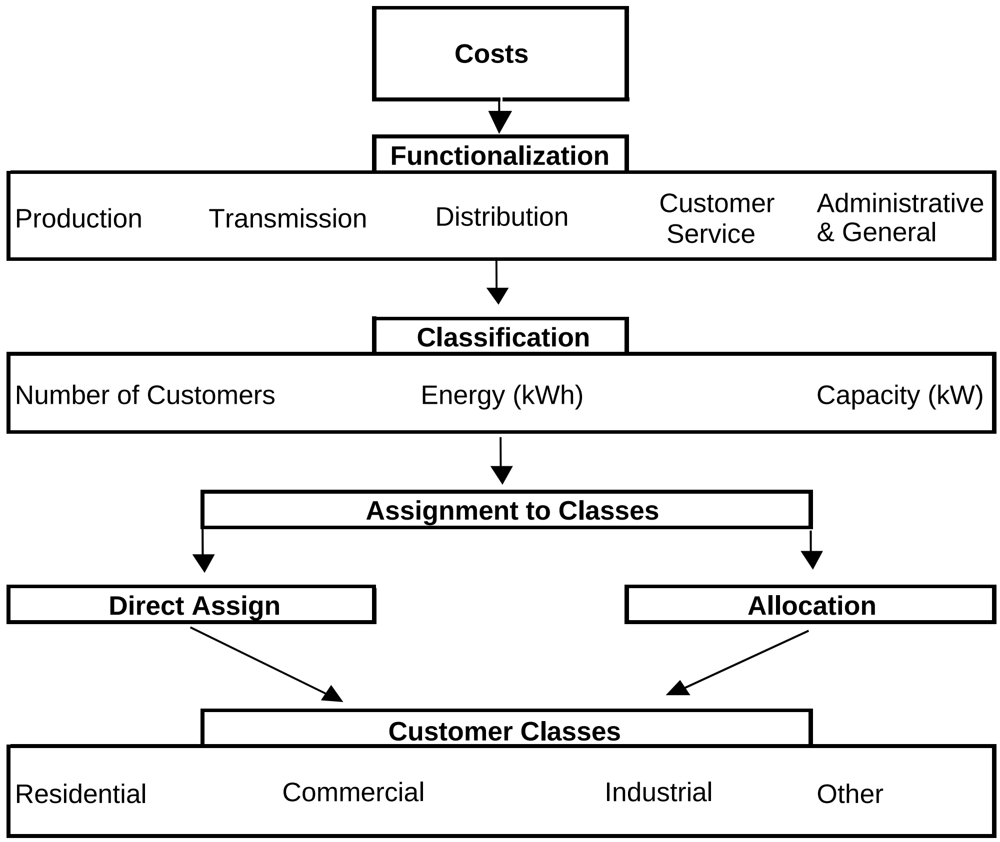
A. The third and final step is to allocate the functionalized and classified costs among the classes of customers based on how the costs are incurred for each class. Allocation factors are used to assign these costs to the various customer classes. Customer classes are determined and grouped according to the nature of service provided, voltage level, and the load usage characteristics. The three principal customer classes are residential, commercial, and industrial.

The allocation process involves multiplying the functionalized and classified costs by allocation factors, which results in costs assigned to each class. The objective in this process is to determine a reasonable, appropriate, and understandable method to assign the costs. Some costs are directly assignable to a single class, or even a single customer. For instance, the costs associated with the poles and luminaries used for street lighting are directly assigned to the street lighting class. Most costs, however, are attributable to more than one type of customer. These are joint costs that are allocated to customers by an allocation methodology that is based on the manner in which the costs are caused by the different customers.

The following flowchart (Figure 1) provides an overview of how the allocation of costs to customer classes is determined.

Figure 1:

Cost Allocation Example



In the illustration above, costs are functionalized into production, transmission, distribution, etc. Some of these costs can be functionalized and classified and directly assigned to a customer class. The remaining functionalized costs are incurred based on the number of customers, the energy used, or by the capacity demanded.

After functionalization, the next step is the classification process which leads to an allocation methodology. For example, the cost of billing customers varies with the number of customers as well as the complexity of preparing the customer's bill, so those costs associated with billing are allocated to the customer classes based on a weighted number of customers. An allocation factor using a weighted number of customers is developed by multiplying the number of customers in each class by a factor representing the difference in cost associated with providing that service to different types of customers. Similarly, the cost of fuel varies by the number of kWh consumed and, therefore, is allocated based on the proportion of total energy used by a customer class.

The final step in the cost assignment process is to allocate the functionalized and classified costs to the customer classes through the use of allocation factors.

When this process is completed and all of the costs are allocated to the customer classes, the result is a fully allocated cost study that establishes cost responsibility, by class, and makes it possible to determine rates based on costs that are just and reasonable.

V. ALLOCATION BASIS

Q. WHAT CRITERIA ARE USED WHEN SELECTING ALLOCATION FACTORS FOR EACH FUNCTIONALIZED AND CLASSIFIED COST?

A. Generally, the following criteria should be used to determine the appropriateness of an allocation methodology:

1) The method should reflect the planning and operating characteristics of the utility's system.

2) The method should recognize customer class characteristics such as energy usage, peak demand on the system, diversity characteristics, number of customers, etc.

3) The method should produce stable results on a year-to-year basis.

4) The method should cause customers who benefit from the use of the system to bear appropriate cost responsibility for the system.

Q. DOES THE ALLOCATION METHOD EMPLOYED BY THE COMPANY MEET THESE OBJECTIVES?

A. Yes, it does. The allocation methodology utilized in the Company's class cost of service study was chosen in consideration of each of the criteria listed above. The results of the cost of service study can be relied upon to determine the appropriate revenue requirement for the Kentucky Power customer classes. The allocation of specific sections of the class cost of service study, as shown on Exhibit DRB-1, follows.

Q. PLEASE EXPLAIN THE ALLOCATION OF PRODUCTION PLANT.

A. Electric plant-in-service is functionalized into production, transmission, distribution and general plant. Production plant is classified as demand-related and allocated using the production demand allocation factor. The production demand allocation factor assigns costs to the retail classes based on their average contribution to Kentucky Power's 12 coincident peaks (CPs). The CPs used in the allocation of Production Plant were the 12 monthly internal peak demands for the test period ended February 28, 2017.

Q. PLEASE EXPLAIN HOW GENERATOR STEP-UP TRANSFORMERS WERE ALLOCATED.

A. Generator step-up transformers are included in transmission plant, but were allocated using the production demand allocation factor because they are more related to the production function.

Q. PLEASE EXPLAIN THE ALLOCATION OF TRANSMISSION PLANT.

A. Transmission plant, excluding generator step-up transformers, is classified as demand related and is allocated using the transmission demand allocation factor. The transmission demand allocation factor, similar to the Production Plant allocation factor, assigns costs based on the class average contribution to Kentucky Power's 12 CPs on the transmission facilities.

Q. PLEASE EXPLAIN THE ALLOCATION OF DISTRIBUTION PLANT.

A. Distribution plant is classified as demand / customer related and allocated to the customer classes using factors based on demand levels or number of customers. Distribution plant accounts 360 through 368 were classified solely as demand-related. Accounts 360, 361 and 362 were allocated to the distribution customer classes based on their contributions to the average of Kentucky Power's 12 monthly CP demands during the test year on the primary distribution system.

Accounts 364 through 368 were split into primary and secondary voltage functions based upon information contained in the company's records and the expertise of the company's distribution engineers. The primary portions of accounts 364 through 368 were allocated using the average of 12 monthly CP demands on the distribution system. The secondary component of accounts 364 through 368 were allocated based on a combination of each class's 12-month maximum demand and the summation of individual customers' annual maximum demands in each class served from those facilities. This process reflects the fact that some secondary facilities serve only one customer, while others serve two or more customers.

Services, account 369, was classified as customer-related and was allocated using the average number of secondary customers served.

Meter plant, account 370, was allocated using the average number of customers weighted by a factor which considers the cost differential of various metering installations. Account 371 was directly assigned to the outdoor lighting class and account 373 was directly assigned to the street lighting class.

Q. PLEASE EXPLAIN HOW GENERAL AND INTANGIBLE PLANT WAS ALLOCATED.

A. General and intangible plant and investment reflects a composite demand, energy and customer classification. General and intangible plant investment is allocated on the basis of payroll labor.

Q. PLEASE DESCRIBE THE ALLOCATION OF ACCUMULATED PROVISION FOR DEPRECIATION AND AMORTIZATION.

A. The functionalized components of Depreciation and Amortization were obtained directly from the Jurisdictional study. Production, transmission, distribution, and general and intangible related amounts were classified and allocated based upon the allocation of their corresponding functional Electric Plant-in-Service costs excluding land and land rights.

Q. PLEASE DESCRIBE THE ALLOCATION OF WORKING CAPITAL.

A. Working Capital was divided into cash, material and supplies, and prepayments. Cash working capital is related to O&M expense and was allocated based upon the allocation of total O&M expense less purchased power and fuel.

Materials and supplies were split between fuel stock, production, emissions, and transmission and distribution and were classified and allocated using the corresponding functional plant items. Fuel stock and emissions materials were allocated using the energy allocation factor. Production-related material and supplies were allocated using the production demand allocation factor, and the transmission- and distribution-related materials and supplies were allocated using the allocation of transmission and distribution electric plant-in-service.

Prepayments were allocated based upon gross utility plant.

Q. PLEASE DESCRIBE THE ALLOCATION OF OTHER RATE BASE COMPONENTS.

A. Plant Held for Future Use is limited to a distribution component that was allocated using distribution electric plant-in-service. Construction Work-in-Progress was functionalized and allocated by the corresponding functional Electric Plant-in-Service allocators. Accumulated Deferred Federal Income Tax Credits (ITC) were allocated on gross utility plant. Customer Deposits were directly assigned based on an analysis of accounting records, and Customer Advances were allocated based on transmission and distribution plant-in-service.

Q. HOW WERE REVENUES DEVELOPED FOR EACH CLASS?

A. Sales revenues were directly assigned to each class. Energy-related system sales revenue was allocated on the basis of kWh sales.

Forfeited Discounts and Miscellaneous Service Revenue were directly assigned based on an analysis of accounting records.

Rent from Electric Property and Other Electric Revenue were functionalized in the Jurisdictional study and allocated to classes based on corresponding functional allocators.

Q. PLEASE DESCRIBE THE ALLOCATION OF PRODUCTION OPERATION AND MAINTENANCE ("O&M") EXPENSE.

A. Production-related O&M was classified as either demand or energy related. The demand component was allocated using the production demand allocation factor and the energy component was allocated using the energy allocation factor. Supervision and Engineering accounts for both O&M were classified and allocated based on functional labor expense. For example, Accounts 500 and 510 for Steam Production accounts were allocated on production labor expense.

Q. PLEASE DESCRIBE THE ALLOCATION OF TRANSMISSION O&M.

A. Transmission-related O&M was broken down into two pieces: expenses incurred through PJM as a Load Serving Entity ("LSE"), and the traditional transmission cost of service expenses recorded in FERC accounts 560 – 575. Most Transmission O&M expenses were allocated based upon the transmission demand allocation factor. Supervision and Engineering accounts for both O&M were classified and allocated based on functional labor expense. For example, Transmission Accounts 560 and 568 were allocated on total transmission O&M

excluding PJM related costs. Expenses incurred through PJM as a LSE are classified as production expenses as they capture load (LSE) charges and are allocated using an allocation factor based on production demand.

Q. PLEASE DESCRIBE THE ALLOCATION OF DISTRIBUTION O&M AMONG THE VARIOUS CUSTOMER CLASSES.

A. Distribution O&M expenses were functionalized and classified according to the associated distribution plant accounts and allocated accordingly.

Accounts 581, Load Dispatching and 582, Station Expenses were allocated using the distribution demand allocation factor.

Account 583 Overhead Line Expense was allocated based upon the same allocation used for plant account 365 Overhead Lines.

Account 584 Underground Line Expense was allocated based upon the same allocation used for plant accounts 366 Underground Conduit and 367 Underground Lines.

Account 585, Street Lighting Operation Expense, was classified as customer-related and directly assigned to the Street Lighting class.

Meter Operation Expense, account 586, was classified customer-related and allocated in the same manner as account 370 Meter Plant.

Account 587, Customer Installation Expense was classified as customer-related and allocated based on primary customers.

Accounts 588 and 589 were allocated on total distribution plant and classified accordingly.

Account 580 was classified and allocated based on the sum of the allocated O&M expense accounts 581 through 589.

Accounts 591 and 592 were classified demand-related and allocated on the distribution demand allocation factor.

Accounts 593, 594, and 595 were functionalized and classified according to the associated distribution plant accounts and allocated accordingly.

Distribution maintenance account 596 was directly assigned to the Street Lighting class.

Account 597 was classified customer-related and allocated in the same manner as meter plant.

Account 598 was classified customer-related and directly assigned to the Outdoor Lighting class.

Account 590 was classified and allocated based on the sum of the allocated O&M expense accounts 591 through 598.

Q. CAN YOU EXPLAIN HOW CUSTOMER ACCOUNTING (ACCOUNTS 901-905), CUSTOMER SERVICES (ACCOUNTS 907-910) AND SALES EXPENSE (ACCOUNTS 911-916) WERE ALLOCATED?

A. Account 902, Meter Reading Expense, was allocated to those classes with meter installations based upon an average number of customers weighted to reflect differences in meter reading requirements. Account 903, Customer Records Expense, was divided into two categories of cost; call center and other. Call center costs were first divided into residential and other based on the number of calls received; then, other (non-residential) call center expenses were further allocated to the remaining classes based on the number of customers in each respective class. Account 904, Uncollectibles, was allocated based on the number of customers. Accounts 901 and 905 were allocated based on the sum of the allocated accounts 902, 903 and 904.

Accounts 907 through 916, Customer Service Expenses and Sales Expenses, were allocated based on the number of customers.

Q. PLEASE DESCRIBE THE ALLOCATION OF ADMINISTRATIVE AND GENERAL ("A&G") EXPENSE.

A. A&G expenses, excluding Property Insurance, account 924, and Rate Case Expense, account 928, were functionalized, classified, and allocated using O&M labor. Property Insurance was allocated using gross utility plant. Rate Case Expense was allocated to the customer classes based on sales revenue.

Q. PLEASE DESCRIBE THE ALLOCATION OF DEPRECIATION AND AMORTIZATION EXPENSE.

A. The functionalized components of depreciation and amortization expense were allocated using the corresponding functional plant items excluding land and land rights.

Q. PLEASE DESCRIBE HOW OTHER EXPENSES WERE ALLOCATED.

A. The Gain on Disposition of Utility Plant was allocated based on distribution plant. A/R Factoring was allocated based on gross utility plant. Gain/Loss on Disposition of Allowances was allocated based on the energy allocation factor. Accretion was allocated on production demand. The Interest Income and Interest Expense items were allocated based on gross utility plant. Interest on Customer

Deposits was allocated using the customer deposit allocator that was also used for the customer deposit rate base offset.

Q. HOW WERE TAXES ASSIGNED TO THE CUSTOMER CLASSES?

A. Individual tax items other than income taxes were allocated and classified using the appropriate revenue, labor or plant allocator.

Interest Expense was allocated on rate base and individual Schedule M items were allocated using the appropriate allocators. State and current Federal Income Taxes were computed by class. Feedback of prior Investment Tax Credit Normalized was allocated based on gross utility plant and individual Deferred Federal Income Tax items were allocated using the appropriate allocation factors.

Q. PLEASE DESCRIBE THE ALLOCATION OF THE ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION ("AFUDC") OFFSET.

A. The AFUDC offset was divided into the individual functionalized components in the Jurisdictional study. The production component was allocated using the production demand allocator. The transmission and distribution components were allocated using the corresponding plant allocators. The general plant component was allocated using the labor allocation factor.

Q. PLEASE DESCRIBE THE ALLOCATION OF THE VARIOUS JURISDICTIONAL ADJUSTMENTS.

A. The jurisdictional adjustments are identified in the various sections of the cost of service study to which they apply. Each adjustment was allocated using a method consistent with both the nature of the adjustment and the underlying line item being adjusted. For example, an adjustment to employee-related expenses is allocated using the labor allocation factor, and an adjustment for Big Sandy Plant O&M expenses is allocated using the production demand allocation factor.

VI. REVENUE ALLOCATION

Q. WHAT IS THE RESULTING GOING-LEVEL AND RELATIVE RATE OF RETURN FOR EACH CLASS SHOWN IN THE CLASS COST OF SERVICE STUDY?

A. The resulting going-level rates of return (ROR) and relative rates of return prior to the rate relief requested in this case, for each customer class as shown in the class cost of service study, during the test year are presented in the table below. The going-level return is calculated from current income and rate base. The relative return provides a comparison to the total average Kentucky Power jurisdictional return. If the return earned on each class was the same as the average jurisdictional return, each would have a relative return of 1.00. A relative return less than 1.00 shows that the return earned from that class is less than the average return; and, a relative return greater than 1.00 shows that the return earned from that class is greater than the average.

Class Going-Level Rates of Return and Relative Rates of Return

CLASS	Going-Level ROR	Relative ROR
Residential	1.08 %	0.27
Small General Service	10.56 %	2.69
Medium General Service	8.27 %	2.10
Large General Service	8.29 %	2.11
IGS	5.47 %	1.39

CLASS	Going-Level ROR	Relative ROR
Public Schools	6.17 %	1.57
Municipal Waterworks	11.19 %	2.85
Outdoor Lighting	15.05 %	3.83
Street Lighting	15.68 %	3.99
Total Kentucky Power Jurisdiction	3.93 %	1.00

Q. HOW ARE THESE RATES OF RETURN USED IN THIS PROCEEDING?

A. The going-level and relative rates of return for each class form the basis for the allocation of the revenue increase required for each class. This information was provided to Company Witness Wohnhas to assist in his determination of the allocation of the requested rate increase by class.

Q. PLEASE EXPLAIN THE PRINCIPLES OR GUIDELINES USED IN ALLOCATING THE PROPOSED REVENUE INCREASE AMONG THE TARIFF CLASSES.

A. A key objective of ratemaking is to design rates such that they reflect as nearly as possible the actual costs of serving the customer. To fully meet this objective would require that the rates of return for all tariff classes be equalized. While the goal remains to move the rates for each class into alignment with the costs of service, the overall level of the needed revenue increase means that customer bill impacts will be significant even with a restrained approach to progress toward that goal. However, continuation of the gradual progress toward cost alignment of the schedules is a reasonable approach and expectation. As discussed by Company

Witness Wohnhas, the Company opted not to propose to fully equalize returns across tariff classes at this time.

Q. PLEASE DESCRIBE EXHIBIT DRB-2.

A. Exhibit DRB-2 is the calculation of the allocation of the proposed revenue increase to each class of customers. Page 1 is a summary of the calculation of the required sales revenue per class based upon the Company's proposed subsidy reduction. Page 2 of the exhibit calculates the current subsidies received by each class. Page 3, in Columns 2 through 11, shows the calculation of the required sales revenue at an equalized ROR for each class before adjusting to include 95% of each class' current subsidy.

Q. WHAT CLASS BY CLASS BASE RATE REVENUE INCREASE WILL RESULT FROM THE PROPOSED INCREASE?

A. The following table summarizes the Company's proposed revenue allocation, as sponsored by Company Witness Wohnhas, between the major customer classes and the class rate increases:

Base Rate Increase

CLASS	Proposed Increase ($ in Millions)	Percent Increase
Residential	$37.2	17.21 %
Small General Service	$1.8	9.92 %
Medium General Service	$5.9	11.00 %
Large General Service	$5.2	10.06 %
IGS	$12.9	9.25 %
Public Schools	$1.4	12.12 %

CLASS	Proposed Increase ($ in Millions)	Percent Increase
Municipal Waterworks	$0.02	8.45 %
Outdoor Lighting	$0.9	10.41 %
Street Lighting	$0.1	7.78 %
Total Kentucky Power Jurisdiction	$65.4	13.07 %

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A**.** Yes, it does.

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 201

Label	Constant	Allocation Factor	Function	Total Retail 1	RS 2	SGS 3	Total MGS	Total LGS	Total IGS	Total PS	MW 17	OL 18	SL 19
Rate Base													
P-T-D Plant in Service													
Production Plant & Comp. Const. not Classif.	1,147,449,346	PROD_DEMAND	TOTAL	1,147,449,346	565,214,030	27,940,549	105,868,173	99,138,886	324,685,911	24,291,768	310,029	-	-
Transmission & Comp. Const. not Classif.													
GSU	10,045,283	PROD_DEMAND	TOTAL	10,045,283	4,948,136	244,604	926,817	867,906	2,842,445	212,661	2,714	-	-
All Other Transmission Plant	556,524,133	TRANS_TOTAL	TOTAL	556,524,133	273,560,815	13,465,820	50,964,372	47,815,581	158,820,233	11,640,365	149,300	88,556	19,090
Total	566,569,416		TOTAL	566,569,416	278,508,951	13,710,424	51,891,189	48,683,487	161,662,678	11,853,026	152,014	88,556	19,090
Distribution & Comp. Const. not Classif.													
360 Land and Land Rights	7,494,757	DIST_CPD	TOTAL	7,494,757	5,009,066	236,114	883,842	762,592	392,526	197,086	2,620	8,977	1,935
361 Structures and Improvements	4,455,328	DIST_CPD	TOTAL	4,455,328	2,977,686	140,360	525,408	453,330	233,340	117,159	1,558	5,336	1,150
362 Station Equipment	97,083,308	DIST_CPD	TOTAL	97,083,308	64,884,915	3,058,506	11,448,843	9,878,230	5,084,578	2,552,950	33,941	116,278	25,066
363 Storage Battery Equipment	-	DIST_CPD	TOTAL	-	-	-	-	-	-	-	-	-	-
364 Poles	201,038,118	DIST_POLES	TOTAL	201,038,118	141,272,088	6,729,047	22,910,520	17,630,901	6,132,076	5,222,799	62,942	920,750	156,995
365 Overhead Lines	218,593,133	DIST_OHLINES	TOTAL	218,593,133	148,988,642	7,052,186	25,444,291	21,058,971	9,607,179	5,721,516	73,348	546,555	100,445
366 Underground Conduit	7,218,040	DIST_UGLINES	TOTAL	7,218,040	4,933,245	233,643	838,615	689,827	308,594	188,802	2,408	19,383	3,523
367 Underground Lines	11,083,763	DIST_UGLINES	TOTAL	11,083,763	7,575,314	358,774	1,287,747	1,059,273	473,866	289,917	3,697	29,764	5,410
368 Transformers	130,373,329	DIST_TRANSF	TOTAL	130,373,329	95,392,863	4,580,058	14,421,455	9,889,250	1,572,654	3,352,107	36,803	968,871	159,267
369 Services	59,997,917	DIST_SERV	TOTAL	59,997,917	38,270,555	6,696,555	1,880,743	164,555	1,121	45,133	2,803	12,921,033	15,418
370 Meters	24,871,958	DIST_METERS	TOTAL	24,871,958	11,151,515	6,607,574	3,344,229	2,079,939	1,423,786	262,149	2,766	-	-
371 Installations on Cust Premises	19,789,117	DIST_OL	TOTAL	19,789,117	-	-	-	-	-	-	-	19,789,117	-
373 Street Lighting	3,923,399	DIST_SL	TOTAL	3,923,399	-	-	-	-	-	-	-	-	3,923,399
Total	785,922,166		TOTAL	785,922,166	520,455,890	35,692,819	82,985,692	63,666,868	25,229,721	17,949,617	222,886	35,326,064	4,392,609
Total P-T-D Plant in Service	2,499,940,928		TOTAL	2,499,940,928	1,364,178,871	77,343,792	240,745,054	211,489,240	511,578,310	54,094,412	684,929	35,414,621	4,411,699
General & Intangible Plant & Comp. Const. not Classif.	60,690,785	LABOR_M	TOTAL	60,690,785	34,262,675	2,185,858	5,729,201	5,014,273	11,505,499	1,272,456	16,996	560,610	143,217
HR - J 765 Line - FERC AFUDC Adj.	599,342	BULK_TRANS	TOTAL	599,342	295,226	14,594	55,298	51,783	169,592	12,688	162	-	-
Total Electric Plant in Service	2,561,231,055		TOTAL	2,561,231,055	1,398,736,771	79,544,245	246,529,552	216,555,296	523,253,401	55,379,556	702,086	35,975,231	4,554,917
Adj 4 - Move FGD from Base Rates to Environmental (Mitchell)	(323,154,089)	PROD_DEMAND	TOTAL	(323,154,089)	(159,180,208)	(7,868,846)	(29,815,462)	(27,920,306)	(91,440,707)	(6,841,247)	(87,313)	-	-
Total Adjustments to Electric Plant in Service	(323,154,089)		TOTAL	(323,154,089)	(159,180,208)	(7,868,846)	(29,815,462)	(27,920,306)	(91,440,707)	(6,841,247)	(87,313)	-	-
Total Adjusted Electric Plant in Service	2,238,076,966		TOTAL	2,238,076,966	1,239,556,564	71,675,398	216,714,090	188,634,990	431,812,693	48,538,309	614,774	35,975,231	4,554,917
Depreciation Reserve													
Generation	(411,669,816)	RB_GUP-Land_P	TOTAL	(411,669,816)	(202,781,549)	(10,024,217)	(37,982,270)	(35,568,007)	(116,487,399)	(8,715,145)	(111,229)	-	-
Transmission - GSU	(5,216,286)	RB_GUP-Land_P	TOTAL	(5,216,286)	(2,569,454)	(127,017)	(481,275)	(450,684)	(1,476,017)	(110,430)	(1,409)	-	-
Transmission - All Other	(187,395,956)	RB_GUP-Land_T	TOTAL	(187,395,956)	(92,107,446)	(4,533,167)	(17,156,006)	(16,097,231)	(53,496,430)	(3,917,761)	(50,259)	(30,977)	(6,678)
Distribution	(229,090,908)	RB_GUP-Land_D	TOTAL	(229,090,908)	(151,695,816)	(10,434,896)	(24,162,545)	(18,512,706)	(7,309,578)	(5,224,564)	(64,824)	(10,393,806)	(1,292,174)
General & Intangible	(23,370,449)	RB_GUP-Land_G	TOTAL	(23,370,449)	(13,193,668)	(841,717)	(2,206,167)	(1,930,866)	(4,430,470)	(489,990)	(6,545)	(215,877)	(55,149)
HR-J Post In-Service AFUDC	(1,061,245)	BULK_TRANS	TOTAL	(1,061,245)	(522,751)	(25,841)	(97,915)	(91,691)	(300,293)	(22,467)	(287)	-	-
Total Depreciation Reserve	(857,804,660)		TOTAL	(857,804,660)	(462,870,684)	(25,986,856)	(82,086,178)	(72,651,186)	(183,500,186)	(18,480,356)	(234,553)	(10,640,660)	(1,354,001)
Adj 4 - Move FGD from Base Rates to Environmental (Mitchell)	93,260,268	PROD_DEMAND	TOTAL	93,260,268	45,938,422	2,270,900	8,604,558	8,057,627	26,389,222	1,974,341	25,198	-	-
Total Depreciation Adjustments	93,260,268		TOTAL	93,260,268	45,938,422	2,270,900	8,604,558	8,057,627	26,389,222	1,974,341	25,198	-	-
Total Adjusted Depreciation Reserve	(764,544,392)		TOTAL	(764,544,392)	(416,932,263)	(23,715,955)	(73,481,621)	(64,593,559)	(157,110,964)	(16,506,015)	(209,355)	(10,640,660)	(1,354,001)
Net Electric Plant in Service	1,473,532,574		TOTAL	1,473,532,574	822,624,301	47,959,443	143,232,469	124,041,431	274,701,729	32,032,294	405,419	25,334,571	3,200,916
Plant Held for Future Use - Tranmsission	-	RB_GUP_EPIS_T	TOTAL	-	-	-	-	-	-	-	-	-	-
Plant Held for Future Use - Distribution	626,976	RB_GUP_EPIS_D	TOTAL	626,976	415,198	28,474	66,203	50,791	20,127	14,319	178	28,182	3,504
Total Plant Held for Future Use	626,976		TOTAL	626,976	415,198	28,474	66,203	50,791	20,127	14,319	178	28,182	3,504
Working Capital													
Working Capital - Cash													
Working Capital Cash - Excl Sys Sales	21,218,686	EXP_OM_LPP	TOTAL	21,218,686	11,855,323	798,842	1,965,106	1,720,931	4,050,074	434,021	5,892	339,415	49,082
Total Working Capital - Cash	21,218,686		TOTAL	21,218,686	11,855,323	798,842	1,965,106	1,720,931	4,050,074	434,021	5,892	339,415	49,082
Cash Working Capital Adjustments													
Adj 2 - Decommissioning Rider Removal	7	PROD_DEMAND	TOTAL	7	3	0	1	1	2	0	0	-	-
Adj 3 - Env Surcharge - Remove Mitchell FGD Expenses	(490,965)	PROD_ENERGY	TOTAL	(490,965)	(184,223)	(11,939)	(41,447)	(46,509)	(191,959)	(10,055)	(180)	(3,885)	(769)
Adj 5 - Environmental Surcharge Revenue Sync - remove FGD re	(83,425)	PROD_ENERGY	TOTAL	(83,425)	(31,303)	(2,029)	(7,043)	(7,903)	(32,618)	(1,709)	(31)	(660)	(131)
Adj 6 - Big Sandy Unit 1 Operation Rider Deferrals - Demand	(329,914)	PROD_DEMAND	TOTAL	(329,914)	(162,510)	(8,033)	(30,439)	(28,504)	(93,354)	(6,984)	(89)	-	-
Adj 6 - Big Sandy Unit 1 Operation Rider Deferrals - Energy	(297,971)	PROD_ENERGY	TOTAL	(297,971)	(111,807)	(7,246)	(25,154)	(28,226)	(116,502)	(6,103)	(109)	(2,358)	(467)
Adj 7 - Fuel Under (Over) Revenue & Expense	276,493	PROD_ENERGY	TOTAL	276,493	103,748	6,724	23,341	26,192	108,104	5,663	101	2,188	433

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

Label	Constant	Allocation Factor	Function	Total Retail 1	RS 2	SGS 3	Total MGS	Total LGS	Total IGS	Total PS	MW 17	OL 18	SL 19
Adj 8 - System Sales Clause - reset OSS Margin Baseline	21,734	PROD_ENERGY	TOTAL	21,734	8,155	529	1,835	2,059	8,498	445	8	172	34
Adj 9 - PPA Rider Sync	46,568	PROD_ENERGY	TOTAL	46,568	17,474	1,132	3,931	4,411	18,207	954	17	368	73
Adj 10 - Remove DSM Rider	(882,525)	CUST_TOTAL	TOTAL	(882,525)	(562,338)	(98,397)	(27,981)	(2,739)	(276)	(667)	(41)	(189,858)	(227)
Adj 11 - Remove HEAP Surcharge	(30,847)	CUST_TOTAL	TOTAL	(30,847)	(19,655)	(3,439)	(978)	(96)	(10)	(23)	(1)	(6,636)	(8)
Adj 12 - Remove Economic Development Surcharge	(37,876)	CUST_TOTAL	TOTAL	(37,876)	(24,134)	(4,223)	(1,201)	(118)	(12)	(29)	(2)	(8,148)	(10)
Adj 14 - Customer Annualization Adjustment	(241,462)	REVYEC_EXP_OM	TOTAL	(241,462)	(36,713)	(4,681)	(24,472)	55,463	(245,716)	(3,039)	-	19,927	(2,231)
Adj 15 - Weather Normalization Adjustment	734,037	WEATHER_FXNL_OM	TOTAL	734,037	734,037	-	-	-	-	-	-	-	-
Adj 17 - Normalization of Major Storms	74,492	TDOMX	TOTAL	74,492	48,633	2,839	8,250	6,664	5,189	1,827	23	667	400
Adj 18 - Amortization of Storm Cost Deferral	109,324	EXP_OM_DIST	TOTAL	109,324	74,016	4,394	12,421	9,838	4,083	2,740	34	1,124	674
Adj 19 - Rate Case Expense	47,075	RSALE	TOTAL	47,075	20,352	1,753	5,032	4,846	13,079	1,085	18	776	133
Adj 20 - Postage Rate Decrease	(832)	CUST_TOTAL	TOTAL	(832)	(530)	(93)	(26)	(3)	(0)	(1)	(0)	(179)	(0)
Adj 21 - Eliminate Advertising Expense A&G	(3,986)	LABOR_M	TOTAL	(3,986)	(2,250)	(144)	(376)	(329)	(756)	(84)	(1)	(37)	(9)
Adj 21 - Eliminate Advertising Expense O&M	(8,569)	CUST_TOTAL	TOTAL	(8,569)	(5,460)	(955)	(272)	(27)	(3)	(6)	(0)	(1,843)	(2)
Adj 22 - Annualization of Lease Costs	(5,018)	RB_GUP_EPIS_P	TOTAL	(5,018)	(2,472)	(122)	(463)	(434)	(1,420)	(106)	(1)	-	-
Adj 23 - Pension & OPEB Expense Adjustment	18,585	LABOR_M	TOTAL	18,585	10,492	669	1,754	1,535	3,523	390	5	172	44
Adj 24 - Employee Related Group Benefit Expenses	53,655	LABOR_M	TOTAL	53,655	30,291	1,932	5,065	4,433	10,172	1,125	15	496	127
Adj 25 - Remove PJM BLIs from base for FAC inclusion	(106,021)	PROD_ENERGY	TOTAL	(106,021)	(39,782)	(2,578)	(8,950)	(10,043)	(41,452)	(2,171)	(39)	(839)	(166)
Adj 26 - Peaking Unit Equivalent	393,823	PROD_ENERGY	TOTAL	393,823	147,773	9,577	33,246	37,306	153,978	8,066	144	3,116	617
Adj 27 - Forced Outage Adjustment	110,276	PROD_ENERGY	TOTAL	110,276	41,379	2,682	9,309	10,446	43,116	2,259	40	873	173
Adj 28 - PJM LSE OATT Expense	66,094	TRAN_LSE	TOTAL	66,094	32,557	1,609	6,098	5,710	18,702	1,399	18	-	-
Adj 29 - Annualize PJM Admin Fees	14,826	TRAN_LSE	TOTAL	14,826	7,303	361	1,368	1,281	4,195	314	4	-	-
Adj 31 - Severance Related Payroll Expenses - Big Sandy Plant	(4,429)	LABOR_PROD	TOTAL	(4,429)	(2,073)	(108)	(401)	(390)	(1,353)	(93)	(1)	(7)	(1)
Adjs 32-39 - Total Incentive Compensation & Payroll Adjustment	(103,283)	LABOR_M	TOTAL	(103,283)	(58,308)	(3,720)	(9,750)	(8,533)	(19,580)	(2,165)	(29)	(954)	(244)
Adj 40 - Remove Non-Recoverable Business Expenses	(1,864)	RB_GUP	TOTAL	(1,864)	(1,032)	(60)	(180)	(157)	(360)	(40)	(1)	(30)	(4)
Adj 41 - Plant Maintenance Normalization	(34,292)	PROD_DEMAND	TOTAL	(34,292)	(16,892)	(835)	(3,164)	(2,963)	(9,703)	(726)	(9)	-	-
Adj 52 - Employee Complement Increase	21,574	TDOMX	TOTAL	21,574	14,085	822	2,389	1,930	1,503	529	7	193	116
Adj 56 - Reduce base forestry expense	(849,286)	TOTOHLINES	TOTAL	(849,286)	(587,455)	(27,892)	(97,865)	(78,304)	(31,854)	(22,150)	(276)	(2,970)	(521)
Total Cash Working Capital Adjustments	(1,524,002)		TOTAL	(1,524,002)	(558,642)	(141,470)	(166,122)	(43,160)	(394,575)	(29,358)	(376)	(188,333)	(1,967)
Working Capital - Materials & Supplies													
Fuel / Allowance Inventory	28,853,245	PROD_ENERGY	TOTAL	28,853,245	10,826,519	701,628	2,435,753	2,733,233	11,281,134	590,939	10,558	228,302	45,179
Production - Demand Related	11,446,678	PROD_DEMAND	TOTAL	11,446,678	5,638,439	278,728	1,056,115	988,986	3,238,988	242,329	3,093	-	-
Emissions - Energy Related	1,941,575	PROD_ENERGY	TOTAL	1,941,575	728,532	47,214	163,905	183,923	759,123	39,765	710	15,363	3,040
Transmission & Distribution	2,422,380	TDPLANT	TOTAL	2,422,380	1,430,881	88,471	241,563	201,229	334,889	53,377	671	63,401	7,898
Total Working Cap - Materials & Supplies	44,663,878		TOTAL	44,663,878	18,624,370	1,116,041	3,897,337	4,107,370	15,614,134	926,410	15,033	307,066	56,117
Working Capital - Materials & Supplies Adjustments													
Adj 4 - Move FGD from Base Rates to Environmental (Mitchell)	(1,610,192)	PROD_ENERGY	TOTAL	(1,610,192)	(604,188)	(39,155)	(135,930)	(152,532)	(629,558)	(32,978)	(589)	(12,741)	(2,521)
Adj 51 - Mitchell Coal Stock Adjustment	(6,709,111)	PROD_ENERGY	TOTAL	(6,709,111)	(2,517,440)	(163,146)	(566,374)	(635,546)	(2,623,150)	(137,408)	(2,455)	(53,086)	(10,505)
Total Working Cap - Materials & Supplies Adjustments	(8,319,303)		TOTAL	(8,319,303)	(3,121,628)	(202,302)	(702,305)	(788,078)	(3,252,708)	(170,386)	(3,044)	(65,827)	(13,027)
Working Capital - Prepayments													
Working Capital - Prepayments	49,905,719	RB_GUP_EPIS	TOTAL	49,905,719	27,640,230	1,598,253	4,832,395	4,206,274	9,628,768	1,082,331	13,709	802,193	101,568
Total Working Capital	105,944,978		TOTAL	105,944,978	54,439,654	3,169,363	9,826,411	9,203,338	25,645,694	2,243,017	31,213	1,194,515	191,773
Construction Work-In-Progress excluding AFUD(													
Production	6,214,592	RB_GUP_EPIS_P	TOTAL	6,214,592	3,061,202	151,326	573,383	536,937	1,758,501	131,564	1,679	-	-
Transmission	9,206,639	RB_GUP_EPIS_T	TOTAL	9,206,639	4,525,724	222,793	843,228	791,101	2,626,963	192,612	2,470	1,438	310
Distribution	7,479,716	RB_GUP_EPIS_D	TOTAL	7,479,716	4,953,241	339,693	789,785	605,925	240,114	170,829	2,121	336,202	41,805
General	3,043,956	RB_GUP_EPIS_G	TOTAL	3,043,956	1,718,450	109,632	287,349	251,492	577,060	63,820	852	28,118	7,183
Total CWIP	25,944,903		TOTAL	25,944,903	14,258,618	823,444	2,493,744	2,185,455	5,202,638	558,825	7,123	365,757	49,298
Adjustments to CWIP	-	RB_GUP	TOTAL	-	-	-	-	-	-	-	-	-	-
Total Adjusted CWIP	25,944,903		TOTAL	25,944,903	14,258,618	823,444	2,493,744	2,185,455	5,202,638	558,825	7,123	365,757	49,298
Rate Base Offsets													
Accumulated Deferred FIT	(495,215,435)	RB_GUP	TOTAL	(495,215,435)	(274,274,546)	(15,859,492)	(47,951,953)	(41,738,939)	(95,546,451)	(10,739,988)	(136,030)	(7,960,177)	(1,007,859)
Customer Advances	(159,526)	TDPLANT	TOTAL	(159,526)	(94,231)	(5,826)	(15,908)	(13,252)	(22,054)	(3,515)	(44)	(4,175)	(520)
Customer Deposits	(26,917,350)	CUST_DEP_FXNL	TOTAL	(26,917,350)	(19,624,030)	(1,307,089)	(2,932,548)	(1,967,116)	(938,246)	(28,934)	-	(119,386)	-
Adjustments to Rate Base Offsets													
Adj 4 - Move FGD from Base Rates to Environmental (Mitchell)	29,690,336	PROD_DEMAND	TOTAL	29,690,336	14,624,954	722,964	2,739,347	2,565,226	8,401,272	628,551	8,022	-	-
Adj 53 - Remove Decommissioning Rider ADIT from Rate Base	81,440,991	PROD_DEMAND	TOTAL	81,440,991	40,116,447	1,983,099	7,514,065	7,036,449	23,044,801	1,724,125	22,005	-	-
Total Adjustments to Rate Base Offsets	111,131,327		TOTAL	111,131,327	54,741,401	2,706,063	10,253,412	9,601,675	31,446,073	2,352,676	30,027	-	-
Total Rate Base Offsets	(411,160,984)		TOTAL	(411,160,984)	(239,251,405)	(14,466,344)	(40,646,998)	(34,117,633)	(65,060,678)	(8,419,761)	(106,048)	(8,083,738)	(1,008,379)
Total Rate Base	1,194,888,447		TOTAL	1,194,888,447	652,486,366	37,514,381	114,971,829	101,363,382	240,509,510	26,428,694	337,885	18,839,286	2,437,113

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

Label	Constant	Allocation Factor	Function	Total Retail 1	RS 2	SGS 3	Total MGS	Total LGS	Total IGS	Total PS	MW 17	OL 18	SL 19
Operating Revenues													
Year End Migration Revenue	493,721,226		TOTAL	493,721,226	206,885,811	18,695,980	53,816,462	50,763,337	142,362,507	11,576,823	194,881	7,983,833	1,441,591
Adj 14 - Year End Customer Annualization	(3,274,059)	REVYEC_FXNL	TOTAL	(3,274,059)	(497,806)	(63,473)	(331,825)	752,041	(3,331,736)	(41,204)	-	270,192	(30,248)
Adj 15 - Weather Normalization Adjustment	9,953,044	WEATHER_FXNL	TOTAL	9,953,044	9,953,044	-	-	-	-	-	-	-	-
Total Firm Sales	500,400,211	RSALE	TOTAL	500,400,211	216,341,050	18,632,507	53,484,637	51,515,378	139,030,771	11,535,619	194,881	8,254,025	1,411,343
Non-Firm Sales: Energy	46,350,789	PROD_ENERGY	TOTAL	46,350,789	17,392,072	1,127,119	3,912,873	4,390,754	18,122,380	949,303	16,961	366,751	72,577
Non-Firm Sales: Demand	-	PROD_DEMAND	TOTAL	-	-	-	-	-	-	-	-	-	-
Adjs 8, 25 - Non-Firm Sales: Energy Adjustment - reset OSS mar	(3,993,185)	PROD_ENERGY	TOTAL	(3,993,185)	(1,498,351)	(97,103)	(337,099)	(378,270)	(1,561,268)	(81,784)	(1,461)	(31,596)	(6,253)
Total Sales of Electricity Adjustments	(3,993,185)		TOTAL	(3,993,185)	(1,498,351)	(97,103)	(337,099)	(378,270)	(1,561,268)	(81,784)	(1,461)	(31,596)	(6,253)
Sales of Electricity	542,757,815		TOTAL	542,757,815	232,234,770	19,662,523	57,060,411	55,527,863	155,591,882	12,403,138	210,380	8,589,180	1,477,667
Other Operating Revenues													
450-Forfeited Discounts	4,111,894	FORF_DISC_FXNL	TOTAL	4,111,894	2,830,518	250,487	413,355	249,714	346,467	-	-	21,353	-
451-Miscellaneous Service Revenue	785,136	MISC_SERV_REV	TOTAL	785,136	719,544	45,681	15,159	1,248	12	-	-	3,492	-
454x-Rent from Electric Prop - Poles	5,808,789	DIST_POLES	TOTAL	5,808,789	4,081,911	194,429	661,976	509,427	177,180	150,907	1,819	26,604	4,536
454x-Rent from Electric Prop - Production	61,946	RB_GUP_EPIS_P	TOTAL	61,946	30,514	1,508	5,715	5,352	17,528	1,311	17	-	-
454x-Rent from Electric Prop - Transmission	(50,577)	TRANS_TOTAL	TOTAL	(50,577)	(24,861)	(1,224)	(4,632)	(4,345)	(14,434)	(1,058)	(14)	(8)	(2)
454x-Rent from Electric Prop - Other Dist	951,923	RB_GUP_EPIS_D	TOTAL	951,923	630,385	43,232	100,514	77,114	30,559	21,741	270	42,788	5,320
456-Other Electric Revenue - Production Energy	(513,342)	PROD_ENERGY	TOTAL	(513,342)	(192,620)	(12,483)	(43,336)	(48,628)	(200,708)	(10,514)	(188)	(4,062)	(804)
456-Other Electric Revenue - Transmission	59,610,175	TRANS_TOTAL	TOTAL	59,610,175	29,301,529	1,442,345	5,458,874	5,121,602	17,011,485	1,246,818	15,992	9,485	2,045
456-Other Electric Revenue - Dist	223,318	RB_GUP_EPIS_D	TOTAL	223,318	147,886	10,142	23,580	18,091	7,169	5,100	63	10,038	1,248
456-Other Electric LSE Charge	(42,605,780)	TRAN_LSE	TOTAL	(42,605,780)	(20,986,883)	(1,037,457)	(3,930,976)	(3,681,112)	(12,055,867)	(901,974)	(11,512)	-	-
456-Other Electric Revenues DSM	12,563,568	PROD_DEMAND	TOTAL	12,563,568	6,188,600	305,925	1,159,164	1,085,484	3,555,027	265,974	3,395	-	-
Total Other Operating Revenues	40,947,050		TOTAL	40,947,050	22,726,524	1,242,585	3,859,394	3,333,946	8,874,419	778,306	9,842	109,690	12,344
Other Operating Revenue Adjustments													
Adj 10 - Remove DSM Rider	(12,563,569)	PROD_DEMAND	TOTAL	(12,563,569)	(6,188,600)	(305,925)	(1,159,164)	(1,085,484)	(3,555,027)	(265,974)	(3,395)	-	-
Adj 28 - PJM LSE OATT Expense	(3,297,104)	TRAN_LSE	TOTAL	(3,297,104)	(1,624,097)	(80,285)	(304,204)	(284,868)	(932,959)	(69,800)	(891)	-	-
Adj 46 - Rent from Electric Prop - Poles -CATV Adj.	532,369	DIST_POLES	TOTAL	532,369	374,103	17,819	60,669	46,688	16,238	13,830	167	2,438	416
Total Other Operating Revenue Adjustments	(15,328,304)		TOTAL	(15,328,304)	(7,438,595)	(368,390)	(1,402,698)	(1,323,664)	(4,471,748)	(321,944)	(4,119)	2,438	416
Total Other Operating Revenues	25,618,746		TOTAL	25,618,746	15,287,929	874,195	2,456,695	2,010,283	4,402,671	456,362	5,723	112,128	12,760
Total Operating Revenues	568,376,561		TOTAL	568,376,561	247,522,700	20,536,717	59,517,106	57,538,146	159,994,553	12,859,500	216,104	8,701,308	1,490,427
Operating Expense													
O&M Expense													
Production													
500-Supervision & Engineering	3,540,991	LABOR_PROD	TOTAL	3,540,991	1,657,633	86,199	320,917	312,086	1,081,680	74,455	1,027	5,839	1,155
501-Fuel Delivered and Consumed	107,534,921	PROD_ENERGY	TOTAL	107,534,921	40,350,015	2,614,942	9,077,958	10,186,653	42,044,347	2,202,405	39,349	850,871	168,380
502-Steam / Consumables	6,255,757	PROD_ENERGY	TOTAL	6,255,757	2,347,329	152,122	528,103	592,600	2,445,896	128,123	2,289	49,499	9,795
503-Steam other Sources	-	PROD_DEMAND	TOTAL	-	-	-	-	-	-	-	-	-	-
504-Steam Transferred Credit	-	PROD_DEMAND	TOTAL	-	-	-	-	-	-	-	-	-	-
505-Electric	110,662	PROD_DEMAND	TOTAL	110,662	54,510	2,695	10,210	9,561	31,313	2,343	30	-	-
506-Misc. Steam Power Expenses	10,846,903	PROD_DEMAND	TOTAL	10,846,903	5,343,000	264,124	1,000,778	937,165	3,069,274	229,631	2,931	-	-
507-Rents	-	PROD_DEMAND	TOTAL	-	-	-	-	-	-	-	-	-	-
508-IPP Operations	19	PROD_DEMAND	TOTAL	19	9	0	2	2	5	0	0	-	-
509-Allowances	385,332	PROD_ENERGY	TOTAL	385,332	144,587	9,370	32,529	36,502	150,658	7,892	141	3,049	603
510-Supervision & Engineering	2,559,143	LABOR_PROD	TOTAL	2,559,143	1,198,003	62,298	231,933	225,550	781,751	53,810	743	4,220	835
511-Structures	1,612,431	PROD_DEMAND	TOTAL	1,612,431	794,256	39,263	148,769	139,313	456,259	34,136	436	-	-
512-Boiler Plant	14,474,666	PROD_ENERGY	TOTAL	14,474,666	5,431,287	351,982	1,221,932	1,371,168	5,659,351	296,453	5,297	114,531	22,665
513-Electric Plant	4,640,309	PROD_DEMAND	TOTAL	4,640,309	2,285,737	112,992	428,133	400,920	1,313,037	98,236	1,254	-	-
514-Misc Steam Plant	1,806,779	PROD_DEMAND	TOTAL	1,806,779	889,989	43,995	166,701	156,105	511,252	38,250	488	-	-
555-Purchased Power Expense Demand	53,409,161	PROD_DEMAND	TOTAL	53,409,161	26,308,444	1,300,520	4,927,738	4,614,517	15,112,826	1,130,684	14,431	-	-
555-Purchased Power Expense Energy	97,062,507	PROD_ENERGY	TOTAL	97,062,507	36,420,482	2,360,283	8,193,890	9,194,614	37,949,809	1,987,921	35,517	768,008	151,983
556-Sys Control & Load Dispatching	571,585	PROD_DEMAND	TOTAL	571,585	281,553	13,918	52,737	49,385	161,738	12,101	154	-	-
557- Other Expenses	1,465,560	PROD_DEMAND	TOTAL	1,465,560	721,910	35,687	135,218	126,623	414,700	31,026	396	-	-
Total Production Expenses	306,276,726		TOTAL	306,276,726	124,228,745	7,450,390	26,477,547	28,352,765	111,183,896	6,327,467	104,482	1,796,017	355,417
Transmission													
560-Supervision & Engineering	1,449,820	EXP_OM_TRAN	TOTAL	1,449,820	712,663	35,080	132,769	124,566	413,748	30,325	389	231	50
561-Load Dispatching - Company	834,780	TRANS_TOTAL	TOTAL	834,780	410,338	20,199	76,446	71,723	238,229	17,460	224	133	29
561-Load Dispatching - PJM	1,391,646	TRAN_LSE	TOTAL	1,391,646	685,501	33,887	128,399	120,237	393,785	29,461	376	-	-
562-Station Equipment	234,457	TRANS_TOTAL	TOTAL	234,457	115,248	5,673	21,471	20,144	66,909	4,904	63	37	8
563-Overhead Lines	159,380	TRANS_TOTAL	TOTAL	159,380	78,344	3,856	14,595	13,694	45,484	3,334	43	25	5
564-Underground Lines	-	TRANS_TOTAL	TOTAL	-	-	-	-	-	-	-	-	-	-
565 LSE Transmission Purchases	27,040,523	TRAN_LSE	TOTAL	27,040,523	13,319,702	658,440	2,494,865	2,336,284	7,651,472	572,454	7,306	-	-
565 LSE Transmission Purchases - Retail Energy	-	PROD_ENERGY	TOTAL	-	-	-	-	-	-	-	-	-	-
565 Transmission by Others	116,830	TRANS_TOTAL	TOTAL	116,830	57,428	2,827	10,699	10,038	33,341	2,444	31	19	4

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

Label	Constant	Allocation Factor	Function	Total Retail 1	RS 2	SGS 3	Total MGS	Total LGS	Total IGS	Total PS	MW 17	OL 18	SL 19
565 Transmission Purchases - Non-Juris	-	TRANS_TOTAL	TOTAL	-	-	-	-	-	-	-	-	-	-
566-Misc Transmission	1,392,007	TRANS_TOTAL	TOTAL	1,392,007	684,244	33,681	127,475	119,599	397,249	29,115	373	222	48
567-Rents	41,897	TRANS_TOTAL	TOTAL	41,897	20,595	1,014	3,837	3,600	11,957	876	11	7	1
Total Transmission Expenses	32,661,340		TOTAL	32,661,340	16,084,062	794,657	3,010,555	2,819,884	9,252,173	690,374	8,817	673	145
568-Supervision & Engineering	24,563	EXP_OM_TRAN	TOTAL	24,563	12,074	594	2,249	2,110	7,010	514	7	4	1
569-Structures	142,273	TRANS_TOTAL	TOTAL	142,273	69,935	3,442	13,029	12,224	40,602	2,976	38	23	5
570-Station Equipment	717,706	TRANS_TOTAL	TOTAL	717,706	352,790	17,366	65,725	61,664	204,818	15,012	193	114	25
571-Overhead Lines	1,834,884	TRANS_TOTAL	TOTAL	1,834,884	901,942	44,397	168,032	157,650	523,637	38,379	492	292	63
572-Underground Lines	168	TRANS_TOTAL	TOTAL	168	83	4	15	14	48	4	0	0	0
573-Misc Transmission Expenses	449,711	TRANS_TOTAL	TOTAL	449,711	221,057	10,881	41,183	38,638	128,338	9,406	121	72	15
575- PJM Admin	992,259	TRAN_LSE	TOTAL	992,259	488,770	24,162	91,550	85,731	280,773	21,006	268	-	-
Total Transmission Maintenance	4,161,564		TOTAL	4,161,564	2,046,650	100,847	381,783	358,032	1,185,225	87,296	1,118	504	109
Total Transmission O&M	36,822,904		TOTAL	36,822,904	18,130,712	895,505	3,392,337	3,177,916	10,437,398	777,670	9,935	1,177	254
Distribution Operation													
580 Supervision & Engineering	699,997	TOTOXEXP	TOTAL	699,997	434,510	50,183	75,026	56,416	25,298	14,589	181	23,923	19,871
581 Load Dispatching	2,197	DIST_CPD	TOTAL	2,197	1,468	69	259	224	115	58	1	3	1
582 Station Expenses	246,722	DIST_CPD	TOTAL	246,722	164,895	7,773	29,095	25,104	12,922	6,488	86	296	64
583 Overhead Lines	976,519	DIST_OHLINES	TOTAL	976,519	665,576	31,504	113,667	94,077	42,918	25,560	328	2,442	449
584 Underground Lines	123,066	DIST_UGLINES	TOTAL	123,066	84,111	3,984	14,298	11,761	5,261	3,219	41	330	60
585 Street Lighting	203,417	DIST_SL	TOTAL	203,417	-	-	-	-	-	-	-	-	203,417
586 Meters	1,065,113	DIST_METERS	TOTAL	1,065,113	477,551	282,962	143,213	89,071	60,972	11,226	118	-	-
587 Customer Installs	149,538	DIST_PCUST	TOTAL	149,538	95,308	16,677	4,738	451	27	113	7	32,178	38
588 Miscellaneous Distribution	3,793,319	RB_GUP_EPIS_D	TOTAL	3,793,319	2,512,024	172,274	400,537	307,293	121,773	86,635	1,076	170,504	21,201
589 Rents	1,711,104	RB_GUP_EPIS_D	TOTAL	1,711,104	1,133,133	77,710	180,676	138,615	54,930	39,080	485	76,912	9,564
Total Distribution Operations Expenses	8,970,992		TOTAL	8,970,992	5,568,575	643,136	961,510	723,012	324,217	186,968	2,324	306,587	254,665
Distribution Maintenance													
590 Supervision & Engineering	4,096	TOTMXEXP	TOTAL	4,096	2,824	136	471	377	154	106	1	21	5
591 Structures	27,595	DIST_CPD	TOTAL	27,595	18,443	869	3,254	2,808	1,445	726	10	33	7
592 Station Equipment	430,037	DIST_CPD	TOTAL	430,037	287,412	13,548	50,713	43,756	22,522	11,308	150	515	111
593 Overhead Lines	36,475,999	TOTOHLINES	TOTAL	36,475,999	25,230,604	1,197,919	4,203,190	3,363,076	1,368,118	951,323	11,847	127,544	22,378
5930010 Storm Expense Amortization	2,426,771	TOTOHLINES	TOTAL	2,426,771	1,678,608	79,698	279,641	223,748	91,022	63,292	788	8,486	1,489
593-Forestry Direct Assigned	743,471	TOTOHLINES	TOTAL	743,471	514,262	24,417	85,671	68,548	27,886	19,390	241	2,600	456
594 Underground Lines	86,140	TOTUGLINES	TOTAL	86,140	58,873	2,788	10,008	8,232	3,683	2,253	29	231	42
595 Line Transformers	52,685	DIST_TRANSF	TOTAL	52,685	38,549	1,851	5,828	3,996	636	1,355	15	392	64
596 Street Lighting	25,214	DIST_SL	TOTAL	25,214	-	-	-	-	-	-	-	-	25,214
597 Meters	77,653	DIST_METERS	TOTAL	77,653	34,816	20,630	10,441	6,494	4,445	818	9	-	-
598 Miscellaneous Distribution	61,150	DIST_OL	TOTAL	61,150	-	-	-	-	-	-	-	61,150	-
Total Distribution Maintenance Expenses	40,410,811		TOTAL	40,410,811	27,864,392	1,341,856	4,649,218	3,721,035	1,519,911	1,050,572	13,090	200,971	49,766
Total Distribution O&M	49,381,803		TOTAL	49,381,803	33,432,967	1,984,992	5,610,728	4,444,047	1,844,128	1,237,540	15,414	507,558	304,431
Customer Accounts													
901 Supervision	202,236	TOTOX234	TOTAL	202,236	174,444	21,757	6,452	672	71	157	9	(1,373)	46
902 Meter Read	367,489	CUST_902	TOTAL	367,489	290,620	50,852	21,736	3,227	428	605	21	-	-
903 Customer Records	5,356,255	CUST_903	TOTAL	5,356,255	4,607,083	565,619	160,847	15,746	1,585	3,836	237	-	1,302
904 Uncollectibles	(175,137)	CUST_TOTAL	TOTAL	(175,137)	(111,596)	(19,527)	(5,553)	(544)	(55)	(132)	(8)	(37,677)	(45)
905 Miscellaneous	16,984	TOTOX234	TOTAL	16,984	14,650	1,827	542	56	6	13	1	(115)	4
Total	5,767,827		TOTAL	5,767,827	4,975,201	620,529	184,024	19,158	2,035	4,479	260	(39,166)	1,307
907 - 910 Total Customer Services Expenses	8,570,068	CUST_TOTAL	TOTAL	8,570,068	5,460,778	955,523	271,721	26,600	2,680	6,480	400	1,843,686	2,200
911 - 916 Total Sales Expenses	95,534	CUST_TOTAL	TOTAL	95,534	60,873	10,652	3,029	297	30	72	4	20,552	25
Administrative & General Expense													
920-Salaries	9,272,353	LABOR_M	TOTAL	9,272,353	5,234,660	333,956	875,309	766,082	1,757,813	194,406	2,597	85,650	21,881
921-Office Supplies	699,376	LABOR_M	TOTAL	699,376	394,829	25,189	66,021	57,782	132,585	14,663	196	6,460	1,650
922-Administrative Expense Transferred	(1,339,452)	LABOR_M	TOTAL	(1,339,452)	(756,181)	(48,242)	(126,444)	(110,666)	(253,928)	(28,083)	(375)	(12,373)	(3,161)
923-Outside Services	1,276,264	LABOR_M	TOTAL	1,276,264	720,508	45,966	120,479	105,445	241,949	26,758	357	11,789	3,012
924-Property Insurance	725,506	RB_GUP_EPIS	TOTAL	725,506	401,821	23,235	70,251	61,149	139,979	15,734	199	11,662	1,477
925-Injuries & Damages	2,098,337	LABOR_M	TOTAL	2,098,337	1,184,606	75,574	198,083	173,365	397,794	43,994	588	19,383	4,952
926-Employee Pension & Benefits	3,349,051	LABOR_M	TOTAL	3,349,051	1,890,690	120,620	316,150	276,699	634,899	70,217	938	30,936	7,903
9260057 Post Ret Medicare Subsidy Direct	-	LABOR_M	TOTAL	-	-	-	-	-	-	-	-	-	-
927-Franchise Requirements	139,012	LABOR_M	TOTAL	139,012	78,479	5,007	13,123	11,485	26,353	2,915	39	1,284	328
928-Regulatory Commission Expense Allocated	112	LABOR_M	TOTAL	112	63	4	11	9	21	2	0	1	0
928- Rate Case Expense	951,455	RSALE	TOTAL	951,455	411,348	35,428	101,695	97,951	264,351	21,934	371	15,694	2,684
930-General Advertising Expense	634,789	LABOR_M	TOTAL	634,789	358,367	22,863	59,924	52,446	120,341	13,309	178	5,864	1,498
931-Rent	349,368	LABOR_M	TOTAL	349,368	197,234	12,583	32,980	28,865	66,232	7,325	98	3,227	824
Total A&G Operation	18,156,171		TOTAL	18,156,171	10,116,423	652,183	1,727,581	1,520,612	3,528,388	383,175	5,185	179,577	43,048
Total A&G Maintenance	2,685,047	LABOR_M	TOTAL	2,685,047	1,515,830	96,705	253,468	221,839	509,020	56,295	752	24,802	6,336

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

Label	Constant	Allocation Factor	Function	Total Retail 1	RS 2	SGS 3	Total MGS	Total LGS	Total IGS	Total PS	MW 17	OL 18	SL 19
Total A&G Expenses	20,841,218		TOTAL	20,841,218	11,632,253	748,888	1,981,049	1,742,450	4,037,408	439,470	5,937	204,379	49,384
Total O&M Expenses	427,756,080		TOTAL	427,756,080	197,921,529	12,666,479	37,920,436	37,763,232	127,507,574	8,793,178	136,432	4,334,203	713,017
O&M Adjustments													
Adj 2 - Decommissioning Rider Removal	53	PROD_DEMAND	TOTAL	53	26	1	5	5	15	1	0	-	-
Adj 3 - Env Surcharge - Remove Mitchell FGD Expenses	(3,927,716)	PROD_ENERGY	TOTAL	(3,927,716)	(1,473,785)	(95,511)	(331,573)	(372,068)	(1,535,671)	(80,443)	(1,437)	(31,078)	(6,150)
Adj 5 - Environmental Surcharge Revenue Sync - remove FGD re	(667,403)	PROD_ENERGY	TOTAL	(667,403)	(250,428)	(16,229)	(56,341)	(63,222)	(260,943)	(13,669)	(244)	(5,281)	(1,045)
Adj 6 - Big Sandy Unit 1 Operation Rider Deferrals - Demand	(2,639,313)	PROD_DEMAND	TOTAL	(2,639,313)	(1,300,081)	(64,268)	(243,513)	(228,035)	(746,828)	(55,875)	(713)	-	-
Adj 6 - Big Sandy Unit 1 Operation Rider Deferrals - Energy	(2,383,768)	PROD_ENERGY	TOTAL	(2,383,768)	(894,454)	(57,966)	(201,235)	(225,811)	(932,013)	(48,822)	(872)	(18,862)	(3,733)
Adj 7 - Fuel Under (Over) Revenue & Expense	2,211,942	PROD_ENERGY	TOTAL	2,211,942	829,981	53,788	186,729	209,535	864,832	45,302	809	17,502	3,464
Adj 8 - System Sales Clause - reset OSS Margin Baseline	173,875	PROD_ENERGY	TOTAL	173,875	65,243	4,228	14,678	16,471	67,982	3,561	64	1,376	272
Adj 9 - PPA Rider Sync	372,542	PROD_ENERGY	TOTAL	372,542	139,788	9,059	31,450	35,290	145,658	7,630	136	2,948	583
Adj 10 - Remove DSM Rider	(7,060,189)	CUST_TOTAL	TOTAL	(7,060,189)	(4,498,695)	(787,179)	(223,849)	(21,914)	(2,208)	(5,338)	(330)	(1,518,864)	(1,812)
Adj 11 - Remove HEAP Surcharge	(246,772)	CUST_TOTAL	TOTAL	(246,772)	(157,241)	(27,514)	(7,824)	(766)	(77)	(187)	(12)	(53,088)	(63)
Adj 12 - Remove Economic Development Surcharge	(303,011)	CUST_TOTAL	TOTAL	(303,011)	(193,076)	(33,784)	(9,607)	(940)	(95)	(229)	(14)	(65,187)	(78)
Adj 14 - Customer Annualization Adjustment	(1,931,695)	REVYEC_EXP_OM	TOTAL	(1,931,695)	(293,705)	(37,449)	(195,777)	443,704	(1,965,724)	(24,310)	-	159,413	(17,847)
Adj 15 - Weather Normalization Adjustment	5,872,296	WEATHER_FXNL_OM	TOTAL	5,872,296	5,872,296	-	-	-	-	-	-	-	-
Adj 17 - Normalization of Major Storms	595,932	TDOMX	TOTAL	595,932	389,062	22,712	65,998	53,314	41,515	14,613	183	5,339	3,198
Adj 18 - Amortization of Storm Cost Deferral	874,592	EXP_OM_DIST	TOTAL	874,592	592,125	35,156	99,371	78,708	32,661	21,918	273	8,989	5,392
Adj 19 - Rate Case Expense	376,599	RSALE	TOTAL	376,599	162,817	14,023	40,252	38,770	104,634	8,682	147	6,212	1,062
Adj 20 - Postage Rate Decrease	(6,656)	CUST_TOTAL	TOTAL	(6,656)	(4,241)	(742)	(211)	(21)	(2)	(5)	(0)	(1,432)	(2)
Adj 21 - Eliminate Advertising Expense A&G	(31,889)	LABOR_M	TOTAL	(31,889)	(18,003)	(1,149)	(3,010)	(2,635)	(6,045)	(669)	(9)	(295)	(75)
Adj 21 - Eliminate Advertising Expense O&M	(68,555)	CUST_TOTAL	TOTAL	(68,555)	(43,683)	(7,644)	(2,174)	(213)	(21)	(52)	(3)	(14,748)	(18)
Adj 22 - Annualization of Lease Costs	(40,146)	RB_GUP	TOTAL	(40,146)	(22,235)	(1,286)	(3,887)	(3,384)	(7,746)	(871)	(11)	(645)	(82)
Adj 23 - Pension & OPEB Expense Adjustment	148,679	LABOR_M	TOTAL	148,679	83,936	5,355	14,035	12,284	28,186	3,117	42	1,373	351
Adj 24 - Employee Related Group Benefit Expenses	429,241	LABOR_M	TOTAL	429,241	242,326	15,460	40,520	35,464	81,374	9,000	120	3,965	1,013
Adj 25 - Remove PJM BLIs from base for FAC inclusion	(848,165)	PROD_ENERGY	TOTAL	(848,165)	(318,254)	(20,625)	(71,601)	(80,346)	(331,618)	(17,371)	(310)	(6,711)	(1,328)
Adj 26 - Peaking Unit Equivalent	3,150,582	PROD_ENERGY	TOTAL	3,150,582	1,182,184	76,613	265,968	298,451	1,231,825	64,527	1,153	24,929	4,933
Adj 27 - Forced Outage Adjustment	882,204	PROD_ENERGY	TOTAL	882,204	331,027	21,453	74,475	83,570	344,927	18,068	323	6,980	1,381
Adj 28 - PJM LSE OATT Expense	528,754	TRAN_LSE	TOTAL	528,754	260,455	12,875	48,785	45,684	149,618	11,194	143	-	-
Adj 29 - Annualize PJM Admin Fees	118,606	TRAN_LSE	TOTAL	118,606	58,423	2,888	10,943	10,247	33,561	2,511	32	-	-
Adj 31 - Severance Related Payroll Expenses - Big Sandy Plant	(35,433)	LABOR_PROD	TOTAL	(35,433)	(16,587)	(863)	(3,211)	(3,123)	(10,824)	(745)	(10)	(58)	(12)
Adjs 32-39 - Total Incentive Compensation & Payroll Adjustment	(826,263)	LABOR_M	TOTAL	(826,263)	(466,463)	(29,759)	(77,999)	(68,266)	(156,639)	(17,324)	(231)	(7,632)	(1,950)
Adj 40 - Remove Non-Recoverable Business Expenses	(14,914)	RB_GUP	TOTAL	(14,914)	(8,260)	(478)	(1,444)	(1,257)	(2,877)	(323)	(4)	(240)	(30)
Adj 41 - Plant Maintenance Normalization	(274,334)	PROD_DEMAND	TOTAL	(274,334)	(135,132)	(6,680)	(25,311)	(23,702)	(77,626)	(5,808)	(74)	-	-
Adj 52 - Employee Complement Increase	172,594	TDOMX	TOTAL	172,594	112,680	6,578	19,114	15,441	12,023	4,232	53	1,546	926
Adj 56 - Reduce base forestry expense	(6,794,282)	TOTOHLINES	TOTAL	(6,794,282)	(4,699,634)	(223,133)	(782,916)	(626,431)	(254,835)	(177,200)	(2,207)	(23,757)	(4,168)
Total Operations and Maintenance Expense Adjustments	(12,192,013)		TOTAL	(12,192,013)	(4,471,590)	(1,132,068)	(1,329,162)	(345,196)	(3,152,985)	(234,885)	(3,005)	(1,507,306)	(15,817)
Adjusted Operating & Maintenance Expense	415,564,067		TOTAL	415,564,067	193,449,939	11,534,411	36,591,274	37,418,036	124,354,589	8,558,293	133,426	2,826,898	697,200
Depreciation, Amortization & Reg. Debits Expense													
Production	34,972,487	RB_GUP-Land_P	TOTAL	34,972,487	17,226,852	851,585	3,226,699	3,021,600	9,895,926	740,376	9,449	-	-
Transmission & Reg. Debits	17,157,409	RB_GUP-Land_T	TOTAL	17,157,409	8,433,080	415,043	1,570,752	1,473,814	4,897,972	358,698	4,602	2,836	611
Distribution	27,081,260	RB_GUP-Land_D	TOTAL	27,081,260	17,932,243	1,233,528	2,856,299	2,188,421	864,079	617,605	7,663	1,228,671	152,750
General & Intangible	4,994,825	RB_GUP-Land_G	TOTAL	4,994,825	2,819,803	179,895	471,511	412,672	946,898	104,723	1,399	46,138	11,787
Total Depreciation & Amort Expense	84,205,981		TOTAL	84,205,981	46,411,979	2,680,051	8,125,261	7,096,508	16,604,874	1,821,402	23,112	1,277,645	165,148
Depreciation & Amortization Adjustments													
Adj 2 - Decommissioning Rider Removal	(1,987,451)	RB_GUP-Land_T	TOTAL	(1,987,451)	(976,857)	(48,077)	(181,950)	(170,721)	(567,363)	(41,550)	(533)	(329)	(71)
Adj 3 - Env Surcharge - Remove Mitchell FGD Expenses	(9,192,378)	RB_GUP-Land_P	TOTAL	(9,192,378)	(4,528,009)	(223,836)	(848,125)	(794,216)	(2,601,104)	(194,605)	(2,484)	-	-
Adj 5 - Environmental Surcharge Revenue Sync - remove FGD re	42,028	RB_GUP-Land_P	TOTAL	42,028	20,702	1,023	3,878	3,631	11,892	890	11	-	-
Adj 6 - Big Sandy Unit 1 Operation Rider Deferrals	347,890	RB_GUP-Land_P	TOTAL	347,890	171,365	8,471	32,098	30,057	98,440	7,365	94	-	-
Adj 30 - NERC Compliance & Cyber Security	14,275	RB_GUP-Land_P	TOTAL	14,275	7,032	348	1,317	1,233	4,039	302	4	-	-
Adj 42 - Annualization Depreciation/Amortization Expense Produ	1,390,210	RB_GUP-Land_P	TOTAL	1,390,210	684,794	33,852	128,266	120,113	393,378	29,431	376	-	-
Adj 42 - Annualization Depreciation/Amortization Expense Transi	52,403	RB_GUP-Land_T	TOTAL	52,403	25,757	1,268	4,797	4,501	14,960	1,096	14	9	2
Adj 42 - Annualization Depreciation/Amortization Expense Distrib	513,467	RB_GUP-Land_D	TOTAL	513,467	340,000	23,388	54,156	41,493	16,383	11,710	145	23,296	2,896
Adj 42 - Annualization Depreciation/Amortization Expense Gener	81,279	RB_GUP-Land_G	TOTAL	81,279	45,886	2,927	7,673	6,715	15,409	1,704	23	751	192
Adj 43 - Update Big Sandy Unit 1 Depreciation Rates	3,076,557	RB_GUP-Land_P	TOTAL	3,076,557	1,515,460	74,915	283,855	265,813	870,552	65,131	831	-	-
Adj 44 - ARO Depreciation	(3,818)	RB_GUP-Land_P	TOTAL	(3,818)	(1,881)	(93)	(352)	(330)	(1,080)	(81)	(1)	-	-
Total Depreciation & Amort Adjustments	(5,665,538)		TOTAL	(5,665,538)	(2,695,753)	(125,814)	(514,387)	(491,709)	(1,744,494)	(118,607)	(1,520)	23,727	3,019
Adjusted Depreciation & Amortization Expense	78,540,443		TOTAL	78,540,443	43,716,226	2,554,237	7,610,874	6,604,799	14,860,380	1,702,795	21,593	1,301,372	168,167
Taxes Other Than Income													
Federal Insurance Contribution Excise	1,963,938	LABOR_M	TOTAL	1,963,938	1,108,731	70,734	185,395	162,261	372,315	41,176	550	18,141	4,634
Federal Unemployment Tax	11,346	LABOR_M	TOTAL	11,346	6,405	409	1,071	937	2,151	238	3	105	27
Kentucky Unemployment	24,039	LABOR_M	TOTAL	24,039	13,571	866	2,269	1,986	4,557	504	7	222	57
Kentucky Real & Personal Property	13,834,817	RB_GUP	TOTAL	13,834,817	7,662,399	443,066	1,339,632	1,166,059	2,669,278	300,043	3,800	222,383	28,157
Municipal License	734	RB_GUP	TOTAL	734	407	24	71	62	142	16	0	12	1
Kentucky PSC Maintenance	1,128,601	RSALE	TOTAL	1,128,601	487,935	42,024	120,629	116,188	313,570	26,017	440	18,616	3,183
Kentucky Sales & Use	11,568	TDPLANT	TOTAL	11,568	6,833	422	1,154	961	1,599	255	3	303	38

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

Label	Constant	Allocation Factor	Function	Total Retail 1	RS 2	SGS 3	Total MGS	Total LGS	Total IGS	Total PS	MW 17	OL 18	SL 19
Regis Fee	80	LABOR_M	TOTAL	80	45	3	8	7	15	2	0	1	0
Kentucky Business Occup Taxes	4,237,868	LABOR_M	TOTAL	4,237,868	2,392,467	152,632	400,054	350,133	803,397	88,852	1,187	39,146	10,000
Gross Receipts Tax	(58,848)	RSALE	TOTAL	(58,848)	(25,442)	(2,191)	(6,290)	(6,058)	(16,350)	(1,357)	(23)	(971)	(166)
Federal Excise	6,551	LABOR_M	TOTAL	6,551	3,698	236	618	541	1,242	137	2	61	15
Taxes on Capital Leases	461,801	RB_GUP	TOTAL	461,801	255,768	14,789	44,716	38,923	89,099	10,015	127	7,423	940
Total Taxes Other Than Income	21,622,495		TOTAL	21,622,495	11,912,817	723,013	2,089,328	1,831,999	4,241,015	465,899	6,096	305,441	46,887
Taxes Other Than Income Adjustments													
Adj 3 - Env Surcharge - Remove Mitchell FGD Expenses	(188,103)	RB_GUP	TOTAL	(188,103)	(104,181)	(6,024)	(18,214)	(15,854)	(36,292)	(4,079)	(52)	(3,024)	(383)
Adj 5 - Environmental Surcharge Revenue Sync - remove FGD re	(4,282)	RB_GUP	TOTAL	(4,282)	(2,372)	(137)	(415)	(361)	(826)	(93)	(1)	(69)	(9)
Adj 6 - Big Sandy Unit 1 Operation Rider Deferrals	341,289	RB_GUP	TOTAL	341,289	189,023	10,930	33,047	28,765	65,848	7,402	94	5,486	695
Adj 31 - Severance Related Payroll Expenses - Big Sandy Plant	2,363	LABOR_PROD	TOTAL	2,363	1,106	58	214	208	722	50	1	4	1
Adjs 32-39 - Total Incentive Compensation & Payroll Adjustment	(33,388)	LABOR_M	TOTAL	(33,388)	(18,849)	(1,203)	(3,152)	(2,759)	(6,330)	(700)	(9)	(308)	(79)
Adj 47 - KPSC Maintenance Assessment	(1,801)	RSALE	TOTAL	(1,801)	(779)	(67)	(192)	(185)	(500)	(42)	(1)	(30)	(5)
Adj 48 - Kentucky Sales & Use Tax	78,776	TDPLANT	TOTAL	78,776	46,532	2,877	7,856	6,544	10,891	1,736	22	2,062	257
Adj 57 - Annualization of Property Tax Expense	595,507	RB_GUP	TOTAL	595,507	329,821	19,071	57,663	50,192	114,897	12,915	164	9,572	1,212
Total Adjustments to Taxes Other Than Income	790,361		TOTAL	790,361	440,302	25,505	76,807	66,551	148,409	17,188	217	13,693	1,689
Adjusted Taxes Other Than Income	22,412,856		TOTAL	22,412,856	12,353,119	748,519	2,166,135	1,898,549	4,389,423	483,087	6,313	319,135	48,576
Other Expenses													
Gain/Loss on Disposition of Utility Plant	(5,318)	RB_GUP_EPIS_D	TOTAL	(5,318)	(3,522)	(242)	(562)	(431)	(171)	(121)	(2)	(239)	(30)
A/R Factoring	1,636,590	RB_GUP	TOTAL	1,636,590	906,424	52,413	158,472	137,939	315,762	35,494	450	26,307	3,331
Gain/Loss on Disposition of Allowances	(176,704)	PROD_ENERGY	TOTAL	(176,704)	(66,304)	(4,297)	(14,917)	(16,739)	(69,088)	(3,619)	(65)	(1,398)	(277)
Accretion	884,391	PROD_DEMAND	TOTAL	884,391	435,636	21,535	81,597	76,411	250,250	18,723	239	-	-
Interest Income - Corp. Borrowing Program	(18,037)	RB_GUP	TOTAL	(18,037)	(9,990)	(578)	(1,747)	(1,520)	(3,480)	(391)	(5)	(290)	(37)
Interest Expense - Corp. Borrowing Program	67,056	RB_GUP	TOTAL	67,056	37,139	2,147	6,493	5,652	12,938	1,454	18	1,078	136
Other Interest Expense	370,911	RB_GUP	TOTAL	370,911	205,429	11,879	35,915	31,262	71,563	8,044	102	5,962	755
Interest on Customer Deposits	110,400	CUST_DEP_FXNL	TOTAL	110,400	80,487	5,361	12,028	8,068	3,848	119	-	490	-
Total Other Expenses	2,869,289		TOTAL	2,869,289	1,585,298	88,218	277,280	240,642	581,622	59,702	738	31,909	3,879
Other Expense Adjustments													
Adj 5 - Environmental Surcharge Revenue Sync - remove FGD re	91,240	PROD_ENERGY	TOTAL	91,240	34,236	2,219	7,702	8,643	35,673	1,869	33	722	143
Adj 16 - Adjustment to Interest on Customer Deposits	67,254	CUST_DEP_FXNL	TOTAL	67,254	49,031	3,266	7,327	4,915	2,344	72	-	298	-
Adj 45 - ARO Accretion	(109,495)	PROD_DEMAND	TOTAL	(109,495)	(53,935)	(2,666)	(10,102)	(9,460)	(30,983)	(2,318)	(30)	-	-
Total Adjustments to Other Expenses	48,999		TOTAL	48,999	29,332	2,818	4,927	4,098	7,034	(377)	4	1,020	143
Total Adjusted Other Expenses	2,918,288		TOTAL	2,918,288	1,614,630	91,037	282,207	244,739	588,657	59,325	741	32,930	4,022
Total Operating Expense Before Income Tax	519,435,654		TOTAL	519,435,654	251,133,914	14,928,204	46,650,490	46,166,124	144,193,049	10,803,500	162,073	4,480,334	917,965
Gross Operating Income	48,940,907		TOTAL	48,940,907	(3,611,215)	5,608,514	12,866,616	11,372,022	15,801,504	2,056,000	54,030	4,220,974	572,462
Allowance for Borrowed Funds Used During Construction	516,882	RATEBASE	TOTAL	516,882	282,251	16,228	49,734	43,848	104,039	11,432	146	8,149	1,054
Interest Synchronization Tax	(35,421,259)	RATEBASE	TOTAL	(35,421,259)	(19,342,298)	(1,112,076)	(3,408,224)	(3,004,815)	(7,129,661)	(783,452)	(10,016)	(558,472)	(72,246)
Taxable Income Before Schedule M Adjustments	14,036,530		TOTAL	14,036,530	(22,671,262)	4,512,666	9,508,126	8,411,055	8,775,882	1,283,981	44,160	3,670,652	501,270
Schedule M Income Adjustments													
Book vs. Tax Depreciation - Normalized	(54,883,025)	RB_GUP	TOTAL	(54,883,025)	(30,396,905)	(1,757,653)	(5,314,350)	(4,625,783)	(10,589,085)	(1,190,276)	(15,076)	(882,199)	(111,698)
AFUDC - HR/J	11,364	BULK_TRANS	TOTAL	11,364	5,598	277	1,048	982	3,216	241	3	-	-
ABFUDC	(516,882)	RB_GUP_CWIP	TOTAL	(516,882)	(284,064)	(16,405)	(49,681)	(43,539)	(103,648)	(11,133)	(142)	(7,287)	(982)
ABFUDC - HR/J	21,713	BULK_TRANS	TOTAL	21,713	10,695	529	2,003	1,876	6,144	460	6	-	-
Interest Capitalization	1,085,613	RB_GUP	TOTAL	1,085,613	601,266	34,767	105,120	91,500	209,457	23,544	298	17,450	2,209
Book/Tax Unit of Property - DFIT FBK	(471,155)	RB_GUP	TOTAL	(471,155)	(260,949)	(15,089)	(45,622)	(39,711)	(90,904)	(10,218)	(129)	(7,573)	(959)
Book/Tax Unit of Property	9,231,420	RB_GUP	TOTAL	9,231,420	5,112,812	295,640	893,883	778,065	1,781,102	200,206	2,536	148,387	18,788
Book/Tax Unit of Property - SEC 481	4,938,790	RB_GUP	TOTAL	4,938,790	2,735,344	158,167	478,225	416,263	952,886	107,110	1,357	79,387	10,051
Removal Costs	(5,671,630)	RB_GUP	TOTAL	(5,671,630)	(3,141,226)	(181,636)	(549,187)	(478,030)	(1,094,280)	(123,004)	(1,558)	(91,167)	(11,543)
Tax Amortization of Pollution Control	7,468,270	PROD_DEMAND	TOTAL	7,468,270	3,678,743	181,853	689,052	645,254	2,113,245	158,105	2,018	-	-
Property Tax - State 2- Old Method	3,313,757	RB_GUP	TOTAL	3,313,757	1,835,321	106,125	320,873	279,298	639,353	71,867	910	53,266	6,744
Provision for Possible Revenue Refunds	1,015,169	REV	TOTAL	1,015,169	442,097	36,680	106,303	102,768	285,764	22,968	386	15,541	2,662
Deferred Fuel	(2,385,816)	FUELREV	TOTAL	(2,385,816)	(822,633)	(56,190)	(195,992)	(217,082)	(1,024,489)	(47,370)	(843)	(17,620)	(3,597)
Provision for Workers Comp	32,807	LABOR_M	TOTAL	32,807	18,521	1,182	3,097	2,711	6,219	688	9	303	77
Accrued Book Pension Expense	1,066,272	LABOR_M	TOTAL	1,066,272	601,958	38,403	100,656	88,095	202,139	22,356	299	9,849	2,516
Accrued Book Pension Costs - SFAS 158	1,486,483	LABOR_M	TOTAL	1,486,483	839,186	53,538	140,324	122,813	281,801	31,166	416	13,731	3,508
Supplemental Executive Retirement	4,805	LABOR_M	TOTAL	4,805	2,713	173	454	397	911	101	1	44	11
Accrd Supplemental Exec Retirement SFAS 158	(5,917)	LABOR_M	TOTAL	(5,917)	(3,340)	(213)	(559)	(489)	(1,122)	(124)	(2)	(55)	(14)
Accrd Supplemental Savings Plan Exp	2,852	LABOR_M	TOTAL	2,852	1,610	103	269	236	541	60	1	26	7
Accrued PSI Plan Expenses	64,783	LABOR_M	TOTAL	64,783	36,573	2,333	6,116	5,352	12,281	1,358	18	598	153
Book Provision for Uncollectible Accounts	(207,245)	CUST_TOTAL	TOTAL	(207,245)	(132,055)	(23,107)	(6,571)	(643)	(65)	(157)	(10)	(44,585)	(53)
Accrued Companywide Incentive Plan	499,348	LABOR_M	TOTAL	499,348	281,904	17,985	47,138	41,256	94,664	10,469	140	4,613	1,178
Accrued Book Vacation Pay	74,755	LABOR_M	TOTAL	74,755	42,203	2,692	7,057	6,176	14,172	1,567	21	691	176
(ICDP) Incentive Comp Deferral Plan	4,503	LABOR_M	TOTAL	4,503	2,542	162	425	372	854	94	1	42	11

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

Label	Constant	Allocation Factor	Function	Total Retail 1	RS 2	SGS 3	Total MGS	Total LGS	Total IGS	Total PS	MW 17	OL 18	SL 19
Accrued Book Severance Benefits	(391,926)	LABOR_M	TOTAL	(391,926)	(221,260)	(14,116)	(36,998)	(32,381)	(74,300)	(8,217)	(110)	(3,620)	(925)
Reg Asset on Deferred RTO Costs	76,513	TRANS_TOTAL	TOTAL	76,513	37,610	1,851	7,007	6,574	21,835	1,600	21	12	3
Customer Adv Inc for Tax	(3,611)	TDPLANT	TOTAL	(3,611)	(2,133)	(132)	(360)	(300)	(499)	(80)	(1)	(95)	(12)
Deferred Book Contract Revenue	476	REV	TOTAL	476	207	17	50	48	134	11	0	7	1
Deferred Storm Damage	2,392,762	EXP_OM_DIST	TOTAL	2,392,762	1,619,972	96,181	271,864	215,333	89,356	59,964	747	24,593	14,751
Deferred Demand Side Management Exp	(2,403,838)	CUST_TOTAL	TOTAL	(2,403,838)	(1,531,706)	(268,017)	(76,216)	(7,461)	(752)	(1,818)	(112)	(517,140)	(617)
Advance Rental Income	(238,712)	REV_RENT	TOTAL	(238,712)	(166,410)	(8,358)	(26,937)	(20,727)	(7,421)	(6,102)	(74)	(2,347)	(336)
Deferred Rev - Bonus Lease - Long-Term	(428,111)	REV	TOTAL	(428,111)	(186,438)	(15,469)	(44,829)	(43,339)	(120,511)	(9,686)	(163)	(6,554)	(1,123)
Reg Asset - SFAS 158 Pensions	(1,486,483)	LABOR_M	TOTAL	(1,486,483)	(839,186)	(53,538)	(140,324)	(122,813)	(281,801)	(31,166)	(416)	(13,731)	(3,508)
Reg Asset - SFAS 158 SERP	5,917	LABOR_M	TOTAL	5,917	3,340	213	559	489	1,122	124	2	55	14
Reg Asset - SFAS 158 OPEB	(3,337,578)	LABOR_M	TOTAL	(3,337,578)	(1,884,213)	(120,207)	(315,067)	(275,751)	(632,724)	(69,976)	(935)	(30,830)	(7,876)
NET CCS FEED STUDY COSTS	34,390	PROD_DEMAND	TOTAL	34,390	16,940	837	3,173	2,971	9,731	728	9	-	-
REMOVAL CST - BIG SANDY	(17,397,041)	PROD_DEMAND	TOTAL	(17,397,041)	(8,569,486)	(423,620)	(1,605,119)	(1,503,093)	(4,922,722)	(368,299)	(4,700)	-	-
SPENT ARO - BIG SANDY	(10,388,239)	PROD_DEMAND	TOTAL	(10,388,239)	(5,117,070)	(252,955)	(958,460)	(897,537)	(2,939,489)	(219,921)	(2,807)	-	-
NBV - ARO - RETIRED PLANTS	8,886,294	PROD_DEMAND	TOTAL	8,886,294	4,377,237	216,382	819,884	767,770	2,514,494	188,125	2,401	-	-
BIG SANDY U1 OR-UNDER RECOV	5,023,081	PROD_DEMAND	TOTAL	5,023,081	2,474,284	122,313	463,449	433,991	1,421,347	106,340	1,357	-	-
BIG SANDY RETIRE COSTS RECOV	2,006,790	PROD_DEMAND	TOTAL	2,006,790	988,511	48,866	185,154	173,385	567,848	42,484	542	-	-
BIG SANDY RETIRE RIDER U2 O&M	(86,099)	PROD_ENERGY	TOTAL	(86,099)	(32,307)	(2,094)	(7,268)	(8,156)	(33,663)	(1,763)	(32)	(681)	(135)
UND RECOV-PURCH PWR PPA	(372,542)	PROD_ENERGY	TOTAL	(372,542)	(139,788)	(9,059)	(31,450)	(35,290)	(145,658)	(7,630)	(136)	(2,948)	(583)
DEFD DEPREC-ENVIRONMENTAL	42,028	RB_GUP	TOTAL	42,028	23,277	1,346	4,070	3,542	8,109	911	12	676	86
DEFD O&M-ENVIRONMENTAL CSTS	143,739	RB_GUP	TOTAL	143,739	79,610	4,603	13,918	12,115	27,733	3,117	39	2,310	293
DEFD CONSUM EXP-ENVIRON CSTS	614,837	PROD_ENERGY	TOTAL	614,837	230,703	14,951	51,904	58,243	240,391	12,592	225	4,865	963
DEFD PROP TAX EXP-ENVIRON CSTS	4,283	RB_GUP	TOTAL	4,283	2,372	137	415	361	826	93	1	69	9
NERC COMPL/CYBER SEC-DEF DEPR	(52,958)	PROD_DEMAND	TOTAL	(52,958)	(26,086)	(1,290)	(4,886)	(4,576)	(14,985)	(1,121)	(14)	-	-
CAPACITY CHARGE TARIFF REV	(249,701)	PROD_DEMAND	TOTAL	(249,701)	(122,998)	(6,080)	(23,038)	(21,574)	(70,656)	(5,286)	(67)	-	-
DEFD DEPR-BIG SANDY U1 GAS	(347,890)	PROD_DEMAND	TOTAL	(347,890)	(171,365)	(8,471)	(32,098)	(30,057)	(98,440)	(7,365)	(94)	-	-
DEFD PROP TAX-BIG SANDY U1 GAS	(341,290)	PROD_DEMAND	TOTAL	(341,290)	(168,114)	(8,310)	(31,489)	(29,487)	(96,573)	(7,225)	(92)	-	-
M&S RETIRING PLANTS	718,799	PROD_DEMAND	TOTAL	718,799	354,068	17,503	66,319	62,104	203,394	15,217	194	-	-
Book Amortization Loss on Reacquired Debt	33,146	RB_GUP	TOTAL	33,146	18,358	1,062	3,210	2,794	6,395	719	9	533	67
Accrued SFAS 106 Post Retirement Exp	(2,234,839)	LABOR_M	TOTAL	(2,234,839)	(1,261,667)	(80,491)	(210,968)	(184,642)	(423,671)	(46,856)	(626)	(20,644)	(5,274)
Accrued OPEB Costs SFAS 158	3,337,578	LABOR_M	TOTAL	3,337,578	1,884,213	120,207	315,067	275,751	632,724	69,976	935	30,830	7,876
Accrd SFAS 112 Post Employment Benefits	(1,664,432)	LABOR_M	TOTAL	(1,664,432)	(939,647)	(59,947)	(157,122)	(137,515)	(315,536)	(34,897)	(466)	(15,375)	(3,928)
Accrued Book ARO Expense - SFAS 143	(11,076,598)	RB_GUP	TOTAL	(11,076,598)	(6,134,762)	(354,733)	(1,072,552)	(933,584)	(2,137,110)	(240,224)	(3,043)	(178,047)	(22,543)
Reg Asset Medicare Subsidy Flow Thru	214,887	LABOR_M	TOTAL	214,887	121,313	7,739	20,285	17,754	40,737	4,505	60	1,985	507
SFAS 109 - Deferred SIT Liability	6,519,181	RB_GUP	TOTAL	6,519,181	3,610,642	208,780	631,255	549,465	1,257,805	141,385	1,791	104,790	13,268
Reg Asset - SFAS 109 - Deferred SIT Liability	(6,519,181)	RB_GUP	TOTAL	(6,519,181)	(3,610,642)	(208,780)	(631,255)	(549,465)	(1,257,805)	(141,385)	(1,791)	(104,790)	(13,268)
Regulatory Asset Accrued SFAS 112	1,332,259	LABOR_M	TOTAL	1,332,259	752,120	47,983	125,765	110,071	252,564	27,932	373	12,306	3,144
IRS Capitalization Adjustment	(52,323)	RB_GUP	TOTAL	(52,323)	(28,979)	(1,676)	(5,066)	(4,410)	(10,095)	(1,135)	(14)	(841)	(106)
RESTRICTED STOCK PLAN	9,835	RB_GUP	TOTAL	9,835	5,447	315	952	829	1,898	213	3	158	20
Nontaxable Defd Compensation CSV Earn	27,104	LABOR_M	TOTAL	27,104	15,301	976	2,559	2,239	5,138	568	8	250	64
Nondeductible Meals and Travel & Entertainment	60,931	LABOR_M	TOTAL	60,931	34,398	2,195	5,752	5,034	11,551	1,277	17	563	144
Capitalized Software Costs Tax	(1,043)	RB_GUP	TOTAL	(1,043)	(578)	(33)	(101)	(88)	(201)	(23)	(0)	(17)	(2)
Book Leases Capitalized for Tax	(277,482)	RB_GUP	TOTAL	(277,482)	(153,683)	(8,886)	(26,869)	(23,387)	(53,537)	(6,018)	(76)	(4,460)	(565)
Capitalized Software Costs Book	(309,528)	RB_GUP	TOTAL	(309,528)	(171,432)	(9,913)	(29,972)	(26,088)	(59,720)	(6,713)	(85)	(4,975)	(630)
MTM Book Gain Above the Line Tax Deferral	1,569,522	PROD_ENERGY	TOTAL	1,569,522	588,927	38,166	132,497	148,679	613,657	32,145	574	12,419	2,458
Mark & Spread Deferral - 283 A/L	(262,547)	PROD_ENERGY	TOTAL	(262,547)	(98,515)	(6,384)	(22,164)	(24,871)	(102,651)	(5,377)	(96)	(2,077)	(411)
Mark & Spread Deferral - 190 A/L	343,281	PROD_ENERGY	TOTAL	343,281	128,808	8,348	28,979	32,519	134,217	7,031	126	2,716	538
Provision for Trading Credit Risk (Above Line)	(12,744)	PROD_ENERGY	TOTAL	(12,744)	(4,782)	(310)	(1,076)	(1,207)	(4,983)	(261)	(5)	(101)	(20)
Provision for FAS 157 A/L	1,172	PROD_ENERGY	TOTAL	1,172	440	28	99	111	458	24	0	9	2
Reg Liability - Unrealized MTM Gain Deferral	(606,571)	PROD_ENERGY	TOTAL	(606,571)	(227,602)	(14,750)	(51,206)	(57,460)	(237,159)	(12,423)	(222)	(4,799)	(950)
Book > Tax Basis - EMA A/C 283	391,182	PROD_ENERGY	TOTAL	391,182	146,782	9,512	33,023	37,056	152,946	8,012	143	3,095	613
Total Schedule M Adjustments - Per Books	(60,572,286)		TOTAL	(60,572,286)	(33,088,053)	(2,086,790)	(5,615,599)	(4,877,897)	(12,125,094)	(1,245,793)	(15,928)	(1,418,386)	(98,746)
Adjustments to Per Books Schedule M													
Adj 2 - Decommissioning Rider Removal	(1,920,691)	PROD_DEMAND	TOTAL	(1,920,691)	(946,100)	(46,769)	(177,210)	(165,946)	(543,485)	(40,661)	(519)	-	-
Adj 5 - Environmental Surcharge Revenue Sync - remove FGD re	(804,887)	PROD_ENERGY	TOTAL	(804,887)	(302,015)	(19,573)	(67,948)	(76,246)	(314,697)	(16,485)	(295)	(6,369)	(1,260)
Adj 6 - Big Sandy Unit 1 Operation Rider Deferrals	(4,333,901)	PROD_DEMAND	TOTAL	(4,333,901)	(2,134,806)	(105,531)	(399,863)	(374,446)	(1,226,334)	(91,750)	(1,171)	-	-
Adj 7 - Fuel Under (Over) Revenue & Expense	2,385,816	PROD_ENERGY	TOTAL	2,385,816	895,223	58,016	201,407	226,005	932,814	48,864	873	18,878	3,736
Adj 9 - PPA Rider Sync	372,542	PROD_ENERGY	TOTAL	372,542	139,788	9,059	31,450	35,290	145,658	7,630	136	2,948	583
Adj 10 - Remove DSM Rider	2,403,838	CUST_TOTAL	TOTAL	2,403,838	1,531,706	268,017	76,216	7,461	752	1,818	112	517,140	617
Adj 18 - Amortization of Storm Cost Deferral	874,592	EXP_OM_DIST	TOTAL	874,592	592,125	35,156	99,371	78,708	32,661	21,918	273	8,989	5,392
Adj 23 - Pension & OPEB Expense Adjustment	148,679	LABOR_M	TOTAL	148,679	83,936	5,355	14,035	12,284	28,186	3,117	42	1,373	351
Adj 30 - NERC Compliance & Cyber Security	67,233	RB_GUP-Land_P	TOTAL	67,233	33,118	1,637	6,203	5,809	19,024	1,423	18	-	-
Adjs 32-39 - Total Incentive Compensation & Payroll Adjustment	(499,348)	LABOR_M	TOTAL	(499,348)	(281,904)	(17,985)	(47,138)	(41,256)	(94,664)	(10,469)	(140)	(4,613)	(1,178)
Adj 42 - Annualization Depreciation/Amortization Expense Produ	4,466,767	RB_GUP-Land_P	TOTAL	4,466,767	2,200,253	108,766	412,121	385,926	1,263,931	94,562	1,207	-	-
Adj 42 - Annualization Depreciation/Amortization Expense Transı	52,403	RB_GUP-Land_T	TOTAL	52,403	25,757	1,268	4,797	4,501	14,960	1,096	14	9	2
Adj 42 - Annualization Depreciation/Amortization Expense Distrib	513,467	RB_GUP-Land_D	TOTAL	513,467	340,000	23,388	54,156	41,493	16,383	11,710	145	23,296	2,896
Adj 42 - Annualization Depreciation/Amortization Expense Gener	81,279	RB_GUP-Land_G	TOTAL	81,279	45,886	2,927	7,673	6,715	15,409	1,704	23	751	192
Adj 44 - ARO Depreciation	(3,818)	RB_GUP-Land_P	TOTAL	(3,818)	(1,881)	(93)	(352)	(330)	(1,080)	(81)	(1)	-	-
Adj 45 - ARO Accretion	(109,495)	PROD_DEMAND	TOTAL	(109,495)	(53,935)	(2,666)	(10,102)	(9,460)	(30,983)	(2,318)	(30)	-	-
Total Adjustments to Per Books Schedule M	3,694,476		TOTAL	3,694,476	2,167,149	320,973	204,816	136,508	258,532	32,077	688	562,402	11,330
Adjusted Schedule M	(56,877,810)		TOTAL	(56,877,810)	(30,920,903)	(1,765,817)	(5,410,784)	(4,741,389)	(11,866,562)	(1,213,715)	(15,239)	(855,984)	(87,416)

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

Label	Constant	Allocation Factor	Function	Total Retail 1	RS 2	SGS 3	Total MGS	Total LGS	Total IGS	Total PS	MW 17	OL 18	SL 19
Kentucky Taxable Income Before Adjustments	(42,841,280)		TOTAL	(42,841,280)	(53,592,165)	2,746,849	4,097,343	3,669,665	(3,090,680)	70,265	28,921	2,814,667	413,854
JCWA Depreciation Adjustment	40,363,921	RB_GUP	TOTAL	40,363,921	22,355,515	1,292,672	3,908,458	3,402,049	7,787,781	875,393	11,087	648,817	82,148
Kentucky Taxable Income	(2,477,359)		TOTAL	(2,477,359)	(31,236,650)	4,039,521	8,005,801	7,071,715	4,697,101	945,658	40,009	3,463,484	496,003
Tax Factor (Tax Rate x Apportionment)	4.32381%												
Kentucky Tax	(107,116)		TOTAL	(107,116)	(1,350,613)	174,661	346,156	305,768	203,094	40,888	1,730	149,754	21,446
West Virginia Taxable Income Before Adjustments	(42,841,280)		TOTAL	(42,841,280)	(53,592,165)	2,746,849	4,097,343	3,669,665	(3,090,680)	70,265	28,921	2,814,667	413,854
Federal Domestic Production Activity	-	RB_GUP_EPIS_P	TOTAL	-	-	-	-	-	-	-	-	-	-
West Virginia Taxable Income	(42,841,280)		TOTAL	(42,841,280)	(53,592,165)	2,746,849	4,097,343	3,669,665	(3,090,680)	70,265	28,921	2,814,667	413,854
Apportionment Factor	21.6208%												
Apportioned West Virginia Taxable Income	(9,262,628)		TOTAL	(9,262,628)	(11,587,055)	593,891	885,878	793,411	(668,230)	15,192	6,253	608,554	89,479
Post Apportionment Schedule M Adjustments	6,879,634	RB_GUP	TOTAL	6,879,634	3,810,278	220,323	666,158	579,846	1,327,351	149,202	1,890	110,584	14,001
Post Apportionment Taxable Income	(2,382,994)		TOTAL	(2,382,994)	(7,776,777)	814,214	1,552,037	1,373,257	659,121	164,394	8,143	719,138	103,480
Tax Rate	6.50%												
West Virginia Tax	(154,895)		TOTAL	(154,895)	(505,490)	52,924	100,882	89,262	42,843	10,686	529	46,744	6,726
Illinois Taxable Income Before Depreciation Adjustment	(42,841,280)		TOTAL	(42,841,280)	(53,592,165)	2,746,849	4,097,343	3,669,665	(3,090,680)	70,265	28,921	2,814,667	413,854
JCWA Depreciation Adjustment	43,065,542	RB_GUP	TOTAL	43,065,542	23,851,805	1,379,193	4,170,058	3,629,754	8,309,030	933,984	11,830	692,243	87,647
Illinois Taxable Income	224,262		TOTAL	224,262	(29,740,360)	4,126,042	8,267,400	7,299,419	5,218,350	1,004,250	40,751	3,506,910	501,501
Apportionment Factor	1.807%												
Apportioned Illinois State Taxable Income	4,052		TOTAL	4,052	(537,408)	74,558	149,392	131,901	94,296	18,147	736	63,370	9,062
Post Apportionment Schedule M Adjustments	47,002	RB_GUP	TOTAL	47,002	26,032	1,505	4,551	3,962	9,069	1,019	13	756	96
Post Apportionment Taxable Income	51,054		TOTAL	51,054	(511,376)	76,063	153,943	135,862	103,364	19,166	749	64,125	9,158
Tax Rate	7.75%												
Illinois Tax	3,957		TOTAL	3,957	(39,632)	5,895	11,931	10,529	8,011	1,485	58	4,970	710
Michigan Taxable Income Before Depreciation Adjustment	(42,841,280)		TOTAL	(42,841,280)	(53,592,165)	2,746,849	4,097,343	3,669,665	(3,090,680)	70,265	28,921	2,814,667	413,854
JCWA Depreciation Adjustment	41,365,075	RB_GUP	TOTAL	41,365,075	22,910,003	1,324,735	4,005,400	3,486,431	7,980,943	897,105	11,363	664,909	84,186
Michigan Taxable Income	(1,476,205)		TOTAL	(1,476,205)	(30,682,162)	4,071,583	8,102,743	7,156,096	4,890,263	967,371	40,284	3,479,577	498,040
Tax Factor (Tax Rate x Apportionment)	0.005016%												
Michigan Tax	(74)		TOTAL	(74)	(1,539)	204	406	359	245	49	2	175	25
Total Current State Income Tax	(258,128)		TOTAL	(258,128)	(1,897,275)	233,684	459,375	405,917	254,193	53,108	2,319	201,643	28,907
Deferred State Income Tax													
Deferred State Income Tax - WVA Pollution Control	(447,176)		TOTAL	(447,176)	(247,668)	(14,321)	(43,300)	(37,690)	(86,278)	(9,698)	(123)	(7,188)	(910)
Deferred State Income Tax - Mitchell Plant	(1,551,003)	RB_GUP_EPIS_P	TOTAL	(1,551,003)	(763,998)	(37,767)	(143,102)	(134,006)	(438,877)	(32,835)	(419)	-	-
Adj 55 - Mitchell Plant DSIT Amortization Adjustment	1,292,491	RB_GUP_EPIS_P	TOTAL	1,292,491	636,659	31,472	119,250	111,670	365,727	27,362	349	-	-
Total Adjusted Deferred State Income Tax	(705,688)		TOTAL	(705,688)	(375,007)	(20,616)	(67,152)	(60,025)	(159,427)	(15,171)	(193)	(7,188)	(910)
Total State Income Tax (Current + Deferred	(963,816)		TOTAL	(963,816)	(2,272,281)	213,068	392,223	345,892	94,765	37,937	2,127	194,455	27,997
Federal Taxable Income	(42,583,152)		TOTAL	(42,583,152)	(51,694,891)	2,513,164	3,637,968	3,263,748	(3,344,873)	17,157	26,602	2,613,025	384,947
Tax Factor (Tax Rate x Apportionment)	35.00%												
Gross Current FIT	(14,904,103)		TOTAL	(14,904,103)	(18,093,212)	879,608	1,273,289	1,142,312	(1,170,705)	6,005	9,311	914,559	134,732
Deferred FIT													
DFIT for Book vs Tax Depreciation Normalized	20,339,527	RB_GUP	TOTAL	20,339,527	11,265,026	651,382	1,969,486	1,714,305	3,924,291	441,114	5,587	326,941	41,395
DFIT ABFUDC	(67,118)	RB_GUP_CWIP	TOTAL	(67,118)	(36,886)	(2,130)	(6,451)	(5,654)	(13,459)	(1,446)	(18)	(946)	(128)
Interest Capitalization	37,162	RB_GUP	TOTAL	37,162	20,582	1,190	3,598	3,132	7,170	806	10	597	76
Property Tax - State 2- Old Method	(1,159,815)	RB_GUP	TOTAL	(1,159,815)	(642,362)	(37,144)	(112,305)	(97,754)	(223,774)	(25,153)	(319)	(18,643)	(2,360)
Removal Costs	304,759	RB_GUP	TOTAL	304,759	168,790	9,760	29,510	25,686	58,800	6,609	84	4,899	620
Percent Repair Allowance	(5,260,400)	RB_GUP	TOTAL	(5,260,400)	(2,913,467)	(168,467)	(509,367)	(443,370)	(1,014,937)	(114,085)	(1,445)	(84,557)	(10,706)
Tax Amortization of Pollution Control Equip.	(2,613,895)	PROD_DEMAND	TOTAL	(2,613,895)	(1,287,560)	(63,649)	(241,168)	(225,839)	(739,636)	(55,337)	(706)	-	-
Provision for Possible Revenue Refunds	(355,309)	REV	TOTAL	(355,309)	(154,734)	(12,838)	(37,206)	(35,969)	(100,017)	(8,039)	(135)	(5,439)	(932)
Deferred Fuel Costs	835,035	FUELREV	TOTAL	835,035	287,921	19,666	68,597	75,979	358,571	16,580	295	6,167	1,259
Provision for Workers Comp	(11,482)	LABOR_M	TOTAL	(11,482)	(6,482)	(414)	(1,084)	(949)	(2,177)	(241)	(3)	(106)	(27)
Accrued Book Pension Expense	(373,195)	LABOR_M	TOTAL	(373,195)	(210,685)	(13,441)	(35,230)	(30,833)	(70,749)	(7,824)	(105)	(3,447)	(881)
Accrued Book Pension Costs - SFAS 158	(520,268)	LABOR_M	TOTAL	(520,268)	(293,715)	(18,738)	(49,113)	(42,985)	(98,630)	(10,908)	(146)	(4,806)	(1,228)
Supplemental Executive Retirement	(1,681)	LABOR_M	TOTAL	(1,681)	(949)	(61)	(159)	(139)	(319)	(35)	(0)	(16)	(4)
Accrd Suppl Executive Retirement - SFAS 158	2,071	LABOR_M	TOTAL	2,071	1,169	75	196	171	393	43	1	19	5
Accrd Book Supplemental Savings Plan	(998)	LABOR_M	TOTAL	(998)	(563)	(36)	(94)	(82)	(189)	(21)	(0)	(9)	(2)
Accrued PSI Plan Expenses	(22,674)	LABOR_M	TOTAL	(22,674)	(12,800)	(817)	(2,140)	(1,873)	(4,298)	(475)	(6)	(209)	(54)
Book Provision - Uncollectible Accounts	72,536	CUST_TOTAL	TOTAL	72,536	46,219	8,087	2,300	225	23	55	3	15,605	19
Accrd Companywide Incentive Plan	(174,772)	LABOR_M	TOTAL	(174,772)	(98,667)	(6,295)	(16,498)	(14,440)	(33,133)	(3,664)	(49)	(1,614)	(412)
Accrd Book Vacation Pay	(26,165)	LABOR_M	TOTAL	(26,165)	(14,771)	(942)	(2,470)	(2,162)	(4,960)	(549)	(7)	(242)	(62)
(IDCP) Incentive Comp Deferral Plan	(1,576)	LABOR_M	TOTAL	(1,576)	(890)	(57)	(149)	(130)	(299)	(33)	(0)	(15)	(4)
Accrd Book Severance Benefits	137,174	LABOR_M	TOTAL	137,174	77,441	4,941	12,949	11,333	26,005	2,876	38	1,267	324
Reg Asset on Deferred RTO Costs	(26,779)	TRANS_TOTAL	TOTAL	(26,779)	(13,163)	(648)	(2,452)	(2,301)	(7,642)	(560)	(7)	(4)	(1)
Customer Adv Inc for Tax	1,265	TDPLANT	TOTAL	1,265	747	46	126	105	175	28	0	33	4
Deferred Book Contract Revenue	(167)	REV	TOTAL	(167)	(73)	(6)	(17)	(17)	(47)	(4)	(0)	(3)	(0)
Deferred Storm Damage	(837,467)	EXP_OM_DIST	TOTAL	(837,467)	(566,990)	(33,664)	(95,152)	(75,367)	(31,275)	(20,987)	(261)	(8,608)	(5,163)

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

Label	Constant	Allocation Factor	Function	Total Retail 1	RS 2	SGS 3	Total MGS	Total LGS	Total IGS	Total PS	MW 17	OL 18	SL 19
Deferred Demand Side Management Exp	841,343	CUST_TOTAL	TOTAL	841,343	536,097	93,806	26,675	2,611	263	636	39	180,999	216
Advance Rental Income	83,549	REV_RENT	TOTAL	83,549	58,243	2,925	9,428	7,254	2,597	2,136	26	822	117
Deferred Revenue - Bonus Lease Long-Term	149,839	REV	TOTAL	149,839	65,253	5,414	15,690	15,169	42,179	3,390	57	2,294	393
Reg Asset SFAS 158 Pensions	520,268	LABOR_M	TOTAL	520,268	293,715	18,738	49,113	42,985	98,630	10,908	146	4,806	1,228
Reg Asset SFAS 158 SERP	(2,071)	LABOR_M	TOTAL	(2,071)	(1,169)	(75)	(196)	(171)	(393)	(43)	(1)	(19)	(5)
Reg Asset SFAS 158 OPEB	1,168,152	LABOR_M	TOTAL	1,168,152	659,474	42,073	110,273	96,513	221,453	24,492	327	10,790	2,757
NET CCS FEED STUDY COSTS	(12,037)	PROD_DEMAND	TOTAL	(12,037)	(5,929)	(293)	(1,111)	(1,040)	(3,406)	(255)	(3)	-	-
REMOVAL CST - BIG SANDY	6,088,965	PROD_DEMAND	TOTAL	6,088,965	2,999,321	148,267	561,792	526,083	1,722,953	128,905	1,645	-	-
SPENT ARO - BIG SANDY	3,635,884	PROD_DEMAND	TOTAL	3,635,884	1,790,975	88,534	335,461	314,138	1,028,821	76,973	982	-	-
NBV - ARO - RETIRED PLANTS	(3,110,203)	PROD_DEMAND	TOTAL	(3,110,203)	(1,532,033)	(75,734)	(286,960)	(268,720)	(880,073)	(65,844)	(840)	-	-
BIG SANDY U1 OR-UNDER RECOV	(1,758,079)	PROD_DEMAND	TOTAL	(1,758,079)	(866,000)	(42,809)	(162,207)	(151,897)	(497,472)	(37,219)	(475)	-	-
BIG SANDY RETIRE COSTS RECOV	(702,376)	PROD_DEMAND	TOTAL	(702,376)	(345,978)	(17,103)	(64,804)	(60,685)	(198,747)	(14,869)	(190)	-	-
BIG SANDY RETIRE RIDER U2 O&M	30,135	PROD_ENERGY	TOTAL	30,135	11,307	733	2,544	2,855	11,782	617	11	238	47
UND RECOV-PURCH PWR PPA	130,389	PROD_ENERGY	TOTAL	130,389	48,925	3,171	11,007	12,352	50,980	2,670	48	1,032	204
DEFD DEPREC-ENVIRONMENTAL	(14,710)	RB_GUP	TOTAL	(14,710)	(8,147)	(471)	(1,424)	(1,240)	(2,838)	(319)	(4)	(236)	(30)
DEFD O&M-ENVIRONMENTAL CSTS	(50,309)	RB_GUP	TOTAL	(50,309)	(27,864)	(1,611)	(4,871)	(4,240)	(9,707)	(1,091)	(14)	(809)	(102)
DEFD CONSUM EXP-ENVIRON CSTS	(215,193)	PROD_ENERGY	TOTAL	(215,193)	(80,746)	(5,233)	(18,166)	(20,385)	(84,137)	(4,407)	(79)	(1,703)	(337)
DEFD PROP TAX EXP-ENVIRON CSTS	(1,498)	RB_GUP	TOTAL	(1,498)	(830)	(48)	(145)	(126)	(289)	(32)	(0)	(24)	(3)
NERC COMPL/CYBER SEC-DEF DEPR	18,535	PROD_DEMAND	TOTAL	18,535	9,130	451	1,710	1,601	5,245	392	5	-	-
CAPACITY CHARGE TARIFF REV	87,395	PROD_DEMAND	TOTAL	87,395	43,049	2,128	8,063	7,551	24,730	1,850	24	-	-
DEFD DEPR-BIG SANDY U1 GAS	121,761	PROD_DEMAND	TOTAL	121,761	59,977	2,965	11,234	10,520	34,454	2,578	33	-	-
DEFD PROP TAX-BIG SANDY U1 GAS	119,451	PROD_DEMAND	TOTAL	119,451	58,840	2,909	11,021	10,320	33,800	2,529	32	-	-
M&S RETIRING PLANTS	(251,580)	PROD_DEMAND	TOTAL	(251,580)	(123,924)	(6,126)	(23,212)	(21,736)	(71,188)	(5,326)	(68)	-	-
Book Amortization Loss on Reacquired Debt	(11,600)	RB_GUP	TOTAL	(11,600)	(6,425)	(371)	(1,123)	(978)	(2,238)	(252)	(3)	(186)	(24)
Accrued SFAS 106 Post Retirement Expense	782,194	LABOR_M	TOTAL	782,194	441,584	28,172	73,839	64,625	148,285	16,400	219	7,225	1,846
Accrued OPEB Costs SFAS 158	(1,168,152)	LABOR_M	TOTAL	(1,168,152)	(659,474)	(42,073)	(110,273)	(96,513)	(221,453)	(24,492)	(327)	(10,790)	(2,757)
Accrued SFAS 112 Post Employment Benefits	582,551	LABOR_M	TOTAL	582,551	328,876	20,981	54,993	48,130	110,438	12,214	163	5,381	1,375
Accrued Book ARO Expense SFAS 143	3,876,809	RB_GUP	TOTAL	3,876,809	2,147,167	124,157	375,393	326,755	747,988	84,078	1,065	62,316	7,890
Medicare Subsidy (PPACA) Reg Asset	(75,210)	LABOR_M	TOTAL	(75,210)	(42,459)	(2,709)	(7,100)	(6,214)	(14,258)	(1,577)	(21)	(695)	(177)
Deferred State Income Taxes	699,362	RB_GUP	TOTAL	699,362	387,341	22,397	67,720	58,945	134,934	15,167	192	11,242	1,423
Reg Asset - Accrued SFAS 112	(466,291)	LABOR_M	TOTAL	(466,291)	(263,242)	(16,794)	(44,018)	(38,525)	(88,397)	(9,776)	(131)	(4,307)	(1,100)
IRS Capitalization Adjustment	18,313	RB_GUP	TOTAL	18,313	10,143	586	1,773	1,544	3,533	397	5	294	37
Restricted Stock Plan	(3,443)	RB_GUP	TOTAL	(3,443)	(1,907)	(110)	(333)	(290)	(664)	(75)	(1)	(55)	(7)
Capitalized Software Costs Tax	365	RB_GUP	TOTAL	365	202	12	35	31	70	8	0	6	1
Book Leases Capitalized for Tax	97,118	RB_GUP	TOTAL	97,118	53,789	3,110	9,404	8,186	18,738	2,106	27	1,561	198
Capitalized Software Costs Book	108,335	RB_GUP	TOTAL	108,335	60,001	3,469	10,490	9,131	20,902	2,350	30	1,741	220
MTM Book Gain Above the Line Tax Deferral	(549,332)	PROD_ENERGY	TOTAL	(549,332)	(206,124)	(13,358)	(46,374)	(52,038)	(214,780)	(11,251)	(201)	(4,347)	(860)
Mark & Spread Deferral - 283 A/L	91,891	PROD_ENERGY	TOTAL	91,891	34,480	2,235	7,757	8,705	35,928	1,882	34	727	144
Mark & Spread Deferral - 190 A/L	(120,148)	PROD_ENERGY	TOTAL	(120,148)	(45,083)	(2,922)	(10,143)	(11,381)	(46,976)	(2,461)	(44)	(951)	(188)
Prov for Trading Credit Risk - Above the Line	4,460	PROD_ENERGY	TOTAL	4,460	1,674	108	377	422	1,744	91	2	35	7
Provision for FAS 157 A/L	(410)	PROD_ENERGY	TOTAL	(410)	(154)	(10)	(35)	(39)	(160)	(8)	(0)	(3)	(1)
Reg Liability - Unrealized MTM Gain Deferral	212,300	PROD_ENERGY	TOTAL	212,300	79,661	5,163	17,922	20,111	83,006	4,348	78	1,680	332
Book > Tax Basis - EMA A/C 283	(136,914)	PROD_ENERGY	TOTAL	(136,914)	(51,374)	(3,329)	(11,558)	(12,970)	(53,531)	(2,804)	(50)	(1,083)	(214)
Total Per Books DFIT	21,095,576		TOTAL	21,095,576	11,523,498	727,128	1,955,368	1,698,423	4,222,634	433,765	5,546	494,845	34,368
DFIT Adjustments													
Adj 2 - Decommissioning Rider Removal	672,242	PROD_DEMAND	TOTAL	672,242	331,135	16,369	62,024	58,081	190,220	14,232	182	-	-
Adj 5 - Environmental Surcharge Revenue Sync - remove FGD re	281,710	PROD_ENERGY	TOTAL	281,710	105,705	6,850	23,782	26,686	110,144	5,770	103	2,229	441
Adj 6 - Big Sandy Unit 1 Operation Rider Deferrals	1,516,866	PROD_DEMAND	TOTAL	1,516,866	747,182	36,936	139,952	131,056	429,217	32,112	410	-	-
Adj 7 - Fuel Under (Over) Revenue & Expense	(774,180)	PROD_ENERGY	TOTAL	(774,180)	(290,493)	(18,826)	(65,355)	(73,337)	(302,691)	(15,856)	(283)	(6,126)	(1,212)
Adj 8 - System Sales Clause - reset OSS Margin Baseline	(60,856)	RB_GUP-Land_P	TOTAL	(60,856)	(29,977)	(1,482)	(5,615)	(5,258)	(17,220)	(1,288)	(16)	-	-
Adj 9 - PPA Rider Sync	(130,390)	PROD_ENERGY	TOTAL	(130,390)	(48,926)	(3,171)	(11,007)	(12,352)	(50,980)	(2,670)	(48)	(1,032)	(204)
Adj 10 - Remove DSM Rider	(841,343)	CUST_TOTAL	TOTAL	(841,343)	(536,097)	(93,806)	(26,675)	(2,611)	(263)	(636)	(39)	(180,999)	(216)
Adj 18 - Amortization of Storm Cost Deferral	(306,107)	EXP_OM_DIST	TOTAL	(306,107)	(207,244)	(12,305)	(34,780)	(27,548)	(11,431)	(7,671)	(96)	(3,146)	(1,887)
Adj 23 - Pension & OPEB Expense Adjustment	(52,038)	LABOR_M	TOTAL	(52,038)	(29,378)	(1,874)	(4,912)	(4,299)	(9,865)	(1,091)	(15)	(481)	(123)
Adj 30 - NERC Compliance & Cyber Security	(23,532)	RB_GUP-Land_P	TOTAL	(23,532)	(11,591)	(573)	(2,171)	(2,033)	(6,659)	(498)	(6)	-	-
Adjs 32-39 - Total Incentive Compensation & Payroll Adjustment	174,772	LABOR_M	TOTAL	174,772	98,667	6,295	16,498	14,440	33,133	3,664	49	1,614	412
Adj 42 - Annualization Depreciation/Amortization Expense Produ	(441,136)	RB_GUP-Land_P	TOTAL	(441,136)	(217,296)	(10,742)	(40,701)	(38,114)	(124,825)	(9,339)	(119)	-	-
Adj 42 - Annualization Depreciation/Amortization Expense Transı	(16,628)	RB_GUP-Land_T	TOTAL	(16,628)	(8,173)	(402)	(1,522)	(1,428)	(4,747)	(348)	(4)	(3)	(1)
Adj 42 - Annualization Depreciation/Amortization Expense Distrib	(162,931)	RB_GUP-Land_D	TOTAL	(162,931)	(107,887)	(7,421)	(17,185)	(13,166)	(5,199)	(3,716)	(46)	(7,392)	(919)
Adj 42 - Annualization Depreciation/Amortization Expense Gener	(25,791)	RB_GUP-Land_G	TOTAL	(25,791)	(14,560)	(929)	(2,435)	(2,131)	(4,889)	(541)	(7)	(238)	(61)
Adj 43 - Update Big Sandy Unit 1 Depreciation Rates	(942,303)	RB_GUP-Land_P	TOTAL	(942,303)	(464,162)	(22,945)	(86,941)	(81,414)	(266,637)	(19,949)	(255)	-	-
Adj 44 - ARO Depreciation	1,336	RB_GUP-Land_P	TOTAL	1,336	658	33	123	115	378	28	0	-	-
Adj 45 - ARO Accretion	38,323	PROD_DEMAND	TOTAL	38,323	18,877	933	3,536	3,311	10,844	811	10	-	-
Adj 50 - AFUDC Offset	73,381	PROD_DEMAND	TOTAL	73,381	36,146	1,787	6,770	6,340	20,764	1,553	20	-	-
Adj 55 - Mitchell Plant DSIT Amortization Adjustment	(452,372)	RB_GUP	TOTAL	(452,372)	(250,546)	(14,487)	(43,803)	(38,128)	(87,280)	(9,811)	(124)	(7,272)	(921)
Total Adjustments to DFIT	(1,470,978)		TOTAL	(1,470,978)	(877,960)	(119,760)	(90,417)	(61,790)	(97,988)	(15,243)	(285)	(202,844)	(4,690)
Total Deferred FIT	19,624,598		TOTAL	19,624,598	10,645,538	607,368	1,864,951	1,636,633	4,124,646	418,522	5,261	292,001	29,678
Feedback Prior ITC Normalization Tax	(2,327)	RB_GUP	TOTAL	(2,327)	(1,289)	(75)	(225)	(196)	(449)	(50)	(1)	(37)	(5)
Total Federal Income Tax	4,718,168		TOTAL	4,718,168	(7,448,962)	1,486,901	3,138,014	2,778,748	2,953,492	424,477	14,571	1,206,522	164,405

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

Label	Constant	Allocation Factor	Function	Total Retail 1	RS 2	SGS 3	Total MGS	Total LGS	Total IGS	Total PS	MW 17	OL 18	SL 19
Total Income Tax	3,754,351		TOTAL	3,754,351	(9,721,244)	1,699,969	3,530,238	3,124,640	3,048,257	462,414	16,698	1,400,977	192,402
Total Expenses	523,190,005		TOTAL	523,190,005	241,412,671	16,628,173	50,180,728	49,290,764	147,241,306	11,265,914	178,771	5,881,311	1,110,367
Net Operating Income	45,186,556		TOTAL	45,186,556	6,110,029	3,908,545	9,336,378	8,247,381	12,753,247	1,593,587	37,333	2,819,997	380,060
AFUDC Offset													
Production	550,246	PROD_DEMAND	TOTAL	550,246	271,042	13,399	50,768	47,541	155,699	11,649	149	-	-
Transmission	280,347	RB_GUP_EPIS_T	TOTAL	280,347	137,811	6,784	25,677	24,089	79,992	5,865	75	44	9
Distribution	349,881	RB_GUP_EPIS_D	TOTAL	349,881	231,699	15,890	36,944	28,344	11,232	7,991	99	15,727	1,956
General	38,477	LABOR_M	TOTAL	38,477	21,722	1,386	3,632	3,179	7,294	807	11	355	91
Total Per Books AFUDC Offset	1,218,951		TOTAL	1,218,951	662,274	37,458	117,021	103,153	254,218	26,312	334	16,126	2,056
Adj 50 - AFUDC Offset	561,041	PROD_DEMAND	TOTAL	561,041	276,359	13,661	51,764	48,474	158,754	11,877	152	-	-
Total AFUDC Offset Adjustments	561,041		TOTAL	561,041	276,359	13,661	51,764	48,474	158,754	11,877	152	-	-
Total Adjusted AFUDC Offsets	1,779,992		TOTAL	1,779,992	938,633	51,120	168,785	151,626	412,972	38,189	485	16,126	2,056
Adjusted Net Operating Income	46,966,548		TOTAL	46,966,548	7,048,662	3,959,664	9,505,162	8,399,008	13,166,219	1,631,776	37,818	2,836,123	382,116
Current Rate of Return				3.93%	1.08%	10.56%	8.27%	8.29%	5.47%	6.17%	11.19%	15.05%	15.68%
O&M Labor													
Production Demand	12,848,663	PROD_DEMAND	TOTAL	12,848,663	6,329,033	312,867	1,185,468	1,110,116	3,635,698	272,009	3,472	-	-
Production Energy	3,382,469	PROD_ENERGY	TOTAL	3,382,469	1,269,194	82,252	285,544	320,417	1,322,489	69,276	1,238	26,764	5,296
Transmission	57,273	EXP_OM_TRAN	TOTAL	57,273	28,153	1,386	5,245	4,921	16,345	1,198	15	9	2
Distribution	9,850,666	EXP_OM_DIST	TOTAL	9,850,666	6,669,197	395,966	1,119,226	886,497	367,866	246,864	3,075	101,247	60,728
Customer Accounts	1,386,556	EXP_OM_CUSTACCT	TOTAL	1,386,556	1,196,013	149,172	44,238	4,605	489	1,077	63	(9,415)	314
Customer Service	658,852	EXP_OM_CUSTSERV	TOTAL	658,852	419,815	73,459	20,889	2,045	206	498	31	141,739	169
Total	28,184,479		TOTAL	28,184,479	15,911,405	1,015,101	2,660,610	2,328,602	5,343,093	590,922	7,893	260,344	66,509
Calculation of Proposed Revenues													
Proposed Operating Income	86,761,984	RATEBASE	TOTAL	86,761,984	29,709,448	5,084,816	13,084,966	11,554,148	20,990,688	2,482,329	47,844	3,358,778	448,967
					29,709,448	5,084,816	13,084,966	11,554,148	20,990,688	2,482,329	47,844	3,358,778	448,967
Proposed Rate of Return				7.26%	4.55%	13.55%	11.38%	11.40%	8.73%	9.39%	14.16%	17.83%	18.42%
Income Increase	39,795,436		TOTAL	39,795,436	22,660,786	1,125,152	3,579,804	3,155,140	7,824,469	850,553	10,026	522,655	66,851
Gross Revenue Conversion Factor	1.64325												
Revenue Increase	65,393,881		TOTAL	65,393,881	37,237,355	1,848,906	5,882,515	5,184,686	12,857,565	1,397,673	16,475	858,854	109,853
Percent Revenue Increase				13.07%	17.21%	9.92%	11.00%	10.06%	9.25%	12.12%	8.45%	10.41%	7.78%
Proposed Sales Revenue	565,794,092		TOTAL	565,794,092	253,578,405	20,481,413	59,367,152	56,700,064	151,888,336	12,933,292	211,356	9,112,879	1,521,196

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

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	IGS-SEC 11	IGS-PRI 12	IGS-SUB 13	IGS-TRA 14	PS-SEC 15	PS-PRI 16	MW 17	OL 18	SL 19
XXXXXXXXXXXXXXXXXXXXXXXXX																			
BULK_TRANS PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BULK_TRANS BULKTRAN	1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
BULK_TRANS SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BULK_TRANS DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BULK_TRANS DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BULK_TRANS ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BULK_TRANS CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BULK_TRANS TOTAL	1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
CUST_902 PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_902 BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_902 SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_902 DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_902 DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_902 ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_902 CUSTOMER	1.00000000	0.79082539	0.13837808	0.05829570	0.00079072	0.00006082	0.00765227	0.00085444	0.00024619	0.00002896	0.00006951	0.00060824	0.00043446	0.00005214	0.00163357	0.00001159	0.00005793	-	-
CUST_902 TOTAL	1.00000000	0.79082539	0.13837808	0.05829570	0.00079072	0.00006082	0.00765227	0.00085444	0.00024619	0.00002896	0.00006951	0.00060824	0.00043446	0.00005214	0.00163357	0.00001159	0.00005793	-	-
CUST_903 PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_903 BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_903 SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_903 DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_903 DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_903 ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_903 CUSTOMER	1.00000000	0.86013133	0.10559973	0.02965798	0.00034501	0.00002667	0.00259493	0.00026079	0.00007517	0.00000882	0.00001764	0.00015454	0.00011045	0.00001323	0.00071184	0.00000441	0.00004431	-	0.00024316
CUST_903 TOTAL	1.00000000	0.86013133	0.10559973	0.02965798	0.00034501	0.00002667	0.00259493	0.00026079	0.00007517	0.00000882	0.00001764	0.00015454	0.00011045	0.00001323	0.00071184	0.00000441	0.00004431	-	0.00024316
CUST_DEP_FXNL PRODUCTION	0.35389035	0.24973551	0.01422052	0.03094022	0.00380337	0.00535263	0.01457257	0.00887942	0.00757986	-	-	0.00690110	0.00629604	0.00520581	0.00040329	-	-	-	-
CUST_DEP_FXNL BULKTRAN	0.18756968	0.13236532	0.00753719	0.01639900	0.00201587	0.00283701	0.00772378	0.00470629	0.00401749	-	-	0.00365774	0.00333704	0.00275919	0.00021375	-	-	-	-
CUST_DEP_FXNL SUBTRAN	0.04042765	0.02873930	0.00159768	0.00345242	0.00041647	0.00077842	0.00161613	0.00098247	0.00110433	-	-	0.00076530	0.00092037	-	0.00004383	-	-	0.00001092	-
CUST_DEP_FXNL DISTPRI	0.23547603	0.18101649	0.00982872	0.02119865	0.00255858	-	0.00984869	0.00599850	-	-	-	0.00469077	-	-	0.00026763	-	-	0.00006800	-
CUST_DEP_FXNL DISTSEC	0.12486240	0.10420884	0.00578706	0.01037220	-	-	0.00409505	-	-	-	-	-	-	-	0.00013612	-	-	0.00026314	-
CUST_DEP_FXNL ENERGY	0.00254819	0.00160742	0.00011999	0.00023914	0.00002968	0.00004106	0.00013509	0.00008189	0.00007029	-	-	0.00007530	0.00007380	0.00006411	0.00000330	-	-	0.00000711	-
CUST_DEP_FXNL CUSTOMER	0.05522571	0.03137474	0.00946820	0.00159649	0.00201257	0.00490262	0.00028072	0.00027183	0.00111545	-	-	0.00004085	0.00003797	0.00003116	0.00000700	-	-	0.00408610	-
CUST_DEP_FXNL TOTAL	1.00000000	0.72904762	0.04855935	0.08419810	0.01083654	0.01391175	0.03827204	0.02092041	0.01388742	-	-	0.01613107	0.01066522	0.00806028	0.00107493	-	-	0.00443527	-
CUST_TOTAL PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_TOTAL BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_TOTAL SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_TOTAL DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_TOTAL DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_TOTAL ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_TOTAL CUSTOMER	1.00000000	0.63719189	0.11149540	0.03131374	0.00036406	0.00002800	0.00273978	0.00027538	0.00007935	0.00000933	0.00001867	0.00016336	0.00011669	0.00001400	0.00075146	0.00000467	0.00004667	0.21513085	0.00025671
CUST_TOTAL TOTAL	1.00000000	0.63719189	0.11149540	0.03131374	0.00036406	0.00002800	0.00273978	0.00027538	0.00007935	0.00000933	0.00001867	0.00016336	0.00011669	0.00001400	0.00075146	0.00000467	0.00004667	0.21513085	0.00025671
DIST_CPD PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_CPD BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_CPD SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_CPD DISTPRI	1.00000000	0.66834265	0.03150393	0.11439270	0.00353533	-	0.08577453	0.01597551	-	-	0.00305781	0.04931554	-	-	0.02586496	0.00043153	0.00034961	0.00119772	0.00025819
DIST_CPD DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_CPD ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_CPD CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_CPD TOTAL	1.00000000	0.66834265	0.03150393	0.11439270	0.00353533	-	0.08577453	0.01597551	-	-	0.00305781	0.04931554	-	-	0.02586496	0.00043153	0.00034961	0.00119772	0.00025819
DIST_METERS PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_METERS BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_METERS SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_METERS DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_METERS DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_METERS ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_METERS CUSTOMER	1.00000000	0.44835694	0.26566362	0.07611716	0.05018844	0.00815221	0.03719914	0.01303120	0.02840351	0.00499202	0.00025638	0.00773037	0.04176984	0.00748805	0.01031906	0.00022087	0.00011120	-	-
DIST_METERS TOTAL	1.00000000	0.44835694	0.26566362	0.07611716	0.05018844	0.00815221	0.03719914	0.01303120	0.02840351	0.00499202	0.00025638	0.00773037	0.04176984	0.00748805	0.01031906	0.00022087	0.00011120	-	-
DIST_OHLINES PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_OHLINES BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_OHLINES SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_OHLINES DISTPRI	0.83320000	0.55686310	0.02624907	0.09531199	0.00294564	-	0.07146734	0.01331080	-	-	0.00254777	0.04108971	-	-	0.02155069	0.00035955	0.00029130	0.00099794	0.00021512
DIST_OHLINES DISTSEC	0.16680000	0.12471660	0.00601263	0.01814260	-	-	0.01156054	-	-	-	0.00031257	-	-	-	0.00426404	-	0.00004425	0.00150239	0.00024439
DIST_OHLINES ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_OHLINES CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_OHLINES TOTAL	1.00000000	0.68157970	0.03226170	0.11345460	0.00294564	-	0.08302787	0.01331080	-	-	0.00286034	0.04108971	-	-	0.02581472	0.00035955	0.00033554	0.00250033	0.00045951
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	-

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

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	IGS-SEC 11	IGS-PRI 12	IGS-SUB 13	IGS-TRA 14	PS-SEC 15	PS-PRI 16	MW 17	OL 18	SL 19
DIST_PCUST PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_PCUST BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_PCUST SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_PCUST DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_PCUST DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_PCUST ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_PCUST CUSTOMER	1.00000000	0.63734956	0.11152298	0.03132149	0.00036415	-	0.00274046	0.00027545	-	-	0.00001867	0.00016340	-	-	0.00075164	0.00000467	0.00004669	0.21518408	0.00025677
DIST_PCUST TOTAL	1.00000000	0.63734956	0.11152298	0.03132149	0.00036415	-	0.00274046	0.00027545	-	-	0.00001867	0.00016340	-	-	0.00075164	0.00000467	0.00004669	0.21518408	0.00025677
DIST_POLES PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_POLES BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_POLES SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_POLES DISTPRI	0.56690000	0.37888345	0.01785958	0.06484922	0.00200418	-	0.04862558	0.00905652	-	-	0.00173347	0.02795698	-	-	0.01466285	0.00024463	0.00019819	0.00067899	0.00014637
DIST_POLES DISTSEC	0.43310000	0.32382950	0.01561192	0.04710768	-	-	0.03001720	-	-	-	0.00081160	-	-	-	0.01107167	-	0.00011489	0.00390099	0.00063455
DIST_POLES ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_POLES CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_POLES TOTAL	1.00000000	0.70271295	0.03347150	0.11195690	0.00200418	-	0.07864278	0.00905652	-	-	0.00254507	0.02795698	-	-	0.02573451	0.00024463	0.00031309	0.00457998	0.00078092
DIST_SERV PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_SERV BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_SERV SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_SERV DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_SERV DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_SERV ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_SERV CUSTOMER	1.00000000	0.63786474	0.11161313	0.03134681	-	-	0.00274267	-	-	-	0.00001869	-	-	-	0.00075225	-	0.00004672	0.21535802	0.00025698
DIST_SERV TOTAL	1.00000000	0.63786474	0.11161313	0.03134681	-	-	0.00274267	-	-	-	0.00001869	-	-	-	0.00075225	-	0.00004672	0.21535802	0.00025698
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	0.20176000	0.13484481	0.00635623	0.02307987	0.00071329	-	0.01730587	0.00322322	-	-	0.00061694	0.00994990	-	-	0.00521851	0.00008707	0.00007054	0.00024165	0.00005209
DIST_TRANSF DISTSEC	0.79824000	0.59684521	0.02877410	0.08682344	-	-	0.05532424	-	-	-	0.00149585	-	-	-	0.02040602	-	0.00021175	0.00718986	0.00116953
DIST_TRANSF ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_TRANSF CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_TRANSF TOTAL	1.00000000	0.73169002	0.03513033	0.10990331	0.00071329	-	0.07263010	0.00322322	-	-	0.00211279	0.00994990	-	-	0.02562453	0.00008707	0.00028229	0.00743151	0.00122163
DIST_UGLINES PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_UGLINES BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_UGLINES SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_UGLINES DISTPRI	0.80950000	0.54102338	0.02550243	0.09260089	0.00286185	-	0.06943448	0.01293218	-	-	0.00247530	0.03992093	-	-	0.02093769	0.00034932	0.00028301	0.00096955	0.00020900
DIST_UGLINES DISTSEC	0.19050000	0.14243713	0.00686694	0.02072042	-	-	0.01320313	-	-	-	0.00035698	-	-	-	0.00486990	-	0.00005054	0.00171586	0.00027911
DIST_UGLINES ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_UGLINES CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_UGLINES TOTAL	1.00000000	0.68346050	0.03236937	0.11332130	0.00286185	-	0.08263761	0.01293218	-	-	0.00283228	0.03992093	-	-	0.02580758	0.00034932	0.00033354	0.00268541	0.00048811
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	0.86257803	0.10758458	0.03150242	0.00037392	0.00002889	0.00292531	0.00029965	0.00008637	0.00001014	0.00002104	0.00018431	0.00013171	0.00001578	0.00077163	0.00000488	0.00004514	(0.00679042)	0.00022663
EXP_OM_CUSTACCT TOTAL	1.00000000	0.86257803	0.10758458	0.03150242	0.00037392	0.00002889	0.00292531	0.00029965	0.00008637	0.00001014	0.00002104	0.00018431	0.00013171	0.00001578	0.00077163	0.00000488	0.00004514	(0.00679042)	0.00022663
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	1.00000000	0.63719189	0.11149540	0.03131374	0.00036406	0.00002800	0.00273978	0.00027538	0.00007935	0.00000933	0.00001867	0.00016336	0.00011669	0.00001400	0.00075146	0.00000467	0.00004667	0.21513085	0.00025671
EXP_OM_CUSTSERV TOTAL	1.00000000	0.63719189	0.11149540	0.03131374	0.00036406	0.00002800	0.00273978	0.00027538	0.00007935	0.00000933	0.00001867	0.00016336	0.00011669	0.00001400	0.00075146	0.00000467	0.00004667	0.21513085	0.00025671
EXP_OM_DIST PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_DIST BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_DIST SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_DIST DISTPRI	0.67163568	0.44888277	0.02115916	0.07683022	0.00237445	-	0.05760923	0.01072972	-	-	0.00205373	0.03312208	-	-	0.01737183	0.00028983	0.00023481	0.00080443	0.00017341
EXP_OM_DIST DISTSEC	0.27719230	0.20725709	0.00999193	0.03014982	-	-	0.01921158	-	-	-	0.00051944	-	-	-	0.00708608	-	0.00007353	0.00249671	0.00040613
EXP_OM_DIST ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_DIST CUSTOMER	0.05117202	0.02089023	0.00904574	0.00258385	0.00144628	0.00023473	0.00110540	0.00037611	0.00081783	0.00014374	0.00000762	0.00022312	0.00120269	0.00021560	0.00030653	0.00000637	0.00000379	0.00697710	0.00558530
EXP_OM_DIST TOTAL	1.00000000	0.67703009	0.04019683	0.10956388	0.00382073	0.00023473	0.07792621	0.01110584	0.00081783	0.00014374	0.00258079	0.03334519	0.00120269	0.00021560	0.02476444	0.00029620	0.00031213	0.01027824	0.00616484

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

Allocation Factor	Total Retail	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
EXP_OM_TRAN PRODUCTION	0.00000000	0.00000000	0.00000000	0.00000000	-	-	-	0.00000000	-	-	(0.00000000)	0.00000000	-	-	(0.00000000)	-	0.00000000	-	-
EXP_OM_TRAN BULKTRAN	0.81970000	0.40377028	0.01995981	0.07311163	0.00230129	0.00021581	0.05557621	0.01035547	0.00467944	0.00021043	0.00194142	0.03177100	0.16791062	0.03032188	0.01706737	0.00028587	0.00022147	-	-
EXP_OM_TRAN SUBTRAN	0.18030000	0.08778220	0.00423648	0.01541212	0.00047607	0.00005929	0.01164410	0.00216462	0.00128798	-	0.00040659	0.00665614	0.04637123	-	0.00350453	0.00005842	0.00004680	0.00015912	0.00003430
EXP_OM_TRAN DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_TRAN DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_TRAN ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_TRAN CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_TRAN TOTAL	1.00000000	0.49155248	0.02419629	0.08852375	0.00277736	0.00027510	0.06722031	0.01252009	0.00596742	0.00021043	0.00234801	0.03842714	0.21428185	0.03032188	0.02057190	0.00034429	0.00026827	0.00015912	0.00003430
EXP_OM_LPP PRODUCTION	0.38144820	0.18777760	0.00930139	0.03405480	0.00107143	0.00010050	0.02588861	0.00482476	0.00217942	0.00009799	0.00090334	0.01478889	0.07816980	0.01410671	0.00794668	0.00013305	0.00010324	-	-
EXP_OM_LPP BULKTRAN	0.03658983	0.01796788	0.00089725	0.00327877	0.00010308	0.00000987	0.00249231	0.00046485	0.00020972	0.00000942	0.00008662	0.00142065	0.00751052	0.00135240	0.00076376	0.00001277	0.00000997	-	-
EXP_OM_LPP SUBTRAN	0.00804997	0.00390726	0.00019040	0.00069109	0.00002132	0.00000272	0.00052212	0.00009715	0.00005772	-	0.00001814	0.00029763	0.00207415	-	0.00015682	0.00000261	0.00000211	0.00000719	0.00000155
EXP_OM_LPP DISTPRI	0.22342867	0.14926117	0.00704821	0.02558277	0.00079039	-	0.01918325	0.00357348	-	-	0.00068323	0.01102298	-	-	0.00578241	0.00009644	0.00007824	0.00026827	0.00005783
EXP_OM_LPP DISTSEC	0.09230981	0.06898853	0.00333323	0.01005303	-	-	0.00640605	-	-	-	0.00017301	-	-	-	0.00236172	-	0.00002454	0.00083403	0.00013567
EXP_OM_LPP ENERGY	0.14757672	0.05538610	0.00358852	0.01204015	0.00038214	0.00003501	0.01098018	0.00203594	0.00092467	0.00004284	0.00042063	0.00738332	0.04192959	0.00795067	0.00297412	0.00004841	0.00005401	0.00116935	0.00023107
EXP_OM_LPP CUSTOMER	0.11059680	0.07543236	0.01328904	0.00379700	0.00051683	0.00008116	0.00063238	0.00015221	0.00028057	0.00004886	0.00000438	0.00009048	0.00041261	0.00007324	0.00017329	0.00000257	0.00000557	0.01371723	0.00188702
EXP_OM_LPP TOTAL	1.00000000	0.55872089	0.03764803	0.08949761	0.00288519	0.00022926	0.06610490	0.01114838	0.00365210	0.00019911	0.00228935	0.03500396	0.13009667	0.02348301	0.02015880	0.00029586	0.00027767	0.01599607	0.00231314
EXP_OTHTAX_PSC PRODUCTION	0.44886785	0.20017735	0.01326170	0.04578679	0.00135291	0.00013172	0.03510166	0.00671140	0.00288962	0.00012691	0.00104558	0.01815100	0.09773244	0.01596052	0.01012442	0.00016051	0.00015333	-	-
EXP_OTHTAX_PSC BULKTRAN	(0.03516041)	(0.02724751)	0.00026481	(0.00042317)	(0.00003632)	0.00003230	(0.00033218)	0.00001924	(0.00005051)	(0.00000372)	(0.00009131)	(0.00092502)	(0.00446979)	(0.00149920)	(0.00039210)	(0.00001082)	0.00000490	-	-
EXP_OTHTAX_PSC SUBTRAN	(0.00738036)	(0.00573594)	0.00004906	(0.00010081)	(0.00000776)	0.00001094	(0.00007796)	0.00000153	(0.00001478)	-	(0.00001865)	(0.00019159)	(0.00122352)	-	(0.00008025)	(0.00000217)	0.00000094	0.00000858	0.00000202
EXP_OTHTAX_PSC DISTPRI	0.11813783	0.06722776	0.00538626	0.01782530	0.00050702	-	0.01347989	0.00261745	-	-	0.00036637	0.00662511	-	-	0.00366808	0.00005555	0.00006369	0.00025935	0.00005600
EXP_OTHTAX_PSC DISTSEC	0.05026682	0.03193862	0.00283710	0.00771898	-	-	0.00495758	-	-	-	0.00009861	-	-	-	0.00163079	-	0.00002236	0.00091316	0.00014962
EXP_OTHTAX_PSC ENERGY	0.38025008	0.14469868	0.00922499	0.03099848	0.00089135	0.00004239	0.02879910	0.00541411	0.00238707	0.00011061	0.00107648	0.01849092	0.10679770	0.01948536	0.00766945	0.00012476	0.00014148	0.00330348	0.00059368
EXP_OTHTAX_PSC CUSTOMER	0.04501818	0.02127709	0.00621130	0.00164990	0.00040208	0.00010162	0.00041089	0.00012244	0.00023790	0.00004011	0.00000222	0.00006021	0.00031767	0.00004802	0.00010294	0.00000165	0.00000275	0.01201028	0.00201912
EXP_OTHTAX_PSC TOTAL	1.00000000	0.43233605	0.03723521	0.10345548	0.00310928	0.00031897	0.08233897	0.01488617	0.00544931	0.00027391	0.00247931	0.04221064	0.19915450	0.03399471	0.02272331	0.00032947	0.00038945	0.01649485	0.00282043
FORF_DISC_FXNL PRODUCTION	0.45094970	0.31872603	0.02169642	0.04382113	0.00059382	0.00006108	0.01467173	0.00976943	0.00239806	0.00005678	0.00056875	0.01460277	0.02312573	0.00085797	-	-	-	-	-
FORF_DISC_FXNL BULKTRAN	(0.04544325)	(0.04338399)	0.00043323	(0.00040500)	(0.00001594)	0.00001498	(0.00013885)	0.00002801	(0.00004192)	(0.00000166)	(0.00004967)	(0.00074419)	(0.00105766)	(0.00008059)	-	-	-	-	-
FORF_DISC_FXNL SUBTRAN	(0.00964113)	(0.00913286)	0.00008026	(0.00009649)	(0.00000340)	0.00000507	(0.00003259)	0.00000223	(0.00001226)	-	(0.00001014)	(0.00015413)	(0.00028951)	-	-	-	-	0.00000270	-
FORF_DISC_FXNL DISTPRI	0.14819123	0.10704127	0.00881204	0.01706005	0.00022254	-	0.00563430	0.00381009	-	-	0.00019929	0.00533000	-	-	-	-	-	0.00008165	-
FORF_DISC_FXNL DISTSEC	0.06529569	0.05085325	0.00464155	0.00738760	-	-	0.00207216	-	-	-	0.00005364	-	-	-	-	-	-	0.00028748	-
FORF_DISC_FXNL ENERGY	0.34033168	0.23039188	0.01509228	0.02966769	0.00039123	0.00001966	0.01203739	0.00788103	0.00198099	0.00004949	0.00058556	0.01487624	0.02527078	0.00104746	-	-	-	0.00104000	-
FORF_DISC_FXNL CUSTOMER	0.05031608	0.03387777	0.01016182	0.00157907	0.00017648	0.00004712	0.00017174	0.00017823	0.00019743	0.00001794	0.00000121	0.00004844	0.00007517	0.00000258	-	-	-	0.00378107	-
FORF_DISC_FXNL TOTAL	1.00000000	0.68837336	0.06091760	0.09901406	0.00136472	0.00014791	0.03441589	0.02166901	0.00452230	0.00012254	0.00134864	0.03395913	0.04712451	0.00182742	-	-	-	0.00519290	-
FUELREV PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUELREV BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUELREV SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUELREV DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUELREV DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUELREV ENERGY	1.00000000	0.34480142	0.02355168	0.07894598	0.00286893	0.00033392	0.07093082	0.01338580	0.00637274	0.00029942	0.00275178	0.05144452	0.31632383	0.05888802	0.01952591	0.00032904	0.00035322	0.00738526	0.00150774
FUELREV CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUELREV TOTAL	1.00000000	0.34480142	0.02355168	0.07894598	0.00286893	0.00033392	0.07093082	0.01338580	0.00637274	0.00029942	0.00275178	0.05144452	0.31632383	0.05888802	0.01952591	0.00032904	0.00035322	0.00738526	0.00150774
LABOR_M PRODUCTION	0.45587726	0.22455738	0.01110067	0.04066113	0.00127987	0.00012002	0.03090879	0.00575921	0.00260248	0.00011703	0.00107972	0.01766948	0.09338372	0.01686355	0.00949204	0.00015899	0.00012317	-	-
LABOR_M BULKTRAN	0.00166569	0.00082049	0.00004056	0.00014857	0.00000468	0.00000044	0.00011294	0.00002104	0.00000951	0.00000043	0.00000395	0.00006456	0.00034121	0.00006162	0.00003468	0.00000058	0.00000045	-	-
LABOR_M SUBTRAN	0.00036638	0.00017838	0.00000861	0.00003132	0.00000097	0.00000012	0.00002366	0.00000440	0.00000262	-	0.00000083	0.00001353	0.00009423	-	0.00000712	0.00000012	0.00000010	0.00000032	0.00000007
LABOR_M DISTPRI	0.23474121	0.15688756	0.00739527	0.02685268	0.00082989	-	0.02013482	0.00375011	-	-	0.00071779	0.01157639	-	-	0.00607157	0.00010130	0.00008207	0.00028115	0.00006061
LABOR_M DISTSEC	0.09688058	0.07243775	0.00349225	0.01053757	-	-	0.00671458	-	-	-	0.00018155	-	-	-	0.00247663	-	0.00002570	0.00087262	0.00014194
LABOR_M ENERGY	0.12001176	0.04503166	0.00291834	0.00979136	0.00031119	0.00002869	0.00892692	0.00165488	0.00075193	0.00003484	0.00034210	0.00600670	0.03410355	0.00647024	0.00241857	0.00003937	0.00004391	0.00094959	0.00018792
LABOR_M CUSTOMER	0.09045711	0.06463169	0.01106061	0.00318486	0.00053239	0.00008412	0.00059430	0.00015263	0.00029194	0.00005095	0.00000413	0.00009087	0.00042955	0.00007646	0.00016266	0.00000258	0.00000464	0.00713347	0.00196925
LABOR_M TOTAL	1.00000000	0.56454493	0.03601631	0.09120748	0.00295898	0.00023338	0.06741600	0.01134227	0.00365848	0.00020325	0.00233007	0.03542153	0.12835225	0.02347187	0.02066328	0.00030293	0.00028004	0.00923716	0.00235979
LABOR_PROD PRODUCTION	0.79160609	0.38993170	0.01927572	0.07060585	0.00222242	0.00020841	0.05367143	0.01000055	0.00451906	0.00020322	0.00187488	0.03068210	0.16215575	0.02928264	0.01648241	0.00027607	0.00021388	-	-
LABOR_PROD BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LABOR_PROD SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LABOR_PROD DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LABOR_PROD DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LABOR_PROD ENERGY	0.20839391	0.07819504	0.00506754	0.01700216	0.00054037	0.00004982	0.01550111	0.00287361	0.00130569	0.00006050	0.00059403	0.01043031	0.05921895	0.01123522	0.00419972	0.00006836	0.00007626	0.00164892	0.00032631
LABOR_PROD CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LABOR_PROD TOTAL	1.00000000	0.46812674	0.02434326	0.08760801	0.00276279	0.00025823	0.06917253	0.01287416	0.00582476	0.00026372	0.00246891	0.04111241	0.22137471	0.04051786	0.02068213	0.00034444	0.00029014	0.00164892	0.00032631
MISC_SERV_REV PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MISC_SERV_REV BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MISC_SERV_REV SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MISC_SERV_REV DISTPRI	0.56154671	0.52518103	0.02291681	0.01196138	0.00028947	-	0.00105430	0.00006070	-	-	-	0.00001573	-	-	-	-	-	0.00006730	-
MISC_SERV_REV DISTSEC	0.32442196	0.30425074	0.01357848	0.00588952	-	-	0.00044115	-	-	-	-	-	-	-	-	-	-	0.00026207	-
MISC_SERV_REV ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MISC_SERV_REV CUSTOMER	0.11403132	0.08702610	0.02168676	0.00088429	0.00022903	0.00005370	0.00003002	0.00000276	-	-	-	0.00000014	-	-	-	-	-	0.00411853	-
MISC_SERV_REV TOTAL	1.00000000	0.91645786	0.05818206	0.01873519	0.00051850	0.00005370	0.00152547	0.00006346	-	-	-	0.00001586	-	-	-	-	-	0.00444790	-
PROD_DEMAND PRODUCTION	1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
PROD_DEMAND BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_DEMAND SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_DEMAND DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_DEMAND DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_DEMAND ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_DEMAND CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_DEMAND TOTAL	1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

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	IGS-SEC 11	IGS-PRI 12	IGS-SUB 13	IGS-TRA 14	PS-SEC 15	PS-PRI 16	MW 17	OL 18	SL 19
PROD_ENERGY PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_ENERGY BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_ENERGY SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_ENERGY DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_ENERGY DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_ENERGY ENERGY	1.00000000	0.37522709	0.02431714	0.08158664	0.00259301	0.00023905	0.07438368	0.01378930	0.00626551	0.00029031	0.00285052	0.05005092	0.28416836	0.05391339	0.02015278	0.00032806	0.00036592	0.00791251	0.00156582
PROD_ENERGY CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_ENERGY TOTAL	1.00000000	0.37522709	0.02431714	0.08158664	0.00259301	0.00023905	0.07438368	0.01378930	0.00626551	0.00029031	0.00285052	0.05005092	0.28416836	0.05391339	0.02015278	0.00032806	0.00036592	0.00791251	0.00156582
RATEBASE PRODUCTION	0.40296310	0.19690456	0.00968220	0.03594287	0.00106487	(0.00001354)	0.02753372	0.00499407	0.00217447	0.00010546	0.00097297	0.01575768	0.08398373	0.01506187	0.00854389	0.00014327	0.00011100	-	-
RATEBASE BULKTRAN	0.18413645	0.08980679	0.00441678	0.01643081	0.00048325	(0.00001438)	0.01259734	0.00227380	0.00098479	0.00004835	0.00044611	0.00721765	0.03850715	0.00690441	0.00391702	0.00006569	0.00005089	-	-
RATEBASE SUBTRAN	0.03863960	0.01860933	0.00089330	0.00330292	0.00009501	(0.00000455)	0.00251787	0.00045274	0.00025764	-	0.00008919	0.00144268	0.01015046	-	0.00076773	0.00001281	0.00001027	0.00003467	0.00000752
RATEBASE DISTPRI	0.19946522	0.13280120	0.00622731	0.02293848	0.00066502	-	0.01733979	0.00313670	-	-	0.00062593	0.00998577	-	-	0.00528835	0.00008833	0.00007157	0.00024391	0.00005283
RATEBASE DISTSEC	0.10130639	0.07550909	0.00362156	0.01108757	-	-	0.00712292	-	-	-	0.00019505	-	-	-	0.00265768	-	0.00002761	0.00093244	0.00015246
RATEBASE ENERGY	0.02426108	0.00930138	0.00058325	0.00196324	0.00005691	0.00000285	0.00181339	0.00034043	0.00014988	0.00000702	0.00006891	0.00118391	0.00679542	0.00125260	0.00048571	0.00000793	0.00000885	0.00020247	0.00003692
RATEBASE CUSTOMER	0.04922817	0.02313231	0.00597131	0.00172031	0.00051753	(0.00001948)	0.00049013	0.00014080	0.00029351	0.00005599	0.00000342	0.00008618	0.00046766	0.00008323	0.00013722	0.00000249	0.00000259	0.01435307	0.00178989
RATEBASE TOTAL	1.00000000	0.54606467	0.03139572	0.09338620	0.00288260	(0.00004908)	0.06941516	0.01133855	0.00386030	0.00021682	0.00240157	0.03567387	0.13990442	0.02330211	0.02179760	0.00032053	0.00028278	0.01576657	0.00203962
RB_GUP_CWIP PRODUCTION	0.29930055	0.14743036	0.00728801	0.02669556	0.00084028	0.00007880	0.02029278	0.00378114	0.00170862	0.00007683	0.00070888	0.01160068	0.06130992	0.01107156	0.00623188	0.00010438	0.00008087	-	-
RB_GUP_CWIP BULKTRAN	0.28598469	0.14087119	0.00696377	0.02550788	0.00080290	0.00007529	0.01938995	0.00361291	0.00163261	0.00007342	0.00067734	0.01108457	0.05858225	0.01057898	0.00595462	0.00009974	0.00007727	-	-
RB_GUP_CWIP SUBTRAN	0.06282229	0.03058613	0.00147613	0.00537008	0.00016588	0.00002066	0.00405718	0.00075422	0.00044877	-	0.00014167	0.00231921	0.01615722	-	0.00122109	0.00002036	0.00001631	0.00005544	0.00001195
RB_GUP_CWIP DISTPRI	0.19123551	0.12781085	0.00602467	0.02187595	0.00067608	-	0.01640314	0.00305509	-	-	0.00058476	0.00943088	-	-	0.00494630	0.00008252	0.00006686	0.00022905	0.00004937
RB_GUP_CWIP DISTSEC	0.09613371	0.07187931	0.00346532	0.01045633	-	-	0.00666281	-	-	-	0.00018015	-	-	-	0.00245754	-	0.00002550	0.00086589	0.00014085
RB_GUP_CWIP ENERGY	0.01408024	0.00528329	0.00034239	0.00114876	0.00003651	0.00000337	0.00104734	0.00019416	0.00008822	0.00000409	0.00004014	0.00070473	0.00400116	0.00075911	0.00028376	0.00000462	0.00000515	0.00011141	0.00002205
RB_GUP_CWIP CUSTOMER	0.05044302	0.02571186	0.00617790	0.00175801	0.00052036	0.00008425	0.00046948	0.00013680	0.00029339	0.00005152	0.00000324	0.00008119	0.00043149	0.00007729	0.00012979	0.00000232	0.00000259	0.01283568	0.00167588
RB_GUP_CWIP TOTAL	1.00000000	0.54957299	0.03173819	0.09281256	0.00304200	0.00026236	0.06832267	0.01153431	0.00417162	0.00020586	0.00233617	0.03522126	0.14048203	0.02248694	0.02122498	0.00031394	0.00027454	0.01409747	0.00190010
RB_GUP_EPIS_D PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_D BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_D SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_D DISTPRI	0.56780830	0.37949051	0.01788819	0.06495312	0.00200739	-	0.04870349	0.00907103	-	-	0.00173625	0.02800177	-	-	0.01468634	0.00024503	0.00019851	0.00068007	0.00014660
RB_GUP_EPIS_D DISTSEC	0.29403248	0.21984851	0.01059897	0.03198150	-	-	0.02037874	-	-	-	0.00055100	-	-	-	0.00751658	-	0.00007800	0.00264839	0.00043080
RB_GUP_EPIS_D ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_D CUSTOMER	0.13815922	0.06288418	0.01692805	0.00480191	0.00158831	0.00025799	0.00138661	0.00041240	0.00089888	0.00015798	0.00000954	0.00024464	0.00132188	0.00023697	0.00038399	0.00000699	0.00000709	0.04162009	0.00501171
RB_GUP_EPIS_D TOTAL	1.00000000	0.66222320	0.04541521	0.10173653	0.00359570	0.00025799	0.07046884	0.00948342	0.00089888	0.00015798	0.00229679	0.02824642	0.00132188	0.00023697	0.02258691	0.00025202	0.00028360	0.04494855	0.00558912
RB_GUP_EPIS_G PRODUCTION	0.45587726	0.22455738	0.01110067	0.04066113	0.00127987	0.00012002	0.03090879	0.00575921	0.00260248	0.00011703	0.00107972	0.01766948	0.09338372	0.01686355	0.00949204	0.00015899	0.00012317	-	-
RB_GUP_EPIS_G BULKTRAN	0.00166569	0.00082049	0.00004056	0.00014857	0.00000468	0.00000044	0.00011294	0.00002104	0.00000951	0.00000043	0.00000395	0.00006456	0.00034121	0.00006162	0.00003468	0.00000058	0.00000045	-	-
RB_GUP_EPIS_G SUBTRAN	0.00036638	0.00017838	0.00000861	0.00003132	0.00000097	0.00000012	0.00002366	0.00000440	0.00000262	-	0.00000083	0.00001353	0.00009423	-	0.00000712	0.00000012	0.00000010	0.00000032	0.00000007
RB_GUP_EPIS_G DISTPRI	0.23474121	0.15688756	0.00739527	0.02685268	0.00082989	-	0.02013482	0.00375011	-	-	0.00071779	0.01157639	-	-	0.00607157	0.00010130	0.00008207	0.00028115	0.00006061
RB_GUP_EPIS_G DISTSEC	0.09688058	0.07243775	0.00349225	0.01053757	-	-	0.00671458	-	-	-	0.00018155	-	-	-	0.00247663	-	0.00002570	0.00087262	0.00014194
RB_GUP_EPIS_G ENERGY	0.12001176	0.04503166	0.00291834	0.00979136	0.00031119	0.00002869	0.00892692	0.00165488	0.00075193	0.00003484	0.00034210	0.00600670	0.03410355	0.00647024	0.00241857	0.00003937	0.00004391	0.00094959	0.00018792
RB_GUP_EPIS_G CUSTOMER	0.09045711	0.06463169	0.01106061	0.00318486	0.00053239	0.00008412	0.00059430	0.00015263	0.00029194	0.00005095	0.00000413	0.00009087	0.00042955	0.00007646	0.00016266	0.00000258	0.00000464	0.00713347	0.00196925
RB_GUP_EPIS_G TOTAL	1.00000000	0.56454493	0.03601631	0.09120748	0.00295898	0.00023338	0.06741600	0.01134227	0.00365848	0.00020325	0.00233007	0.03542153	0.12835225	0.02347187	0.02066328	0.00030293	0.00028004	0.00923716	0.00235979
RB_GUP_EPIS_P PRODUCTION	1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
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	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
RB_GUP_EPIS_T PRODUCTION	0.01771128	0.00872427	0.00043127	0.00157972	0.00004972	0.00000466	0.00120084	0.00022375	0.00010111	0.00000455	0.00004195	0.00068648	0.00362805	0.00065517	0.00036877	0.00000618	0.00000479	-	-
RB_GUP_EPIS_T BULKTRAN	0.80537259	0.39671284	0.01961093	0.07183372	0.00226107	0.00021204	0.05460481	0.01017447	0.00459765	0.00020675	0.00190749	0.03121568	0.16497574	0.02979188	0.01676905	0.00028088	0.00021760	-	-
RB_GUP_EPIS_T SUBTRAN	0.17691613	0.08613470	0.00415697	0.01512287	0.00046713	0.00005818	0.01142556	0.00212400	0.00126380	-	0.00039896	0.00653122	0.04550093	-	0.00343876	0.00005732	0.00004592	0.00015614	0.00003366
RB_GUP_EPIS_T DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_T DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_T ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_T CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_T TOTAL	1.00000000	0.49157182	0.02419918	0.08853632	0.00277793	0.00027488	0.06723120	0.01252222	0.00596257	0.00021130	0.00234839	0.03843337	0.21410472	0.03044705	0.02057658	0.00034438	0.00026831	0.00015614	0.00003366
RB_GUP-Land_P PRODUCTION	1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
RB_GUP-Land_P BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_P SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_P DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_P DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_P ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_P CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_P TOTAL	1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
RB_GUP-Land_T PRODUCTION	0.01875108	0.00923646	0.00045659	0.00167247	0.00005264	0.00000494	0.00127134	0.00023689	0.00010704	0.00000481	0.00004441	0.00072678	0.00384105	0.00069363	0.00039043	0.00000654	0.00000507	-	-
RB_GUP-Land_T BULKTRAN	0.79394632	0.39108445	0.01933270	0.07081458	0.00222899	0.00020903	0.05383010	0.01003012	0.00453242	0.00020382	0.00188042	0.03077280	0.16263513	0.02936921	0.01653114	0.00027689	0.00021452	-	-
RB_GUP-Land_T SUBTRAN	0.18730260	0.09119154	0.00440102	0.01601071	0.00049456	0.00006159	0.01209634	0.00224870	0.00133800	-	0.00042238	0.00691466	0.04817222	-	0.00364064	0.00006069	0.00004862	0.00016530	0.00003563
RB_GUP-Land_T DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_T DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_T ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_T CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_T TOTAL	1.00000000	0.49151245	0.02419032	0.08849775	0.00277619	0.00027556	0.06719777	0.01251570	0.00597747	0.00020863	0.00234722	0.03841424	0.21464840	0.03006284	0.02056221	0.00034412	0.00026820	0.00016530	0.00003563

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

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	IGS-SEC 11	IGS-PRI 12	IGS-SUB 13	IGS-TRA 14	PS-SEC 15	PS-PRI 16	MW 17	OL 18	SL 19
RB_GUP-Land_D PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_D BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_D SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_D DISTPRI	0.56364713	0.37670942	0.01775710	0.06447711	0.00199268	-	0.04834657	0.00900455	-	-	0.00172353	0.02779656	-	-	0.01457871	0.00024323	0.00019706	0.00067509	0.00014553
RB_GUP-Land_D DISTSEC	0.29686345	0.22196523	0.01070101	0.03228942	-	-	0.02057494	-	-	-	0.00055630	-	-	-	0.00758895	-	0.00007875	0.00267389	0.00043495
RB_GUP-Land_D ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_D CUSTOMER	0.13948942	0.06348963	0.01709103	0.00484814	0.00160360	0.00026048	0.00139996	0.00041637	0.00090754	0.00015950	0.00000963	0.00024700	0.00133461	0.00023925	0.00038769	0.00000706	0.00000715	0.04202081	0.00505997
RB_GUP-Land_D TOTAL	1.00000000	0.66216428	0.04554915	0.10161468	0.00359628	0.00026048	0.07032147	0.00942092	0.00090754	0.00015950	0.00228946	0.02804356	0.00133461	0.00023925	0.02255535	0.00025029	0.00028296	0.04536979	0.00564044
RB_GUP-Land_G PRODUCTION	0.45587726	0.22455738	0.01110067	0.04066113	0.00127987	0.00012002	0.03090879	0.00575921	0.00260248	0.00011703	0.00107972	0.01766948	0.09338372	0.01686355	0.00949204	0.00015899	0.00012317	-	-
RB_GUP-Land_G BULKTRAN	0.00166569	0.00082049	0.00004056	0.00014857	0.00000468	0.00000044	0.00011294	0.00002104	0.00000951	0.00000043	0.00000395	0.00006456	0.00034121	0.00006162	0.00003468	0.00000058	0.00000045	-	-
RB_GUP-Land_G SUBTRAN	0.00036638	0.00017838	0.00000861	0.00003132	0.00000097	0.00000012	0.00002366	0.00000440	0.00000262	-	0.00000083	0.00001353	0.00009423	-	0.00000712	0.00000012	0.00000010	0.00000032	0.00000007
RB_GUP-Land_G DISTPRI	0.23474121	0.15688756	0.00739527	0.02685268	0.00082989	-	0.02013482	0.00375011	-	-	0.00071779	0.01157639	-	-	0.00607157	0.00010130	0.00008207	0.00028115	0.00006061
RB_GUP-Land_G DISTSEC	0.09688058	0.07243775	0.00349225	0.01053757	-	-	0.00671458	-	-	-	0.00018155	-	-	-	0.00247663	-	0.00002570	0.00087262	0.00014194
RB_GUP-Land_G ENERGY	0.12001176	0.04503166	0.00291834	0.00979136	0.00031119	0.00002869	0.00892692	0.00165488	0.00075193	0.00003484	0.00034210	0.00600670	0.03410355	0.00647024	0.00241857	0.00003937	0.00004391	0.00094959	0.00018792
RB_GUP-Land_G CUSTOMER	0.09045711	0.06463169	0.01106061	0.00318486	0.00053239	0.00008412	0.00059430	0.00015263	0.00029194	0.00005095	0.00000413	0.00009087	0.00042955	0.00007646	0.00016266	0.00000258	0.00000464	0.00713347	0.00196925
RB_GUP-Land_G TOTAL	1.00000000	0.56454493	0.03601631	0.09120748	0.00295898	0.00023338	0.06741600	0.01134227	0.00365848	0.00020325	0.00233007	0.03542153	0.12835225	0.02347187	0.02066328	0.00030293	0.00028004	0.00923716	0.00235979
RB_GUP_EPIS PRODUCTION	0.38515569	0.18972114	0.00937859	0.03435325	0.00108132	0.00010140	0.02611382	0.00486576	0.00219875	0.00009888	0.00091222	0.01492837	0.07889683	0.01424746	0.00801951	0.00013432	0.00010407	-	-
RB_GUP_EPIS BULKTRAN	0.20414100	0.10055638	0.00497086	0.01820798	0.00057312	0.00005375	0.01384090	0.00257896	0.00116539	0.00005241	0.00048350	0.00791236	0.04181706	0.00755147	0.00425052	0.00007119	0.00005516	-	-
RB_GUP_EPIS SUBTRAN	0.04484365	0.02183291	0.00105368	0.00383325	0.00011841	0.00001475	0.00289608	0.00053838	0.00032034	-	0.00010113	0.00165549	0.01153331	-	0.00087164	0.00001453	0.00001164	0.00003958	0.00000853
RB_GUP_EPIS DISTPRI	0.20575689	0.13751611	0.00648215	0.02353709	0.00072742	-	0.01764870	0.00328707	-	-	0.00062917	0.01014701	-	-	0.00532189	0.00008879	0.00007193	0.00024644	0.00005312
RB_GUP_EPIS DISTSEC	0.10587947	0.07916623	0.00381663	0.01151636	-	-	0.00733827	-	-	-	0.00019841	-	-	-	0.00270668	-	0.00002809	0.00095367	0.00015513
RB_GUP_EPIS ENERGY	0.00325440	0.00122114	0.00007914	0.00026552	0.00000844	0.00000078	0.00024207	0.00004488	0.00002039	0.00000094	0.00000928	0.00016289	0.00092480	0.00017546	0.00006559	0.00000107	0.00000119	0.00002575	0.00000510
RB_GUP_EPIS CUSTOMER	0.05096889	0.02383502	0.00624438	0.00177260	0.00057219	0.00009288	0.00050304	0.00014896	0.00032357	0.00005686	0.00000346	0.00008837	0.00047584	0.00008529	0.00013925	0.00000252	0.00000261	0.01480873	0.00181331
RB_GUP_EPIS TOTAL	1.00000000	0.55384894	0.03202544	0.09348605	0.00308089	0.00026355	0.06858288	0.01146401	0.00402843	0.00020908	0.00233716	0.03489449	0.13364783	0.02205967	0.02137508	0.00031243	0.00027469	0.01607417	0.00203519
RB_GUP PRODUCTION	0.38515569	0.18972114	0.00937859	0.03435325	0.00108132	0.00010140	0.02611382	0.00486576	0.00219875	0.00009888	0.00091222	0.01492837	0.07889683	0.01424746	0.00801951	0.00013432	0.00010407	-	-
RB_GUP BULKTRAN	0.20414100	0.10055638	0.00497086	0.01820798	0.00057312	0.00005375	0.01384090	0.00257896	0.00116539	0.00005241	0.00048350	0.00791236	0.04181706	0.00755147	0.00425052	0.00007119	0.00005516	-	-
RB_GUP SUBTRAN	0.04484365	0.02183291	0.00105368	0.00383325	0.00011841	0.00001475	0.00289608	0.00053838	0.00032034	-	0.00010113	0.00165549	0.01153331	-	0.00087164	0.00001453	0.00001164	0.00003958	0.00000853
RB_GUP DISTPRI	0.20575689	0.13751611	0.00648215	0.02353709	0.00072742	-	0.01764870	0.00328707	-	-	0.00062917	0.01014701	-	-	0.00532189	0.00008879	0.00007193	0.00024644	0.00005312
RB_GUP DISTSEC	0.10587947	0.07916623	0.00381663	0.01151636	-	-	0.00733827	-	-	-	0.00019841	-	-	-	0.00270668	-	0.00002809	0.00095367	0.00015513
RB_GUP ENERGY	0.00325440	0.00122114	0.00007914	0.00026552	0.00000844	0.00000078	0.00024207	0.00004488	0.00002039	0.00000094	0.00000928	0.00016289	0.00092480	0.00017546	0.00006559	0.00000107	0.00000119	0.00002575	0.00000510
RB_GUP CUSTOMER	0.05096889	0.02383502	0.00624438	0.00177260	0.00057219	0.00009288	0.00050304	0.00014896	0.00032357	0.00005686	0.00000346	0.00008837	0.00047584	0.00008529	0.00013925	0.00000252	0.00000261	0.01480873	0.00181331
RB_GUP TOTAL	1.00000000	0.55384894	0.03202544	0.09348605	0.00308089	0.00026355	0.06858288	0.01146401	0.00402843	0.00020908	0.00233716	0.03489449	0.13364783	0.02205967	0.02137508	0.00031243	0.00027469	0.01607417	0.00203519
REV_RENT PRODUCTION	0.00848058	0.00417739	0.00020650	0.00075641	0.00002381	0.00000223	0.00057499	0.00010714	0.00004841	0.00000218	0.00002009	0.00032870	0.00173720	0.00031371	0.00017658	0.00000296	0.00000229	-	-
REV_RENT BULKTRAN	(0.00567571)	(0.00279576)	(0.00013820)	(0.00050623)	(0.00001593)	(0.00000149)	(0.00038482)	(0.00007170)	(0.00003240)	(0.00000146)	(0.00001344)	(0.00021999)	(0.00116264)	(0.00020995)	(0.00011818)	(0.00000198)	(0.00000153)	-	-
REV_RENT SUBTRAN	(0.00124842)	(0.00060782)	(0.00002933)	(0.00010672)	(0.00000330)	(0.00000041)	(0.00008063)	(0.00001499)	(0.00000892)	-	(0.00000282)	(0.00004609)	(0.00032108)	-	(0.00002427)	(0.00000040)	(0.00000032)	(0.00000110)	(0.00000024)
REV_RENT DISTPRI	0.56613602	0.37837285	0.01783551	0.06476183	0.00200148	-	0.04856005	0.00904431	-	-	0.00173114	0.02791930	-	-	0.01464309	0.00024430	0.00019793	0.00067807	0.00014617
REV_RENT DISTSEC	0.41430249	0.30977457	0.01493433	0.04506310	-	-	0.02871438	-	-	-	0.00077638	-	-	-	0.01059113	-	0.00010990	0.00373168	0.00060701
REV_RENT ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
REV_RENT CUSTOMER	0.01800504	0.00819513	0.00220608	0.00062579	0.00020699	0.00003362	0.00018070	0.00005374	0.00011714	0.00002059	0.00000124	0.00003188	0.00017227	0.00003088	0.00005004	0.00000091	0.00000092	0.00542397	0.00065313
REV_RENT TOTAL	1.00000000	0.69711636	0.03501488	0.11059417	0.00221305	0.00003395	0.07756468	0.00911850	0.00012424	0.00002131	0.00251258	0.02801381	0.00042575	0.00013464	0.02531839	0.00024579	0.00030919	0.00983262	0.00140608
REV PRODUCTION	0.31779440	0.13881446	0.00986870	0.03343419	0.00096897	0.00009517	0.02554144	0.00496051	0.00210096	0.00009144	0.00073363	0.01295980	0.06969004	0.01107444	0.00723426	0.00011318	0.00011320	-	-
REV BULKTRAN	0.05461145	0.01800803	0.00232784	0.00728580	0.00020905	0.00005116	0.00553032	0.00110228	0.00044558	0.00001876	0.00012269	0.00250948	0.01365231	0.00185692	0.00144326	0.00002043	0.00002753	-	-
REV SUBTRAN	0.01232602	0.00408260	0.00048771	0.00152556	0.00004303	0.00001588	0.00115130	0.00022819	0.00012187	-	0.00002612	0.00052770	0.00377991	-	0.00029658	0.00000421	0.00000573	0.00002424	0.00000537
REV DISTPRI	0.11335539	0.06569909	0.00507372	0.01669119	0.00047490	-	0.01255315	0.00245185	-	-	0.00034692	0.00624115	-	-	0.00342334	0.00005214	0.00005869	0.00023800	0.00005124
REV DISTSEC	0.05061546	0.03297445	0.00274622	0.00744909	-	-	0.00475729	-	-	-	0.00009740	-	-	-	0.00157481	-	0.00002113	0.00085539	0.00013969
REV ENERGY	0.41085595	0.15668432	0.01002113	0.03351223	0.00097848	0.00005506	0.03091806	0.00583879	0.00257718	0.00011911	0.00116183	0.02007186	0.11512846	0.02113168	0.00823587	0.00013399	0.00015150	0.00349844	0.00063795
REV CUSTOMER	0.04044133	0.01922773	0.00560692	0.00147515	0.00035887	0.00009042	0.00036590	0.00010994	0.00021274	0.00003577	0.00000198	0.00005387	0.00028295	0.00004279	0.00009142	0.00000146	0.00000244	0.01069298	0.00178800
REV TOTAL	1.00000000	0.43549069	0.03613224	0.10137322	0.00303331	0.00030769	0.08081746	0.01469156	0.00545833	0.00026508	0.00249057	0.04236386	0.20253367	0.03410583	0.02229954	0.00032542	0.00038021	0.01530906	0.00262225
RSALE PRODUCTION	0.44886785	0.20017735	0.01326170	0.04578679	0.00135291	0.00013172	0.03510166	0.00671140	0.00288962	0.00012691	0.00104558	0.01815100	0.09773244	0.01596052	0.01012442	0.00016051	0.00015333	-	-
RSALE BULKTRAN	(0.03516041)	(0.02724751)	0.00026481	(0.00042317)	(0.00003632)	0.00003230	(0.00033218)	0.00001924	(0.00005051)	(0.00000372)	(0.00009131)	(0.00092502)	(0.00446979)	(0.00149920)	(0.00039210)	(0.00001082)	0.00000490	-	-
RSALE SUBTRAN	(0.00738036)	(0.00573594)	0.00004906	(0.00010081)	(0.00000776)	0.00001094	(0.00007796)	0.00000153	(0.00001478)	-	(0.00001865)	(0.00019159)	(0.00122352)	-	(0.00008025)	(0.00000217)	0.00000094	0.00000858	0.00000202
RSALE DISTPRI	0.11813783	0.06722776	0.00538626	0.01782530	0.00050702	-	0.01347989	0.00261745	-	-	0.00036637	0.00662511	-	-	0.00366808	0.00005555	0.00006369	0.00025935	0.00005600
RSALE DISTSEC	0.05026682	0.03193862	0.00283710	0.00771898	-	-	0.00495758	-	-	-	0.00009861	-	-	-	0.00163079	-	0.00002236	0.00091316	0.00014962
RSALE ENERGY	0.38025008	0.14469868	0.00922499	0.03099848	0.00089135	0.00004239	0.02879910	0.00541411	0.00238707	0.00011061	0.00107648	0.01849092	0.10679770	0.01948536	0.00766945	0.00012476	0.00014148	0.00330348	0.00059368
RSALE CUSTOMER	0.04501818	0.02127709	0.00621130	0.00164990	0.00040208	0.00010162	0.00041089	0.00012244	0.00023790	0.00004011	0.00000222	0.00006021	0.00031767	0.00004802	0.00010294	0.00000165	0.00000275	0.01201028	0.00201912
RSALE TOTAL	1.00000000	0.43233605	0.03723521	0.10345548	0.00310928	0.00031897	0.08233897	0.01488617	0.00544931	0.00027391	0.00247931	0.04221064	0.19915450	0.03399471	0.02272331	0.00032947	0.00038945	0.01649485	0.00282043
REVYEC_FXNL PRODUCTION	0.50803528	0.07039904	0.00690473	0.01519181	0.02120782	0.00755040	(0.06640495)	(0.03333061)	-	-	-	0.08082299	0.24404855	0.15603825	0.00560725	-	-	-	-
REVYEC_FXNL BULKTRAN	(0.03792488)	(0.00958250)	0.00013787	(0.00014041)	(0.00056942)	0.00185126	0.00062842	(0.00009556)	-	-	-	(0.00411893)	(0.01116156)	(0.01465691)	(0.00021716)	-	-	-	-
REVYEC_FXNL SUBTRAN	(0.00536894)	(0.00201723)	0.00002554	(0.00003345)	(0.00012157)	0.00062699	0.00014749	(0.00000759)	-	-	-	(0.00085310)	(0.00305527)	-	(0.00004445)	-	-	(0.00004291)	0.00000662
REVYEC_FXNL DISTPRI	0.03222714	0.02364288	0.00280437	0.00591434	0.00794788	-	(0.02550112)	(0.01299897)	-	-	-	0.02950036	-	-	0.00203151	-	-	(0.00129755)	0.00018344
REVYEC_FXNL DISTSEC	0.00271650	0.01123228	0.00147714	0.00256112	-	-	(0.00937869)	-	-	-	-	-	-	-	0.00090319	-	-	(0.00456862)	0.00049009
REVYEC_FXNL ENERGY	0.53019480	0.05088812	0.00480301	0.01028513	0.01397260	0.00242999	(0.05448184)	(0.02688791)	-	-	-	0.08233660	0.26668549	0.19049889	0.00424761	-	-	(0.01652757)	0.00194469
REVYEC_FXNL CUSTOMER	(0.02987990)	0.00748280	0.00323392	0.00054743	0.00630285	0.00582507	(0.00077732)	(0.00060808)	-	-	-	0.00026812	0.00079325	0.00046951	0.00005701	-	-	(0.06008843)	0.00661397
REVYEC_FXNL TOTAL	1.00000000	0.15204539	0.01938658	0.03432596	0.04874018	0.01828371	(0.15576802)	(0.07392871)	-	-	-	0.18795604	0.49731046	0.33234975	0.01258496	-	-	(0.08252509)	0.00923880
REVYEC_EXP_OM PRODUCTION	0.28379745	0.04617534	0.00473266	0.00999103	0.01382221	0.00551292	(0.04167245)	(0.02049258)	-	-	-	0.04708796	0.13055753	0.08448739	0.00359546	-	-	-	-
REVYEC_EXP_OM BULKTRAN	0.01535871	0.00248817	0.00025820	0.00054349	0.00075088	0.00030798	(0.00226672)	(0.00111600)	-	-	-	0.00255251	0.00707951	0.00456563	0.00019507	-	-	-	-
REVYEC_EXP_OM SUBTRAN	0.00273797	0.00054113	0.00005479	0.00011455	0.00015532	0.00008511	(0.00047484)	(0.00023323)	-	-	-	0.00053478	0.00195514	-	0.00004005	-	-	(0.00003828)	0.00000345
REVYEC_EXP_OM DISTPRI	0.02380019	0.01845157	0.00180540	0.00377729	0.00513028	-	(0.01554097)	(0.00763988)	-	-	-	0.01765563	-	-	0.00131631	-	-	(0.00126974)	0.00011431
REVYEC_EXP_OM DISTSEC	0.00252948	0.00851588	0.00085276	0.00148244	-	-	(0.00518314)	-	-	-	-	-	-	-	0.00053691	-	-	(0.00394328)	0.00026790
REVYEC_EXP_OM ENERGY	0.67341125	0.06945673	0.00931756	0.01802355	0.02518095	0.00986155	(0.09016376)	(0.04410725)	-	-	-	0.11997381	0.35732807	0.24304738	0.00686526	-	-	(0.05599977)	0.00462716
REVYEC_EXP_OM CUSTOMER	(0.00163505)	0.00641657	0.00236521	0.00039361	0.00370055	0.00251615	(0.00046613)	(0.00033977)	-	-	-	0.00015135	0.00039021	0.00024935	0.00003589	-	-	(0.02127402)	[illegible]
REVYEC_EXP_OM TOTAL	1.00000000	0.15204539	0.01938658	0.03432596	0.04874018	0.01828371	(0.15576802)	(0.07392871)	-	-	-	0.18795604	0.49731046	0.33234975	0.01258496	-	-	(0.08252509)	[illegible]

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

Allocation Factor	Total Retail	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
TDOMX PRODUCTION	-	0.00000000	0.00000000	0.00000000	-	-	-	0.00000000	-	-	(0.00000000)	0.00000000	-	-	(0.00000000)	-	0.00000000	-	-
TDOMX BULKTRAN	0.10680699	0.05261131	0.00260076	0.00952645	0.00029986	0.00002812	0.00724159	0.00134932	0.00060973	0.00002742	0.00025297	0.00413976	0.02187877	0.00395094	0.00222388	0.00003725	0.00002886	-	-
TDOMX SUBTRAN	0.02349311	0.01143803	0.00055201	0.00200820	0.00006203	0.00000773	0.00151723	0.00028205	0.00016782	-	0.00005298	0.00086730	0.00604218	-	0.00045664	0.00000761	0.00000610	0.00002073	0.00000447
TDOMX DISTPRI	0.58412148	0.39039330	0.01840212	0.06681923	0.00206506	-	0.05010274	0.00933164	-	-	0.00178613	0.02880627	-	-	0.01510828	0.00025207	0.00020422	0.00069961	0.00015081
TDOMX DISTSEC	0.24107412	0.18025147	0.00868998	0.02622129	-	-	0.01670831	-	-	-	0.00045176	-	-	-	0.00616276	-	0.00006395	0.00217139	0.00035321
TDOMX ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TDOMX CUSTOMER	0.04450430	0.01816823	0.00786708	0.00224717	0.00125783	0.00020414	0.00096136	0.00032711	0.00071126	0.00012501	0.00000662	0.00019405	0.00104598	0.00018751	0.00026659	0.00000554	0.00000329	0.00606798	0.00485754
TDOMX TOTAL	1.00000000	0.65286234	0.03811196	0.10682235	0.00368478	0.00023999	0.07653123	0.01129011	0.00148882	0.00015243	0.00255046	0.03400737	0.02896692	0.00413845	0.02421815	0.00030247	0.00030642	0.00895971	0.00536603
TDPLANT PRODUCTION	0.00742395	0.00365691	0.00018077	0.00066217	0.00002084	0.00000195	0.00050335	0.00009379	0.00004238	0.00000191	0.00001758	0.00028775	0.00152075	0.00027462	0.00015458	0.00000259	0.00000201	-	-
TDPLANT BULKTRAN	0.33758424	0.16628826	0.00822022	0.03011020	0.00094776	0.00008888	0.02288844	0.00426478	0.00192718	0.00008666	0.00079955	0.01308453	0.06915210	0.01248772	0.00702900	0.00011773	0.00009121	-	-
TDPLANT SUBTRAN	0.07415710	0.03610468	0.00174246	0.00633898	0.00019581	0.00002439	0.00478920	0.00089031	0.00052974	-	0.00016723	0.00273766	0.01907241	-	0.00144141	0.00002403	0.00001925	0.00006545	0.00001411
TDPLANT DISTPRI	0.32980277	0.22042126	0.01039008	0.03772703	0.00116596	-	0.02828868	0.00526877	-	-	0.00100847	0.01626440	-	-	0.00853034	0.00014232	0.00011530	0.00039501	0.00008515
TDPLANT DISTSEC	0.17078427	0.12769565	0.00615625	0.01857596	-	-	0.01183668	-	-	-	0.00032004	-	-	-	0.00436589	-	0.00004530	0.00153828	0.00025022
TDPLANT ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TDPLANT CUSTOMER	0.08024767	0.03652531	0.00983240	0.00278911	0.00092254	0.00014985	0.00080539	0.00023953	0.00052210	0.00009176	0.00000554	0.00014210	0.00076780	0.00013764	0.00022304	0.00000406	0.00000412	0.02417439	0.00291098
TDPLANT TOTAL	1.00000000	0.59069206	0.03652219	0.09620346	0.00325291	0.00026507	0.06911173	0.01075718	0.00302140	0.00018033	0.00231842	0.03251644	0.09051307	0.01289999	0.02174425	0.00029073	0.00027719	0.02617313	0.00326046
TOTMXEXP PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTMXEXP BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTMXEXP SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTMXEXP DISTPRI	0.70565675	0.47162050	0.02223096	0.08072198	0.00249473	-	0.06052737	0.01127323	-	-	0.00215776	0.03479984	-	-	0.01825178	0.00030451	0.00024671	0.00084518	0.00018219
TOTMXEXP DISTSEC	0.29002474	0.21685192	0.01045450	0.03154558	-	-	0.02010097	-	-	-	0.00054349	-	-	-	0.00741412	-	0.00007694	0.00261229	0.00042493
TOTMXEXP ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTMXEXP CUSTOMER	0.00431852	0.00091670	0.00054317	0.00015563	0.00010261	0.00001667	0.00007606	0.00002664	0.00005807	0.00001021	0.00000052	0.00001581	0.00008540	0.00001531	0.00002110	0.00000045	0.00000023	0.00161006	0.00066388
TOTMXEXP TOTAL	1.00000000	0.68938912	0.03322863	0.11242319	0.00259734	0.00001667	0.08070440	0.01129987	0.00005807	0.00001021	0.00270178	0.03481565	0.00008540	0.00001531	0.02568701	0.00030496	0.00032387	0.00506753	0.00127100
TOTOHLINES PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOHLINES BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOHLINES SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOHLINES DISTPRI	0.70562025	0.47159611	0.02222981	0.08071780	0.00249460	-	0.06052424	0.01127264	-	-	0.00215765	0.03479804	-	-	0.01825084	0.00030450	0.00024669	0.00084513	0.00018218
TOTOHLINES DISTSEC	0.29437975	0.22010817	0.01061148	0.03201927	-	-	0.02040280	-	-	-	0.00055165	-	-	-	0.00752545	-	0.00007809	0.00265152	0.00043131
TOTOHLINES ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOHLINES CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOHLINES TOTAL	1.00000000	0.69170427	0.03284129	0.11273707	0.00249460	-	0.08092705	0.01127264	-	-	0.00270930	0.03479804	-	-	0.02577629	0.00030450	0.00032478	0.00349665	0.00061349
TOTOX234 PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOX234 BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOX234 SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOX234 DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOX234 DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOX234 ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOX234 CUSTOMER	1.00000000	0.86257803	0.10758458	0.03150242	0.00037392	0.00002889	0.00292531	0.00029965	0.00008637	0.00001014	0.00002104	0.00018431	0.00013171	0.00001578	0.00077163	0.00000488	0.00004514	(0.00679042)	0.00022663
TOTOX234 TOTAL	1.00000000	0.86257803	0.10758458	0.03150242	0.00037392	0.00002889	0.00292531	0.00029965	0.00008637	0.00001014	0.00002104	0.00018431	0.00013171	0.00001578	0.00077163	0.00000488	0.00004514	(0.00679042)	0.00022663
TOTOXEXP PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOXEXP BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOXEXP SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOXEXP DISTPRI	0.51839394	0.34646478	0.01633145	0.05930048	0.00183269	-	0.04446499	0.00828161	-	-	0.00158515	0.02556488	-	-	0.01340824	0.00022370	0.00018124	0.00062089	0.00013384
TOTOXEXP DISTSEC	0.21820913	0.16315528	0.00786577	0.02373430	-	-	0.01512359	-	-	-	0.00040891	-	-	-	0.00557825	-	0.00005789	0.00196544	0.00031971
TOTOXEXP ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOXEXP CUSTOMER	0.26339694	0.11111117	0.04749342	0.01356413	0.00752673	0.00122151	0.00576274	0.00195755	0.00425593	0.00074800	0.00003970	0.00116126	0.00625872	0.00112200	0.00159800	0.00003318	0.00001988	0.03158904	0.02793400
TOTOXEXP TOTAL	1.00000000	0.62073122	0.07169063	0.09659891	0.00935942	0.00122151	0.06535132	0.01023916	0.00425593	0.00074800	0.00203376	0.02672614	0.00625872	0.00112200	0.02058448	0.00025688	0.00025900	0.03417537	0.02838755
TOTUGLINES PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTUGLINES BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTUGLINES SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTUGLINES DISTPRI	0.80950000	0.54102338	0.02550243	0.09260089	0.00286185	-	0.06943448	0.01293218	-	-	0.00247530	0.03992093	-	-	0.02093769	0.00034932	0.00028301	0.00096955	0.00020900
TOTUGLINES DISTSEC	0.19050000	0.14243713	0.00686694	0.02072042	-	-	0.01320313	-	-	-	0.00035698	-	-	-	0.00486990	-	0.00005054	0.00171586	0.00027911
TOTUGLINES ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTUGLINES CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTUGLINES TOTAL	1.00000000	0.68346050	0.03236937	0.11332130	0.00286185	-	0.08263761	0.01293218	-	-	0.00283228	0.03992093	-	-	0.02580758	0.00034932	0.00033354	0.00268541	0.00048811
TRAN_LSE PRODUCTION	1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
TRAN_LSE BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRAN_LSE SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRAN_LSE DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRAN_LSE DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRAN_LSE ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRAN_LSE CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRAN_LSE TOTAL	1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
TRANS_TOTAL PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANS_TOTAL BULKTRAN	0.81970000	0.40377028	0.01995981	0.07311163	0.00230129	0.00021581	0.05557621	0.01035547	0.00467944	0.00021043	0.00194142	0.03177100	0.16791062	0.03032188	0.01706737	0.00028587	0.00022147	-	-
TRANS_TOTAL SUBTRAN	0.18030000	0.08778220	0.00423648	0.01541212	0.00047607	0.00005929	0.01164410	0.00216462	0.00128798	-	0.00040659	0.00665614	0.04637123	-	0.00350453	0.00005842	0.00004680	0.00015912	0.00003430
TRANS_TOTAL DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANS_TOTAL DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANS_TOTAL ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANS_TOTAL CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANS_TOTAL TOTAL	1.00000000	0.49155248	0.02419629	0.08852375	0.00277736	0.00027510	0.06722031	0.01252009	0.00596742	0.00021043	0.00234801	0.03842714	0.21428185	0.03032188	0.02057190	0.00034429	0.00026827	0.00015912	0.00003430

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

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	IGS-SEC 11	IGS-PRI 12	IGS-SUB 13	IGS-TRA 14	PS-SEC 15	PS-PRI 16	MW 17	OL 18	SL 19
WEATHER_FXNL PRODUCTION	0.46301331	0.46301331	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL BULKTRAN	(0.06302392)	(0.06302392)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL SUBTRAN	(0.01326731)	(0.01326731)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL DISTPRI	0.15549886	0.15549886	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL DISTSEC	0.07387452	0.07387452	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL ENERGY	0.33469029	0.33469029	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL CUSTOMER	0.04921424	0.04921424	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL TOTAL	1.00000000	1.00000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM PRODUCTION	0.30369444	0.30369444	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM BULKTRAN	0.01636462	0.01636462	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM SUBTRAN	0.00355900	0.00355900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM DISTPRI	0.12135564	0.12135564	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM DISTSEC	0.05600883	0.05600883	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM ENERGY	0.45681577	0.45681577	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM CUSTOMER	0.04220170	0.04220170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM TOTAL	1.00000000	1.00000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

ALLOCATOR	FUNCTION		Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
INPUTS FROM WORKPAPERS																					
CPG - 12 CP		Same as CPT	998,890	492,036	24,323	89,094	2,804	263	67,725	12,619	5,702	256	2,366	38,716	204,617	36,950	20,798	348	270	0	0
PROD_DEMAND	PRODUCTION		1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
PROD_DEMAND	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_DEMAND	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_DEMAND	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_DEMAND	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_DEMAND	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_DEMAND	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_DEMAND	TOTAL		1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
ENER			5,981,505,922	2,244,423,054	145,453,117	488,010,975	15,510,097	1,429,850	444,926,415	82,480,796	37,477,163	1,736,472	17,050,423	299,379,891	1,699,754,726	322,483,254	120,543,977	1,962,264	2,188,747	47,328,732	9,365,970
PROD_ENERGY	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_ENERGY	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_ENERGY	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_ENERGY	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_ENERGY	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_ENERGY	ENERGY		1.00000000	0.37522709	0.02431714	0.08158664	0.00259301	0.00023905	0.07438368	0.01378930	0.00626551	0.00029031	0.00285052	0.05005092	0.28416836	0.05391339	0.02015278	0.00032806	0.00036592	0.00791251	0.00156582
PROD_ENERGY	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PROD_ENERGY	TOTAL		1.00000000	0.37522709	0.02431714	0.08158664	0.00259301	0.00023905	0.07438368	0.01378930	0.00626551	0.00029031	0.00285052	0.05005092	0.28416836	0.05391339	0.02015278	0.00032806	0.00036592	0.00791251	0.00156582
CPT - 12 CP		Same as CPG	998,890	492,036	24,323	89,094	2,804	263	67,725	12,619	5,702	256	2,366	38,716	204,617	36,950	20,798	348	270	0	0
BULK_TRANS	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BULK_TRANS	BULKTRAN		1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
BULK_TRANS	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BULK_TRANS	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BULK_TRANS	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BULK_TRANS	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BULK_TRANS	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BULK_TRANS	TOTAL		1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
CPST - 12 CP			768,537	374,175	18,058	65,695	2,029	253	49,633	9,227	5,490	0	1,733	28,372	197,659	0	14,938	249	199	678	146
SUB_TRANS	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB_TRANS	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB_TRANS	SUBTRAN		1.00000000	0.48686743	0.02349686	0.08548042	0.00264041	0.00032885	0.06458180	0.01200568	0.00714352	-	0.00225509	0.03691704	0.25718929	-	0.01943723	0.00032402	0.00025956	0.00088255	0.00019025
SUB_TRANS	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB_TRANS	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB_TRANS	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB_TRANS	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB_TRANS	TOTAL		1.00000000	0.48686743	0.02349686	0.08548042	0.00264041	0.00032885	0.06458180	0.01200568	0.00714352	-	0.00225509	0.03691704	0.25718929	-	0.01943723	0.00032402	0.00025956	0.00088255	0.00019025
CPD - 12 CP			729,403	487,491	22,979	83,438	2,579	0	62,564	11,653	0	0	2,230	35,971	0	0	18,866	315	255	874	188
DIST_CPD	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_CPD	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_CPD	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_CPD	DISTPRI		1.00000000	0.66834265	0.03150393	0.11439270	0.00353533	-	0.08577453	0.01597551	-	-	0.00305781	0.04931554	-	-	0.02586496	0.00043153	0.00034961	0.00119772	0.00025819
DIST_CPD	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_CPD	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_CPD	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_CPD	TOTAL		1.00000000	0.66834265	0.03150393	0.11439270	0.00353533	-	0.08577453	0.01597551	-	-	0.00305781	0.04931554	-	-	0.02586496	0.00043153	0.00034961	0.00119772	0.00025819
SECDEM		(NCP + SNCP) / 2	1,470,167	1,099,246	52,995	159,908	0	0	101,894	0	0	0	2,755	0	0	0	37,583	0	390	13,242	2,154
DISTSEC	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISTSEC	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISTSEC	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISTSEC	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISTSEC	DISTSEC		1.00000000	0.74770145	0.03604693	0.10876860	-	-	0.06930777	-	-	-	0.00187394	-	-	-	0.02556376	-	0.00026528	0.00900714	0.00146514
DISTSEC	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISTSEC	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISTSEC	TOTAL		1.00000000	0.74770145	0.03604693	0.10876860	-	-	0.06930777	-	-	-	0.00187394	-	-	-	0.02556376	-	0.00026528	0.00900714	0.00146514
TOTCUST			214,251	136,519	23,888	6,709	78	6	587	59	17	2	4	35	25	3	161	1	10	46,092	55
CUST_TOTAL	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_TOTAL	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_TOTAL	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_TOTAL	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_TOTAL	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_TOTAL	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_TOTAL	CUSTOMER		1.00000000	0.63719189	0.11149540	0.03131374	0.00036406	0.00002800	0.00273978	0.00027538	0.00007935	0.00000933	0.00001867	0.00016336	0.00011669	0.00001400	0.00075146	0.00000467	0.00004667	0.21513085	0.00025671
CUST_TOTAL	TOTAL		1.00000000	0.63719189	0.11149540	0.03131374	0.00036406	0.00002800	0.00273978	0.00027538	0.00007935	0.00000933	0.00001867	0.00016336	0.00011669	0.00001400	0.00075146	0.00000467	0.00004667	0.21513085	0.00025671
PRICUST		TOTCust excl Sub. & Tran.	214,198	136,519	23,888	6,709	78	0	587	59	0	0	4	35	0	0	161	1	10	46,092	55
DIST_PCUST	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_PCUST	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_PCUST	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_PCUST	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_PCUST	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_PCUST	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_PCUST	CUSTOMER		1.00000000	0.63734956	0.11152298	0.03132149	0.00036415	-	0.00274046	0.00027545	-	-	0.00001867	0.00016340	-	-	0.00075164	0.00000467	0.00004669	0.21518408	0.00025677
DIST_PCUST	TOTAL		1.00000000	0.63734956	0.11152298	0.03132149	0.00036415	-	0.00274046	0.00027545	-	-	0.00001867	0.00016340	-	-	0.00075164	0.00000467	0.00004669	0.21518408	0.00025677
SECCUST		TOTCust excl Pri., Sub. & Tran.	214,025	136,519	23,888	6,709	0	0	587	0	0	0	4	0	0	0	161	0	10	46,092	55
DIST_SERV	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_SERV	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_SERV	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_SERV	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_SERV	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_SERV	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_SERV	CUSTOMER		1.00000000	0.63786474	0.11161313	0.03134681	-	-	0.00274267	-	-	-	0.00001869	-	-	-	0.00075225	-	0.00004672	0.21535802	0.00025698
DIST_SERV	TOTAL		1.00000000	0.63786474	0.11161313	0.03134681	-	-	0.00274267	-	-	-	0.00001869	-	-	-	0.00075225	-	0.00004672	0.21535802	0.00025698

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

ALLOCATOR	FUNCTION		Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
METER			32,580,972	14,607,905	8,655,579	2,479,971	1,635,188	265,607	1,211,984	424,569	925,414	162,645	8,353	251,863	1,360,902	243,968	336,205	7,196	3,623	0	0
DIST_METERS	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_METERS	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_METERS	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_METERS	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_METERS	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_METERS	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_METERS	CUSTOMER		1.00000000	0.44835694	0.26566362	0.07611716	0.05018844	0.00815221	0.03719914	0.01303120	0.02840351	0.00499202	0.00025638	0.00773037	0.04176984	0.00748805	0.01031906	0.00022087	0.00011120	-	-
DIST_METERS	TOTAL		1.00000000	0.44835694	0.26566362	0.07611716	0.05018844	0.00815221	0.03719914	0.01303120	0.02840351	0.00499202	0.00025638	0.00773037	0.04176984	0.00748805	0.01031906	0.00022087	0.00011120	-	-
DIR371			1	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		1.00000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00000000	-
DIST_OL	TOTAL		1.00000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00000000	-
DIR373			1	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		1.00000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00000000
DIST_SL	TOTAL		1.00000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.00000000
DIR902		Weighted TOTCUST	345,257	273,038	47,776	20,127	273	21	2,642	295	85	10	24	210	150	18	564	4	20	0	0
CUST_902	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_902	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_902	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_902	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_902	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_902	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_902	CUSTOMER		1.00000000	0.79082539	0.13837808	0.05829570	0.00079072	0.00006082	0.00765227	0.00085444	0.00024619	0.00002896	0.00006951	0.00060824	0.00043446	0.00005214	0.00163357	0.00001159	0.00005793	-	-
CUST_902	TOTAL		1.00000000	0.79082539	0.13837808	0.05829570	0.00079072	0.00006082	0.00765227	0.00085444	0.00024619	0.00002896	0.00006951	0.00060824	0.00043446	0.00005214	0.00163357	0.00001159	0.00005793	-	-
DIR903		Calculated	4,536,148	3,901,683	479,016	134,533	1,565	121	11,771	1,183	341	40	80	701	501	60	3,229	20	201	0	1,103
CUST_903	PRODUCTION	Weighted	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_903	BULKTRAN	Average	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_903	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_903	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_903	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_903	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_903	CUSTOMER		1.00000000	0.86013133	0.10559973	0.02965798	0.00034501	0.00002667	0.00259493	0.00026079	0.00007517	0.00000882	0.00001764	0.00015454	0.00011045	0.00001323	0.00071184	0.00000441	0.00004431	-	0.00024316
CUST_903	TOTAL		1.00000000	0.86013133	0.10559973	0.02965798	0.00034501	0.00002667	0.00259493	0.00026079	0.00007517	0.00000882	0.00001764	0.00015454	0.00011045	0.00001323	0.00071184	0.00000441	0.00004431	-	0.00024316
CUST451		Spread by class; alloc. to	819,420	750,964	47,676	15,352	425	44	1,250	52	0	0	0	13	0	0	0	0	0	3,645	0
CUST_451	PRODUCTION	functions below:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_451	BULKTRAN	MISC_SERV_REV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_451	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_451	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_451	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_451	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_451	CUSTOMER		1.00000000	0.91645786	0.05818206	0.01873519	0.00051850	0.00005370	0.00152547	0.00006346	-	-	-	0.00001586	-	-	-	-	-	0.00444790	-
CUST_451	TOTAL		1.00000000	0.91645786	0.05818206	0.01873519	0.00051850	0.00005370	0.00152547	0.00006346	-	-	-	0.00001586	-	-	-	-	-	0.00444790	-
CUSTDEP		Spread by class; alloc. to	26,429,740	19,268,539	1,283,411	2,225,334	286,407	367,684	1,011,520	552,921	367,041	0	0	426,340	281,879	213,031	28,410	0	0	117,223	0
CUST_DEP	PRODUCTION	functions below:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_DEP	BULKTRAN	CUST_DEP_FXNL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_DEP	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_DEP	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_DEP	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_DEP	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CUST_DEP	CUSTOMER		1.00000000	0.72904762	0.04855935	0.08419810	0.01083654	0.01391175	0.03827204	0.02092041	0.01388742	-	-	0.01613107	0.01066522	0.00806028	0.00107493	-	-	0.00443527	-
CUST_DEP	TOTAL		1.00000000	0.72904762	0.04855935	0.08419810	0.01083654	0.01391175	0.03827204	0.02092041	0.01388742	-	-	0.01613107	0.01066522	0.00806028	0.00107493	-	-	0.00443527	-
FORF DISCOUNTS		Spread by class; alloc. to	4,063,217	2,797,010	247,521	402,316	5,545	601	139,839	88,046	18,375	498	5,480	137,983	191,477	7,425	0	0	0	21,100	0
FORF_DISC	PRODUCTION	functions below:	1.00000000	0.68837336	0.06091760	0.09901406	0.00136472	0.00014791	0.03441589	0.02166901	0.00452230	0.00012254	0.00134864	0.03395913	0.04712451	0.00182742	-	-	-	0.00519290	-
FORF_DISC	BULKTRAN	FORF_DISC_FXNL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FORF_DISC	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FORF_DISC	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FORF_DISC	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FORF_DISC	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FORF_DISC	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FORF_DISC	TOTAL		1.00000000	0.68837336	0.06091760	0.09901406	0.00136472	0.00014791	0.03441589	0.02166901	0.00452230	0.00012254	0.00134864	0.03395913	0.04712451	0.00182742	-	-	-	0.00519290	-
YEAR END CUST ADJ		Spread by class; alloc. to	(3,275,101)	(497,964)	(63,493)	(112,421)	(159,629)	(59,881)	510,156	242,124	-	-	-	(615,575)	(1,628,742)	(1,088,479)	(41,217)	-	-	270,278	(30,258)
REVYEC	PRODUCTION	functions below:	1.00000000	0.15204539	0.01938658	0.03432596	0.04874018	0.01828371	(0.15576802)	(0.07392871)	-	-	-	0.18795604	0.49731046	0.33234975	0.01258496	-	-	(0.08252509)	0.00923880
REVYEC	BULKTRAN	REVYEC_FXNL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
REVYEC	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
REVYEC	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
REVYEC	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
REVYEC	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
REVYEC	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
REVYEC	TOTAL		1.00000000	0.15204539	0.01938658	0.03432596	0.04874018	0.01828371	(0.15576802)	(0.07392871)	-	-	-	0.18795604	0.49731046	0.33234975	0.01258496	-	-	(0.08252509)	0.00923880

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

ALLOCATOR	FUNCTION		Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
FUELR			9,014,177	3,108,101	212,299	711,633	25,861	3,010	639,383	120,662	57,445	2,699	24,805	463,730	2,851,399	530,827	176,010	2,966	3,184	66,572	13,591
FUELREV	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUELREV	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUELREV	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUELREV	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUELREV	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUELREV	ENERGY		1.00000000	0.34480142	0.02355168	0.07894598	0.00286893	0.00033392	0.07093082	0.01338580	0.00637274	0.00029942	0.00275178	0.05144452	0.31632383	0.05888802	0.01952591	0.00032904	0.00035322	0.00738526	0.00150774
FUELREV	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FUELREV	TOTAL		1.00000000	0.34480142	0.02355168	0.07894598	0.00286893	0.00033392	0.07093082	0.01338580	0.00637274	0.00029942	0.00275178	0.05144452	0.31632383	0.05888802	0.01952591	0.00032904	0.00035322	0.00738526	0.00150774
WEATHER		Spread by class; alloc. to	9,956,443	9,956,443	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_NORM	PRODUCTION	functions below:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_NORM	BULKTRAN	WEATHER_FXNL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_NORM	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_NORM	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_NORM	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_NORM	ENERGY		1.00000000	1.00000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_NORM	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_NORM	TOTAL		1.00000000	1.00000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

INTERNALLY DERIVED

ALLOCATOR	FUNCTION		Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
Bulk Transmission Plant		$456,191,059																			
Subtransmission Plant		$100,333,074																			
Total Transmisison Plant		$556,524,133																			
BULK_TRANS	BULKTRAN	81.97%	1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
SUB_TRANS	SUBTRAN	18.03%	1.00000000	0.48686743	0.02349686	0.08548042	0.00264041	0.00032885	0.06458180	0.01200568	0.00714352	-	0.00225509	0.03691704	0.25718929	-	0.01943723	0.00032402	0.00025956	0.00088255	0.00019025
TRANS_TOTAL	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANS_TOTAL	BULKTRAN		0.81970000	0.40	0.01995981	0.07311163	0.00230129	0.00021581	0.05557621	0.01035547	0.00467944	0.00021043	0.00194142	0.03177100	0.16791062	0.03032188	0.01706737	0.00028587	0.00022147	-	-
TRANS_TOTAL	SUBTRAN		0.18030000	0.09	0.00423648	0.01541212	0.00047607	0.00005929	0.01164410	0.00216462	0.00128798	-	0.00040659	0.00665614	0.04637123	-	0.00350453	0.00005842	0.00004680	0.00015912	0.00003430
TRANS_TOTAL	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANS_TOTAL	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANS_TOTAL	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANS_TOTAL	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANS_TOTAL	TOTAL		1.00000000	0.49155248	0.02419629	0.08852375	0.00277736	0.00027510	0.06722031	0.01252009	0.00596742	0.00021043	0.00234801	0.03842714	0.21428185	0.03032188	0.02057190	0.00034429	0.00026827	0.00015912	0.00003430
DIST_CPD	DISTPRI	56.69%	1.00000000	0.66834265	0.03150393	0.11439270	0.00353533	-	0.08577453	0.01597551	-	-	0.00305781	0.04931554	-	-	0.02586496	0.00043153	0.00034961	0.00119772	0.00025819
DISTSEC	DISTSEC	43.31%	1.00000000	0.74770145	0.03604693	0.10876860	-	-	0.06930777	-	-	-	0.00187394	-	-	-	0.02556376	-	0.00026528	0.00900714	0.00146514
DIST_POLES	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_POLES	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_POLES	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_POLES	DISTPRI		0.56690000	0.38	0.01785958	0.06484922	0.00200418	-	0.04862558	0.00905652	-	-	0.00173347	0.02795698	-	-	0.01466285	0.00024463	0.00019819	0.00067899	0.00014637
DIST_POLES	DISTSEC		0.43310000	0.32	0.01561192	0.04710768	-	-	0.03001720	-	-	-	0.00081160	-	-	-	0.01107167	-	0.00011489	0.00390099	0.00063455
DIST_POLES	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_POLES	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_POLES	TOTAL		1.00000000	0.70271295	0.03347150	0.11195690	0.00200418	-	0.07864278	0.00905652	-	-	0.00254507	0.02795698	-	-	0.02573451	0.00024463	0.00031309	0.00457998	0.00078092
DIST_CPD	DISTPRI	83.32%	1.00000000	0.66834265	0.03150393	0.11439270	0.00353533	-	0.08577453	0.01597551	-	-	0.00305781	0.04931554	-	-	0.02586496	0.00043153	0.00034961	0.00119772	0.00025819
DISTSEC	DISTSEC	16.68%	1.00000000	0.74770145	0.03604693	0.10876860	-	-	0.06930777	-	-	-	0.00187394	-	-	-	0.02556376	-	0.00026528	0.00900714	0.00146514
DIST_OHLINES	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_OHLINES	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_OHLINES	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_OHLINES	DISTPRI		0.83320000	0.55686310	0.02624907	0.09531199	0.00294564	-	0.07146734	0.01331080	-	-	0.00254777	0.04108971	-	-	0.02155069	0.00035955	0.00029130	0.00099794	0.00021512
DIST_OHLINES	DISTSEC		0.16680000	0.12471660	0.00601263	0.01814260	-	-	0.01156054	-	-	-	0.00031257	-	-	-	0.00426404	-	0.00004425	0.00150239	0.00024439
DIST_OHLINES	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_OHLINES	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_OHLINES	TOTAL		1.00000000	0.68157970	0.03226170	0.11345460	0.00294564	-	0.08302787	0.01331080	-	-	0.00286034	0.04108971	-	-	0.02581472	0.00035955	0.00033554	0.00250033	0.00045951
DIST_CPD	DISTPRI	80.95%	1.00000000	0.66834265	0.03150393	0.11439270	0.00353533	-	0.08577453	0.01597551	-	-	0.00305781	0.04931554	-	-	0.02586496	0.00043153	0.00034961	0.00119772	0.00025819
DISTSEC	DISTSEC	19.05%	1.00000000	0.74770145	0.03604693	0.10876860	-	-	0.06930777	-	-	-	0.00187394	-	-	-	0.02556376	-	0.00026528	0.00900714	0.00146514
DIST_UGLINES	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_UGLINES	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_UGLINES	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_UGLINES	DISTPRI		0.80950000	0.54102338	0.02550243	0.09260089	0.00286185	-	0.06943448	0.01293218	-	-	0.00247530	0.03992093	-	-	0.02093769	0.00034932	0.00028301	0.00096955	0.00020900
DIST_UGLINES	DISTSEC		0.19050000	0.14243713	0.00686694	0.02072042	-	-	0.01320313	-	-	-	0.00035698	-	-	-	0.00486990	-	0.00005054	0.00171586	0.00027911
DIST_UGLINES	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_UGLINES	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_UGLINES	TOTAL		1.00000000	0.68346050	0.03236937	0.11332130	0.00286185	-	0.08263761	0.01293218	-	-	0.00283228	0.03992093	-	-	0.02580758	0.00034932	0.00033354	0.00268541	0.00048811
DIST_CPD	DISTPRI	20.18%	1.00000000	0.66834265	0.03150393	0.11439270	0.00353533	-	0.08577453	0.01597551	-	-	0.00305781	0.04931554	-	-	0.02586496	0.00043153	0.00034961	0.00119772	0.00025819
DISTSEC	DISTSEC	79.82%	1.00000000	0.74770145	0.03604693	0.10876860	-	-	0.06930777	-	-	-	0.00187394	-	-	-	0.02556376	-	0.00026528	0.00900714	0.00146514
DIST_TRANSF	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_TRANSF	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_TRANSF	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_TRANSF	DISTPRI		0.20176000	0.13484481	0.00635623	0.02307987	0.00071329	-	0.01730587	0.00322322	-	-	0.00061694	0.00994990	-	-	0.00521851	0.00008707	0.00007054	0.00024165	0.00005209
DIST_TRANSF	DISTSEC		0.79824000	0.59684521	0.02877410	0.08682344	-	-	0.05532424	-	-	-	0.00149585	-	-	-	0.02040602	-	0.00021175	0.00718986	0.00116953
DIST_TRANSF	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_TRANSF	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIST_TRANSF	TOTAL		1.00000000	0.73169002	0.03513033	0.10990331	0.00071329	-	0.07263010	0.00322322	-	-	0.00211279	0.00994990	-	-	0.02562453	0.00008707	0.00028229	0.00743151	0.00122163

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

ALLOCATOR	FUNCTION		Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
Show under production as it is capturing load (LSE) charges for transmission service, whereas the bulktran and subtran buckets are capturing the costs and revenues as a transmission owner (TO).																					
TRAN_LSE	PRODUCTION	Same as BULK_TR	1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
TRAN_LSE	BULKTRAN																				
TRAN_LSE	SUBTRAN																				
TRAN_LSE	DISTPRI																				
TRAN_LSE	DISTSEC																				
TRAN_LSE	ENERGY																				
TRAN_LSE	CUSTOMER																				
TRAN_LSE	TOTAL		1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
Total Firm Sales																					
SALES OF ELECTRICITY	PRODUCTION		224,613,568	100,168,786	6,636,156	22,911,721	676,996	65,913	17,564,876	3,358,385	1,445,969	63,505	523,209	9,082,764	48,905,334	7,986,648	5,066,261	80,318	76,726	-	-
	BULKTRAN		(17,594,275)	(13,634,661)	132,509	(211,754)	(18,177)	16,161	(166,224)	9,629	(25,274)	(1,861)	(45,691)	(462,879)	(2,236,685)	(750,198)	(196,208)	(5,415)	2,454	-	-
	SUBTRAN		(3,693,132)	(2,870,264)	24,550	(50,448)	(3,881)	5,473	(39,012)	765	(7,395)	-	(9,330)	(95,870)	(612,252)	-	(40,159)	(1,085)	472	4,292	1,011
	DISTPRI		59,116,193	33,640,787	2,695,286	8,919,786	253,712	-	6,745,341	1,309,773	-	-	183,332	3,315,206	-	-	1,835,506	27,795	31,868	129,779	28,022
	DISTSEC		25,153,525	15,982,092	1,419,684	3,862,582	-	-	2,480,772	-	-	-	49,346	-	-	-	816,046	-	11,189	456,946	74,868
	ENERGY		190,277,222	72,407,249	4,616,185	15,511,646	446,033	21,213	14,411,074	2,709,220	1,194,490	55,350	538,670	9,252,861	53,441,593	9,750,478	3,837,796	62,432	70,796	1,653,061	297,075
	CUSTOMER		22,527,109	10,647,060	3,108,136	825,609	201,200	50,851	205,611	61,270	119,046	20,070	1,110	30,130	158,961	24,031	51,509	824	1,376	6,009,947	1,010,367
	TOTAL		500,400,211	216,341,050	18,632,507	51,769,142	1,555,884	159,611	41,202,438	7,449,041	2,726,835	137,064	1,240,647	21,122,212	99,656,952	17,010,960	11,370,750	164,869	194,881	8,254,025	1,411,343
REV_SALES	PRODUCTION		0.44886785	0.20017735	0.01326170	0.04578679	0.00135291	0.00013172	0.03510166	0.00671140	0.00288962	0.00012691	0.00104558	0.01815100	0.09773244	0.01596052	0.01012442	0.00016051	0.00015333	-	-
REV_SALES	BULKTRAN		(0.03516041)	(0.02724751)	0.00026481	(0.00042317)	(0.00003632)	0.00003230	(0.00033218)	0.00001924	(0.00005051)	(0.00000372)	(0.00009131)	(0.00092502)	(0.00446979)	(0.00149920)	(0.00039210)	(0.00001082)	0.00000490	-	-
REV_SALES	SUBTRAN		(0.00738036)	(0.00573594)	0.00004906	(0.00010081)	(0.00000776)	0.00001094	(0.00007796)	0.00000153	(0.00001478)	-	(0.00001865)	(0.00019159)	(0.00122352)	-	(0.00008025)	(0.00000217)	0.00000094	0.00000858	0.00000202
REV_SALES	DISTPRI		0.11813783	0.06722776	0.00538626	0.01782530	0.00050702	-	0.01347989	0.00261745	-	-	0.00036637	0.00662511	-	-	0.00366808	0.00005555	0.00006369	0.00025935	0.00005600
REV_SALES	DISTSEC		0.05026682	0.03193862	0.00283710	0.00771898	-	-	0.00495758	-	-	-	0.00009861	-	-	-	0.00163079	-	0.00002236	0.00091316	0.00014962
REV_SALES	ENERGY		0.38025008	0.14469868	0.00922499	0.03099848	0.00089135	0.00004239	0.02879910	0.00541411	0.00238707	0.00011061	0.00107648	0.01849092	0.10679770	0.01948536	0.00766945	0.00012476	0.00014148	0.00330348	0.00059368
REV_SALES	CUSTOMER		0.04501818	0.02127709	0.00621130	0.00164990	0.00040208	0.00010162	0.00041089	0.00012244	0.00023790	0.00004011	0.00000222	0.00006021	0.00031767	0.00004802	0.00010294	0.00000165	0.00000275	0.01201028	0.00201912
REV_SALES	TOTAL		1.00000000	0.43233605	0.03723521	0.10345548	0.00310928	0.00031897	0.08233897	0.01488617	0.00544931	0.00027391	0.00247931	0.04221064	0.19915450	0.03399471	0.02272331	0.00032947	0.00038945	0.01649485	0.00282043
Production EPIS	PRODUCTION		824,295,257	406,033,823	20,071,703	73,521,497	2,314,196	217,018	55,887,775	10,413,521	4,705,676	211,609	1,952,303	31,949,108	168,851,932	30,491,860	17,163,047	287,474	222,716	-	-
	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL		824,295,257	406,033,823	20,071,703	73,521,497	2,314,196	217,018	55,887,775	10,413,521	4,705,676	211,609	1,952,303	31,949,108	168,851,932	30,491,860	17,163,047	287,474	222,716	-	-
RB_GUP_EPIS_P	PRODUCTION		1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
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	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
Transmission EPIS	PRODUCTION		10,045,283	4,948,136	244,604	895,971	28,202	2,645	681,077	126,904	57,346	2,579	23,792	389,348	2,057,716	371,589	209,158	3,503	2,714	-	-
	BULKTRAN		456,782,174	225,003,129	11,122,709	40,741,844	1,282,409	120,260	30,970,140	5,770,639	2,607,644	117,263	1,081,866	17,704,558	93,569,085	16,897,026	9,510,881	159,304	123,418	-	-
	SUBTRAN		100,341,301	48,852,912	2,357,705	8,577,217	264,942	32,997	6,480,222	1,204,666	716,790	-	226,278	3,704,303	25,806,708	-	1,950,357	32,513	26,044	88,556	19,090
	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL		567,168,758	278,804,176	13,725,018	50,215,032	1,575,553	155,902	38,131,438	7,102,209	3,381,781	119,842	1,331,936	21,798,209	121,433,509	17,268,615	11,670,395	195,319	152,176	88,556	19,090
RB_GUP_EPIS_T	PRODUCTION		0.01771128	0.00872427	0.00043127	0.00157972	0.00004972	0.00000466	0.00120084	0.00022375	0.00010111	0.00000455	0.00004195	0.00068648	0.00362805	0.00065517	0.00036877	0.00000618	0.00000479	-	-
RB_GUP_EPIS_T	BULKTRAN		0.80537259	0.39671284	0.01961093	0.07183372	0.00226107	0.00021204	0.05460481	0.01017447	0.00459765	0.00020675	0.00190749	0.03121568	0.16497574	0.02979188	0.01676905	0.00028088	0.00021760	-	-
RB_GUP_EPIS_T	SUBTRAN		0.17691613	0.08613470	0.00415697	0.01512287	0.00046713	0.00005818	0.01142556	0.00212400	0.00126380	-	0.00039896	0.00653122	0.04550093	-	0.00343876	0.00005732	0.00004592	0.00015614	0.00003366
RB_GUP_EPIS_T	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_T	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_T	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_T	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_T	TOTAL		1.00000000	0.49157182	0.02419918	0.08853632	0.00277793	0.00027488	0.06723120	0.01252222	0.00596257	0.00021130	0.00234839	0.03843337	0.21410472	0.03044705	0.02057658	0.00034438	0.00026831	0.00015614	0.00003366
Distribution EPIS	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI		446,253,132	298,250,001	14,058,726	51,048,099	1,577,652	-	38,277,152	7,129,122	-	-	1,364,557	22,007,214	-	-	11,542,320	192,571	156,015	534,485	115,218
	DISTSEC		231,086,643	172,783,818	8,329,963	25,134,970	-	-	16,016,100	-	-	-	433,042	-	-	-	5,907,444	-	61,302	2,081,430	338,574
	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER		108,582,391	49,422,070	13,304,130	3,773,926	1,248,285	202,761	1,089,770	324,111	706,451	124,161	7,498	192,269	1,038,898	186,243	301,789	5,493	5,569	32,710,149	3,938,817
	TOTAL		785,922,166	520,455,890	35,692,819	79,956,994	2,825,937	202,761	55,383,022	7,453,233	706,451	124,161	1,805,097	22,199,484	1,038,898	186,243	17,751,553	198,064	222,886	35,326,064	4,392,609
RB_GUP_EPIS_D	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_D	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_D	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_D	DISTPRI		0.56780830	0.37949051	0.01788819	0.06495312	0.00200739	-	0.04870349	0.00907103	-	-	0.00173625	0.02800177	-	-	0.01468634	0.00024503	0.00019851	0.00068007	0.00014660
RB_GUP_EPIS_D	DISTSEC		0.29403248	0.21984851	0.01059897	0.03198150	-	-	0.02037874	-	-	-	0.00055100	-	-	-	0.00751658	-	0.00007800	0.00264839	0.00043080
RB_GUP_EPIS_D	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_D	CUSTOMER		0.13815922	0.06288418	0.01692805	0.00480191	0.00158831	0.00025799	0.00138661	0.00041240	0.00089888	0.00015798	0.00000954	0.00024464	0.00132188	0.00023697	0.00038399	0.00000699	0.00000709	0.04162009	0.00501171
RB_GUP_EPIS_D	TOTAL		1.00000000	0.66222320	0.04541521	0.10173653	0.00359570	0.00025799	0.07046884	0.00948342	0.00089888	0.00015798	0.00229679	0.02824642	0.00132188	0.00023697	0.02258691	0.00025202	0.00028360	0.04494855	0.00558912

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

ALLOCATOR	FUNCTION	Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
Gen & Int Plant	PRODUCTION	27,667,549	13,628,564	673,709	2,467,756	77,676	7,284	1,875,878	349,531	157,946	7,103	65,529	1,072,375	5,667,531	1,023,462	576,079	9,649	7,475	-	-
	BULKTRAN	101,092	49,796	2,462	9,017	284	27	6,854	1,277	577	26	239	3,918	20,708	3,740	2,105	35	27	-	-
	SUBTRAN	22,236	10,826	522	1,901	59	7	1,436	267	159	-	50	821	5,719	-	432	7	6	20	4
	DISTPRI	14,246,628	9,521,629	448,825	1,629,710	50,367	-	1,221,998	227,597	-	-	43,563	702,580	-	-	368,488	6,148	4,981	17,063	3,678
	DISTSEC	5,879,759	4,396,304	211,947	639,533	-	-	407,513	-	-	-	11,018	-	-	-	150,309	-	1,560	52,960	8,615
	ENERGY	7,283,608	2,733,007	177,117	594,245	18,886	1,741	541,782	100,436	45,635	2,114	20,762	364,551	2,069,771	392,684	146,785	2,389	2,665	57,632	11,405
	CUSTOMER	5,489,913	3,922,548	671,277	193,292	32,311	5,105	36,069	9,263	17,718	3,092	251	5,515	26,070	4,640	9,872	156	281	432,936	119,515
	TOTAL	60,690,785	34,262,675	2,185,858	5,535,454	179,583	14,164	4,091,530	688,371	222,036	12,336	141,414	2,149,760	7,789,799	1,424,526	1,254,071	18,385	16,996	560,610	143,217
RB_GUP_EPIS_G	PRODUCTION	0.45587726	0.22455738	0.01110067	0.04066113	0.00127987	0.00012002	0.03090879	0.00575921	0.00260248	0.00011703	0.00107972	0.01766948	0.09338372	0.01686355	0.00949204	0.00015899	0.00012317	-	-
RB_GUP_EPIS_G	BULKTRAN	0.00166569	0.00082049	0.00004056	0.00014857	0.00000468	0.00000044	0.00011294	0.00002104	0.00000951	0.00000043	0.00000395	0.00006456	0.00034121	0.00006162	0.00003468	0.00000058	0.00000045	-	-
RB_GUP_EPIS_G	SUBTRAN	0.00036638	0.00017838	0.00000861	0.00003132	0.00000097	0.00000012	0.00002366	0.00000440	0.00000262	-	0.00000083	0.00001353	0.00009423	-	0.00000712	0.00000012	0.00000010	0.00000032	0.00000007
RB_GUP_EPIS_G	DISTPRI	0.23474121	0.15688756	0.00739527	0.02685268	0.00082989	-	0.02013482	0.00375011	-	-	0.00071779	0.01157639	-	-	0.00607157	0.00010130	0.00008207	0.00028115	0.00006061
RB_GUP_EPIS_G	DISTSEC	0.09688058	0.07243775	0.00349225	0.01053757	-	-	0.00671458	-	-	-	0.00018155	-	-	-	0.00247663	-	0.00002570	0.00087262	0.00014194
RB_GUP_EPIS_G	ENERGY	0.12001176	0.04503166	0.00291834	0.00979136	0.00031119	0.00002869	0.00892692	0.00165488	0.00075193	0.00003484	0.00034210	0.00600670	0.03410355	0.00647024	0.00241857	0.00003937	0.00004391	0.00094959	0.00018792
RB_GUP_EPIS_G	CUSTOMER	0.09045711	0.06463169	0.01106061	0.00318486	0.00053239	0.00008412	0.00059430	0.00015263	0.00029194	0.00005095	0.00000413	0.00009087	0.00042955	0.00007646	0.00016266	0.00000258	0.00000464	0.00713347	0.00196925
RB_GUP_EPIS_G	TOTAL	1.00000000	0.56454493	0.03601631	0.09120748	0.00295898	0.00023338	0.06741600	0.01134227	0.00365848	0.00020325	0.00233007	0.03542153	0.12835225	0.02347187	0.02066328	0.00030293	0.00028004	0.00923716	0.00235979
Production Land	Allocate on PROD_DEMAND	4,785,016																		
Prod. GUP less Land	PRODUCTION	819,510,241	403,676,805	19,955,187	73,094,706	2,300,762	215,758	55,563,347	10,353,070	4,678,360	210,381	1,940,970	31,763,644	167,871,751	30,314,856	17,063,416	285,806	221,423	-	-
	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	819,510,241	403,676,805	19,955,187	73,094,706	2,300,762	215,758	55,563,347	10,353,070	4,678,360	210,381	1,940,970	31,763,644	167,871,751	30,314,856	17,063,416	285,806	221,423	-	-
RB_GUP-Land_P	PRODUCTION	1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
RB_GUP-Land_P	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_P	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_P	DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_P	DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_P	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_P	CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_P	TOTAL	1.00000000	0.49258299	0.02435014	0.08919316	0.00280748	0.00026328	0.06780067	0.01263324	0.00570873	0.00025672	0.00236845	0.03875930	0.20484399	0.03699143	0.02082148	0.00034875	0.00027019	-	-
Transmission Land	Allocate on BULK_TRANS	31,451,154																		
Trans. GUP less Land	PRODUCTION	10,045,283	4,948,136	244,604	895,971	28,202	2,645	681,077	126,904	57,346	2,579	23,792	389,348	2,057,716	371,589	209,158	3,503	2,714	-	-
	BULKTRAN	425,331,020	209,510,826	10,356,869	37,936,617	1,194,110	111,980	28,837,730	5,373,309	2,428,098	109,189	1,007,376	16,485,533	87,126,505	15,733,603	8,856,021	148,335	114,920	-	-
	SUBTRAN	100,341,301	48,852,912	2,357,705	8,577,217	264,942	32,997	6,480,222	1,204,666	716,790	-	226,278	3,704,303	25,806,708	-	1,950,357	32,513	26,044	88,556	19,090
	DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	535,717,604	263,311,873	12,959,178	47,409,804	1,487,254	147,622	35,999,029	6,704,879	3,202,235	111,768	1,257,446	20,579,185	114,990,929	16,105,192	11,015,536	184,351	143,679	88,556	19,090
RB_GUP-Land_T	PRODUCTION	0.01875108	0.00923646	0.00045659	0.00167247	0.00005264	0.00000494	0.00127134	0.00023689	0.00010704	0.00000481	0.00004441	0.00072678	0.00384105	0.00069363	0.00039043	0.00000654	0.00000507	-	-
RB_GUP-Land_T	BULKTRAN	0.79394632	0.39108445	0.01933270	0.07081458	0.00222899	0.00020903	0.05383010	0.01003012	0.00453242	0.00020382	0.00188042	0.03077280	0.16263513	0.02936921	0.01653114	0.00027689	0.00021452	-	-
RB_GUP-Land_T	SUBTRAN	0.18730260	0.09119154	0.00440102	0.01601071	0.00049456	0.00006159	0.01209634	0.00224870	0.00133800	-	0.00042238	0.00691466	0.04817222	-	0.00364064	0.00006069	0.00004862	0.00016530	0.00003563
RB_GUP-Land_T	DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_T	DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_T	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_T	CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_T	TOTAL	1.00000000	0.49151245	0.02419032	0.08849775	0.00277619	0.00027556	0.06719777	0.01251570	0.00597747	0.00020863	0.00234722	0.03841424	0.21464840	0.03006284	0.02056221	0.00034412	0.00026820	0.00016530	0.00003563
Distribution Land	Allocate on DIST_CPD	7,494,757																		
Dist. GUP less Land	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI	438,758,375	293,240,935	13,822,612	50,190,753	1,551,155	-	37,634,292	7,009,389	-	-	1,341,639	21,637,606	-	-	11,348,469	189,337	153,395	525,509	113,283
	DISTSEC	231,086,643	172,783,818	8,329,963	25,134,970	-	-	16,016,100	-	-	-	433,042	-	-	-	5,907,444	-	61,302	2,081,430	338,574
	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER	108,582,391	49,422,070	13,304,130	3,773,926	1,248,285	202,761	1,089,770	324,111	706,451	124,161	7,498	192,269	1,038,898	186,243	301,789	5,493	5,569	32,710,149	3,938,817
	TOTAL	778,427,409	515,446,824	35,456,705	79,099,649	2,799,440	202,761	54,740,163	7,333,501	706,451	124,161	1,782,179	21,829,876	1,038,898	186,243	17,557,701	194,830	220,265	35,317,088	4,390,674
RB_GUP-Land_D	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_D	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_D	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_D	DISTPRI	0.56364713	0.37670942	0.01775710	0.06447711	0.00199268	-	0.04834657	0.00900455	-	-	0.00172353	0.02779656	-	-	0.01457871	0.00024323	0.00019706	0.00067509	0.00014553
RB_GUP-Land_D	DISTSEC	0.29686345	0.22196523	0.01070101	0.03228942	-	-	0.02057494	-	-	-	0.00055630	-	-	-	0.00758895	-	0.00007875	0.00267389	0.00043495
RB_GUP-Land_D	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP-Land_D	CUSTOMER	0.13948942	0.06348963	0.01709103	0.00484814	0.00160360	0.00026048	0.00139996	0.00041637	0.00090754	0.00015950	0.00000963	0.00024700	0.00133461	0.00023925	0.00038769	0.00000706	0.00000715	0.04202081	0.00505997
RB_GUP-Land_D	TOTAL	1.00000000	0.66216428	0.04554915	0.10161468	0.00359628	0.00026048	0.07032147	0.00942092	0.00090754	0.00015950	0.00228946	0.02804356	0.00133461	0.00023925	0.02255535	0.00025029	0.00028296	0.04536979	0.00564044
General Land	Allocate on LABOR_M	1,501,860																		
Gen. GUP less Land	PRODUCTION	26,982,885	13,291,310	657,037	2,406,689	75,754	7,104	1,829,458	340,881	154,038	6,927	63,908	1,045,838	5,527,282	998,135	561,824	9,410	7,290	-	-
	BULKTRAN	98,591	48,564	2,401	8,794	277	26	6,685	1,246	563	25	234	3,821	20,196	3,647	2,053	34	27	-	-
	SUBTRAN	21,686	10,558	510	1,854	57	7	1,401	260	155	-	49	801	5,577	-	422	7	6	19	4
	DISTPRI	13,894,080	9,286,006	437,718	1,589,381	49,120	-	1,191,758	221,965	-	-	42,485	685,194	-	-	359,370	5,996	4,858	16,641	3,587
	DISTSEC	5,734,258	4,287,513	206,702	623,707	-	-	397,429	-	-	-	10,746	-	-	-	146,589	-	1,521	51,649	8,401
	ENERGY	7,103,367	2,665,376	172,734	579,540	18,419	1,698	528,375	97,950	44,506	2,062	20,248	355,530	2,018,552	382,967	143,153	2,330	2,599	56,205	11,123
	CUSTOMER	5,354,059	3,825,480	654,666	188,508	31,512	4,979	35,176	9,034	17,280	3,016	245	5,378	25,425	4,526	9,628	153	274	422,222	116,558
	TOTAL	59,188,925	33,414,807	2,131,767	5,398,473	175,139	13,814	3,990,280	671,337	216,541	12,030	137,914	2,096,562	7,597,032	1,389,275	1,223,037	17,930	16,575	546,737	139,673
RB_GUP-Land_G	PRODUCTION	0.45587726	0.22455738	0.01110067	0.04066113	0.00127987	0.00012002	0.03090879	0.00575921	0.00260248	0.00011703	0.00107972	0.01766948	0.09338372	0.01686355	0.00949204	0.00015899	0.00012317	-	-
RB_GUP-Land_G	BULKTRAN	0.00166569	0.00082049	0.00004056	0.00014857	0.00000468	0.00000044	0.00011294	0.00002104	0.00000951	0.00000043	0.00000395	0.00006456	0.00034121	0.00006162	0.00003468	0.00000058	0.00000045	-	-
RB_GUP-Land_G	SUBTRAN	0.00036638	0.00017838	0.00000861	0.00003132	0.00000097	0.00000012	0.00002366	0.00000440	0.00000262	-	0.00000083	0.00001353	0.00009423	-	0.00000712	0.00000012	0.00000010	0.00000032	0.00000007
RB_GUP-Land_G	DISTPRI	0.23474121	0.15688756	0.00739527	0.02685268	0.00082989	-	0.02013482	0.00375011	-	-	0.00071779	0.01157639	-	-	0.00607157	0.00010130	0.00008207	0.00028115	0.00006061
RB_GUP-Land_G	DISTSEC	0.09688058	0.07243775	0.00349225	0.01053757	-	-	0.00671458	-	-	-	0.00018155	-	-	-	0.00247663	-	0.00002570	0.00087262	0.00014194
RB_GUP-Land_G	ENERGY	0.12001176	0.04503166	0.00291834	0.00979136	0.00031119	0.00002869	0.00892692	0.00165488	0.00075193	0.00003484	0.00034210	0.00600670	0.03410355	0.00647024	0.00241857	0.00003937	0.00004391	0.00094959	0.00018792
RB_GUP-Land_G	CUSTOMER	0.09045711	0.06463169	0.01106061	0.00318486	0.00053239	0.00008412	0.00059430	0.00015263	0.00029194	0.00005095	0.00000413	0.00009087	0.00042955	0.00007646	0.00016266	0.00000258	0.00000464	0.00713347	0.00196925
RB_GUP-Land_G	TOTAL	1.00000000	0.56454493	0.03601631	0.09120748	0.00295898	0.00023338	0.06741600	0.01134227	0.00365848	0.00020325	0.00233007	0.03542153	0.12835225	0.02347187	0.02066328	0.00030293	0.00028004	0.00923716	0.00235979

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

ALLOCATOR	FUNCTION		Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
CWIP	PRODUCTION		7,765,324	3,825,066	189,087	692,614	21,801	2,044	526,494	98,101	44,330	1,993	18,392	300,979	1,590,680	287,250	161,686	2,708	2,098	-	-
	BULKTRAN		7,419,845	3,654,889	180,674	661,799	20,831	1,953	503,070	93,737	42,358	1,905	17,574	287,588	1,519,911	274,471	154,492	2,588	2,005	-	-
	SUBTRAN		1,629,918	793,554	38,298	139,326	4,304	536	105,263	19,568	11,643	-	3,676	60,172	419,198	-	31,681	528	423	1,438	310
	DISTPRI		4,961,587	3,316,040	156,309	567,569	17,541	-	425,578	79,264	-	-	15,172	244,683	-	-	128,331	2,141	1,735	5,943	1,281
	DISTSEC		2,494,180	1,864,902	89,908	271,288	-	-	172,866	-	-	-	4,674	-	-	-	63,761	-	662	22,465	3,654
	ENERGY		365,311	137,074	8,883	29,804	947	87	27,173	5,037	2,289	106	1,041	18,284	103,810	19,695	7,362	120	134	2,891	572
	CUSTOMER		1,308,739	667,092	160,285	45,611	13,501	2,186	12,181	3,549	7,612	1,337	84	2,106	11,195	2,005	3,367	60	67	333,020	43,481
	TOTAL		25,944,903	14,258,618	823,444	2,408,013	78,925	6,807	1,772,625	299,257	108,232	5,341	60,612	913,812	3,644,793	583,421	550,680	8,145	7,123	365,757	49,298
RB_GUP_CWIP	PRODUCTION		0.29930055	0.14743036	0.00728801	0.02669556	0.00084028	0.00007880	0.02029278	0.00378114	0.00170862	0.00007683	0.00070888	0.01160068	0.06130992	0.01107156	0.00623188	0.00010438	0.00008087	-	-
RB_GUP_CWIP	BULKTRAN		0.28598469	0.14087119	0.00696377	0.02550788	0.00080290	0.00007529	0.01938995	0.00361291	0.00163261	0.00007342	0.00067734	0.01108457	0.05858225	0.01057898	0.00595462	0.00009974	0.00007727	-	-
RB_GUP_CWIP	SUBTRAN		0.06282229	0.03058613	0.00147613	0.00537008	0.00016588	0.00002066	0.00405718	0.00075422	0.00044877	-	0.00014167	0.00231921	0.01615722	-	0.00122109	0.00002036	0.00001631	0.00005544	0.00001195
RB_GUP_CWIP	DISTPRI		0.19123551	0.12781085	0.00602467	0.02187595	0.00067608	-	0.01640314	0.00305509	-	-	0.00058476	0.00943088	-	-	0.00494630	0.00008252	0.00006686	0.00022905	0.00004937
RB_GUP_CWIP	DISTSEC		0.09613371	0.07187931	0.00346532	0.01045633	-	-	0.00666281	-	-	-	0.00018015	-	-	-	0.00245754	-	0.00002550	0.00086589	0.00014085
RB_GUP_CWIP	ENERGY		0.01408024	0.00528329	0.00034239	0.00114876	0.00003651	0.00000337	0.00104734	0.00019416	0.00008822	0.00000409	0.00004014	0.00070473	0.00400116	0.00075911	0.00028376	0.00000462	0.00000515	0.00011141	0.00002205
RB_GUP_CWIP	CUSTOMER		0.05044302	0.02571186	0.00617790	0.00175801	0.00052036	0.00008425	0.00046948	0.00013680	0.00029339	0.00005152	0.00000324	0.00008119	0.00043149	0.00007729	0.00012979	0.00000232	0.00000259	0.01283568	0.00167588
RB_GUP_CWIP	TOTAL		1.00000000	0.54957299	0.03173819	0.09281256	0.00304200	0.00026236	0.06832267	0.01153431	0.00417162	0.00020586	0.00233617	0.03522126	0.14048203	0.02248694	0.02122498	0.00031394	0.00027454	0.01409747	0.00190010
T&D Plant	PRODUCTION		10,045,283	4,948,136	244,604	895,971	28,202	2,645	681,077	126,904	57,346	2,579	23,792	389,348	2,057,716	371,589	209,158	3,503	2,714	-	-
	BULKTRAN		456,782,174	225,003,129	11,122,709	40,741,844	1,282,409	120,260	30,970,140	5,770,639	2,607,644	117,263	1,081,866	17,704,558	93,569,085	16,897,026	9,510,881	159,304	123,418	-	-
	SUBTRAN		100,341,301	48,852,912	2,357,705	8,577,217	264,942	32,997	6,480,222	1,204,666	716,790	-	226,278	3,704,303	25,806,708	-	1,950,357	32,513	26,044	88,556	19,090
	DISTPRI		446,253,132	298,250,001	14,058,726	51,048,099	1,577,652	-	38,277,152	7,129,122	-	-	1,364,557	22,007,214	-	-	11,542,320	192,571	156,015	534,485	115,218
	DISTSEC		231,086,643	172,783,818	8,329,963	25,134,970	-	-	16,016,100	-	-	-	433,042	-	-	-	5,907,444	-	61,302	2,081,430	338,574
	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER		108,582,391	49,422,070	13,304,130	3,773,926	1,248,285	202,761	1,089,770	324,111	706,451	124,161	7,498	192,269	1,038,898	186,243	301,789	5,493	5,569	32,710,149	3,938,817
	TOTAL		1,353,090,924	799,260,066	49,417,837	130,172,026	4,401,489	358,663	93,514,460	14,555,443	4,088,232	244,003	3,137,033	43,997,693	122,472,407	17,454,858	29,421,948	393,384	375,062	35,414,621	4,411,699
TDPLANT	PRODUCTION		0.00742395	0.00365691	0.00018077	0.00066217	0.00002084	0.00000195	0.00050335	0.00009379	0.00004238	0.00000191	0.00001758	0.00028775	0.00152075	0.00027462	0.00015458	0.00000259	0.00000201	-	-
TDPLANT	BULKTRAN		0.33758424	0.16628826	0.00822022	0.03011020	0.00094776	0.00008888	0.02288844	0.00426478	0.00192718	0.00008666	0.00079955	0.01308453	0.06915210	0.01248772	0.00702900	0.00011773	0.00009121	-	-
TDPLANT	SUBTRAN		0.07415710	0.03610468	0.00174246	0.00633898	0.00019581	0.00002439	0.00478920	0.00089031	0.00052974	-	0.00016723	0.00273766	0.01907241	-	0.00144141	0.00002403	0.00001925	0.00006545	0.00001411
TDPLANT	DISTPRI		0.32980277	0.22042126	0.01039008	0.03772703	0.00116596	-	0.02828868	0.00526877	-	-	0.00100847	0.01626440	-	-	0.00853034	0.00014232	0.00011530	0.00039501	0.00008515
TDPLANT	DISTSEC		0.17078427	0.12769565	0.00615625	0.01857596	-	-	0.01183668	-	-	-	0.00032004	-	-	-	0.00436589	-	0.00004530	0.00153828	0.00025022
TDPLANT	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TDPLANT	CUSTOMER		0.08024767	0.03652531	0.00983240	0.00278911	0.00092254	0.00014985	0.00080539	0.00023953	0.00052210	0.00009176	0.00000554	0.00014210	0.00076780	0.00013764	0.00022304	0.00000406	0.00000412	0.02417439	0.00291098
TDPLANT	TOTAL		1.00000000	0.59069206	0.03652219	0.09620346	0.00325291	0.00026507	0.06911173	0.01075718	0.00302140	0.00018033	0.00231842	0.03251644	0.09051307	0.01289999	0.02174425	0.00029073	0.00027719	0.02617313	0.00326046
Electric Plant in Service	PRODUCTION		862,008,089	424,610,522	20,990,015	76,885,223	2,420,074	226,947	58,444,730	10,889,956	4,920,968	221,290	2,041,624	33,410,831	176,577,179	31,886,912	17,948,284	300,627	232,906	-	-
	BULKTRAN		456,883,266	225,052,925	11,125,170	40,750,861	1,282,692	120,287	30,976,994	5,771,916	2,608,222	117,289	1,082,106	17,708,476	93,589,793	16,900,765	9,512,986	159,339	123,445	-	-
	SUBTRAN		100,363,537	48,863,738	2,358,228	8,579,118	265,001	33,004	6,481,658	1,204,933	716,949	-	226,328	3,705,124	25,812,427	-	1,950,789	32,520	26,050	88,576	19,094
	DISTPRI		460,499,760	307,771,630	14,507,551	52,677,809	1,628,018	-	39,499,149	7,356,719	-	-	1,408,120	22,709,795	-	-	11,910,809	198,719	160,996	551,549	118,896
	DISTSEC		236,966,402	177,180,122	8,541,910	25,774,503	-	-	16,423,613	-	-	-	444,060	-	-	-	6,057,753	-	62,861	2,134,390	347,189
	ENERGY		7,283,608	2,733,007	177,117	594,245	18,886	1,741	541,782	100,436	45,635	2,114	20,762	364,551	2,069,771	392,684	146,785	2,389	2,665	57,632	11,405
	CUSTOMER		114,072,304	53,344,619	13,975,407	3,967,217	1,280,596	207,866	1,125,839	333,375	724,169	127,254	7,749	197,784	1,064,968	190,883	311,661	5,650	5,850	33,143,085	4,058,333
	TOTAL		2,238,076,966	1,239,556,564	71,675,398	209,228,976	6,895,268	589,846	153,493,764	25,657,335	9,015,944	467,948	5,230,749	78,096,561	299,114,138	49,371,244	47,839,066	699,244	614,774	35,975,231	4,554,917
RB_GUP_EPIS	PRODUCTION		0.38515569	0.18972114	0.00937859	0.03435325	0.00108132	0.00010140	0.02611382	0.00486576	0.00219875	0.00009888	0.00091222	0.01492837	0.07889683	0.01424746	0.00801951	0.00013432	0.00010407	-	-
RB_GUP_EPIS	BULKTRAN		0.20414100	0.10055638	0.00497086	0.01820798	0.00057312	0.00005375	0.01384090	0.00257896	0.00116539	0.00005241	0.00048350	0.00791236	0.04181706	0.00755147	0.00425052	0.00007119	0.00005516	-	-
RB_GUP_EPIS	SUBTRAN		0.04484365	0.02183291	0.00105368	0.00383325	0.00011841	0.00001475	0.00289608	0.00053838	0.00032034	-	0.00010113	0.00165549	0.01153331	-	0.00087164	0.00001453	0.00001164	0.00003958	0.00000853
RB_GUP_EPIS	DISTPRI		0.20575689	0.13751611	0.00648215	0.02353709	0.00072742	-	0.01764870	0.00328707	-	-	0.00062917	0.01014701	-	-	0.00532189	0.00008879	0.00007193	0.00024644	0.00005312
RB_GUP_EPIS	DISTSEC		0.10587947	0.07916623	0.00381663	0.01151636	-	-	0.00733827	-	-	-	0.00019841	-	-	-	0.00270668	-	0.00002809	0.00095367	0.00015513
RB_GUP_EPIS	ENERGY		0.00325440	0.00122114	0.00007914	0.00026552	0.00000844	0.00000078	0.00024207	0.00004488	0.00002039	0.00000094	0.00000928	0.00016289	0.00092480	0.00017546	0.00006559	0.00000107	0.00000119	0.00002575	0.00000510
RB_GUP_EPIS	CUSTOMER		0.05096889	0.02383502	0.00624438	0.00177260	0.00057219	0.00009288	0.00050304	0.00014896	0.00032357	0.00005686	0.00000346	0.00008837	0.00047584	0.00008529	0.00013925	0.00000252	0.00000261	0.01480873	0.00181331
RB_GUP_EPIS	TOTAL		1.00000000	0.55384894	0.03202544	0.09348605	0.00308089	0.00026355	0.06858288	0.01146401	0.00402843	0.00020908	0.00233716	0.03489449	0.13364783	0.02205967	0.02137508	0.00031243	0.00027469	0.01607417	0.00203519
Gross Utility Plant	PRODUCTION	Same as	862,008,089	424,610,522	20,990,015	76,885,223	2,420,074	226,947	58,444,730	10,889,956	4,920,968	221,290	2,041,624	33,410,831	176,577,179	31,886,912	17,948,284	300,627	232,906	-	-
	BULKTRAN	RB_GUP_EPIS	456,883,266	225,052,925	11,125,170	40,750,861	1,282,692	120,287	30,976,994	5,771,916	2,608,222	117,289	1,082,106	17,708,476	93,589,793	16,900,765	9,512,986	159,339	123,445	-	-
	SUBTRAN		100,363,537	48,863,738	2,358,228	8,579,118	265,001	33,004	6,481,658	1,204,933	716,949	-	226,328	3,705,124	25,812,427	-	1,950,789	32,520	26,050	88,576	19,094
	DISTPRI		460,499,760	307,771,630	14,507,551	52,677,809	1,628,018	-	39,499,149	7,356,719	-	-	1,408,120	22,709,795	-	-	11,910,809	198,719	160,996	551,549	118,896
	DISTSEC		236,966,402	177,180,122	8,541,910	25,774,503	-	-	16,423,613	-	-	-	444,060	-	-	-	6,057,753	-	62,861	2,134,390	347,189
	ENERGY		7,283,608	2,733,007	177,117	594,245	18,886	1,741	541,782	100,436	45,635	2,114	20,762	364,551	2,069,771	392,684	146,785	2,389	2,665	57,632	11,405
	CUSTOMER		114,072,304	53,344,619	13,975,407	3,967,217	1,280,596	207,866	1,125,839	333,375	724,169	127,254	7,749	197,784	1,064,968	190,883	311,661	5,650	5,850	33,143,085	4,058,333
	TOTAL		2,238,076,966	1,239,556,564	71,675,398	209,228,976	6,895,268	589,846	153,493,764	25,657,335	9,015,944	467,948	5,230,749	78,096,561	299,114,138	49,371,244	47,839,066	699,244	614,774	35,975,231	4,554,917
RB_GUP	PRODUCTION		0.38515569	0.18972114	0.00937859	0.03435325	0.00108132	0.00010140	0.02611382	0.00486576	0.00219875	0.00009888	0.00091222	0.01492837	0.07889683	0.01424746	0.00801951	0.00013432	0.00010407	-	-
RB_GUP	BULKTRAN		0.20414100	0.10055638	0.00497086	0.01820798	0.00057312	0.00005375	0.01384090	0.00257896	0.00116539	0.00005241	0.00048350	0.00791236	0.04181706	0.00755147	0.00425052	0.00007119	0.00005516	-	-
RB_GUP	SUBTRAN		0.04484365	0.02183291	0.00105368	0.00383325	0.00011841	0.00001475	0.00289608	0.00053838	0.00032034	-	0.00010113	0.00165549	0.01153331	-	0.00087164	0.00001453	0.00001164	0.00003958	0.00000853
RB_GUP	DISTPRI		0.20575689	0.13751611	0.00648215	0.02353709	0.00072742	-	0.01764870	0.00328707	-	-	0.00062917	0.01014701	-	-	0.00532189	0.00008879	0.00007193	0.00024644	0.00005312
RB_GUP	DISTSEC		0.10587947	0.07916623	0.00381663	0.01151636	-	-	0.00733827	-	-	-	0.00019841	-	-	-	0.00270668	-	0.00002809	0.00095367	0.00015513
RB_GUP	ENERGY		0.00325440	0.00122114	0.00007914	0.00026552	0.00000844	0.00000078	0.00024207	0.00004488	0.00002039	0.00000094	0.00000928	0.00016289	0.00092480	0.00017546	0.00006559	0.00000107	0.00000119	0.00002575	0.00000510
RB_GUP	CUSTOMER		0.05096889	0.02383502	0.00624438	0.00177260	0.00057219	0.00009288	0.00050304	0.00014896	0.00032357	0.00005686	0.00000346	0.00008837	0.00047584	0.00008529	0.00013925	0.00000252	0.00000261	0.01480873	0.00181331
RB_GUP	TOTAL		1.00000000	0.55384894	0.03202544	0.09348605	0.00308089	0.00026355	0.06858288	0.01146401	0.00402843	0.00020908	0.00233716	0.03489449	0.13364783	0.02205967	0.02137508	0.00031243	0.00027469	0.01607417	0.00203519
Net EPIS	PRODUCTION		524,214,322	258,219,058	12,764,691	46,756,331	1,471,723	138,014	35,542,085	6,622,526	2,992,596	134,574	1,241,576	20,318,181	107,382,155	19,391,437	10,914,918	182,821	141,637	-	-
	BULKTRAN		307,000,764	151,223,354	7,475,511	27,382,367	861,900	80,826	20,814,859	3,878,415	1,752,583	78,812	727,116	11,899,135	62,887,263	11,356,397	6,392,210	107,067	82,948	-	-
	SUBTRAN		65,255,225	31,770,644	1,533,293	5,578,044	172,301	21,459	4,214,300	783,433	466,152	-	147,156	2,409,030	16,782,945	-	1,268,381	21,144	16,937	57,591	12,415
	DISTPRI		325,887,320	217,804,395	10,266,731	37,279,129	1,152,119	-	27,952,831	5,206,217	-	-	996,501	16,071,309	-	-	8,429,063	140,630	113,934	390,321	84,141
	DISTSEC		166,693,542	124,637,004	6,008,790	18,131,023	-	-	11,553,158	-	-	-	312,373	-	-	-	4,261,314	-	44,220	1,501,432	244,229
	ENERGY		4,478,879	1,680,597	108,914	365,417	11,614	1,071	333,156	61,761	28,062	1,300	12,767	224,172	1,272,756	241,472	90,262	1,469	1,639	35,439	7,013
	CUSTOMER		80,002,522	37,289,249	9,801,515	2,782,121	900,784	146,228	791,231	234,422	509,438	89,522	5,446	139,076	749,182	134,285	219,043	3,973	4,103	23,349,788	2,853,118
	TOTAL		1,473,532,574	822,624,301	47,959,443	138,274,431	4,570,440	387,598	101,201,618	16,786,773	5,748,832	304,208	3,442,936	51,060,902	189,074,300	31,123,591	31,575,191	457,104	405,419	25,334,571	3,200,916
NP	PRODUCTION		0.35575347	0.17523811	0.00866265	0.03173078	0.00099877	0.00009366	0.02412033	0.00449432	0.00203090	0.00009133	0.00084258	0.01378876	0.07287396	0.01315983	0.00740731	0.00012407	0.00009612	-	-
NP	BULKTRAN		0.20834338	0.10262641	0.00507319	0.01858280	0.00058492	0.00005485	0.01412582	0.00263205	0.00118938	0.00005348	0.00049345	0.00807524	0.04267789	0.00770692	0.00433802	0.00007266	0.00005629	-	-
NP	SUBTRAN		0.04428489	0.02156087	0.00104056	0.00378549	0.00011693	0.00001456	0.00286000	0.00053167	0.00031635	-	0.00009987	0.00163487	0.01138960	-	0.00086078	0.00001435	0.00001149	0.00003908	0.00000843
NP	DISTPRI		0.22116058	0.14781105	0.00696743	0.02529915	0.00078188	-	0.01896994	0.00353315	-	-	0.00067627	0.01090665	-	-	0.00572031	0.00009544	0.00007732	0.00026489	0.00005710
NP	DISTSEC		0.11312512	0.08458381	0.00407781	0.01230446	-	-	0.00784045	-	-	-	0.00021199	-	-	-	0.00289190	-	0.00003001	0.00101893	0.00016574
NP	ENERGY		0.00303955	0.00114052	0.00007391	0.00024799	0.00000788	0.00000073	0.00022609	0.00004191	0.00001904	0.00000088	0.00000866	0.00015213	0.00086374	0.00016387	0.00006126	0.00000100	0.00000111	0.00002405	0.00000476
NP	CUSTOMER		0.05429301	0.02530602	0.00665171	0.00188806	0.00061131	0.00009924	0.00053696	0.00015909	0.00034573	0.00006075	0.00000370	0.00009438	0.00050843	0.00009113	0.00014865	0.00000270	0.00000278	0.01584613	0.00193624
NP	TOTAL		1.00000000	0.55826679	0.03254726	0.09383873	0.00310169	0.00026304	0.06867959	0.01139220	0.00390139	0.00020645	0.00233652	0.03465203	0.12831362	0.02112175	0.02142823	0.00031021	0.00027513	0.01719309	0.00217227

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

ALLOCATOR	FUNCTION	Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
Rate Base	PRODUCTION	481,495,953	235,278,987	11,569,153	42,947,722	1,272,403	(16,174)	32,899,720	5,967,356	2,598,252	126,015	1,162,592	18,828,671	100,351,191	17,997,251	10,208,990	171,192	132,633	-	-
	BULKTRAN	220,022,522	107,309,093	5,277,560	19,632,990	577,428	(17,178)	15,052,414	2,716,942	1,176,708	57,778	533,050	8,624,288	46,011,744	8,250,000	4,680,402	78,491	60,812	-	-
	SUBTRAN	46,170,006	22,236,074	1,067,392	3,946,616	113,530	(5,431)	3,008,573	540,969	307,857	-	106,567	1,723,845	12,128,670	-	917,352	15,312	12,266	41,424	8,990
	DISTPRI	238,338,688	158,682,625	7,440,941	27,408,930	794,625	-	20,719,120	3,748,012	-	-	747,922	11,931,879	-	-	6,318,988	105,550	85,516	291,450	63,128
	DISTSEC	121,049,832	90,224,944	4,327,359	13,248,406	-	-	8,511,096	-	-	-	233,063	-	-	-	3,175,637	-	32,994	1,114,166	182,168
	ENERGY	28,989,278	11,114,108	696,921	2,345,849	68,005	3,410	2,166,804	406,780	179,089	8,386	82,337	1,414,643	8,119,770	1,496,716	580,371	9,476	10,570	241,934	44,111
	CUSTOMER	58,822,167	27,640,535	7,135,055	2,055,577	618,396	(23,275)	585,649	168,243	350,718	66,902	4,083	102,973	558,804	99,453	163,961	2,974	3,094	17,150,313	2,138,715
	TOTAL	1,194,888,447	652,486,366	37,514,381	111,586,090	3,444,388	(58,648)	82,943,376	13,548,303	4,612,624	259,080	2,869,612	42,626,300	167,170,178	27,843,420	26,045,700	382,994	337,885	18,839,286	2,437,113
RATEBASE	PRODUCTION	0.40296310	0.19690456	0.00968220	0.03594287	0.00106487	(0.00001354)	0.02753372	0.00499407	0.00217447	0.00010546	0.00097297	0.01575768	0.08398373	0.01506187	0.00854389	0.00014327	0.00011100	-	-
RATEBASE	BULKTRAN	0.18413645	0.08980679	0.00441678	0.01643081	0.00048325	(0.00001438)	0.01259734	0.00227380	0.00098479	0.00004835	0.00044611	0.00721765	0.03850715	0.00690441	0.00391702	0.00006569	0.00005089	-	-
RATEBASE	SUBTRAN	0.03863960	0.01860933	0.00089330	0.00330292	0.00009501	(0.00000455)	0.00251787	0.00045274	0.00025764	-	0.00008919	0.00144268	0.01015046	-	0.00076773	0.00001281	0.00001027	0.00003467	0.00000752
RATEBASE	DISTPRI	0.19946522	0.13280120	0.00622731	0.02293848	0.00066502	-	0.01733979	0.00313670	-	-	0.00062593	0.00998577	-	-	0.00528835	0.00008833	0.00007157	0.00024391	0.00005283
RATEBASE	DISTSEC	0.10130639	0.07550909	0.00362156	0.01108757	-	-	0.00712292	-	-	-	0.00019505	-	-	-	0.00265768	-	0.00002761	0.00093244	0.00015246
RATEBASE	ENERGY	0.02426108	0.00930138	0.00058325	0.00196324	0.00005691	0.00000285	0.00181339	0.00034043	0.00014988	0.00000702	0.00006891	0.00118391	0.00679542	0.00125260	0.00048571	0.00000793	0.00000885	0.00020247	0.00003692
RATEBASE	CUSTOMER	0.04922817	0.02313231	0.00597131	0.00172031	0.00051753	(0.00001948)	0.00049013	0.00014080	0.00029351	0.00005599	0.00000342	0.00008618	0.00046766	0.00008323	0.00013722	0.00000249	0.00000259	0.01435307	0.00178989
RATEBASE	TOTAL	1.00000000	0.54606467	0.03139572	0.09338620	0.00288260	(0.00004908)	0.06941516	0.01133855	0.00386030	0.00021682	0.00240157	0.03567387	0.13990442	0.02330211	0.02179760	0.00032053	0.00028278	0.01576657	0.00203962
CUST_451	TOTAL	1.00000000	0.91645786	0.05818206	0.01873519	0.00051850	0.00005370	0.00152547	0.00006346	-	-	-	0.00001586	-	-	-	-	-	0.00444790	-
RB_GUP_EPIS_D	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_D	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_D	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_D	DISTPRI	0.56780830	0.37949051	0.01788819	0.06495312	0.00200739	-	0.04870349	0.00907103	-	-	0.00173625	0.02800177	-	-	0.01468634	0.00024503	0.00019851	0.00068007	0.00014660
RB_GUP_EPIS_D	DISTSEC	0.29403248	0.21984851	0.01059897	0.03198150	-	-	0.02037874	-	-	-	0.00055100	-	-	-	0.00751658	-	0.00007800	0.00264839	0.00043080
RB_GUP_EPIS_D	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB_GUP_EPIS_D	CUSTOMER	0.13815922	0.06288418	0.01692805	0.00480191	0.00158831	0.00025799	0.00138661	0.00041240	0.00089888	0.00015798	0.00000954	0.00024464	0.00132188	0.00023697	0.00038399	0.00000699	0.00000709	0.04162009	0.00501171
RB_GUP_EPIS_D	TOTAL	1.00000000	0.66222320	0.04541521	0.10173653	0.00359570	0.00025799	0.07046884	0.00948342	0.00089888	0.00015798	0.00229679	0.02824642	0.00132188	0.00023697	0.02258691	0.00025202	0.00028360	0.04494855	0.00558912
MISC_SERV_REV	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MISC_SERV_REV	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MISC_SERV_REV	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MISC_SERV_REV	DISTPRI	0.56154671	0.52518103	0.02291681	0.01196138	0.00028947	-	0.00105430	0.00006070	-	-	-	0.00001573	-	-	-	-	-	0.00006730	-
MISC_SERV_REV	DISTSEC	0.32442196	0.30425074	0.01357848	0.00588952	-	-	0.00044115	-	-	-	-	-	-	-	-	-	-	0.00026207	-
MISC_SERV_REV	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MISC_SERV_REV	CUSTOMER	0.11403132	0.08702610	0.02168676	0.00088429	0.00022903	0.00005370	0.00003002	0.00000276	-	-	-	0.00000014	-	-	-	-	-	0.00411853	-
MISC_SERV_REV	TOTAL	1.00000000	0.91645786	0.05818206	0.01873519	0.00051850	0.00005370	0.00152547	0.00006346	-	-	-	0.00001586	-	-	-	-	-	0.00444790	-
364 Poles	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI	113,968,509	76,170,015	3,590,456	13,037,165	402,916	-	9,775,595	1,820,705	-	-	348,494	5,620,419	-	-	2,947,791	49,181	39,845	136,502	29,425
	DISTSEC	87,069,609	65,102,073	3,138,592	9,470,439	-	-	6,034,601	-	-	-	163,163	-	-	-	2,225,827	-	23,097	784,248	127,569
	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	201,038,118	141,272,088	6,729,047	22,507,604	402,916	-	15,810,196	1,820,705	-	-	511,657	5,620,419	-	-	5,173,618	49,181	62,942	920,750	156,995
365 Overhead Lines	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI	182,131,798	121,726,449	5,737,867	20,834,547	643,896	-	15,622,269	2,909,649	-	-	556,924	8,981,928	-	-	4,710,832	78,595	63,675	218,142	47,025
	DISTSEC	36,461,335	27,262,193	1,314,319	3,965,848	-	-	2,527,054	-	-	-	68,326	-	-	-	932,089	-	9,672	328,412	53,421
	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	218,593,133	148,988,642	7,052,186	24,800,395	643,896	-	18,149,323	2,909,649	-	-	625,250	8,981,928	-	-	5,642,921	78,595	73,348	546,555	100,445
TOTOHLINES	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOHLINES	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOHLINES	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOHLINES	DISTPRI	0.70562025	0.47159611	0.02222981	0.08071780	0.00249460	-	0.06052424	0.01127264	-	-	0.00215765	0.03479804	-	-	0.01825084	0.00030450	0.00024669	0.00084513	0.00018218
TOTOHLINES	DISTSEC	0.29437975	0.22010817	0.01061148	0.03201927	-	-	0.02040280	-	-	-	0.00055165	-	-	-	0.00752545	-	0.00007809	0.00265152	0.00043131
TOTOHLINES	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOHLINES	CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOHLINES	TOTAL	1.00000000	0.69170427	0.03284129	0.11273707	0.00249460	-	0.08092705	0.01127264	-	-	0.00270930	0.03479804	-	-	0.02577629	0.00030450	0.00032478	0.00349665	0.00061349
366 Underground Conduit	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI	5,843,003	3,905,128	184,078	668,397	20,657	-	501,181	93,345	-	-	17,867	288,151	-	-	151,129	2,521	2,043	6,998	1,509
	DISTSEC	1,375,037	1,028,117	49,566	149,561	-	-	95,301	-	-	-	2,577	-	-	-	35,151	-	365	12,385	2,015
	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	7,218,040	4,933,245	233,643	817,958	20,657	-	596,482	93,345	-	-	20,444	288,151	-	-	186,280	2,521	2,408	19,383	3,523
367 Underground Lines	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI	8,972,306	5,996,575	282,663	1,026,366	31,720	-	769,595	143,337	-	-	27,436	442,474	-	-	232,068	3,872	3,137	10,746	2,317
	DISTSEC	2,111,457	1,578,739	76,112	229,660	-	-	146,340	-	-	-	3,957	-	-	-	53,977	-	560	19,018	3,094
	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	11,083,763	7,575,314	358,774	1,256,027	31,720	-	915,936	143,337	-	-	31,392	442,474	-	-	286,045	3,872	3,697	29,764	5,410
TOTUGLINES	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTUGLINES	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTUGLINES	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTUGLINES	DISTPRI	0.80950000	0.54102338	0.02550243	0.09260089	0.00286185	-	0.06943448	0.01293218	-	-	0.00247530	0.03992093	-	-	0.02093769	0.00034932	0.00028301	0.00096955	0.00020900
TOTUGLINES	DISTSEC	0.19050000	0.14243713	0.00686694	0.02072042	-	-	0.01320313	-	-	-	0.00035698	-	-	-	0.00486990	-	0.00005054	0.00171586	0.00027911
TOTUGLINES	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTUGLINES	CUSTOMER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTUGLINES	TOTAL	1.00000000	0.68346050	0.03236937	0.11332130	0.00286185	-	0.08263761	0.01293218	-	-	0.00283228	0.03992093	-	-	0.02580758	0.00034932	0.00033354	0.00268541	0.00048811

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

ALLOCATOR	FUNCTION		Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
		Excl. 580 -																			
Acct 581-589	PRODUCTION	Acct. 580 allocated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BULKTRAN	on this: TOTOXEXF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI		4,287,634	2,865,608	135,077	490,474	15,158	-	367,770	68,497	-	-	13,111	211,447	-	-	110,899	1,850	1,499	5,135	1,107
	DISTSEC		1,804,807	1,349,457	65,058	196,306	-	-	125,087	-	-	-	3,382	-	-	-	46,138	-	479	16,256	2,644
	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER		2,178,555	919,000	392,818	112,189	62,254	10,103	47,664	16,191	35,201	6,187	328	9,605	51,766	9,280	13,217	274	164	261,273	231,042
	TOTAL		8,270,995	5,134,065	592,953	798,969	77,412	10,103	540,520	84,688	35,201	6,187	16,821	221,052	51,766	9,280	170,254	2,125	2,142	282,664	234,793
TOTOXEXP	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOXEXP	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOXEXP	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOXEXP	DISTPRI		0.51839394	0.34646478	0.01633145	0.05930048	0.00183269	-	0.04446499	0.00828161	-	-	0.00158515	0.02556488	-	-	0.01340824	0.00022370	0.00018124	0.00062089	0.00013384
TOTOXEXP	DISTSEC		0.21820913	0.16315528	0.00786577	0.02373430	-	-	0.01512359	-	-	-	0.00040891	-	-	-	0.00557825	-	0.00005789	0.00196544	0.00031971
TOTOXEXP	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOXEXP	CUSTOMER		0.26339694	0.11111117	0.04749342	0.01356413	0.00752673	0.00122151	0.00576274	0.00195755	0.00425593	0.00074800	0.00003970	0.00116126	0.00625872	0.00112200	0.00159800	0.00003318	0.00001988	0.03158904	0.02793400
TOTOXEXP	TOTAL		1.00000000	0.62073122	0.07169063	0.09659891	0.00935942	0.00122151	0.06535132	0.01023916	0.00425593	0.00074800	0.00203376	0.02672614	0.00625872	0.00112200	0.02058448	0.00025688	0.00025900	0.03417537	0.02838755
		Excl. 590 -																			
Acct 591-598	PRODUCTION	Acct. 590 allocated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BULKTRAN	on this: TOTMXEXF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI		26,800,804	17,912,120	844,331	3,065,816	94,750	-	2,298,826	428,157	-	-	81,952	1,321,696	-	-	693,202	11,565	9,370	32,100	6,920
	DISTSEC		11,015,123	8,236,024	397,061	1,198,099	-	-	763,434	-	-	-	20,642	-	-	-	281,588	-	2,922	99,215	16,139
	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER		164,017	34,816	20,630	5,911	3,897	633	2,889	1,012	2,206	388	20	600	3,244	581	801	17	9	61,150	25,214
	TOTAL		37,979,944	26,182,960	1,262,021	4,269,826	98,647	633	3,065,149	429,168	2,206	388	102,613	1,322,296	3,244	581	975,591	11,582	12,301	192,465	48,272
TOTMXEXP	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTMXEXP	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTMXEXP	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTMXEXP	DISTPRI		0.70565675	0.47162050	0.02223096	0.08072198	0.00249473	-	0.06052737	0.01127323	-	-	0.00215776	0.03479984	-	-	0.01825178	0.00030451	0.00024671	0.00084518	0.00018219
TOTMXEXP	DISTSEC		0.29002474	0.21685192	0.01045450	0.03154558	-	-	0.02010097	-	-	-	0.00054349	-	-	-	0.00741412	-	0.00007694	0.00261229	0.00042493
TOTMXEXP	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTMXEXP	CUSTOMER		0.00431852	0.00091670	0.00054317	0.00015563	0.00010261	0.00001667	0.00007606	0.00002664	0.00005807	0.00001021	0.00000052	0.00001581	0.00008540	0.00001531	0.00002110	0.00000045	0.00000023	0.00161006	0.00066388
TOTMXEXP	TOTAL		1.00000000	0.68938912	0.03322863	0.11242319	0.00259734	0.00001667	0.08070440	0.01129987	0.00005807	0.00001021	0.00270178	0.03481565	0.00008540	0.00001531	0.02568701	0.00030496	0.00032387	0.00506753	0.00127100
Acct 560-574	PRODUCTION		-	0	0	0	-	-	-	0	-	-	(0)	0	-	-	(0)	-	0	-	-
	BULKTRAN		6,064,531	2,987,285	147,672	540,915	17,026	1,597	411,179	76,615	34,621	1,557	14,364	235,057	1,242,283	224,336	126,273	2,115	1,639	-	-
	SUBTRAN		1,333,945	649,454	31,344	114,026	3,522	439	86,149	16,015	9,529	-	3,008	49,245	343,076	-	25,928	432	346	1,177	254
	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL		7,398,476	3,636,739	179,016	654,941	20,548	2,035	497,328	92,630	44,150	1,557	17,372	284,302	1,585,359	224,336	152,201	2,547	1,985	1,177	254
EXP_OM_TRAN	PRODUCTION		0.00000000	0.00000000	0.00000000	0.00000000	-	-	-	0.00000000	-	-	(0.00000000)	0.00000000	-	-	(0.00000000)	-	0.00000000	-	-
EXP_OM_TRAN	BULKTRAN		0.81970000	0.40377028	0.01995981	0.07311163	0.00230129	0.00021581	0.05557621	0.01035547	0.00467944	0.00021043	0.00194142	0.03177100	0.16791062	0.03032188	0.01706737	0.00028587	0.00022147	-	-
EXP_OM_TRAN	SUBTRAN		0.18030000	0.08778220	0.00423648	0.01541212	0.00047607	0.00005929	0.01164410	0.00216462	0.00128798	-	0.00040659	0.00665614	0.04637123	-	0.00350453	0.00005842	0.00004680	0.00015912	0.00003430
EXP_OM_TRAN	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_TRAN	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_TRAN	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_TRAN	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_TRAN	TOTAL		1.00000000	0.49155248	0.02419629	0.08852375	0.00277736	0.00027510	0.06722031	0.01252009	0.00596742	0.00021043	0.00234801	0.03842714	0.21428185	0.03032188	0.02057190	0.00034429	0.00026827	0.00015912	0.00003430
Acct 580-598	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI		33,166,581	22,166,640	1,044,878	3,794,015	117,255	-	2,844,848	529,853	-	-	101,417	1,635,628	-	-	857,852	14,312	11,595	39,724	8,563
	DISTSEC		13,688,256	10,234,729	493,420	1,488,852	-	-	948,703	-	-	-	25,651	-	-	-	349,923	-	3,631	123,292	20,055
	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER		2,526,967	1,031,597	446,695	127,595	71,420	11,591	54,586	18,573	40,386	7,098	376	11,018	59,391	10,647	15,137	315	187	344,542	275,812
	TOTAL		49,381,803	33,432,967	1,984,992	5,410,462	188,675	11,591	3,848,137	548,426	40,386	7,098	127,444	1,646,646	59,391	10,647	1,222,913	14,627	15,414	507,558	304,431
EXP_OM_DIST	PRODUCTION		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_DIST	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_DIST	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_DIST	DISTPRI		0.67163568	0.44888277	0.02115916	0.07683022	0.00237445	-	0.05760923	0.01072972	-	-	0.00205373	0.03312208	-	-	0.01737183	0.00028983	0.00023481	0.00080443	0.00017341
EXP_OM_DIST	DISTSEC		0.27719230	0.20725709	0.00999193	0.03014982	-	-	0.01921158	-	-	-	0.00051944	-	-	-	0.00708608	-	0.00007353	0.00249671	0.00040613
EXP_OM_DIST	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXP_OM_DIST	CUSTOMER		0.05117202	0.02089023	0.00904574	0.00258385	0.00144628	0.00023473	0.00110540	0.00037611	0.00081783	0.00014374	0.00000762	0.00022312	0.00120269	0.00021560	0.00030653	0.00000637	0.00000379	0.00697710	0.00558530
EXP_OM_DIST	TOTAL		1.00000000	0.67703009	0.04019683	0.10956388	0.00382073	0.00023473	0.07792621	0.01110584	0.00081783	0.00014374	0.00258079	0.03334519	0.00120269	0.00021560	0.02476444	0.00029620	0.00031213	0.01027824	0.00616484
Acct 560-598	PRODUCTION		-	0	0	0	-	-	-	0	-	-	(0)	0	-	-	(0)	-	0	-	-
	BULKTRAN		6,064,531	2,987,285	147,672	540,915	17,026	1,597	411,179	76,615	34,621	1,557	14,364	235,057	1,242,283	224,336	126,273	2,115	1,639	-	-
	SUBTRAN		1,333,945	649,454	31,344	114,026	3,522	439	86,149	16,015	9,529	-	3,008	49,245	343,076	-	25,928	432	346	1,177	254
	DISTPRI		33,166,581	22,166,640	1,044,878	3,794,015	117,255	-	2,844,848	529,853	-	-	101,417	1,635,628	-	-	857,852	14,312	11,595	39,724	8,563
	DISTSEC		13,688,256	10,234,729	493,420	1,488,852	-	-	948,703	-	-	-	25,651	-	-	-	349,923	-	3,631	123,292	20,055
	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER		2,526,967	1,031,597	446,695	127,595	71,420	11,591	54,586	18,573	40,386	7,098	376	11,018	59,391	10,647	15,137	315	187	344,542	275,812
	TOTAL		56,780,279	37,069,706	2,164,008	6,065,403	209,223	13,627	4,345,465	641,056	84,536	8,655	144,816	1,930,948	1,644,750	234,983	1,375,113	17,174	17,398	508,735	304,685
TDOMX	PRODUCTION		-	0.00000000	0.00000000	0.00000000	-	-	-	0.00000000	-	-	(0.00000000)	0.00000000	-	-	(0.00000000)	-	0.00000000	-	-
TDOMX	BULKTRAN		0.10680699	0.05261131	0.00260076	0.00952645	0.00029986	0.00002812	0.00724159	0.00134932	0.00060973	0.00002742	0.00025297	0.00413976	0.02187877	0.00395094	0.00222388	0.00003725	0.00002886	-	-
TDOMX	SUBTRAN		0.02349311	0.01143803	0.00055201	0.00200820	0.00006203	0.00000773	0.00151723	0.00028205	0.00016782	-	0.00005298	0.00086730	0.00604218	-	0.00045664	0.00000761	0.00000610	0.00002073	0.00000447
TDOMX	DISTPRI		0.58412148	0.39039330	0.01840212	0.06681923	0.00206506	-	0.05010274	0.00933164	-	-	0.00178613	0.02880627	-	-	0.01510828	0.00025207	0.00020422	0.00069961	0.00015081
TDOMX	DISTSEC		0.24107412	0.18025147	0.00868998	0.02622129	-	-	0.01670831	-	-	-	0.00045176	-	-	-	0.00616276	-	0.00006395	0.00217139	0.00035321
TDOMX	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TDOMX	CUSTOMER		0.04450430	0.01816823	0.00786708	0.00224717	0.00125783	0.00020414	0.00096136	0.00032711	0.00071126	0.00012501	0.00000662	0.00019405	0.00104598	0.00018751	0.00026659	0.00000554	0.00000329	0.00606798	0.00485754
TDOMX	TOTAL		1.00000000	0.65286234	0.03811196	0.10682235	0.00368478	0.00023999	0.07653123	0.01129011	0.00148882	0.00015243	0.00255046	0.03400737	0.02896692	0.00413845	0.02421815	0.00030247	0.00030642	0.00895971	0.00536603

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

ALLOCATOR	FUNCTION	Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
Acct 902-904	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER	5,548,607	4,786,106	596,945	174,795	2,075	160	16,231	1,663	479	56	117	1,023	731	88	4,281	27	250	(37,677)	1,257
	TOTAL	5,548,607	4,786,106	596,945	174,795	2,075	160	16,231	1,663	479	56	117	1,023	731	88	4,281	27	250	(37,677)	1,257
TOTOX234	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOX234	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOX234	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOX234	DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOX234	DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOX234	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTOX234	CUSTOMER	1.00000000	0.86257803	0.10758458	0.03150242	0.00037392	0.00002889	0.00292531	0.00029965	0.00008637	0.00001014	0.00002104	0.00018431	0.00013171	0.00001578	0.00077163	0.00000488	0.00004514	(0.00679042)	0.00022663
TOTOX234	TOTAL	1.00000000	0.86257803	0.10758458	0.03150242	0.00037392	0.00002889	0.00292531	0.00029965	0.00008637	0.00001014	0.00002104	0.00018431	0.00013171	0.00001578	0.00077163	0.00000488	0.00004514	(0.00679042)	0.00022663
Acct 901-905	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER	5,767,827	4,975,201	620,529	181,701	2,157	167	16,873	1,728	498	58	121	1,063	760	91	4,451	28	260	(39,166)	1,307
	TOTAL	5,767,827	4,975,201	620,529	181,701	2,157	167	16,873	1,728	498	58	121	1,063	760	91	4,451	28	260	(39,166)	1,307
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	0.86257803	0.10758458	0.03150242	0.00037392	0.00002889	0.00292531	0.00029965	0.00008637	0.00001014	0.00002104	0.00018431	0.00013171	0.00001578	0.00077163	0.00000488	0.00004514	(0.00679042)	0.00022663
EXP_OM_CUSTACCT	TOTAL	1.00000000	0.86257803	0.10758458	0.03150242	0.00037392	0.00002889	0.00292531	0.00029965	0.00008637	0.00001014	0.00002104	0.00018431	0.00013171	0.00001578	0.00077163	0.00000488	0.00004514	(0.00679042)	0.00022663
A&G Regulatory																				
Acct 907-910	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER	8,570,068	5,460,778	955,523	268,361	3,120	240	23,480	2,360	680	80	160	1,400	1,000	120	6,440	40	400	1,843,686	2,200
	TOTAL	8,570,068	5,460,778	955,523	268,361	3,120	240	23,480	2,360	680	80	160	1,400	1,000	120	6,440	40	400	1,843,686	2,200
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	1.00000000	0.63719189	0.11149540	0.03131374	0.00036406	0.00002800	0.00273978	0.00027538	0.00007935	0.00000933	0.00001867	0.00016336	0.00011669	0.00001400	0.00075146	0.00000467	0.00004667	0.21513085	0.00025671
EXP_OM_CUSTSERV	TOTAL	1.00000000	0.63719189	0.11149540	0.03131374	0.00036406	0.00002800	0.00273978	0.00027538	0.00007935	0.00000933	0.00001867	0.00016336	0.00011669	0.00001400	0.00075146	0.00000467	0.00004667	0.21513085	0.00025671
O&M Expense	PRODUCTION	64,750,639	31,875,152	1,578,905	5,780,786	181,875	17,060	4,394,578	819,001	369,955	16,634	153,342	2,510,406	13,269,283	2,394,606	1,348,945	22,586	17,525	-	-
less Purch. Power & Fuel	BULKTRAN	6,211,105	3,050,038	152,308	556,569	17,497	1,675	423,069	78,907	35,600	1,600	14,703	241,155	1,274,907	229,569	129,648	2,168	1,692	-	-
	SUBTRAN	1,366,479	663,255	32,320	117,312	3,619	462	88,629	16,491	9,798	-	3,080	50,523	352,086	-	26,621	443	357	1,220	263
	DISTPRI	37,926,902	25,337,007	1,196,430	4,342,662	134,169	-	3,256,346	606,596	-	-	115,978	1,871,146	-	-	981,561	16,371	13,281	45,538	9,817
	DISTSEC	15,669,543	11,710,768	565,814	1,706,496	-	-	1,087,423	-	-	-	29,368	-	-	-	400,901	-	4,165	141,576	23,030
	ENERGY	25,051,074	9,401,762	609,150	2,043,809	64,868	5,942	1,863,881	345,599	156,962	7,273	71,402	1,253,315	7,117,526	1,349,622	504,855	8,218	9,169	198,497	39,224
	CUSTOMER	18,773,750	12,804,605	2,255,807	644,539	87,732	13,777	107,346	25,838	47,627	8,293	743	15,359	70,041	12,432	29,416	436	945	2,328,493	320,320
	TOTAL	169,749,491	94,842,587	6,390,734	15,192,174	489,759	38,916	11,221,273	1,892,432	619,942	33,799	388,615	5,941,904	22,083,844	3,986,229	3,421,946	50,221	47,135	2,715,324	392,654
EXP_OM_LPP	PRODUCTION	0.38144820	0.18777760	0.00930139	0.03405480	0.00107143	0.00010050	0.02588861	0.00482476	0.00217942	0.00009799	0.00090334	0.01478889	0.07816980	0.01410671	0.00794668	0.00013305	0.00010324	-	-
EXP_OM_LPP	BULKTRAN	0.03658983	0.01796788	0.00089725	0.00327877	0.00010308	0.00000987	0.00249231	0.00046485	0.00020972	0.00000942	0.00008662	0.00142065	0.00751052	0.00135240	0.00076376	0.00001277	0.00000997	-	-
EXP_OM_LPP	SUBTRAN	0.00804997	0.00390726	0.00019040	0.00069109	0.00002132	0.00000272	0.00052212	0.00009715	0.00005772	-	0.00001814	0.00029763	0.00207415	-	0.00015682	0.00000261	0.00000211	0.00000719	0.00000155
EXP_OM_LPP	DISTPRI	0.22342867	0.14926117	0.00704821	0.02558277	0.00079039	-	0.01918325	0.00357348	-	-	0.00068323	0.01102298	-	-	0.00578241	0.00009644	0.00007824	0.00026827	0.00005783
EXP_OM_LPP	DISTSEC	0.09230981	0.06898853	0.00333323	0.01005303	-	-	0.00640605	-	-	-	0.00017301	-	-	-	0.00236172	-	0.00002454	0.00083403	0.00013567
EXP_OM_LPP	ENERGY	0.14757672	0.05538610	0.00358852	0.01204015	0.00038214	0.00003501	0.01098018	0.00203594	0.00092467	0.00004284	0.00042063	0.00738332	0.04192959	0.00795067	0.00297412	0.00004841	0.00005401	0.00116935	0.00023107
EXP_OM_LPP	CUSTOMER	0.11059680	0.07543236	0.01328904	0.00379700	0.00051683	0.00008116	0.00063238	0.00015221	0.00028057	0.00004886	0.00000438	0.00009048	0.00041261	0.00007324	0.00017329	0.00000257	0.00000557	0.01371723	0.00188702
EXP_OM_LPP	TOTAL	1.00000000	0.55872089	0.03764803	0.08949761	0.00288519	0.00022926	0.06610490	0.01114838	0.00365210	0.00019911	0.00228935	0.03500396	0.13009667	0.02348301	0.02015880	0.00029586	0.00027767	0.01599607	0.00231314
O&M Labor	PRODUCTION	12,848,663	6,329,033	312,867	1,146,013	36,072	3,383	871,148	162,320	73,350	3,298	30,431	498,005	2,631,971	475,290	267,528	4,481	3,472	-	-
	BULKTRAN	46,947	23,125	1,143	4,187	132	12	3,183	593	268	12	111	1,820	9,617	1,737	977	16	13	-	-
	SUBTRAN	10,326	5,028	243	883	27	3	667	124	74	-	23	381	2,656	-	201	3	3	9	2
	DISTPRI	6,616,059	4,421,794	208,432	756,829	23,390	-	567,489	105,695	-	-	20,231	326,275	-	-	171,124	2,855	2,313	7,924	1,708
	DISTSEC	2,730,529	2,041,620	98,427	296,996	-	-	189,247	-	-	-	5,117	-	-	-	69,803	-	724	24,594	4,001
	ENERGY	3,382,469	1,269,194	82,252	275,964	8,771	809	251,600	46,642	21,193	982	9,642	169,296	961,191	182,360	68,166	1,110	1,238	26,764	5,296
	CUSTOMER	2,549,486	1,821,611	311,738	89,764	15,005	2,371	16,750	4,302	8,228	1,436	116	2,561	12,107	2,155	4,585	73	131	201,053	55,502
	TOTAL	28,184,479	15,911,405	1,015,101	2,570,635	83,397	6,578	1,900,085	319,676	103,112	5,729	65,672	998,337	3,617,541	661,542	582,384	8,538	7,893	260,344	66,509
LABOR_M	PRODUCTION	0.45587726	0.22455738	0.01110067	0.04066113	0.00127987	0.00012002	0.03090879	0.00575921	0.00260248	0.00011703	0.00107972	0.01766948	0.09338372	0.01686355	0.00949204	0.00015899	0.00012317	-	-
LABOR_M	BULKTRAN	0.00166569	0.00082049	0.00004056	0.00014857	0.00000468	0.00000044	0.00011294	0.00002104	0.00000951	0.00000043	0.00000395	0.00006456	0.00034121	0.00006162	0.00003468	0.00000058	0.00000045	-	-
LABOR_M	SUBTRAN	0.00036638	0.00017838	0.00000861	0.00003132	0.00000097	0.00000012	0.00002366	0.00000440	0.00000262	-	0.00000083	0.00001353	0.00009423	-	0.00000712	0.00000012	0.00000010	0.00000032	0.00000007
LABOR_M	DISTPRI	0.23474121	0.15688756	0.00739527	0.02685268	0.00082989	-	0.02013482	0.00375011	-	-	0.00071779	0.01157639	-	-	0.00607157	0.00010130	0.00008207	0.00028115	0.00006061
LABOR_M	DISTSEC	0.09688058	0.07243775	0.00349225	0.01053757	-	-	0.00671458	-	-	-	0.00018155	-	-	-	0.00247663	-	0.00002570	0.00087262	0.00014194
LABOR_M	ENERGY	0.12001176	0.04503166	0.00291834	0.00979136	0.00031119	0.00002869	0.00892692	0.00165488	0.00075193	0.00003484	0.00034210	0.00600670	0.03410355	0.00647024	0.00241857	0.00003937	0.00004391	0.00094959	0.00018792
LABOR_M	CUSTOMER	0.09045711	0.06463169	0.01106061	0.00318486	0.00053239	0.00008412	0.00059430	0.00015263	0.00029194	0.00005095	0.00000413	0.00009087	0.00042955	0.00007646	0.00016266	0.00000258	0.00000464	0.00713347	0.00196925
LABOR_M	TOTAL	1.00000000	0.56454493	0.03601631	0.09120748	0.00295898	0.00023338	0.06741600	0.01134227	0.00365848	0.00020325	0.00233007	0.03542153	0.12835225	0.02347187	0.02066328	0.00030293	0.00028004	0.00923716	0.00235979

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

ALLOCATOR	FUNCTION		Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
Production O&M Labor	PRODUCTION		12,848,663	6,329,033	312,867	1,146,013	36,072	3,383	871,148	162,320	73,350	3,298	30,431	498,005	2,631,971	475,290	267,528	4,481	3,472	-	-
	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ENERGY		3,382,469	1,269,194	82,252	275,964	8,771	809	251,600	46,642	21,193	982	9,642	169,296	961,191	182,360	68,166	1,110	1,238	26,764	5,296
	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL		16,231,132	7,598,227	395,119	1,421,977	44,843	4,191	1,122,749	208,962	94,542	4,280	40,073	667,301	3,593,162	657,651	335,694	5,591	4,709	26,764	5,296
LABOR_PROD	PRODUCTION		0.79160609	0.38993170	0.01927572	0.07060585	0.00222242	0.00020841	0.05367143	0.01000055	0.00451906	0.00020322	0.00187488	0.03068210	0.16215575	0.02928264	0.01648241	0.00027607	0.00021388	-	-
LABOR_PROD	BULKTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LABOR_PROD	SUBTRAN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LABOR_PROD	DISTPRI		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LABOR_PROD	DISTSEC		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LABOR_PROD	ENERGY		0.20839391	0.07819504	0.00506754	0.01700216	0.00054037	0.00004982	0.01550111	0.00287361	0.00130569	0.00006050	0.00059403	0.01043031	0.05921895	0.01123522	0.00419972	0.00006836	0.00007626	0.00164892	0.00032631
LABOR_PROD	CUSTOMER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LABOR_PROD	TOTAL		1.00000000	0.46812674	0.02434326	0.08760801	0.00276279	0.00025823	0.06917253	0.01287416	0.00582476	0.00026372	0.00246891	0.04111241	0.22137471	0.04051786	0.02068213	0.00034444	0.00029014	0.00164892	0.00032631
Rent Revenues	PRODUCTION		61,946	30,514	1,508	5,525	174	16	4,200	783	354	16	147	2,401	12,689	2,291	1,290	22	17	-	-
	BULKTRAN		(41,458)	(20,421)	(1,010)	(3,698)	(116)	(11)	(2,811)	(524)	(237)	(11)	(98)	(1,607)	(8,492)	(1,534)	(863)	(14)	(11)	-	-
	SUBTRAN		(9,119)	(4,440)	(214)	(779)	(24)	(3)	(589)	(109)	(65)	-	(21)	(337)	(2,345)	-	(177)	(3)	(2)	(8)	(2)
	DISTPRI		4,135,312	2,763,806	130,279	473,050	14,620	-	354,704	66,064	-	-	12,645	203,935	-	-	106,960	1,785	1,446	4,953	1,068
	DISTSEC		3,026,252	2,262,733	109,087	329,161	-	-	209,743	-	-	-	5,671	-	-	-	77,362	-	803	27,258	4,434
	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER		131,517	59,861	16,114	4,571	1,512	246	1,320	393	856	150	9	233	1,258	226	366	7	7	39,619	4,771
	TOTAL		7,304,450	5,092,052	255,764	807,830	16,165	248	566,567	66,606	907	156	18,353	204,625	3,110	983	184,937	1,795	2,258	71,822	10,271
REV_RENT	PRODUCTION		0.00848058	0.00417739	0.00020650	0.00075641	0.00002381	0.00000223	0.00057499	0.00010714	0.00004841	0.00000218	0.00002009	0.00032870	0.00173720	0.00031371	0.00017658	0.00000296	0.00000229	-	-
REV_RENT	BULKTRAN		(0.00567571)	(0.00279576)	(0.00013820)	(0.00050623)	(0.00001593)	(0.00000149)	(0.00038482)	(0.00007170)	(0.00003240)	(0.00000146)	(0.00001344)	(0.00021999)	(0.00116264)	(0.00020995)	(0.00011818)	(0.00000198)	(0.00000153)	-	-
REV_RENT	SUBTRAN		(0.00124842)	(0.00060782)	(0.00002933)	(0.00010672)	(0.00000330)	(0.00000041)	(0.00008063)	(0.00001499)	(0.00000892)	-	(0.00000282)	(0.00004609)	(0.00032108)	-	(0.00002427)	(0.00000040)	(0.00000032)	(0.00000110)	(0.00000024)
REV_RENT	DISTPRI		0.56613602	0.37837285	0.01783551	0.06476183	0.00200148	-	0.04856005	0.00904431	-	-	0.00173114	0.02791930	-	-	0.01464309	0.00024430	0.00019793	0.00067807	0.00014617
REV_RENT	DISTSEC		0.41430249	0.30977457	0.01493433	0.04506310	-	-	0.02871438	-	-	-	0.00077638	-	-	-	0.01059113	-	0.00010990	0.00373168	0.00060701
REV_RENT	ENERGY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
REV_RENT	CUSTOMER		0.01800504	0.00819513	0.00220608	0.00062579	0.00020699	0.00003362	0.00018070	0.00005374	0.00011714	0.00002059	0.00000124	0.00003188	0.00017227	0.00003088	0.00005004	0.00000091	0.00000092	0.00542397	0.00065313
REV_RENT	TOTAL		1.00000000	0.69711636	0.03501488	0.11059417	0.00221305	0.00003395	0.07756468	0.00911850	0.00012424	0.00002131	0.00251258	0.02801381	0.00042575	0.00013464	0.02531839	0.00024579	0.00030919	0.00983262	0.00140608
Total Revenues	PRODUCTION		180,626,886	78,898,887	5,609,136	19,003,211	550,740	54,095	14,517,158	2,819,436	1,194,136	51,971	416,976	7,366,047	39,610,184	6,294,454	4,111,785	64,330	64,340	-	-
	BULKTRAN		31,039,870	10,235,344	1,323,089	4,141,080	118,822	29,076	3,143,302	626,511	253,259	10,665	69,735	1,426,329	7,759,656	1,055,429	820,317	11,611	15,645	-	-
	SUBTRAN		7,005,820	2,320,455	277,203	867,095	24,460	9,026	654,371	129,699	69,266	-	14,845	299,933	2,148,410	-	168,569	2,395	3,260	13,780	3,054
	DISTPRI		64,428,545	37,341,820	2,883,786	9,486,881	269,923	-	7,134,917	1,393,577	-	-	197,184	3,547,323	-	-	1,945,746	29,634	33,358	135,273	29,122
	DISTSEC		28,768,644	18,741,902	1,560,885	4,233,886	-	-	2,703,932	-	-	-	55,361	-	-	-	895,087	-	12,009	486,184	79,398
	ENERGY		233,520,892	89,055,697	5,695,776	19,047,569	556,145	31,297	17,573,101	3,318,629	1,464,811	67,701	660,356	11,408,374	65,436,319	12,010,751	4,681,074	76,159	86,107	1,988,430	362,596
	CUSTOMER		22,985,904	10,928,594	3,186,842	838,440	203,972	51,390	207,970	62,489	120,914	20,330	1,126	30,617	160,824	24,321	51,961	832	1,384	6,077,642	1,016,257
	TOTAL		568,376,561	247,522,700	20,536,717	57,618,162	1,724,061	174,883	45,934,753	8,350,341	3,102,386	150,666	1,415,583	24,078,623	115,115,392	19,384,955	12,674,538	184,962	216,104	8,701,308	1,490,427
REV	PRODUCTION		0.31779440	0.13881446	0.00986870	0.03343419	0.00096897	0.00009517	0.02554144	0.00496051	0.00210096	0.00009144	0.00073363	0.01295980	0.06969004	0.01107444	0.00723426	0.00011318	0.00011320	-	-
REV	BULKTRAN		0.05461145	0.01800803	0.00232784	0.00728580	0.00020905	0.00005116	0.00553032	0.00110228	0.00044558	0.00001876	0.00012269	0.00250948	0.01365231	0.00185692	0.00144326	0.00002043	0.00002753	-	-
REV	SUBTRAN		0.01232602	0.00408260	0.00048771	0.00152556	0.00004303	0.00001588	0.00115130	0.00022819	0.00012187	-	0.00002612	0.00052770	0.00377991	-	0.00029658	0.00000421	0.00000573	0.00002424	0.00000537
REV	DISTPRI		0.11335539	0.06569909	0.00507372	0.01669119	0.00047490	-	0.01255315	0.00245185	-	-	0.00034692	0.00624115	-	-	0.00342334	0.00005214	0.00005869	0.00023800	0.00005124
REV	DISTSEC		0.05061546	0.03297445	0.00274622	0.00744909	-	-	0.00475729	-	-	-	0.00009740	-	-	-	0.00157481	-	0.00002113	0.00085539	0.00013969
REV	ENERGY		0.41085595	0.15668432	0.01002113	0.03351223	0.00097848	0.00005506	0.03091806	0.00583879	0.00257718	0.00011911	0.00116183	0.02007186	0.11512846	0.02113168	0.00823587	0.00013399	0.00015150	0.00349844	0.00063795
REV	CUSTOMER		0.04044133	0.01922773	0.00560692	0.00147515	0.00035887	0.00009042	0.00036590	0.00010994	0.00021274	0.00003577	0.00000198	0.00005387	0.00028295	0.00004279	0.00009142	0.00000146	0.00000244	0.01069298	0.00178800
REV	TOTAL		1.00000000	0.43549069	0.03613224	0.10137322	0.00303331	0.00030769	0.08081746	0.01469156	0.00545833	0.00026508	0.00249057	0.04236386	0.20253367	0.03410583	0.02229954	0.00032542	0.00038021	0.01530906	0.00262225
EXP_OTHTAX_PSC	PRODUCTION	Same as RSALE	0.44886785	0.20017735	0.01326170	0.04578679	0.00135291	0.00013172	0.03510166	0.00671140	0.00288962	0.00012691	0.00104558	0.01815100	0.09773244	0.01596052	0.01012442	0.00016051	0.00015333	-	-
EXP_OTHTAX_PSC	BULKTRAN		(0.03516041)	(0.02724751)	0.00026481	(0.00042317)	(0.00003632)	0.00003230	(0.00033218)	0.00001924	(0.00005051)	(0.00000372)	(0.00009131)	(0.00092502)	(0.00446979)	(0.00149920)	(0.00039210)	(0.00001082)	0.00000490	-	-
EXP_OTHTAX_PSC	SUBTRAN		(0.00738036)	(0.00573594)	0.00004906	(0.00010081)	(0.00000776)	0.00001094	(0.00007796)	0.00000153	(0.00001478)	-	(0.00001865)	(0.00019159)	(0.00122352)	-	(0.00008025)	(0.00000217)	0.00000094	0.00000858	0.00000202
EXP_OTHTAX_PSC	DISTPRI		0.11813783	0.06722776	0.00538626	0.01782530	0.00050702	-	0.01347989	0.00261745	-	-	0.00036637	0.00662511	-	-	0.00366808	0.00005555	0.00006369	0.00025935	0.00005600
EXP_OTHTAX_PSC	DISTSEC		0.05026682	0.03193862	0.00283710	0.00771898	-	-	0.00495758	-	-	-	0.00009861	-	-	-	0.00163079	-	0.00002236	0.00091316	0.00014962
EXP_OTHTAX_PSC	ENERGY		0.38025008	0.14469868	0.00922499	0.03099848	0.00089135	0.00004239	0.02879910	0.00541411	0.00238707	0.00011061	0.00107648	0.01849092	0.10679770	0.01948536	0.00766945	0.00012476	0.00014148	0.00330348	0.00059368
EXP_OTHTAX_PSC	CUSTOMER		0.04501818	0.02127709	0.00621130	0.00164990	0.00040208	0.00010162	0.00041089	0.00012244	0.00023790	0.00004011	0.00000222	0.00006021	0.00031767	0.00004802	0.00010294	0.00000165	0.00000275	0.01201028	0.00201912
EXP_OTHTAX_PSC	TOTAL		1.00000000	0.43233605	0.03723521	0.10345548	0.00310928	0.00031897	0.08233897	0.01488617	0.00544931	0.00027391	0.00247931	0.04221064	0.19915450	0.03399471	0.02272331	0.00032947	0.00038945	0.01649485	0.00282043
		Check (SB=0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RBASE			500,400,211	216,341,050	18,632,507	51,769,142	1,555,884	159,611	41,202,438	7,449,041	2,726,835	137,064	1,240,647	21,122,212	99,656,952	17,010,960	11,370,750	164,869	194,881	8,254,025	1,411,343
Initial Other Revenue			67,976,350	31,181,650	1,904,210	5,849,020	168,177	15,272	4,732,315	901,300	375,551	13,602	174,936	2,956,411	15,458,440	2,373,995	1,303,788	20,093	21,223	447,283	79,084
Initial Total Expense			523,190,005	241,412,671	16,628,173	48,588,033	1,466,147	126,548	39,301,642	7,118,741	2,736,876	133,506	1,319,439	21,768,652	105,654,699	18,498,515	11,097,773	168,140	178,771	5,881,311	1,110,367
		Check (SB=0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Net Operating Income			45,186,556	6,110,029	3,908,545	9,030,129	257,913	48,335	6,633,111	1,231,600	365,510	17,161	96,144	2,309,971	9,460,692	886,440	1,576,764	16,822	37,333	2,819,997	380,060
RATEBASE	PRODUCTION		0.40296310	0.19690456	0.00968220	0.03594287	0.00106487	(0.00001354)	0.02753372	0.00499407	0.00217447	0.00010546	0.00097297	0.01575768	0.08398373	0.01506187	0.00854389	0.00014327	0.00011100	-	-
RATEBASE	BULKTRAN		0.18413645	0.08980679	0.00441678	0.01643081	0.00048325	(0.00001438)	0.01259734	0.00227380	0.00098479	0.00004835	0.00044611	0.00721765	0.03850715	0.00690441	0.00391702	0.00006569	0.00005089	-	-
RATEBASE	SUBTRAN		0.03863960	0.01860933	0.00089330	0.00330292	0.00009501	(0.00000455)	0.00251787	0.00045274	0.00025764	-	0.00008919	0.00144268	0.01015046	-	0.00076773	0.00001281	0.00001027	0.00003467	0.00000752
RATEBASE	DISTPRI		0.19946522	0.13280120	0.00622731	0.02293848	0.00066502	-	0.01733979	0.00313670	-	-	0.00062593	0.00998577	-	-	0.00528835	0.00008833	0.00007157	0.00024391	0.00005283
RATEBASE	DISTSEC		0.10130639	0.07550909	0.00362156	0.01108757	-	-	0.00712292	-	-	-	0.00019505	-	-	-	0.00265768	-	0.00002761	0.00093244	0.00015246
RATEBASE	ENERGY		0.02426108	0.00930138	0.00058325	0.00196324	0.00005691	0.00000285	0.00181339	0.00034043	0.00014988	0.00000702	0.00006891	0.00118391	0.00679542	0.00125260	0.00048571	0.00000793	0.00000885	0.00020247	0.00003692
RATEBASE	CUSTOMER		0.04922817	0.02313231	0.00597131	0.00172031	0.00051753	(0.00001948)	0.00049013	0.00014080	0.00029351	0.00005599	0.00000342	0.00008618	0.00046766	0.00008323	0.00013722	0.00000249	0.00000259	0.01435307	0.00178989
RATEBASE	TOTAL		1.00000000	0.54606467	0.03139572	0.09338620	0.00288260	(0.00004908)	0.06941516	0.01133855	0.00386030	0.00021682	0.00240157	0.03567387	0.13990442	0.02330211	0.02179760	0.00032053	0.00028278	0.01576657	0.00203962
NOI - Functionalized	PRODUCTION		18,332,141	2,203,205	1,205,366	3,475,554	95,277	13,329	2,631,042	542,459	205,889	8,347	38,952	1,020,348	5,679,193	572,972	618,036	7,519	14,655	-	-
	BULKTRAN		8,394,075	1,004,866	549,858	1,588,804	43,237	14,158	1,203,765	246,982	93,244	3,827	17,859	467,361	2,603,951	262,652	283,344	3,448	6,719	-	-
	SUBTRAN		1,814,516	208,224	111,209	319,381	8,501	4,476	240,600	49,176	24,395	-	3,570	93,417	686,400	-	55,535	673	1,355	6,201	1,402
	DISTPRI		7,658,180	1,485,940	775,256	2,218,074	59,501	-	1,656,940	340,711	-	-	25,058	646,603	-	-	382,541	4,636	9,449	43,626	9,845
	DISTSEC		3,447,408	844,887	450,858	1,072,130	-	-	680,646	-	-	-	7,809	-	-	-	192,248	-	3,645	166,776	28,408
	ENERGY		1,260,219	104,075	72,611	189,838	5,092	(2,811)	173,283	36,978	14,191	555	2,759	76,661	459,524	47,650	35,135	416	1,168	36,214	6,879
	CUSTOMER		4,280,017	258,832	743,386	166,348	46,305	19,182	46,835	15,294	27,791	4,431	137	5,580	31,624	3,166	9,926	131	342	2,567,179	333,526
	TOTAL		45,186,556	6,110,029	3,908,545	9,030,129	257,913	48,335	6,633,111	1,231,600	365,510	17,161	96,144	2,309,971	9,460,692	886,440	1,576,764	16,822	37,333	2,819,997	380,060

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

ALLOCATOR	FUNCTION		Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
Total Expenses	PRODUCTION		162,294,745	76,695,682	4,403,770	15,527,657	455,463	40,765	11,886,117	2,276,977	988,247	43,624	378,024	6,345,698	33,930,991	5,721,482	3,493,749	56,811	49,686	-	-
	BULKTRAN		22,645,795	9,230,478	773,231	2,552,276	75,584	14,918	1,939,537	379,529	160,015	6,838	51,876	958,968	5,155,705	792,777	536,973	8,164	8,926	-	-
	SUBTRAN		5,191,304	2,112,232	165,994	547,715	15,959	4,549	413,771	80,522	44,871	-	11,274	206,516	1,462,010	-	113,034	1,722	1,904	7,580	1,652
	DISTPRI		56,770,365	35,855,881	2,108,530	7,268,808	210,422	-	5,477,977	1,052,866	-	-	172,126	2,900,720	-	-	1,563,204	24,998	23,910	91,646	19,278
	DISTSEC		25,321,236	17,897,016	1,110,026	3,161,756	-	-	2,023,287	-	-	-	47,552	-	-	-	702,839	-	8,364	319,407	50,989
	ENERGY		232,260,673	88,951,622	5,623,165	18,857,730	551,053	34,107	17,399,818	3,281,651	1,450,620	67,146	657,598	11,331,713	64,976,795	11,963,101	4,645,939	75,743	84,939	1,952,216	355,717
	CUSTOMER		18,705,887	10,669,761	2,443,456	672,092	157,667	32,208	161,135	47,195	93,123	15,898	989	25,037	129,199	21,154	42,035	702	1,043	3,510,462	682,731
	TOTAL		523,190,005	241,412,671	16,628,173	48,588,033	1,466,147	126,548	39,301,642	7,118,741	2,736,876	133,506	1,319,439	21,768,652	105,654,699	18,498,515	11,097,773	168,140	178,771	5,881,311	1,110,367
Total Revenue	PRODUCTION		180,626,886	78,898,887	5,609,136	19,003,211	550,740	54,095	14,517,158	2,819,436	1,194,136	51,971	416,976	7,366,047	39,610,184	6,294,454	4,111,785	64,330	64,340	-	-
	BULKTRAN		31,039,870	10,235,344	1,323,089	4,141,080	118,822	29,076	3,143,302	626,511	253,259	10,665	69,735	1,426,329	7,759,656	1,055,429	820,317	11,611	15,645	-	-
	SUBTRAN		7,005,820	2,320,455	277,203	867,095	24,460	9,026	654,371	129,699	69,266	-	14,845	299,933	2,148,410	-	168,569	2,395	3,260	13,780	3,054
	DISTPRI		64,428,545	37,341,820	2,883,786	9,486,881	269,923	-	7,134,917	1,393,577	-	-	197,184	3,547,323	-	-	1,945,746	29,634	33,358	135,273	29,122
	DISTSEC		28,768,644	18,741,902	1,560,885	4,233,886	-	-	2,703,932	-	-	-	55,361	-	-	-	895,087	-	12,009	486,184	79,398
	ENERGY		233,520,892	89,055,697	5,695,776	19,047,569	556,145	31,297	17,573,101	3,318,629	1,464,811	67,701	660,356	11,408,374	65,436,319	12,010,751	4,681,074	76,159	86,107	1,988,430	362,596
	CUSTOMER		22,985,904	10,928,594	3,186,842	838,440	203,972	51,390	207,970	62,489	120,914	20,330	1,126	30,617	160,824	24,321	51,961	832	1,384	6,077,642	1,016,257
	TOTAL		568,376,561	247,522,700	20,536,717	57,618,162	1,724,061	174,883	45,934,753	8,350,341	3,102,386	150,666	1,415,583	24,078,623	115,115,392	19,384,955	12,674,538	184,962	216,104	8,701,308	1,490,427
Total Other Revenue	PRODUCTION		(43,986,682)	(21,269,899)	(1,027,020)	(3,908,510)	(126,256)	(11,818)	(3,047,718)	(538,949)	(251,833)	(11,535)	(106,233)	(1,716,718)	(9,295,150)	(1,692,194)	(954,476)	(15,987)	(12,386)	-	-
	BULKTRAN		48,634,145	23,870,005	1,190,580	4,352,834	136,999	12,915	3,309,526	616,883	278,533	12,526	115,426	1,889,208	9,996,340	1,805,627	1,016,526	17,026	13,191	-	-
	SUBTRAN		10,698,952	5,190,719	252,653	917,543	28,340	3,552	693,384	128,933	76,661	-	24,175	395,803	2,760,661	-	208,729	3,480	2,787	9,488	2,043
	DISTPRI		5,312,351	3,701,034	188,500	567,095	16,210	-	389,576	83,804	-	-	13,852	232,117	-	-	110,239	1,839	1,490	5,493	1,100
	DISTSEC		3,615,119	2,759,810	141,201	371,304	-	-	223,161	-	-	-	6,015	-	-	-	79,041	-	820	29,237	4,530
	ENERGY		43,243,670	16,648,448	1,079,591	3,535,923	110,111	10,083	3,162,027	609,409	270,321	12,351	121,686	2,155,513	11,994,726	2,260,273	843,278	13,727	15,312	335,370	65,521
	CUSTOMER	Check (SB=0)	458,795	281,533	78,706	12,831	2,772	539	2,359	1,220	1,868	259	16	487	1,863	289	451	8	8	67,695	5,890
	TOTAL	-	67,976,350	31,181,650	1,904,210	5,849,020	168,177	15,272	4,732,315	901,300	375,551	13,602	174,936	2,956,411	15,458,440	2,373,995	1,303,788	20,093	21,223	447,283	79,084
Firm Sales Revenue	PRODUCTION		224,613,568	100,168,786	6,636,156	22,911,721	676,996	65,913	17,564,876	3,358,385	1,445,969	63,505	523,209	9,082,764	48,905,334	7,986,648	5,066,261	80,318	76,726	-	-
	BULKTRAN		(17,594,275)	(13,634,661)	132,509	(211,754)	(18,177)	16,161	(166,224)	9,629	(25,274)	(1,861)	(45,691)	(462,879)	(2,236,685)	(750,198)	(196,208)	(5,415)	2,454	-	-
	SUBTRAN		(3,693,132)	(2,870,264)	24,550	(50,448)	(3,881)	5,473	(39,012)	765	(7,395)	-	(9,330)	(95,870)	(612,252)	-	(40,159)	(1,085)	472	4,292	1,011
	DISTPRI		59,116,193	33,640,787	2,695,286	8,919,786	253,712	-	6,745,341	1,309,773	-	-	183,332	3,315,206	-	-	1,835,506	27,795	31,868	129,779	28,022
	DISTSEC		25,153,525	15,982,092	1,419,684	3,862,582	-	-	2,480,772	-	-	-	49,346	-	-	-	816,046	-	11,189	456,946	74,868
	ENERGY		190,277,222	72,407,249	4,616,185	15,511,646	446,033	21,213	14,411,074	2,709,220	1,194,490	55,350	538,670	9,252,861	53,441,593	9,750,478	3,837,796	62,432	70,796	1,653,061	297,075
	CUSTOMER		22,527,109	10,647,060	3,108,136	825,609	201,200	50,851	205,611	61,270	119,046	20,070	1,110	30,130	158,961	24,031	51,509	824	1,376	6,009,947	1,010,367
	TOTAL		500,400,211	216,341,050	18,632,507	51,769,142	1,555,884	159,611	41,202,438	7,449,041	2,726,835	137,064	1,240,647	21,122,212	99,656,952	17,010,960	11,370,750	164,869	194,881	8,254,025	1,411,343
RSALE	PRODUCTION		0.44886785	0.20017735	0.01326170	0.04578679	0.00135291	0.00013172	0.03510166	0.00671140	0.00288962	0.00012691	0.00104558	0.01815100	0.09773244	0.01596052	0.01012442	0.00016051	0.00015333	-	-
RSALE	BULKTRAN		(0.03516041)	(0.02724751)	0.00026481	(0.00042317)	(0.00003632)	0.00003230	(0.00033218)	0.00001924	(0.00005051)	(0.00000372)	(0.00009131)	(0.00092502)	(0.00446979)	(0.00149920)	(0.00039210)	(0.00001082)	0.00000490	-	-
RSALE	SUBTRAN		(0.00738036)	(0.00573594)	0.00004906	(0.00010081)	(0.00000776)	0.00001094	(0.00007796)	0.00000153	(0.00001478)	-	(0.00001865)	(0.00019159)	(0.00122352)	-	(0.00008025)	(0.00000217)	0.00000094	0.00000858	0.00000202
RSALE	DISTPRI		0.11813783	0.06722776	0.00538626	0.01782530	0.00050702	-	0.01347989	0.00261745	-	-	0.00036637	0.00662511	-	-	0.00366808	0.00005555	0.00006369	0.00025935	0.00005600
RSALE	DISTSEC		0.05026682	0.03193862	0.00283710	0.00771898	-	-	0.00495758	-	-	-	0.00009861	-	-	-	0.00163079	-	0.00002236	0.00091316	0.00014962
RSALE	ENERGY		0.38025008	0.14469868	0.00922499	0.03099848	0.00089135	0.00004239	0.02879910	0.00541411	0.00238707	0.00011061	0.00107648	0.01849092	0.10679770	0.01948536	0.00766945	0.00012476	0.00014148	0.00330348	0.00059368
RSALE	CUSTOMER		0.04501818	0.02127709	0.00621130	0.00164990	0.00040208	0.00010162	0.00041089	0.00012244	0.00023790	0.00004011	0.00000222	0.00006021	0.00031767	0.00004802	0.00010294	0.00000165	0.00000275	0.01201028	0.00201912
RSALE	TOTAL		1.00000000	0.43233605	0.03723521	0.10345548	0.00310928	0.00031897	0.08233897	0.01488617	0.00544931	0.00027391	0.00247931	0.04221064	0.19915450	0.03399471	0.02272331	0.00032947	0.00038945	0.01649485	0.00282043

Calculation of CUST_DEP Allocator

ALLOCATOR	FUNCTION	Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
CUST_DEP	PRODUCTION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BULKTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SUBTRAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTPRI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DISTSEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ENERGY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CUSTOMER	1.00000000	0.72904762	0.04855935	0.08419810	0.01083654	0.01391175	0.03827204	0.02092041	0.01388742	-	-	0.01613107	0.01066522	0.00806028	0.00107493	-	-	0.00443527	-
	TOTAL	1.00000000	0.72904762	0.04855935	0.08419810	0.01083654	0.01391175	0.03827204	0.02092041	0.01388742	-	-	0.01613107	0.01066522	0.00806028	0.00107493	-	-	0.00443527	-
RB_GUP	PRODUCTION	0.38515569	0.18972114	0.00937859	0.03435325	0.00108132	0.00010140	0.02611382	0.00486576	0.00219875	0.00009888	0.00091222	0.01492837	0.07889683	0.01424746	0.00801951	0.00013432	0.00010407	-	-
	BULKTRAN	0.20414100	0.10055638	0.00497086	0.01820798	0.00057312	0.00005375	0.01384090	0.00257896	0.00116539	0.00005241	0.00048350	0.00791236	0.04181706	0.00755147	0.00425052	0.00007119	0.00005516	-	-
	SUBTRAN	0.04484365	0.02183291	0.00105368	0.00383325	0.00011841	0.00001475	0.00289608	0.00053838	0.00032034	-	0.00010113	0.00165549	0.01153331	-	0.00087164	0.00001453	0.00001164	0.00003958	0.00000853
	DISTPRI	0.20575689	0.13751611	0.00648215	0.02353709	0.00072742	-	0.01764870	0.00328707	-	-	0.00062917	0.01014701	-	-	0.00532189	0.00008879	0.00007193	0.00024644	0.00005312
	DISTSEC	0.10587947	0.07916623	0.00381663	0.01151636	-	-	0.00733827	-	-	-	0.00019841	-	-	-	0.00270668	-	0.00002809	0.00095367	0.00015513
	ENERGY	0.00325440	0.00122114	0.00007914	0.00026552	0.00000844	0.00000078	0.00024207	0.00004488	0.00002039	0.00000094	0.00000928	0.00016289	0.00092480	0.00017546	0.00006559	0.00000107	0.00000119	0.00002575	0.00000510
	CUSTOMER	0.05096889	0.02383502	0.00624438	0.00177260	0.00057219	0.00009288	0.00050304	0.00014896	0.00032357	0.00005686	0.00000346	0.00008837	0.00047584	0.00008529	0.00013925	0.00000252	0.00000261	0.01480873	0.00181331
	TOTAL	1.00000000	0.55384894	0.03202544	0.09348605	0.00308089	0.00026355	0.06858288	0.01146401	0.00402843	0.00020908	0.00233716	0.03489449	0.13364783	0.02205967	0.02137508	0.00031243	0.00027469	0.01607417	0.00203519
CUST_DEP_FXNL	PRODUCTION	0.35389035	0.24973551	0.01422052	0.03094022	0.00380337	0.00535263	0.01457257	0.00887942	0.00757986	-	-	0.00690110	0.00629604	0.00520581	0.00040329	-	-	-	-
CUST_DEP_FXNL	BULKTRAN	0.18756968	0.13236532	0.00753719	0.01639900	0.00201587	0.00283701	0.00772378	0.00470629	0.00401749	-	-	0.00365774	0.00333704	0.00275919	0.00021375	-	-	-	-
CUST_DEP_FXNL	SUBTRAN	0.04042765	0.02873930	0.00159768	0.00345242	0.00041647	0.00077842	0.00161613	0.00098247	0.00110433	-	-	0.00076530	0.00092037	-	0.00004383	-	-	0.00001092	-
CUST_DEP_FXNL	DISTPRI	0.23547603	0.18101649	0.00982872	0.02119865	0.00255858	-	0.00984869	0.00599850	-	-	-	0.00469077	-	-	0.00026763	-	-	0.00006800	-
CUST_DEP_FXNL	DISTSEC	0.12486240	0.10420884	0.00578706	0.01037220	-	-	0.00409505	-	-	-	-	-	-	-	0.00013612	-	-	0.00026314	-
CUST_DEP_FXNL	ENERGY	0.00254819	0.00160742	0.00011999	0.00023914	0.00002968	0.00004106	0.00013509	0.00008189	0.00007029	-	-	0.00007530	0.00007380	0.00006411	0.00000330	-	-	0.00000711	-
CUST_DEP_FXNL	CUSTOMER	0.05522571	0.03137474	0.00946820	0.00159649	0.00201257	0.00490262	0.00028072	0.00027183	0.00111545	-	-	0.00004085	0.00003797	0.00003116	0.00000700	-	-	0.00408610	-
CUST_DEP_FXNL	TOTAL	1.00000000	0.72904762	0.04855935	0.08419810	0.01083654	0.01391175	0.03827204	0.02092041	0.01388742	-	-	0.01613107	0.01066522	0.00806028	0.00107493	-	-	0.00443527	-

REVYEC_EXP_OM allocator is the basis to allocate the O&M portion of the Customer Annualization (Year End Customer) Adjustment. It is spread to the functions within each tariff class using total O&M.

ALLOCATOR	FUNCTION	Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
REVYEC Total	TOTAL	1.00000000	0.15204539	0.01938658	0.03432596	0.04874018	0.01828371	(0.15576802)	(0.07392871)	-	-	-	0.18795604	0.49731046	0.33234975	0.01258496	-	-	(0.08252509)	0.00923880
EXP_OM	PRODUCTION	0.28183566	0.14137332	0.00677581	0.02484464	0.00071895	0.00004784	0.01911575	0.00362153	0.00159300	0.00007163	0.00066042	0.01059207	0.05653510	0.00992077	0.00579212	0.00009727	0.00007545	-	-
	BULKTRAN	0.01524355	0.00761792	0.00036967	0.00135151	0.00003906	0.00000267	0.00103978	0.00019722	0.00008659	0.00000389	0.00003570	0.00057417	0.00306563	0.00053611	0.00031424	0.00000527	0.00000412	-	-
	SUBTRAN	0.00335639	0.00165675	0.00007844	0.00028486	0.00000808	0.00000074	0.00021782	0.00004122	0.00002383	-	0.00000748	0.00012029	0.00084663	-	0.00006452	0.00000108	0.00000087	0.00000316	0.00000063
	DISTPRI	0.08374901	0.05649247	0.00258481	0.00939298	0.00026685	-	0.00712887	0.00135015	-	-	0.00025120	0.00397150	-	-	0.00212051	0.00003546	0.00002879	0.00010467	0.00002076
	DISTSEC	0.03466881	0.02607277	0.00122091	0.00368638	-	-	0.00237758	-	-	-	0.00006352	-	-	-	0.00086494	-	0.00000902	0.00032505	0.00004865
	ENERGY	0.55369642	0.21265309	0.01334008	0.04481910	0.00130977	0.00008557	0.04135941	0.00779481	0.00344837	0.00015978	0.00156882	0.02698719	0.15473314	0.02853937	0.01105962	0.00018055	0.00020140	0.00461607	0.00084027
	CUSTOMER	0.02745016	0.01964539	0.00338631	0.00097878	0.00019248	0.00002183	0.00021382	0.00006005	0.00011615	0.00002031	0.00000147	0.00003405	0.00016897	0.00002928	0.00005782	0.00000099	0.00000142	0.00175362	0.00076742
	TOTAL	1.00000000	0.46551171	0.02775604	0.08535824	0.00253518	0.00015865	0.07145303	0.01306498	0.00526794	0.00025560	0.00258861	0.04227927	0.21534948	0.03902553	0.02027379	0.00032061	0.00032107	0.00680256	0.00167772
REVYEC_EXP_OM	PRODUCTION	0.28379745	0.04617534	0.00473266	0.00999103	0.01382221	0.00551292	(0.04167245)	(0.02049258)	-	-	-	0.04708796	0.13055753	0.08448739	0.00359546	-	-	-	-
REVYEC_EXP_OM	BULKTRAN	0.01535871	0.00248817	0.00025820	0.00054349	0.00075088	0.00030798	(0.00226672)	(0.00111600)	-	-	-	0.00255251	0.00707951	0.00456563	0.00019507	-	-	-	-
REVYEC_EXP_OM	SUBTRAN	0.00273797	0.00054113	0.00005479	0.00011455	0.00015532	0.00008511	(0.00047484)	(0.00023323)	-	-	-	0.00053478	0.00195514	-	0.00004005	-	-	(0.00003828)	0.00000345
REVYEC_EXP_OM	DISTPRI	0.02380019	0.01845157	0.00180540	0.00377729	0.00513028	-	(0.01554097)	(0.00763988)	-	-	-	0.01765563	-	-	0.00131631	-	-	(0.00126974)	0.00011431
REVYEC_EXP_OM	DISTSEC	0.00252948	0.00851588	0.00085276	0.00148244	-	-	(0.00518314)	-	-	-	-	-	-	-	0.00053691	-	-	(0.00394328)	0.00026790
REVYEC_EXP_OM	ENERGY	0.67341125	0.06945673	0.00931756	0.01802355	0.02518095	0.00986155	(0.09016376)	(0.04410725)	-	-	-	0.11997381	0.35732807	0.24304738	0.00686526	-	-	(0.05599977)	0.00462716
REVYEC_EXP_OM	CUSTOMER	(0.00163505)	0.00641657	0.00236521	0.00039361	0.00370055	0.00251615	(0.00046613)	(0.00033977)	-	-	-	0.00015135	0.00039021	0.00024935	0.00003589	-	-	(0.02127402)	0.00422597
REVYEC_EXP_OM	TOTAL	1.00000000	0.15204539	0.01938658	0.03432596	0.04874018	0.01828371	(0.15576802)	(0.07392871)	-	-	-	0.18795604	0.49731046	0.33234975	0.01258496	-	-	(0.08252509)	0.00923880

KENTUCKY POWER COMPANY
COST-OF-SERVICE STUDY
TWELVE MONTHS ENDING
FEBRUARY 28, 2017

REVYEC_FXNL is a spreading of the REVYEC allocator to each function within the tariff classes using the RSALE allocator.

ALLOCATOR	FUNCTION	Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
REVYEC TOTAL		1.00000000	0.15204539	0.01938658	0.03432596	0.04874018	0.01828371	(0.15576802)	(0.07392871)	-	-	-	0.18795604	0.49731046	0.33234975	0.01258496	-	-	(0.08252509)	0.00923880
RSALE	PRODUCTION	0.44886785	0.20017735	0.01326170	0.04578679	0.00135291	0.00013172	0.03510166	0.00671140	0.00288962	0.00012691	0.00104558	0.01815100	0.09773244	0.01596052	0.01012442	0.00016051	0.00015333	-	-
	BULKTRAN	(0.03516041)	(0.02724751)	0.00026481	(0.00042317)	(0.00003632)	0.00003230	(0.00033218)	0.00001924	(0.00005051)	(0.00000372)	(0.00009131)	(0.00092502)	(0.00446979)	(0.00149920)	(0.00039210)	(0.00001082)	0.00000490	-	-
	SUBTRAN	(0.00738036)	(0.00573594)	0.00004906	(0.00010081)	(0.00000776)	0.00001094	(0.00007796)	0.00000153	(0.00001478)	-	(0.00001865)	(0.00019159)	(0.00122352)	-	(0.00008025)	(0.00000217)	0.00000094	0.00000858	0.00000202
	DISTPRI	0.11813783	0.06722776	0.00538626	0.01782530	0.00050702	-	0.01347989	0.00261745	-	-	0.00036637	0.00662511	-	-	0.00366808	0.00005555	0.00006369	0.00025935	0.00005600
	DISTSEC	0.05026682	0.03193862	0.00283710	0.00771898	-	-	0.00495758	-	-	-	0.00009861	-	-	-	0.00163079	-	0.00002236	0.00091316	0.00014962
	ENERGY	0.38025008	0.14469868	0.00922499	0.03099848	0.00089135	0.00004239	0.02879910	0.00541411	0.00238707	0.00011061	0.00107648	0.01849092	0.10679770	0.01948536	0.00766945	0.00012476	0.00014148	0.00330348	0.00059368
	CUSTOMER	0.04501818	0.02127709	0.00621130	0.00164990	0.00040208	0.00010162	0.00041089	0.00012244	0.00023790	0.00004011	0.00000222	0.00006021	0.00031767	0.00004802	0.00010294	0.00000165	0.00000275	0.01201028	0.00201912
	TOTAL	1.00000000	0.43233605	0.03723521	0.10345548	0.00310928	0.00031897	0.08233897	0.01488617	0.00544931	0.00027391	0.00247931	0.04221064	0.19915450	0.03399471	0.02272331	0.00032947	0.00038945	0.01649485	0.00282043
REVYEC_FXNL	PRODUCTION	0.50803528	0.07039904	0.00690473	0.01519181	0.02120782	0.00755040	(0.06640495)	(0.03333061)	-	-	-	0.08082299	0.24404855	0.15603825	0.00560725	-	-	-	-
REVYEC_FXNL	BULKTRAN	(0.03792488)	(0.00958250)	0.00013787	(0.00014041)	(0.00056942)	0.00185126	0.00062842	(0.00009556)	-	-	-	(0.00411893)	(0.01116156)	(0.01465691)	(0.00021716)	-	-	-	-
REVYEC_FXNL	SUBTRAN	(0.00536894)	(0.00201723)	0.00002554	(0.00003345)	(0.00012157)	0.00062699	0.00014749	(0.00000759)	-	-	-	(0.00085310)	(0.00305527)	-	(0.00004445)	-	-	(0.00004291)	0.00000662
REVYEC_FXNL	DISTPRI	0.03222714	0.02364288	0.00280437	0.00591434	0.00794788	-	(0.02550112)	(0.01299897)	-	-	-	0.02950036	-	-	0.00203151	-	-	(0.00129755)	0.00018344
REVYEC_FXNL	DISTSEC	0.00271650	0.01123228	0.00147714	0.00256112	-	-	(0.00937869)	-	-	-	-	-	-	-	0.00090319	-	-	(0.00456862)	0.00049009
REVYEC_FXNL	ENERGY	0.53019480	0.05088812	0.00480301	0.01028513	0.01397260	0.00242999	(0.05448184)	(0.02688791)	-	-	-	0.08233660	0.26668549	0.19049889	0.00424761	-	-	(0.01652757)	0.00194469
REVYEC_FXNL	CUSTOMER	(0.02987990)	0.00748280	0.00323392	0.00054743	0.00630285	0.00582507	(0.00077732)	(0.00060808)	-	-	-	0.00026812	0.00079325	0.00046951	0.00005701	-	-	(0.06008843)	0.00661397
REVYEC_FXNL	TOTAL	1.00000000	0.15204539	0.01938658	0.03432596	0.04874018	0.01828371	(0.15576802)	(0.07392871)	-	-	-	0.18795604	0.49731046	0.33234975	0.01258496	-	-	(0.08252509)	0.00923880

FORF_DISC_FXNL Calculation - In order to properly assign forfeited discounts to the various functions within the customer classes, allocate it using the RSALE allocator

ALLOCATOR	FUNCTION	Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
FORF_DISC TOTAL		1.00000000	0.68837336	0.06091760	0.09901406	0.00136472	0.00014791	0.03441589	0.02166901	0.00452230	0.00012254	0.00134864	0.03395913	0.04712451	0.00182742	-	-	-	0.00519290	-
RSALE	PRODUCTION	0.44886785	0.20017735	0.01326170	0.04578679	0.00135291	0.00013172	0.03510166	0.00671140	0.00288962	0.00012691	0.00104558	0.01815100	0.09773244	0.01596052	0.01012442	0.00016051	0.00015333	-	-
	BULKTRAN	(0.03516041)	(0.02724751)	0.00026481	(0.00042317)	(0.00003632)	0.00003230	(0.00033218)	0.00001924	(0.00005051)	(0.00000372)	(0.00009131)	(0.00092502)	(0.00446979)	(0.00149920)	(0.00039210)	(0.00001082)	0.00000490	-	-
	SUBTRAN	(0.00738036)	(0.00573594)	0.00004906	(0.00010081)	(0.00000776)	0.00001094	(0.00007796)	0.00000153	(0.00001478)	-	(0.00001865)	(0.00019159)	(0.00122352)	-	(0.00008025)	(0.00000217)	0.00000094	0.00000858	0.00000202
	DISTPRI	0.11813783	0.06722776	0.00538626	0.01782530	0.00050702	-	0.01347989	0.00261745	-	-	0.00036637	0.00662511	-	-	0.00366808	0.00005555	0.00006369	0.00025935	0.00005600
	DISTSEC	0.05026682	0.03193862	0.00283710	0.00771898	-	-	0.00495758	-	-	-	0.00009861	-	-	-	0.00163079	-	0.00002236	0.00091316	0.00014962
	ENERGY	0.38025008	0.14469868	0.00922499	0.03099848	0.00089135	0.00004239	0.02879910	0.00541411	0.00238707	0.00011061	0.00107648	0.01849092	0.10679770	0.01948536	0.00766945	0.00012476	0.00014148	0.00330348	0.00059368
	CUSTOMER	0.04501818	0.02127709	0.00621130	0.00164990	0.00040208	0.00010162	0.00041089	0.00012244	0.00023790	0.00004011	0.00000222	0.00006021	0.00031767	0.00004802	0.00010294	0.00000165	0.00000275	0.01201028	0.00201912
	TOTAL	1.00000000	0.43233605	0.03723521	0.10345548	0.00310928	0.00031897	0.08233897	0.01488617	0.00544931	0.00027391	0.00247931	0.04221064	0.19915450	0.03399471	0.02272331	0.00032947	0.00038945	0.01649485	0.00282043
FORF_DISC_FXNL	PRODUCTION	0.45094970	0.31872603	0.02169642	0.04382113	0.00059382	0.00006108	0.01467173	0.00976943	0.00239806	0.00005678	0.00056875	0.01460277	0.02312573	0.00085797	-	-	-	-	-
FORF_DISC_FXNL	BULKTRAN	(0.04544325)	(0.04338399)	0.00043323	(0.00040500)	(0.00001594)	0.00001498	(0.00013885)	0.00002801	(0.00004192)	(0.00000166)	(0.00004967)	(0.00074419)	(0.00105766)	(0.00008059)	-	-	-	-	-
FORF_DISC_FXNL	SUBTRAN	(0.00964113)	(0.00913286)	0.00008026	(0.00009649)	(0.00000340)	0.00000507	(0.00003259)	0.00000223	(0.00001226)	-	(0.00001014)	(0.00015413)	(0.00028951)	-	-	-	-	0.00000270	-
FORF_DISC_FXNL	DISTPRI	0.14819123	0.10704127	0.00881204	0.01706005	0.00022254	-	0.00563430	0.00381009	-	-	0.00019929	0.00533000	-	-	-	-	-	0.00008165	-
FORF_DISC_FXNL	DISTSEC	0.06529569	0.05085325	0.00464155	0.00738760	-	-	0.00207216	-	-	-	0.00005364	-	-	-	-	-	-	0.00028748	-
FORF_DISC_FXNL	ENERGY	0.34033168	0.23039188	0.01509228	0.02966769	0.00039123	0.00001966	0.01203739	0.00788103	0.00198099	0.00004949	0.00058556	0.01487624	0.02527078	0.00104746	-	-	-	0.00104000	-
FORF_DISC_FXNL	CUSTOMER	0.05031608	0.03387777	0.01016182	0.00157907	0.00017648	0.00004712	0.00017174	0.00017823	0.00019743	0.00001794	0.00000121	0.00004844	0.00007517	0.00000258	-	-	-	0.00378107	-
FORF_DISC_FXNL	TOTAL	1.00000000	0.68837336	0.06091760	0.09901406	0.00136472	0.00014791	0.03441589	0.02166901	0.00452230	0.00012254	0.00134864	0.03395913	0.04712451	0.00182742	-	-	-	0.00519290	-

WEATHER_FXNL Calculation - In order to properly assign the weather normalization load adjustment to the various functions within the customer classes, allocate it using the RSALE allocator

ALLOCATOR	FUNCTION	Total	RS	SGS	MGS-SEC	MGS-PRI	MGS-SUB	LGS-SEC	LGS-PRI	LGS-SUB	LGS-TRA	IGS-SEC	IGS-PRI	IGS-SUB	IGS-TRA	PS-SEC	PS-PRI	MW	OL	SL
WEATHER_NORM TOTAL		1.00000000	1.00000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RSALE	PRODUCTION	0.44886785	0.20017735	0.01326170	0.04578679	0.00135291	0.00013172	0.03510166	0.00671140	0.00288962	0.00012691	0.00104558	0.01815100	0.09773244	0.01596052	0.01012442	0.00016051	0.00015333	-	-
	BULKTRAN	(0.03516041)	(0.02724751)	0.00026481	(0.00042317)	(0.00003632)	0.00003230	(0.00033218)	0.00001924	(0.00005051)	(0.00000372)	(0.00009131)	(0.00092502)	(0.00446979)	(0.00149920)	(0.00039210)	(0.00001082)	0.00000490	-	-
	SUBTRAN	(0.00738036)	(0.00573594)	0.00004906	(0.00010081)	(0.00000776)	0.00001094	(0.00007796)	0.00000153	(0.00001478)	-	(0.00001865)	(0.00019159)	(0.00122352)	-	(0.00008025)	(0.00000217)	0.00000094	0.00000858	0.00000202
	DISTPRI	0.11813783	0.06722776	0.00538626	0.01782530	0.00050702	-	0.01347989	0.00261745	-	-	0.00036637	0.00662511	-	-	0.00366808	0.00005555	0.00006369	0.00025935	0.00005600
	DISTSEC	0.05026682	0.03193862	0.00283710	0.00771898	-	-	0.00495758	-	-	-	0.00009861	-	-	-	0.00163079	-	0.00002236	0.00091316	0.00014962
	ENERGY	0.38025008	0.14469868	0.00922499	0.03099848	0.00089135	0.00004239	0.02879910	0.00541411	0.00238707	0.00011061	0.00107648	0.01849092	0.10679770	0.01948536	0.00766945	0.00012476	0.00014148	0.00330348	0.00059368
	CUSTOMER	0.04501818	0.02127709	0.00621130	0.00164990	0.00040208	0.00010162	0.00041089	0.00012244	0.00023790	0.00004011	0.00000222	0.00006021	0.00031767	0.00004802	0.00010294	0.00000165	0.00000275	0.01201028	0.00201912
	TOTAL	1.00000000	0.43233605	0.03723521	0.10345548	0.00310928	0.00031897	0.08233897	0.01488617	0.00544931	0.00027391	0.00247931	0.04221064	0.19915450	0.03399471	0.02272331	0.00032947	0.00038945	0.01649485	0.00282043
WEATHER_FXNL	PRODUCTION	0.46301331	0.46301331	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL	BULKTRAN	(0.06302392)	(0.06302392)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL	SUBTRAN	(0.01326731)	(0.01326731)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL	DISTPRI	0.15549886	0.15549886	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL	DISTSEC	0.07387452	0.07387452	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL	ENERGY	0.33469029	0.33469029	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL	CUSTOMER	0.04921424	0.04921424	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL	TOTAL	1.00000000	1.00000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM	PRODUCTION	0.30369444	0.30369444	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM	BULKTRAN	0.01636462	0.01636462	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM	SUBTRAN	0.00355900	0.00355900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM	DISTPRI	0.12135564	0.12135564	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM	DISTSEC	0.05600883	0.05600883	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM	ENERGY	0.45681577	0.45681577	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM	CUSTOMER	0.04220170	0.04220170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WEATHER_FXNL_OM	TOTAL	1.00000000	1.00000000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Kentucky Power Company
Proposed Revenue Allocation
Twelve Months Ended February, 28, 2017

					Proposed Revenue Allocation					
Current Class (1)	**Current Revenue** (2)	**Rate Base** (3)	**Current Income** (4)	**Current ROR %** (5)	**Income Increase** (6)	**Income** (7)	**ROR %** (8)	**Revenue Increase** (9)	**Sales Revenue** (10)	**Percent Increase** (11)
RS	216,341,050	652,486,366	7,048,662	1.08	22,660,786	29,709,448	4.55	37,237,355	253,578,405	17.21
SGS	18,632,507	37,514,381	3,959,664	10.56	1,125,152	5,084,816	13.55	1,848,907	20,481,414	9.92
MGS	53,484,637	114,971,829	9,505,162	8.27	3,579,804	13,084,966	11.38	5,882,515	59,367,152	11.00
LGS	51,515,378	101,363,382	8,399,008	8.29	3,155,140	11,554,148	11.40	5,184,686	56,700,064	10.06
IGS	139,030,771	240,509,510	13,166,219	5.47	7,824,469	20,990,688	8.73	12,857,564	151,888,335	9.25
PS	11,535,619	26,428,694	1,631,776	6.17	850,553	2,482,329	9.39	1,397,672	12,933,291	12.12
MW	194,881	337,885	37,818	11.19	10,026	47,844	14.16	16,476	211,357	8.45
OL	8,254,025	18,839,286	2,836,123	15.05	522,655	3,358,778	17.83	858,854	9,112,879	10.41
SL	1,411,343	2,437,113	382,116	15.68	66,851	448,967	18.42	109,853	1,521,196	7.78
Total	500,400,211	1,194,888,447	46,966,548	3.93	39,795,436	86,761,984	7.26	65,393,882	565,794,093	13.07

Gross Rev Conversion Factor: 1.64325

Kentucky Power Company
Proposed Revenue Allocation
Twelve Months Ended February, 28, 2017

					Current Equalized Rate of Return							
Current Class (1)	**Current Revenue** (2)	**Rate Base** (3)	**Current Income** (4)	**Current ROR %** (5)	**Percent Increase** (6)	**Revenue Increase** (7)	**Income Increase** (8)	**Income** (9)	**ROR %** (10)	**Sales Revenue** (11)	**Current Subsidy** (12)=(11)-(2)	**Relative ROR**
RS	216,341,050	652,486,366	7,048,662	1.08	14.13	30,561,361	18,598,111	25,646,773	3.93	246,902,411	30,561,361	0.27
SGS	18,632,507	37,514,381	3,959,664	10.56	-21.92	(4,083,670)	(2,485,116)	1,474,548	3.93	14,548,837	(4,083,670)	2.69
MGS	53,484,637	114,971,829	9,505,162	8.27	-15.32	(8,193,338)	(4,986,054)	4,519,108	3.93	45,291,299	(8,193,338)	2.10
LGS	51,515,378	101,363,382	8,399,008	8.29	-14.08	(7,254,618)	(4,414,797)	3,984,211	3.93	44,260,760	(7,254,618)	2.11
IGS	139,030,771	240,509,510	13,166,219	5.47	-4.39	(6,100,895)	(3,712,699)	9,453,520	3.93	132,929,876	(6,100,895)	1.39
PS	11,535,619	26,428,694	1,631,776	6.17	-8.45	(974,388)	(592,964)	1,038,812	3.93	10,561,231	(974,388)	1.57
MW	194,881	337,885	37,818	11.19	-20.69	(40,321)	(24,537)	13,281	3.93	154,560	(40,321)	2.85
OL	8,254,025	18,839,286	2,836,123	15.05	-41.72	(3,443,632)	(2,095,622)	740,501	3.93	4,810,393	(3,443,632)	3.83
SL	1,411,343	2,437,113	382,116	15.68	-33.34	(470,499)	(286,322)	95,794	3.93	940,844	(470,499)	3.99
Total	500,400,211	1,194,888,447	46,966,548	3.93	0.00	0	0	46,966,548	3.93	500,400,211	0	1.00

Gross Rev Conversion Factor: 1.643251

Kentucky Power Company
Proposed Revenue Allocation
Twelve Months Ended February, 28, 2017

Current Class (1)	Current Revenue (2)	Rate Base (3)	Current Income (4)	Current ROR % (5)	Equalized Rate of Return: Percent Increase (6)	Revenue Increase (7)	Income Increase (8)	Income (9)	ROR % (10)	Sales Revenue (11)	95% of Current Subsidy (12)	Proposed Increase (13)=(7)-(12)	Percent Increase (14)
RS	216,341,050	652,486,366	7,048,662	1.08	30.63	66,270,648	40,328,992	47,377,654	7.26	282,611,698	29,033,293	37,237,355	17.21
SGS	18,632,507	37,514,381	3,959,664	10.56	-10.90	(2,030,580)	(1,235,709)	2,723,955	7.26	16,601,927	(3,879,487)	1,848,907	9.92
MGS	53,484,637	114,971,829	9,505,162	8.27	-3.55	(1,901,156)	(1,156,948)	8,348,214	7.26	51,583,481	(7,783,671)	5,882,515	11.00
LGS	51,515,378	101,363,382	8,399,008	8.29	-3.31	(1,707,201)	(1,038,917)	7,360,091	7.26	49,808,177	(6,891,887)	5,184,686	10.06
IGS	139,030,771	240,509,510	13,166,219	5.47	5.08	7,061,714	4,297,405	17,463,624	7.26	146,092,485	(5,795,850)	12,857,564	9.25
PS	11,535,619	26,428,694	1,631,776	6.17	4.09	472,003	287,237	1,919,013	7.26	12,007,622	(925,669)	1,397,672	12.12
MW	194,881	337,885	37,818	11.19	-11.20	(21,829)	(13,284)	24,534	7.26	173,052	(38,305)	16,476	8.45
OL	8,254,025	18,839,286	2,836,123	15.05	-29.23	(2,412,596)	(1,468,185)	1,367,938	7.26	5,841,429	(3,271,450)	858,854	10.41
SL	1,411,343	2,437,113	382,116	15.68	-23.89	(337,121)	(205,155)	176,961	7.26	1,074,222	(446,974)	109,853	7.78
Total	500,400,211	1,194,888,447	46,966,548	3.93	13.07	65,393,882	39,795,436	86,761,984 86,761,984	7.26	565,794,093	0	65,393,882	13.07

Gross Rev Conversion Factor: 1.643251

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

Electronic Application Of Kentucky Power Company For (1) A General Adjustment Of Its Rates For Electric Service; (2) An Order Approving Its 2017 Environmental Compliance Plan; (3) An Order Approving Its Tariffs And Riders; (4) An Order Approving Accounting Practices To Establish Regulatory Assets And Liabilities; And (5) An Order Granting All Other Required Approvals And Relief	)))))))))	Case No. 2017-00179

DIRECT TESTIMONY OF

ANDREW R. CARLIN

ON BEHALF OF KENTUCKY POWER COMPANY

VERIFICATION

The undersigned, Andrew R. Carlin, being duly sworn, deposes and says he is the Director, Compensation and Executive Benefits 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.

Andrew R. Carlin

STATE OF OHIO)
) Case No. 2017-00179
COUNTY OF FRANKLIN)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Andrew R. Carlin, this the 19th day of June 2017.

Notary Public

NOTARIAL SEAL STATE OF OHIO

Cheryl L. Strawser
Notary Public, State of Ohio
My Commission Expires 10-01-2021

My Commission Expires: October 1st, 2021

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

CASE NO. 2017-00179

TABLE OF CONTENTS

I.	Introduction ………………………………………………….….	1
II.	Overview of Compensation Practices ………….………….	5
III.	Competitiveness of Total Compensation …...……………..….	14
IV.	Types of Incentive Compensation Offered by Kentucky Power, AEP and AEPSC …………………………………….	22
	A. Annual Incentive Compensation……………...………….	22
	B. Long-term Incentive Compensation…………….……..…	30
V.	Employee Benefits ………………………………….….........	35
VI.	Summary ……………………………………….…….........	39

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

I. INTRODUCTION

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

A. My name is Andrew R. Carlin. My business address is American Electric Power, 15th Floor, One Riverside Plaza, Columbus, Ohio 43215. My position is Director of Compensation & Executive Benefits for the American Electric Power Service Corporation ("AEPSC"), a wholly owned subsidiary of American Electric Power Company, Inc. ("AEP"). AEP is the parent company of Kentucky Power Company ("Kentucky Power" or the "Company"). AEPSC supplies engineering, financing, accounting and similar planning and advisory services to operating companies in eleven jurisdictions, including Kentucky Power. In this testimony I refer to Kentucky Power and AEPSC collectively as the "Companies".

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

A. I received a Bachelor of Arts Degree from Bowdoin College in 1988 with majors in Economics and Government. I also received a Master's of Business Administration Degree from the J. L. Kellogg Graduate School of Management at Northwestern University in 1992, with concentrations in finance, management strategy, and accounting.

From 1987 to 1988, I worked for Putnam Investor Services as a Shareholder Services Representative. From 1988 to 1990 and in the summer of 1991, I worked as an Associate Consultant and Research Analyst in the U.S. Compensation Practice for William M. Mercer, a leading international human resource consulting firm. From 1992 to 2000, I worked for Bank One Corporation, now part of J.P. Morgan Chase, in multiple planning, finance and compensation capacities.

I joined AEPSC as the Director of Executive Compensation & Benefits in 2000. In 2002 I took on responsibility for employee compensation, in addition to my executive compensation and benefits responsibilities. In my current position, as a member of the AEPSC compensation group, I am responsible for, among other things, developing and maintaining effective and cost-efficient compensation programs for Kentucky Power and its affiliates.

Q. WHAT SERVICE DOES THE AEPSC COMPENSATION GROUP PROVIDE TO KENTUCKY POWER, AEP AND AEPSC?

A. The compensation group is a department within Human Resources that is responsible for the design, development, and administration of employee compensation program and some of the employee benefit plans for the AEP System, including for employees of Kentucky Power. The compensation group conducts ongoing research and recommends changes to compensation programs as necessary to prudently manage employee compensation. The compensation group also develops communications materials and manages compensation plans and programs in compliance with federal and state regulations related to employee pay. The compensation group works in coordination with the AEPSC team responsible for non-compensation employee benefits; to ensure that employee Total Compensation (defined below) and benefits, as a whole, is market-competitive. This is done by comparing the Companies' compensation to that of other employers, which is obtained through the use of third-party compensation surveys. The list of compensation surveys the compensation group utilizes is provided as Exhibit ARC-1. This coordination enables AEP and its subsidiaries to recruit and retain the qualified employees who are required to provide service to customers.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE A REGULATORY BODY?

A. Yes. The list of regulatory proceedings is provided in Exhibit ARC-2.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to show that the compensation opportunity provided to employees is reasonable, customary, prudent, and market-competitive. My testimony also will demonstrate that the Companies' compensation strategy, which offers employees the basic ability to earn market comparable compensation, which includes a combination of base pay and incentive compensation, benefits customers through the cost and quality of the work that employees perform on behalf of customers. I will show that the compensation opportunity provided to Kentucky Power employees and Kentucky Power's allocated share of the compensation for AEPSC employees is vital for recruiting, engaging, retaining and directing the efforts of employees with the skills and experience necessary to efficiently and effectively provide electric services to Kentucky Power customers.

Q. WHAT ARE THE COMPENSATION TERMS USED IN THIS TESTIMONY?

A. The Companies compensates all employees with a combination of a fixed base compensation ("Base Pay") and a variable annual or short-term incentive compensation opportunity ("STI"). I refer to the sum of these two types of compensation (Base Pay + STI) as Total Cash Compensation ("TCC"). Approximately 1,050 positions in the AEP system also have a long-term incentive ("LTI") compensation opportunity. These 1,050 positions require unique skills and involve roles for which long-term continuity, prudency and vision are required. Total Compensation ("Total Compensation") is comprised of Base Pay, STI and, for eligible positions, LTI (Base Pay + STI +LTI). Total Compensation and TCC are the same for employees who do not have an LTI opportunity.

Q. ARE YOU SPONSORING EXHIBITS IN THIS TESTIMONY?

A. Yes, I am sponsoring the following exhibits:

- Exhibit ARC-1 (Survey List for 2016)
- Exhibit ARC-2 (Witness Participation Proceeding List)
- Exhibit ARC-3 (Towers Watson 2010 Annual Incentive Plan Design Survey Findings Report)
- Exhibit ARC-4 (KPCO TCC vs. Market for Technical, Craft and Clerical Positions)
- Exhibit ARC-5 (KPCO TCC vs. Market for Exempt Positions)
- Exhibit ARC-6 (TCC vs. Market for Executive Positions)
- Exhibit ARC-7 (CAHRS, Evaluating the Utility of Performance-Based Pay)
- Exhibit ARC-8 (2016 ICP Goals for Distribution)

- Exhibit ARC-9 (2016 ICP Funding Measures)
- Exhibit ARC-10 (Benefit Plan Design and Employee Cost Summary Grid – 2016)

II. OVERVIEW OF COMPENSATION PRACTICES

Q. WHAT IS THE PURPOSE OF THE COMPANIES' EMPLOYEE COMPENSATION PLAN?

A. The Companies uses a Total Compensation strategy to recruit and retain employees with the skills needed for the service and support of our customers. The Companies' compensation strategy must be fair and market-competitive to enable the Companies to attract, retain and motivate employees with the abilities and experience necessary to provide reliable electric service, safely, efficiently and effectively, for Kentucky Power customers.

Q. WHAT ARE SOME OF THE COMPANIES' OPTIONS IN HOW IT PAYS COMPENSATION TO EMPLOYEES?

A. Realizing that the Companies' compensation strategy must allow employees to earn a market-competitive wage, the basic choices in employee pay strategy are: (1) to use a 100% fixed base pay to provide market-competitive compensation; or (2) a combination of lower fixed base pay with a variable pay opportunity tied to performance that, in combination with base pay, brings employee's compensation opportunity to market-competitive levels. Both of these pay strategies pay employees at the same market-competitive level for similar positions assuming target performance on average for the variable component of pay.

Q. WHAT IS THE COMPANIES' OVERALL APPROACH TO HOW AN EMPLOYEE EARNS PAYROLL COMPENSATION?

A. The Companies utilize the combination method which uses lower base pay and a variable incentive opportunity portion that varies based on performance. This compensation strategy is used for all levels of positions

Q. WHY DO THE COMPANIES PAY EMPLOYEES IN THIS MANNER?

A. The design of the Companies' compensation programs and, specifically, its annual and long-term incentive compensation programs, has been developed prudently and appropriately from a customer-focused and business perspective. The compensation strategy described in this testimony uses base pay and defined employee goals to foster efficiency, safety and improvement in the customer experience. This pay strategy motivates employees to lower costs and generate efficiencies that benefit customers while also maintaining employee compensation opportunity at reasonable market-competitive rates that enable the Companies to attract and retain the suitable employees needed to efficiently and effectively provide its electric service to customers.

Q. WHAT ARE THE CUSTOMER BENEFITS DRIVEN BY EMPLOYEES EARNING THEIR PAYROLL COMPENSATION USING THIS COMBINATION METHOD?

A. The Companies' compensation method creates a culture of high performance and cost consciousness which reduces the cost of service for customers. The continuous improvements this type of culture produces results in efficiencies that lower costs of service which benefits customers through lower rates.

Q. WHY IS TOTAL COMPENSATION CHOSEN AS THE PRIMARY POINT OF COMPARISON TO MARKET COMPENSATION RATHER THAN BASE SALARY LEVELS?

A. Total Compensation is chosen as the primary point of comparison because it includes all statistically significant types of compensation earned by employees in the market at the market-competitive level. Market compensation survey information provided in ARC Exhibit-4, ARC Exhibit-5, and ARC Exhibit-6, shows that the target level of annual incentive compensation is a statistically significant and often a substantial component of market-competitive compensation for nearly every position. This survey information also shows that the target level of long-term compensation is a statistically significant and often a substantial component of market-competitive compensation for those positions to which the Companies provides such compensation. Employees and prospective employees evaluate the sum of compensation packages in their entirety when evaluating pay rate. No understanding or assessment of market-competitive employee pay would be complete or valid unless all types of pay are included in the equation.

Q. IS IT APPROPRIATE FOR THE COMPANY TO RECOVER EMPLOYEE INCENTIVE EXPENSE THROUGH BASE RATES?

A. Yes. The Companies' compensation program has been in place for more than 20 years. Customers have and will continue to receive financial benefits due to the effective design and operation of the company's Total Compensation program, through a lower cost of service. These lower costs and efficiencies are fostered by incentive compensation and are achieved while maintaining employee compensation at market-competitive rates. This compensation strategy has historically provided advantages to customers and produced substantial additional benefits that have already been reflected in the Company's actual expenses for many prior years, including the test year. Because of these benefits, and because the incentive compensation opportunity serves only to bring employee compensation to market-competitive levels, it is reasonable for these employee expenses to be included in the cost of service.

Q. IS THE COMPANIES' EMPLOYEE COMPENSATION SHOWN TO BE CONSISTENT WITH THIRD PARTY SURVEY MARKET COMPENSATION STUDIES?

A. Yes. In fact target employee compensation is shown ranking below the market median as shown in ARC Exhibits 4, 5, and 6.

Q. WHY MUST THE COMPANIES PROVIDE EMPLOYEES WITH A MARKET-COMPETITIVE TOTAL COMPENSATION PACKAGE?

A. Like most other regulated utility employers, the Companies must provide a market-competitive Total Compensation opportunity to efficiently and effectively attract and retain an adequately skilled and experienced workforce. Attracting and retaining such a workforce is reasonable and necessary for the safe, efficient and effective provision of service to customers and the operation of most aspects of the Company's business.

Q. WHAT WOULD BE THE IMPLICATIONS TO THE COMPANY AND ITS CUSTOMERS IF THE COMPANIES WERE TO DECIDE TO REDUCE ITS COMPENSATION TO LESS THAN MARKET-COMPETITIVE LEVELS?

A. Reducing employees' target Total Compensation to less than the market-competitive range would have substantial negative implications for the Company and its cost of service to customers. It is likely that the compensation expense saved would be more than offset by increased hiring and training expense due to increased employee turnover, as well as lower employee productivity, as it would take new employees time to learn to perform their jobs safely, efficiently and effectively. This is particularly true for linemen and other craft positions that require lengthy apprenticeships to learn the skills needed to work independently and safely. It requires AEP's Lineman five years to reach the journeyman (Lineman A) level in which they are fully proficient in their job. It would not be economical for the Company and its customers to become a training ground for lineman or other positions for other companies.

Q. ARE THERE ANY STUDIES SUPPORTING YOUR TESTIMONY THAT USING AN INCENTIVE COMPENSATION STRATEGY BENEFITS CUSTOMERS?

A. Yes. Exhibit ARC-7 (CAHRS, *Evaluating the Utility of Performance Based Pay*) is an academic study that shows the substantial financial benefits that can result from linking pay to performance. The financial benefits shown in this study (see Exhibit ARC-7, page 37) are the result of improved employee performance provided by a workforce whose pay was closely linked to their performance.

Q. DOES THE INCENTIVE PORTION OF EMPLOYEES' TARGET TOTAL COMPENSATION CONTRIBUTE TO THE COMPANIES EXCEEDING A MARKET-COMPETITIVE PAY LEVEL?

A. No. The Companies' incentive compensation is not a 'bonus' plan. The target compensation opportunity that incentive compensation provides is merely a portion of employees' total pay that is at risk. It is designed to motivate employees and provide a needed compensation opportunity that, when it is combined with base pay, brings employee Total Compensation to a reasonable and market-competitive level. The target value of incentive compensation is a critical component of the market-competitive Total Compensation package that the Companies use to attract and retain qualified employees.

Q. DOES THE USE OF INCENTIVE COMPENSATION REDUCE THE COMPANIES' BASE PAY EXPENSE?

A. Yes. The variable incentive compensation component reduces the amount of base wages needed to provide prudent, effective and market-competitive employee compensation. Conversely, if the Companies eliminated incentive compensation, it would need to increase base pay to continue to attract and retain the suitably skilled and experienced employees it needs to efficiently and effectively provide service to customers.

Q. HOW DOES THE COMPANIES' INCENTIVE COMPENSATION PLAN TARGETS COMPARE TO OTHER COMPANIES' TARGETS?

A. Target 2016 STI for all AEP participants was 10.4 percent of base pay, including overtime, which is less than the 16 percent target typical of broad-based STI plans. (See Exhibit ARC-3 (Towers Watson 2010 Annual Incentive Plan Design Survey Findings Report).

Q. WILL THE ANNUAL INCENTIVE PROGRAM CONTINUE TO PRODUCE INCREMENTAL BENEFITS?

A. While the annual incentive program is expected to produce additional incremental benefits going forward, these benefits are likely to be small compared to the cumulative total of all ongoing benefits incentive compensation has produced in past years that have already been captured in rates or will be captured in rates through this proceeding. These ongoing benefits would likely erode over time if the Company or AEPSC were to eliminate annual incentive compensation for a portion of its workforce if, for example, the Company was not receiving adequate recovery of annual incentive expense in its rates.

Additionally, to the extent that annual incentive compensation produces substantial additional benefits going forward, customers would immediately receive the benefits of any *operational* improvements. Because the compensation opportunity that annual incentive compensation provides is a portion of customary employee wages, it is just and reasonable to include annual incentive compensation in the Company's cost of service for rate making purposes.

Q. WHAT ARE THE TRENDS IN INCENTIVE COMPENSATION AND ITS PREVALENCE IN THE EMPLOYMENT MARKET?

A. Incentive compensation withstood the pressures of the "Great Recession" and the unprecedented challenges of cost, risk, scrutiny and talent management issues facing employers today. It continues to be used nearly universally by public utilities and other U.S. companies to encourage desired behaviors and provide competitive Total

Compensation opportunities. The compensation analyses discussed above in this testimony (Exhibits ARC-4, ARC-5, and ARC-6) show that market median Total Compensation includes incentive compensation for 100 percent of the 102 Kentucky Power incumbent employees in the 11 technical, craft (traditionally hourly skilled labor, such as line servicers and other trades) and clerical positions.

To state simply and to avoid misinterpretation, the Companies provides both annual and long-term incentive compensation as part of a market-competitive Total Compensation package; it is not provided as a "bonus" on top of an already market-competitive compensation package. In other words, if incentive compensation were not provided, the same target value of incentive compensation would need to be added to base pay in order for the Companies to provide a market-competitive compensation package to its employees. Paying market-competitive compensation enables the Companies to attract, retain, and motivate the suitably knowledgeable and experienced employees it needs to efficiently and effectively provide its electric services to customers. Furthermore, incentive compensation provides many additional and substantial benefits to customers, which are described in detail later in this testimony.

Q. IN THE PAST, INTERVENER WITNESSES HAVE SUGGESTED EXCLUDING KENTUCKY POWER EMPLOYEE INCENTIVE COMPENSATION IN WHOLE OR SUBSTANTIAL PART. HOW WOULD DOING SO AFFECT THE COMPETIVENESS OF KENTUCKY POWER'S EMPLOYEE COMPENSATION FOR PHYSICAL AND CRAFT POSITIONS?

A. If Kentucky Power's annual incentive compensation were to be excluded and this prompted the Company to eliminate incentive compensation for physical/craft positions, then Total Compensation for 7 of 10 physical/craft positions (70 percent) would fall below the market-competitive range and Company's average employee Total Compensation for these high incumbent positions would fall 9.4 percent below the market median. This shows that the target annual incentive compensation provided by Kentucky Power is necessary to achieve market-competitive compensation for these positions and, thus, is a reasonable and appropriate cost of doing business that cannot be eliminated without an offsetting increase in base pay if Total Compensation is to remain competitive.

Q. DO YOU BELIEVE IT WOULD BE REASONABLE TO DISALLOW RECOVERY OF ANY PORTION OF THE REQUESTED AMOUNT OF EMPLOYEE INCENTIVE COMPENSATION EXPENSE?

A. No. The Total Compensation the Companies provide to employees is a just, reasonable and prudent cost of doing business in service to customers. Reducing or eliminating a portion of employees' compensation opportunity would reduce the Company's cost recovery for this expense to less than that required to maintain Total Compensation in the market-competitive range for a substantial number of Kentucky Power positions. (See Exhibit ARC-4.) Paying market-competitive compensation enables the Companies to attract, retain, and motivate the suitably knowledgeable, experienced and qualified employees it needs to efficiently and effectively provide services to customers, while minimizing overall expense, which is in the best interests of customers and the Company. For example, any compensation expense avoided by reducing employee compensation to less than the market-competitive range would likely be eliminated by additional hiring and training expense due to employee turnover, as well as lower employee productivity while new employees learn to perform their jobs safely, efficiently and effectively. This is particularly true for positions that require lengthy apprenticeships to achieve the skills needed to work independently and safely, such as Line Mechanics.

III. COMPETITIVENESS OF TOTAL COMPENSATION

Q. HOW DOES THE COMPANIES' TARGET TOTAL COMPENSATION FOR PHYSICAL AND CRAFT POSITIONS COMPARE WITH MARKET DATA?

A. As shown in Exhibit ARC-4 (Kentucky Power TCC vs. Market for Technical, Craft and Clerical Positions), Kentucky Power's average target Total Compensation for the physical and craft positions included in the EAP Data Information Solutions, LLC 2016 Energy Technical Craft and Clerical ("ETC&C') Survey is 5.4 percent below the market median. Table ARC-1 below illustrates the Total Compensation for line positions with Kentucky Power in comparison with the 2016 EAPDIS Energy Technical, Craft & Clerical (ET,C&C) Survey for the southeast region of the United States.

Table ARC-1

Survey Job	AEP Title	AEP Target Total Cash Compensation (TCC)	ETC&C Survey Total Cash Compensation (TCC)	% Difference AEP Target TCC vs. Survey TCC
Line Mechanic	Line Mechanic-A	$77,575	$83,726	-7.9%
Trouble Service Mechanic	Line Servicer	$79,934	$87,900	-10.0%

Assuming a market-competitive compensation range of +/- 10 percent of the survey median, which is typical practice for such positions, Kentucky Power's average target TCC is within, but in the lower half of the market-competitive range. TCC is the same as Total Compensation for this exhibit because neither AEP nor other companies that participated in this survey provide a significant amount of LTI to these positions.

However, if Kentucky Power's and AEPSC's annual incentive compensation were to be excluded, the average target TCC for these positions would fall to 10.7 percent below the market median, which is below the market competitive range and 8 of 10 positions (80 percent) would fall below the market-competitive range. This shows that the annual incentive compensation opportunity Kentucky Power provides to physical and craft positions is necessary to maintain the competitiveness of their Total Compensation.

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

A. Exhibit ARC-5 (TCC vs. Market for Exempt Positions) compares Kentucky Power's and AEPSC's compensation for non-executive exempt positions to those of similar companies, based on applicable external survey data. Using +/- 15 percent of the market midpoint as the market-competitive range, which is typical for exempt positions, this exhibit indicates that, on average, Kentucky Power's and AEPSC's target TCC for these positions was 0.11 percent below the market median, which is well centered within the +/- 15 percent market-competitive range. Target TCC is the same as target Total Compensation for this exhibit because neither AEP nor other companies that participated in this survey provide a significant amount of LTI to these positions.

However, if Kentucky Power's and AEPSC's annual incentive compensation were to be excluded, target TCC for these positions would fall to 9.6 percent below the market median. While Kentucky Power's and AEPSC's average target TCC would remain at the low end of the market-competitive range, 6 of 22 individual positions (27.3 percent) would fall below the market-competitive range. This shows that the annual incentive compensation opportunity Kentucky Power and AEPSC provide to these positions is necessary to maintain the competitiveness of their Total Compensation and is a reasonable cost of doing business that, practically speaking, cannot be eliminated without a corresponding increase in base pay.

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

A. The Human Resources Committee of AEP's Board of Directors (HRC) routinely engages a nationally recognized, independent executive compensation consulting firm (Meridian Compensation Partners, LLC) to conduct a compensation study of the Companies' executive positions. The peer group used for this study consists of companies specifically selected by the HRC to represent the talent markets from which the AEP and its subsidiaries must compete to attract and retain executive employees. This study showed that target TCC for the 15 executive positions whose time and expense is generally allocated to Kentucky Power were within the +/- 15 percent market-competitive range on average as of July 1, 2016. However, AEP's target Total Compensation would be below the market-competitive range for 100 percent of these executive positions without either the annual incentive compensation or the long-term compensation portions of target Total Compensation, unless it was replaced with base salary (See Exhibit ARC-6). Obviously, if both annual incentive compensation and long-term compensation were eliminated, target Total Compensation for these executive positions would be far below market-competitive levels. This study shows that the compensation opportunity provided by annual and long-term incentive compensation for senior management and executive positions is necessary, both singularly and in combination, to maintain the competitiveness of the Companies' Total Compensation for these positions. As such, the cost of providing this compensation opportunity, irrespective of the form in which it is provided, is a necessary, reasonable and appropriate cost of doing business.

Q. HOW ARE BASE SALARIES DETERMINED FOR SALARIED EMPLOYEES?

A. Base salary offers for salaried positions are made by management within the salary range for the job grade assigned to each position based on the qualifications and experience of the prospective employee relative to the requirements for the position. For jobs with multiple incumbents, the base salaries of other employees in the same position are also a major factor.

The Companies provides a base salary merit increase program for all salaried positions. The amount budgeted annually for merit increases is established by senior

AEP management based on salary planning surveys, the market-competitiveness of the Companies' compensation and the budget dollars available for salary increases.

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

Q. HOW DOES THE COMPANIES' OVERALL BASE SALARY INCREASE BUDGET COMPARE TO THE MARKET FOR THE YEARS 2009 THROUGH 2016?

A. Table ARC-2 below compares median utility industry base salary increase budgets for employees to the Companies' salary increase budget for the years 2009-2016. Hourly/craft positions are not paid a salary so they are not included in this table.

Table ARC-2

	Nonexempt Salaried		Exempt		Executive	
	Industry*	Companies	Industry*	Companies	Industry*	Companies
2009 Actual	2.750%	0.000%	2.500%	0.000%	2.000%	0.000%
2010 Actual	2.700%	2.000%	3.000%	2.000%	2.950%	0.000%
2011 Actual	3.000%	3.200%	2.900%	3.200%	3.000%	3.200%
2012 Actual	2.750%	2.675%	3.000%	2.675%	3.000%	2.675%
2013 Actual	3.000%	3.000%	3.000%	3.000%	3.000%	3.000%
2014 Actual**	3.000%	3.350%	3.000%	3.350%	3.000%	3.350%
2015 Actual***	3.000%	3.500%	3.000%	3.500%	3.000%	3.000%
2016 Actual***	3.000%	3.500%	3.000%	3.500%	3.000%	3.000%
Total	23.200%	21.225%	23.400%	21.225%	22.950%	19.225%
Difference		-1.975%		-2.175%		-3.725%

*The Conference Board Research Report, U.S. Salary Increase Budgets for 2010-2016
** Represents 3.00% merit budget for Company; .35% was Promotional & Equity Adjustments
*** Represents 3.00% merit budget for Company ; and .5% promotional budget

Also shown in Table ARC-2, the Companies' base pay increase budgets have substantially lagged the market median overall over these years. While many companies pared back their salary increase budgets in 2009 due to economic conditions, the Companies froze salaries, which was a far more substantial response. While utility companies generally returned to nearly 3 percent increase for 2010, the Companies increased base wages by only 2 percent and maintained a salary freeze for executive positions. For 2011, the amount of the Companies' base wage increases kept pace with the market median and did not make up a significant portion of the 2009 and 2010 shortfall. The Companies' 2012 salary increase budget of 2.675 percent again lagged the market before returning to market median levels for 2013. For 2014 the Companies budgeted a 3 percent merit budget and provided a .35% promotional budget for line of progression promotions, such as Accountant to Accountant Sr. In 2015 and 2016, the Companies allocated 3.00 percent and 0.50 percent promotional budget for a 3.5 percent total salary increase budget which was even with the market median of 3.00 percent. Overall, the Companies' total salary increase budgets for non-exempt salaried and exempt positions were below the market median by 1.975 percent and 2.175 percent over this period, while the salary increase budget for AEP executives was a total of 3.725 percent less than the utility industry market median.

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

A. Base pay increases for hourly/craft employees, such as line mechanics and meter readers, are provided as general increases, and expressed as percentages of current base pay rates. General increases are negotiated with the labor unions that represent the Companies' employees. The Companies based its position in these negotiations on survey projections for market median general increases and market median total cash compensation paid by similar companies for these types of positions. As shown in Table ARC-3 below, pay increases for these types of employees have also lagged the market overall.

	Table ARC-3	
	Hourly/Craft Employees*	
Year	**Utility Industry Market Median***	**The Company**
2009	2.500%	0.000%
2010	2.850%	2.000%
2011	2.900%	3.000%
2012	3.000%	2.000%
2013	3.000%	2.500%
2014	3.000%	2.500%
2015	3.000%	3.500%
2016	3.000%	3.500%
Total Pay Increase	23.250%	19.000%
	Company Employee Pay Increases Compared to Market	**-4.250%**

* The Conference Board Research Report, U. S. Salary Increase Budgets Survey

The Companies' total base pay increase budget was 4.25 percent less than the market median for hourly/craft employees for the 2009 through 2016 period, including a 2.5 percent general increase that was negotiated with most bargaining units for 2014. Reducing the growth of base wages is one of several difficult steps the Companies have taken to address their financial situation and economic conditions in the Kentucky Power service territory and such actions directly benefit customers by reducing the cost of the Company's electric service.

Q. WHAT OTHER STEPS HAVE THE COMPANIES TAKEN TO CONTROL COMPENSATION EXPENSE IN LIGHT OF THE GREAT RECESSION AND WEAK RECOVERY?

A. In addition to constraining the growth of base pay through lower than market merit increase budgets and general increases, the Companies took the following additional steps to reduce the growth rate of compensation expense:

- Froze external hiring from November 2008 through 2009;
- Froze line of progression promotional increases, such as Accountant to Sr. Accountant, from November 2008 through 2010, other than for physical/craft positions;
- Reduced the use of external contractors and temporary employees;
- Reduced the employee workforce through staff reductions and severance programs;
- Implemented efficiency measures, such as LEAN and other continuous improvement initiatives; and
- Implemented measured steps to adjust lagging employee compensation to market over time.

Q. HOW HAVE THE STEPS TAKEN TO CONTROL THE COMPANIES' COMPENSATION EXPENSES AFFECTED THE COMPETITIVENESS OF THE COMPANIES' COMPENSATION?

A. The market merit and base pay increases for 2009 and 2012 caused the Companies' base pay, target TCC and target total direct compensation to decline relative to peer companies. As a result, base compensation levels for all types of positions (physical/craft, salaried and managerial) are below the market median on average, although the Companies' base compensation levels generally remain within the market-competitive range (typically considered to be +/- 10 percent of the median for hourly/craft employees and +/- 15 percent for other employees). The Companies' target annual incentive compensation has also fallen relative to market because these levels are calculated as a function of base compensation. As a result, the Companies' target TCC and target Total Compensation were also affected by the below market base pay increases.

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

A. Annual Incentive Compensation

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

A. The Companies provide employees the means to earn incentive compensation instead of larger base salaries because it improves the Companies' performance without increasing overall compensation expense, assuming target performance. It encourages cost control and aligns work with the Companies' objectives, thereby improving performance of both employees and the Companies in in providing service to customers.

Q. WHAT ADDITIONAL BENEFITS DOES ANNUAL INCENTIVE COMPENSATION PROVIDE?

A. Annual incentive compensation also:

- Helps to attract, retain and motivate the qualified employees the Companies needs to efficiently and effectively provide electric service to customers;

- Communicates goals and objectives to employees in a manner that is more effective than otherwise possible. This focuses and more closely aligns employee efforts with these goals and objectives;
- Aligns the goals and objectives of departments throughout the organization which better ensures that all groups are working towards the same objectives;
- Encourages and motivates employees to achieve goals and objectives;
- Rewards employees for their individual performance along with the Companies' performance, which improves performance and increases retention of strong performers and reduces retention of weaker performers, thereby further improving performance;
- Links some compensation for all employees to performance objectives so that all employees have a personal stake in achieving these objectives;
- Shifts a portion of compensation expense from a fixed to a variable expense that varies based on the performance of the Companies. This reduces earnings volatility, business risk, and borrowing costs as well as the difficulties caused by more frequent and extensive changes in the size of the Companies' work force that would be necessary without the earnings cushion that incentive compensation provides;
- 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 Companies would otherwise need to incur additional expense to provide.

Q. DOES ANNUAL INCENTIVE COMPENSATION NEED TO PROVIDE A DIRECT OPERATIONAL AND COST SAVING RETURN ON INVESTMENT IN ORDER TO BE A JUSTIFIABLE EXPENSE FOR THE COMPANIES TO INCUR AND A REASONABLE EXPENSE TO BE INCLUDED IN THE COMPANY'S COST OF SERVICE CHARGED TO CUSTOMERS?

A. No. When incentive compensation is designed as part of a market-competitive compensation package, rather than a bonus on top of already market-competitive compensation, as the target level of the Companies' annual incentive program is designed, then a positive return on investment is achieved by the attraction and retention of employees in the same way that base pay provides a return on investment. This target level is also the level needed to maintain the market-competitiveness of the Companies' compensation.

Furthermore, because the target level of Companies' annual incentive compensation is such a large percentage of its compensation expense (10.4 percent in calendar year 2016) it is unreasonable to expect this expense to be offset by incremental and quantifiable cost savings driven by the annual incentive program each year. This expectation both dismisses the program's value to the Companies and Kentucky Power customers as a component of market-competitive compensation and implies that it is possible to create 10 percent annual productivity increases in perpetuity, or at least the 20 plus years that the Companies' annual incentive plan will have been in place when the rates established in this case are next replaced. This is an expectation unbound by reality as any calculator will show.

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

A. The Companies' 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 calendar year 2016 there were separate annual incentive plans for employees in Kentucky Power, Customer & Distribution Services; Generation; Transmission, and 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. Kentucky Power's annual incentive plan uses a balanced scorecard consisting of three categories of performance objectives: Infrastructure Development (25%), Customer Experience (40%) and Employee Experience (35%) as shown in Exhibit ARC-8.

Q. PLEASE DESCRIBE THE MECHANISM USED TO FUND THE ANNUAL INCENTIVE PLAN PROGRAM.

A. As shown in Exhibit ARC-9 (2016 ICP Funding Measures); the Companies' annual incentive plan budgets were primarily funded based on AEP's earnings per share (EPS). Of the remainder, 10% was funded by safety performance and 15% was funded by strategic initiative performance. AEP's EPS incentive funding measure is set annually by the HRC in consultation with AEP executive management and the HRC's independent compensation consultant. The EPS performance measure is generally set at levels that are intended to allow employees to earn a target payout on average and to only have about a 10 to 15 percent chance of producing either a zero or a maximum payout.

Q. WHAT ARE THE BENEFITS TO CUSTOMERS OF TYING THE FUNDING FOR THE COMPANIES' ANNUAL INCENTIVE PROGRAM TO EARNINGS AND OTHER FINANCIAL MEASURES?

A. Tying funding of the budget for annual incentive compensation to the Companies' earnings promotes cost control and efficient use of financial resources, which is vital to providing reliable service at a reasonable cost to customers. The earnings and O&M measures included in the Companies' incentive compensation programs convey the importance of maintaining financial discipline, and directly encourage employees to reduce expense, operate efficiently, and conserve financial resources. This has and will continue to directly benefit customers by reducing the Company's cost of service through cost savings that are passed on to customers in rates that are lower than they otherwise would be, if the Companies did not use such performance measures.

The EPS measure used to fund incentive compensation also helps ensure that delivering incentive compensation payments will not impair the Companies financially. This bolsters the Companies' financial stability and reduces its earnings volatility, which benefits customers by reducing its cost of capital and helping to preserve capital during periods of weak earnings for investment in and maintenance of the Companies' electric system. It would be imprudent and a deviation from US industry norms for the Companies not have a mechanism, such as the EPS funding measure, to reduce or eliminate incentive compensation at a time when the Companies cannot afford to pay it. This compensation strategy benefits customers by reducing the risk of economic volatility that would be caused by a 100 percent fixed base pay obligation, which would increase AEP's cost of capital and the cost of providing service to customers. This mechanism also benefits ratepayers by better balancing the interests of other constituents with those of employees, rather than paying 100 percent fixed pay to employees and leaving customers and shareholders to absorb the risk of economic volatility. Thus the EPS funding measure and incentive compensation budget in general, is a mechanism that better balances the interests of customers, employees, and shareholders.

Tying funding for the incentive compensation to the Companies' financial performance also sends a clear message to all employees that it is imperative for them to control costs and it provides a direct incentive for them to do so. This, in turn, enables the Companies to complete work less expensively. Past performance with respect to O&M expense performance measures shows that, when such incentive plan measures are in place, AEP's business units manage their costs sufficiently and make the tough decisions necessary to fund annual incentive compensation even when annual O&M budgets are particularly stringent.

Most of such savings have already reduced Kentucky Power's cost of service and rates for Kentucky customers on a dollar for dollar basis due to inclusion of this O&M savings in prior base rate proceedings. If only 1 percent of the Companies' O&M expense is saved each year due to the incentive compensation program, then millions of dollars per year has been saved by Kentucky customers by virtue of tying incentive compensation to the Companies' financial performance measures. These are not necessarily new cost savings each year and, as such, they are already imbedded in the Company's cost of service and customer rates.

As an example of the effectiveness of incentive compensation, according to Distribution Region Operations Witness Phillips testimony, at the start of 2016, Kentucky Power crews were in the bottom quartile compared to other districts within AEP in productive hours worked per FTE (full time employee). This metric was added as an incentive measure for 2016 and by the end of the year some of the crews were in the top 5 or top quartile . Reliability targets are based on improving reliability indices which lowers the duration of outages that customers experience and how many times per year they experience a power outage. This result shows that Kentucky employees were able to significantly improve the amount of work completed, per day, which increases reliability, customers' satisfaction and customers' experience. Customer satisfaction survey results are also a measure included in the Companies' Incentive Compensation Plan. This measure challenges employees to be more effective customer advocates in meeting customers' needs in a timely and efficient manner.

Q. IS THE COMPANY REQUESTING THE INCLUSION OF ALL TEST YEAR ANNUAL EMPLOYEE INCENTIVE COMPENSATION COSTS IN ITS REVENUE REQUIREMENT IN THIS CASE?

A. No. The Company is including in its cost of service only the *target* (1.0 payout amount) of direct Kentucky Power annual incentive compensation for the test year, not the actual amount, which includes a portion of the substantially above target score earned for calendar year 2016 by Kentucky Power distribution and staff employees. Direct annual incentive compensation during the test year was higher than the target amount requested in the cost of service, because employees achieved strong performance towards their annual incentive goals during calendar year 2016. The Company has normalized these direct costs to the target level in its requested cost of service, which is the amount of direct annual incentive compensation that the company expects to pay in an average year. It is also the direct amount of annual incentive compensation that the Company needs to pay its employees, on average, in order to provide reasonable and customary market-competitive Total Compensation. Direct annual incentive compensation was adjusted to this level as described in the testimony of Company Witness Ross.

Q. IS THE ANNUAL INCENTIVE PROGRAM POTENTIALLY DETRIMENTAL TO CUSTOMERS?

A. No, since the Company's revenue is regulated through this and other rate proceedings, the only way for the Companies' employees to achieve earnings objectives is through cost control, which benefits customers. Furthermore, the balanced scorecard of objectives that the Companies use in its annual incentive program are well-developed to help ensure that some measures are not achieved at the expense of other important objectives, such as safety, operations and environment objectives.

Q. DO THE BENEFITS OF THE COMPANIES' ANNUAL INCENTIVE PROGRAM EXCEED ITS COST FOR KENTUCKY POWER CUSTOMERS?

A. Yes. The target level of the Companies' incentive compensation program does not increase the Companies' compensation expense beyond the employee pay that is required to provide market-competitive Total Compensation. By the same token, any reduction or elimination of the annual incentive compensation portion of employee pay would need to be replaced with increases in base pay to maintain market-competitive Total Compensation. The Companies have achieved substantial cost savings through the financial discipline and other benefits that the Companies' annual incentive compensation program provides, which has reduced the overall cost of service to customers. Reducing or eliminating annual incentive compensation would not only eliminate the potential for future annual incentive compensation driven benefits to customers going forward but would also erode the benefits achieved to date that are already imbedded in the Company's cost of service and rates.

In summary, the Companies' annual incentive program provides substantial benefits to customers. Therefore, it is just and reasonable to include the cost of the

Company's requested level of annual employee incentive compensation in its cost of service.

B. Long-term Incentive Compensation

Q. EXPLAIN THE COMPANIES' LONG-TERM INCENTIVE PROGRAM

A. The primary purpose of the Companies' long-term incentive program is to encourage managers to make business decisions from a long-term perspective. For 2016, the company provided long-term incentive awards in the form of performance units and restricted stock units ("RSUs").

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

RSUs are solely tied to the participants' continued AEP employment through vesting dates over a little more than a three year vesting period. Participants who remain employed with AEP through a vesting date receive a share of AEP common stock, or the cash equivalent, for each vesting RSU.

Q. WHAT ARE THE DIRECT BENEFITS TO CUSTOMERS OF THE COMPANIES' LONG-TERM INCENTIVE PROGRAM?

A. As with annual incentive compensation, tying the variable long-term incentive compensation portion of pay to financial performance measures promotes the efficient use of financial resources, which is paramount over the long term to providing reliable service at a reasonable cost. Maintaining long-term financial discipline is imperative for the Companies, its customers and shareholders, particularly given the very long-term nature of the assets that comprise the Company's electric system. The EPS and TSR measures associated with the performance units granted as part of the long-term incentive plan communicate this goal and strongly encourage its continued pursuit by tying a substantial portion of compensation for management and executive employees to both internal and external measures of the Companies' long-term financial performance. This encourages participating employees to reduce expense, operate efficiently, and conserve financial resources, which directly benefits customers by keeping rates low.

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

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

A. Yes, the Company is requesting that the amount of long-term incentive compensation expense for the test year be included in its cost of service. A cost of service adjustment to long-term incentive compensation expense is provided by Company Witness Ross.

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

A. Yes. The Companies' long-term incentive compensation is a substantial component of the market-competitive compensation for management employees and it is critical to maintaining the market-competitiveness of such compensation. As with annual incentive compensation, the target level of the Companies' long-term incentive compensation is not pay that is over and above an already market-competitive level of total direct compensation. Thus, any reduction in long-term incentive compensation would need to be replaced with increases in other types of compensation in order to maintain reasonable, market-competitive employee pay that attracts and retains the suitably skilled and experienced employees the Companies needs to efficiently and effectively provide its electric service to customers. A large majority of public companies of AEP's size and complexity have similar programs, as do a large majority of public utility companies. Long-term incentive compensation is a substantial component of market median compensation for 100 percent of the 14 executive positions included in Exhibit ARC-6. The Willis Towers Perrin 2016 CDB Energy Services Executive Compensation Survey Report[1], which includes compensation data from 111 employers, indicates that long-term incentive compensation is a significant component of compensation for all 135 positions for which a sufficient data sample was available to report results. AEP provides long-term compensation as part of a market-competitive compensation package to approximately 1,050 employees annually.

Q. ARE THERE ANY INDIRECT COSTS TO CUSTOMERS FOR THE COMPANIES' LONG-TERM INCENTIVE PROGRAM?

A. No. The Companies' long-term incentive goals are established at stretch but achievable targets. This ensures that customers are not paying for long-term incentive compensation that may encourage employees to generate excessive earnings. In addition, any increase in long-term incentive compensation expense above the amount requested would be borne entirely by shareholders, not customers.

[1] Willis Towers Perrin, 2016 CDB Energy Services Executive Compensation Survey Report, U.S., Position Summary Spreadsheet, Total Sample Summaries.

The goals in the Companies' long-term incentive plan are also balanced by the scorecard goals in the annual incentive plan to assure that the EPS and TSR goals are not achieved at the expense of other important objectives. As with annual incentive compensation, any increase in long-term incentive compensation that might be achieved by reducing spending in operational areas, for example, would likely be at least partially offset by a decrease in annual incentive funding due to the decline in the operating performance scores. As a result of this balanced approach to incentive compensation, AEP's long-term incentive compensation does not encourage behaviors that would be counter to customers' interests and there are not any indirect costs that offset the benefits of long-term incentive compensation to customers.

Q. DO THE BENEFITS OF THE COMPANIES' LONG-TERM INCENTIVE PROGRAM EXCEED ITS COST TO KENTUCKY POWER CUSTOMERS?

A. Yes. Similar to annual incentive compensation, the target value of the Companies' long-term incentive compensation is a portion of market-competitive Total Compensation for employees. Therefore, the target value of Companies' long-term incentive compensation does not have an incremental cost to customers that is above or beyond the cost of providing market-competitive Total Compensation to employees through other types of compensation. As with annual incentive compensation, the long-term incentive program has been in place for many years, so its accumulated ongoing benefits are already reflected in the Company's expense for the test year and incorporated into rates in prior rate proceedings. Reducing or eliminating long-term incentive compensation would not only eliminate the potential for long-term incentive compensation to drive further incremental improvements but would also erode the benefits achieved to date that are already imbedded in the Company's cost of service and rates.

V. EMPLOYEE BENEFITS

Q. PLEASE DESCRIBE AEP'S EMPLOYEE BENEFIT PROGRAMS PROVIDED TO EMPLOYEES.

A. AEP operates an overall benefits program in which all eligible employees may participate.

The programs include medical, wellness, dental, sick pay, long-term disability (LTD), life insurance, accidental death and dismemberment, retirement pension, retirement savings (401k), vacation and holiday benefits. These programs are financed through a combination of employer and employee contributions. Many of AEP's benefit programs, including the medical, dental, and LTD programs, are self-funded using a Voluntary Employee Beneficiary Association Trust, as opposed to utilizing a fully-insured arrangement in which premiums are paid to an insurance company for coverage. Employee contributions, as well as monthly contributions from the AEP companies for each employee, are deposited to the trust and used to fund the actual claims and vendor administration expenses as allowed under law. A brief summary of each benefit plan is outlined in Exhibit ARC-10 (Benefit Plan Design and Employee Cost Summary Grid – 2016).

Q. HOW DOES AEP DETERMINE THAT THE EMPLOYEE BENEFIT PROGRAMS THAT IT OFFERS ARE REASONABLE AND NECESSARY?

A. AEP compares itself with companies from both the utility industry and general industry when benchmarking its total benefit value because AEP must attract employees from a mix of professions and industries. Job seekers often pursue opportunities both within the energy industry and elsewhere in the broad job market. Therefore, AEP's benefits need to be competitive with both the utility industry and broad labor market's benefits in order to attract and retain qualified and competent employees. AEP uses several nationally recognized third-party surveys to evaluate the value, competitiveness, and efficiency of AEP benefits plan offerings and costs. These surveys indicate that AEP employee benefit plans provide a level of employee value that is at or near the mid-range of value, making them both reasonable and competitive with other businesses such that Kentucky Power can attract and retain qualified and competent employees.

AEP performs annual reviews of the reasonableness of the costs associated with AEP benefit plans and continually considers what changes can be made to improve the overall efficiencies of the benefit programs.

Q. HAS AEP TAKEN STEPS TO CONTROL THE COST OF EMPLOYEE BENEFITS?

A. Yes. On an ongoing basis, AEP reviews its employee benefits in an effort to keep costs reasonable, while continuing to provide benefits that are sufficient to attract and retain employees. Periodically, benefit plan changes are made and other steps are taken to control costs.

In 2013, AEP changed its health & welfare and pension benefits by removing many of the incentives to remain on long-term disability (LTD). For example, instead of receiving free medical benefits into retirement, current LTD employees now pay benefit premiums at active employee rates. At the time of this change, current LTD employees were given an opportunity to retire to maintain their free medical benefits. In addition, annual company pension credits were eliminated for LTD employees. Also in 2013, AEP added a spousal surcharge, which is a participant charge assessed when an employee's covered spouse/domestic partner is eligible for medical coverage through another employer.

In 2014, the "Exclusive Home Delivery" feature for prescription drugs was extended beyond the PPO (preferred provider organization) medical plan option to the consumer driven health plan options. This promoted employee's use of the less costly mail-order pharmacy and reduced the number of prescriptions filled at retail pharmacies. In addition, the prescription drug "Member Pays Difference" feature was extended to all medical plan options. This requires plan participants to pay the difference between generic and brand name drugs when the participant purchases the brand name drug in lieu of a less expensive generic equivalent.

In 2015, a tobacco/nicotine product use surcharge was added to all medical plan options. This participant charge is assessed when an employee who uses these products elects coverage under the AEP medical plan. Also in 2015 the medical plan and prescription drug out of pocket maximums and copays were increased for tobacco/nicotine product users. In addition, AEP provided an LTD settlement opportunity that reduced the cost of claims and will save money on claims administration over time.

In 2016, in an effort to allow AEP to continue to offer quality market-competitive medical benefits while slowing the rising cost of health care, AEP moved to consumer-directed medical plans, administered by a single medical vendor to take advantage of provider scale. See Exhibit ARC-10 for the current medical plan options and associated monthly employee costs. In addition, a personal health care dashboard was introduced to help employees take control of their health care by providing them the ability to compare doctors and medical services based on quality, convenience and cost.

Finally, AEP is also an active member of the Health Action Council of Ohio, which is a group of multi-state employers that work to extend group purchasing power to affect the delivery and price of healthcare services in the states in which they operate.

Q. HAVE THE RECENT STEPS TAKEN HAD A DEMONSTRABLE IMPACT ON MEDICAL PLAN COSTS?

A. Yes, The introduction of the spousal surcharge lowered employer plan costs both through the collected premiums and through a reduction in the average number of dependents covered by the plan. Similarly, the tobacco/nicotine surcharge reduces employer cost-share, while promoting healthy behaviors associated with lower projected healthcare spend.

Perhaps most significantly, the move to fully replacing medical plan offerings with consumer-directed options, while also consolidating active employee plans to enable enhanced network discounts, has driven medical spend well below current market trends of a 5-6% cost increase. In fact, these efforts led to a slight year-over-year reduction in AEP'S medical plan cost on a per member basis. The cost per member declined from $13,789 in 2015 to $13,698 in 2016.

VI. SUMMARY

Q. PLEASE SUMMARIZE YOUR TESTIMONY WITH RESPECT TO COST RECOVERY FOR COMPENSATION EXPENSE.

A. The Companies' employee compensation programs including annual and long-term incentive compensation, are reasonable, appropriate and effective performance drivers that benefit customers. The compensation strategy described in my testimony fosters efficiency, safety and operational improvements. A prudent and market-competitive employee compensation and benefits strategy is necessary to ensure that the Companies is able to attract, engage, motivate and retain the suitably skilled and experienced employees needed to efficiently and effectively provide electric service to its customers. The compensation and benefits strategy that the Companies follow, including annual incentive compensation, long-term incentive compensation and employee benefits, achieves these goals and is a reasonable and customary cost of doing business. This testimony shows that employee Total Compensation and the employee benefits it provides are market-competitive. Annual and long-term incentive compensation is provided to employees as part of this market-competitive compensation package. Therefore, I respectfully submit that the Companies' compensation and benefits, including annual and long-term incentive compensation, should be recovered as requested in the Company's cost of service.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

Surveys Completed and Used for Compensation Comparisons

For the Year 2016

Towers Watson U.S. Compensation Data Bank (CDB):

2016 Energy Services Industry - Executive Compensation Survey Report

2016 Energy Services Industry - Middle Management, Professional & Support Compensation Survey Report

2016 General Industry - Executive Compensation Survey Report

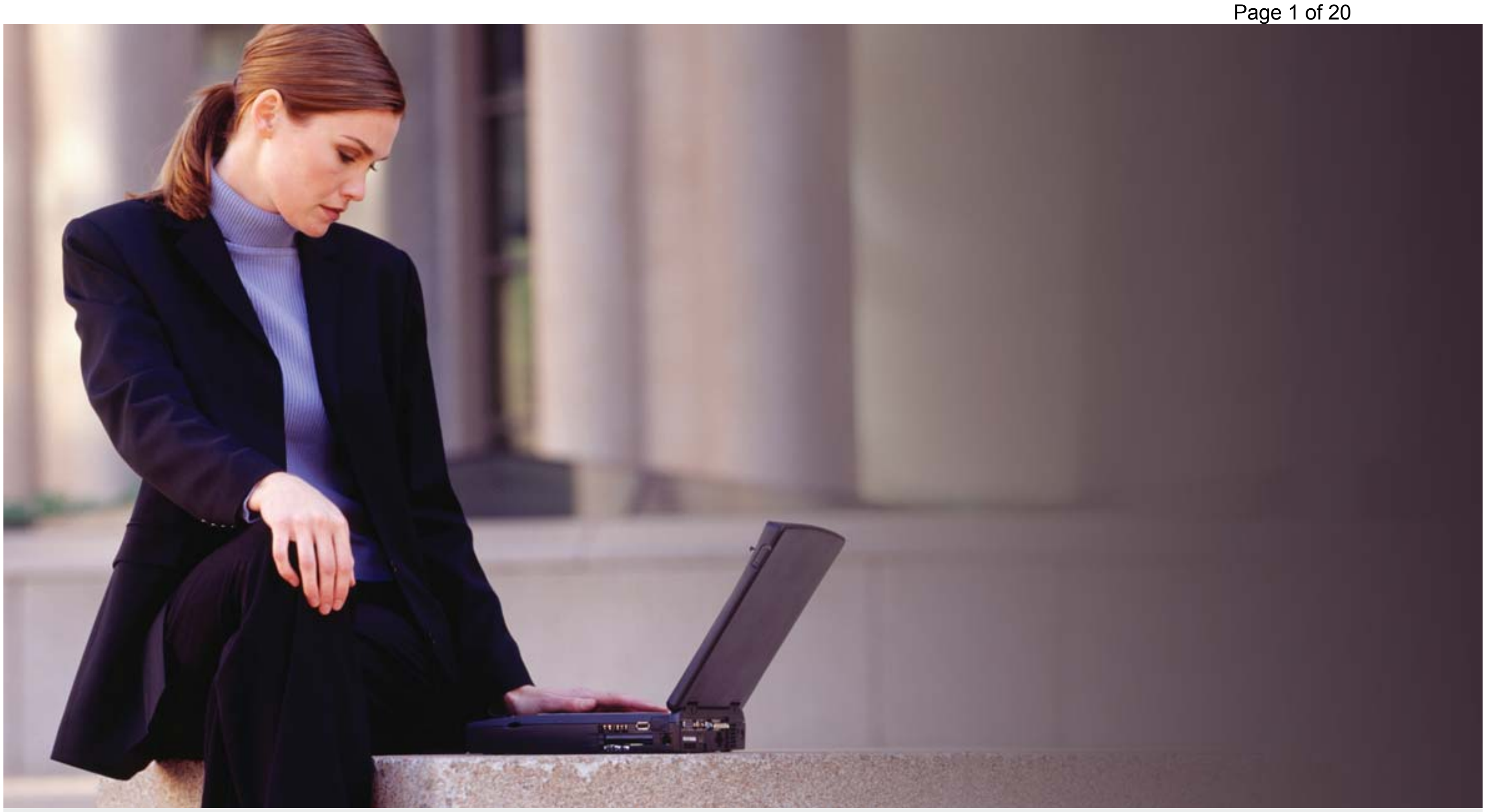
2016 General Industry - Middle Management, Professional and Support Compensation Survey Report

2016 Custom AEP Peer Group - Executive Compensation Surveys

EAPDIS, LLC, 2016 Energy Technical Craft Clerical Survey – ETCCS

Company Witness Andrew R. Carlin has submitted rate case testimony in the following regulatory proceedings:

- On behalf of IM in Michigan Case Nos. U-16180 and U- 16801;
- On behalf of Appalachian Power Company and Wheeling Power Company in West Virginia Case No. 10-0699-E-42T;
- On behalf of Appalachian Power Company in Virginia S.C.C. Case No. PUE-2011-00037;
- On behalf of Kentucky Power Company in Kentucky P.S.C. Case Number 2009-00459 and 2013-00197; 2014-00396;
- On behalf of Southwestern Electric Power Company in Texas Dockets No. 40443, 46449; and
- On behalf of Public Service Company of Oklahoma in Oklahoma Cause Nos. 201000050, 201300217, and 201500208.



2010 Annual Incentive Plan Design

Survey Findings Report

TOWERS WATSON

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

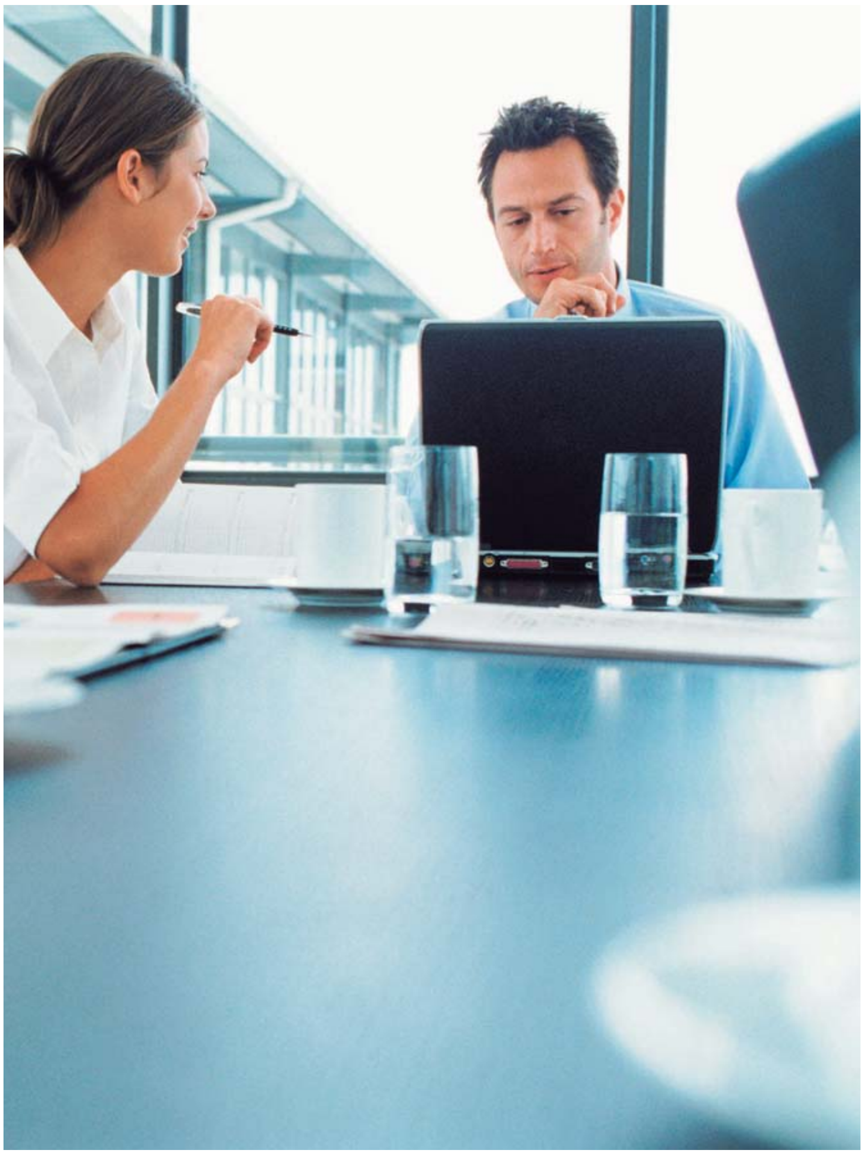


Table of Contents

Overview	4
Eligibility	6
Exhibit 1. Historical Comparison of the Basis for Determining Plan Eligibility	6
Plan Costs	7
Plan Funding	9
Exhibit 2. How Incentive Funding Is Determined	9
Exhibit 3. Measures Used in Incentive Plans With a Financial Results-Based Plan Funding Approach	9
Measuring Performance	10
Exhibit 4. Prevalence of Financial Performance Measures	10
Exhibit 5. Historical Comparison of Most Prevalent Financial Performance Measures	11
Exhibit 6. Prevalence of Nonfinancial Performance Measures	11
Exhibit 7. Level of Performance Measurement	11
Calculating the Award	12
Exhibit 8. Sample Performance Incentive Zone	13
Exhibit 9. Performance Payout Zones	13
Performance Expectations	14
Exhibit 10. Factors That Determine Performance Expectations — by Performance Measure	14
Exhibit 11. Payout Levels Over Past Five Fiscal Years	15
Award Payment	16
Exhibit 12. Desired Competitive Level of Each Compensation Component	16
Exhibit 13. Bonus Treatment for Status Changes Occurring During Plan Year	17
Exhibit 14. Bonus Treatment for Status Changes Occurring After Plan Year-End	17
International Issues	18
Appendix	19
Exhibit A. Participants by Industry	19
Exhibit B. Participant List	19

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."

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

"An increasing number of companies align their incentives across the organization, most likely to encourage greater consistency of focus and effort."

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.

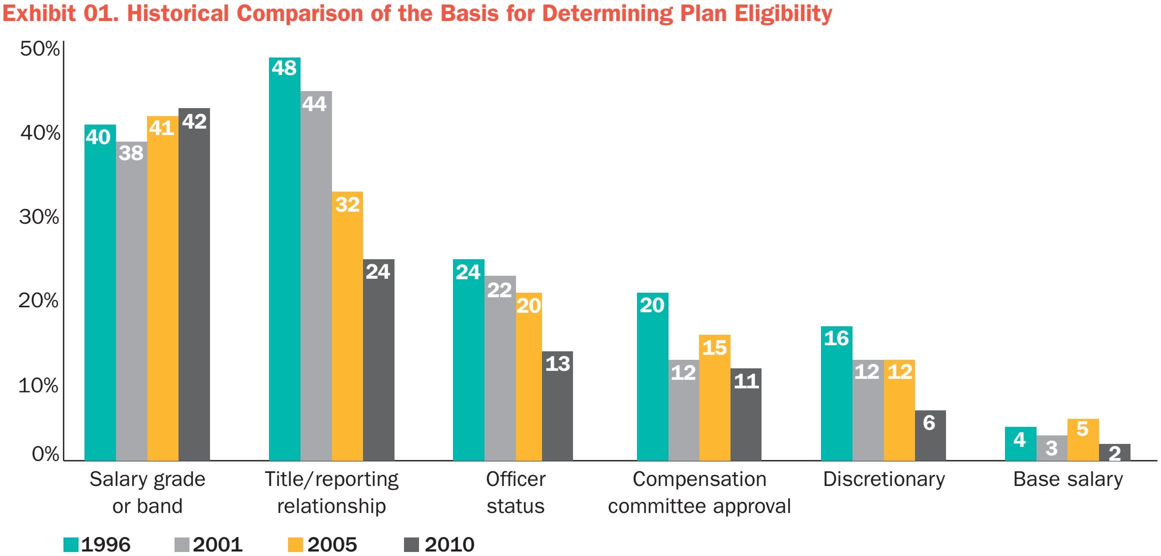
The number of plan participants, as a percentage of total employees, varies by the type of plan:

- **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



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

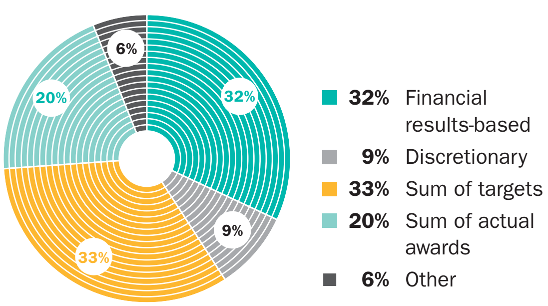
The method used to determine the aggregate size of an incentive pool from which all incentives will be paid plays an important role in achieving a fair balance between the interests of shareholders and plan participants.

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

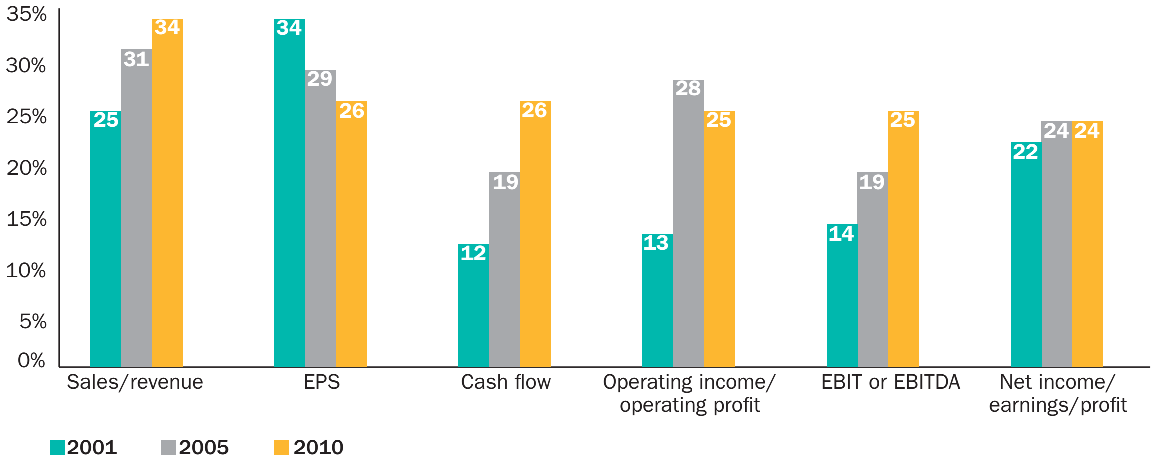
We asked survey participants to report the level at which performance is measured. While some organizations measure performance for the entire company, others measure performance at lower levels. In the latter approach, these companies possibly consider performance for each business unit or division, 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 or EBITDA, and net income/earnings/profit.

Exhibit 08. Sample Performance Incentive Zone

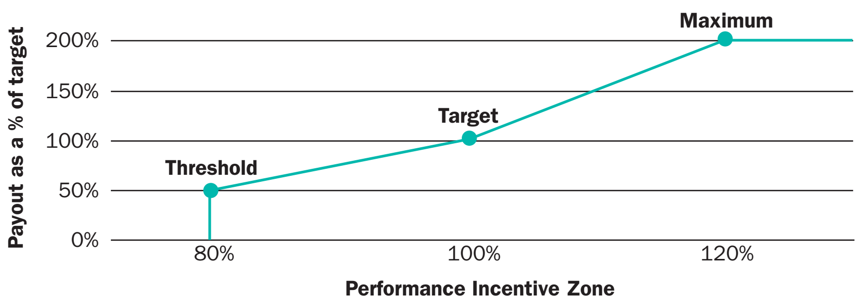


Exhibit 09. Performance Payout Zones

Median responses

	Performance as % of Target			Payout as % of Target		
Measure	**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

"In 2010, the most common approach to establish a performance standard is expected business conditions."

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.

Exhibit 10. Factors That Determine Performance Expectations — by Performance Measure

	2010 Survey	2005 Survey
Determined by management/board based on business conditions	**58%**	**25%**
Based on budgeted performance	**49%**	**37%**
Year-to-year growth or improvement	**30%**	**27%**
Peer group performance or some other external standard	**15%**	**1%**
Achievement of strategic milestones	**11%**	**1%**
Based on expectations of investors	**10%**	**3%**
Timeless/absolute standard	**5%**	**1%**
Company's cost of capital	**4%**	**—**

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.

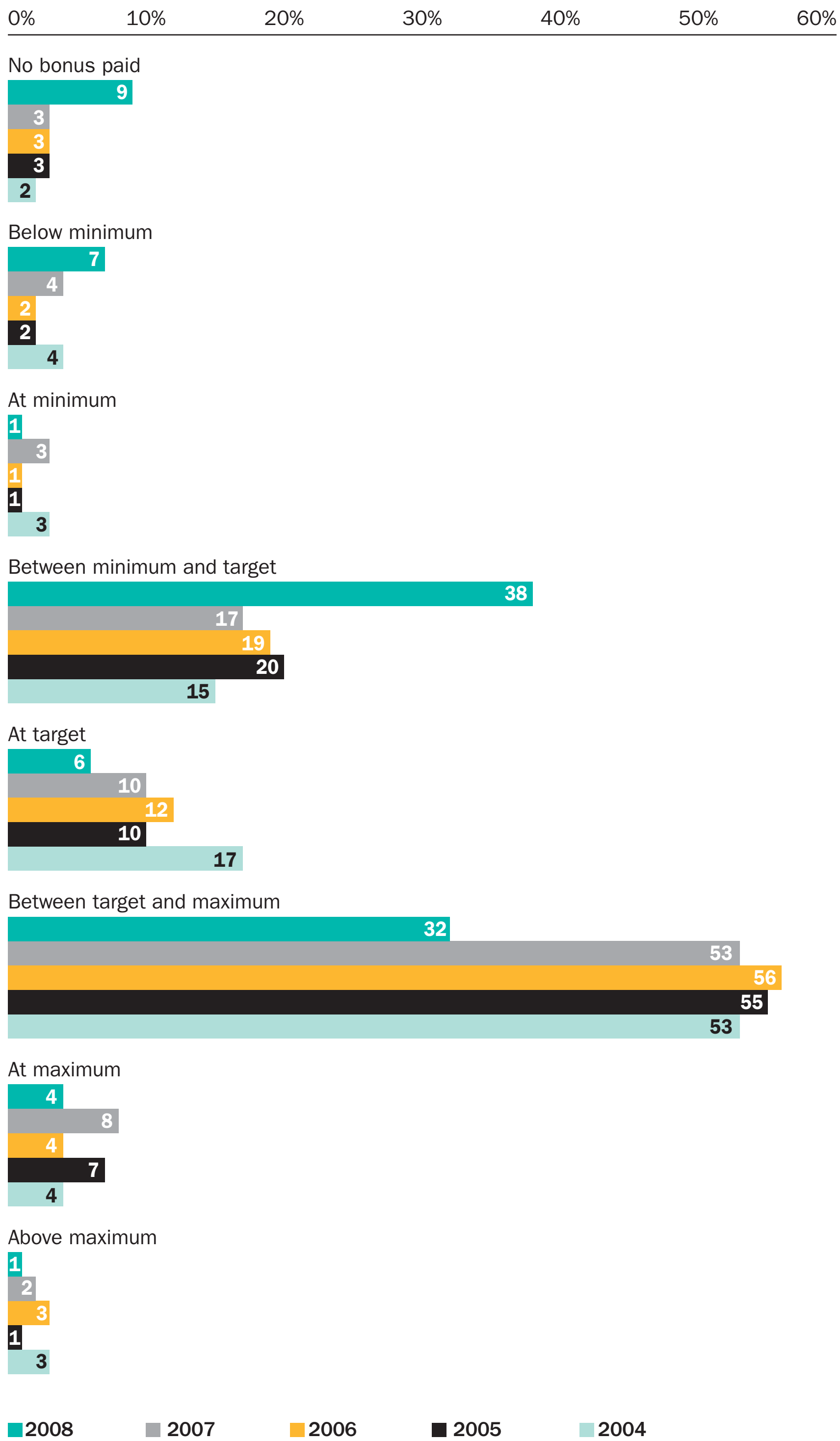
In this survey, we wanted to examine companies' experience with paying awards when performance thresholds were not reached. We learned that about 40% of survey participants had not been faced with such decisions in the previous five years because their organizations had met their thresholds each year.

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

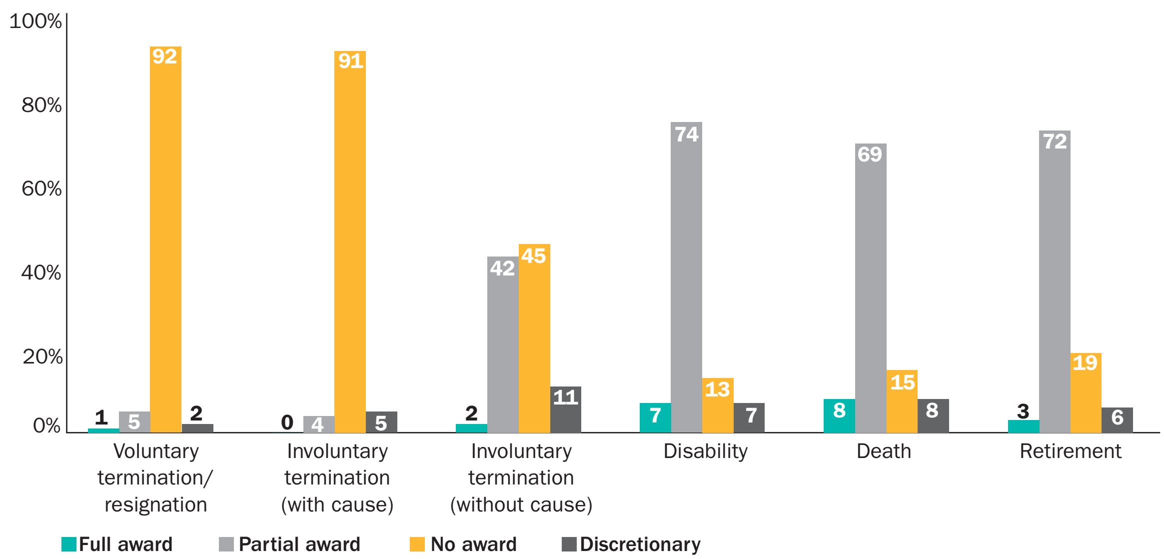
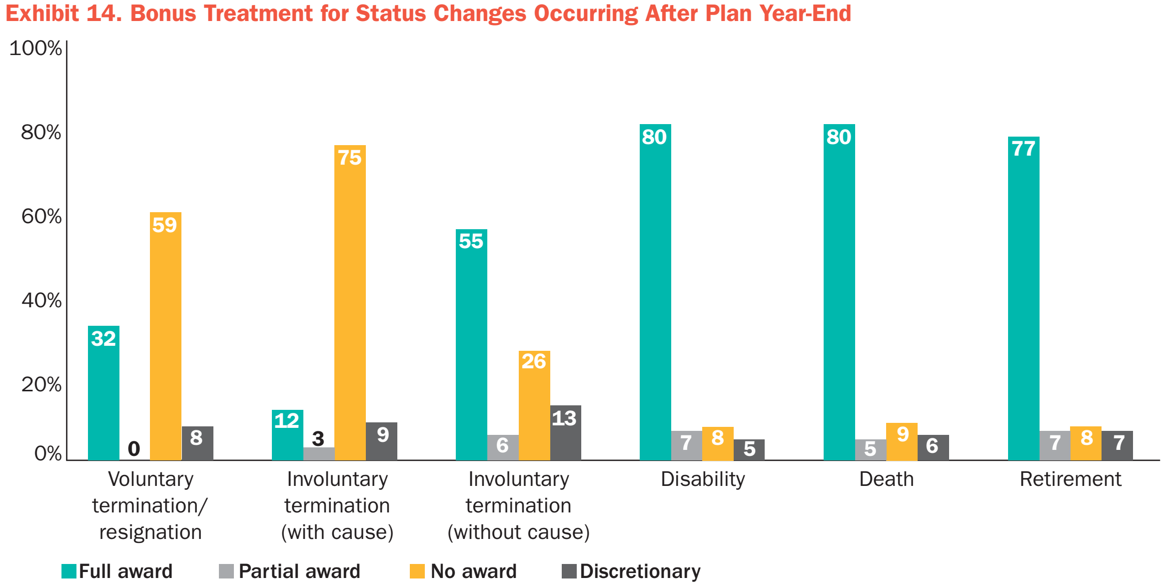


Exhibit 14. Bonus Treatment for Status Changes Occurring After Plan Year-End

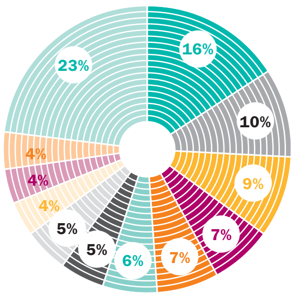


International Issues

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



- **16%** Energy services
- **10%** Insurance
- **9%** Food and beverage
- **7%** Financial services
- **7%** Oil and gas
- **6%** High tech
- **5%** Chemicals and gases
- **5%** Industrial manufacturing
- **4%** Pharmaceuticals and biotechnology
- **4%** Retail
- **4%** Telecommunications
- **23%** Other

Exhibit B. Participant List

Number of Participants: 212

Advanced Micro Devices
Agilent Technologies
AGL Resources
Agrium
AIG
Alberta Electric System Operator
Alberta Investment Management
Alliant Energy
Allstate
AMC Entertainment
American Airlines
American Commercial Lines
American Crystal Sugar
American Electric Power
American Family Insurance
American United Life
American Water Works
AMETEK
Anheuser-Busch
A.O. Smith
A&P
ARC Resources
A.T. Cross
Atomic Energy of Canada
AT&T
Automatic Data Processing
Avaya
Avista

BB&T
BC Transmission
Black Hills Power and Light
Blockbuster
Boeing
BOK Financial
BP
Bremer Financial
Brown-Forman

Campbell Soup
Canadian Broadcasting
Canadian Oil Sands
Canadian Pacific Railway
Capital Power
Carlson Companies
Carpenter Technology
CBS
CDI
Century Aluminum
CF Industries
Chevron
Chicago Mercantile Exchange
Chrysler
Chubb
CIGNA
Clearwire
Cobank
Comerica
ConocoPhillips
Constellation Brands
CPP Investment Board
Crown Castle

Dana
Del Monte Foods
Dick's Sporting Goods
Dominion Resources
Domino's Pizza
Dow Chemical
Dow Corning
DPL
Duke Energy
DuPont
Duquesne Light

Eaton
EMC
Energy Future Holdings
Entergy
EQT
Equity Residential Properties
Expedia
Exterran
ExxonMobil

First American
FirstEnergy
First Solar

Genzyme
GNC
Great Canadian Gaming
Greene Tweed

Hanesbrands
Harris
Hayes Lemmerz
H.B. Fuller
Henry Schein
Herman Miller
Hertz
Hewlett-Packard
Hexion Specialty Chemicals
Hoffmann-La Roche
Horizon Blue Cross Blue Shield of New Jersey
Hormel Foods
Hospira
Houghton Mifflin
Humana

IAMGOLD
IDACORP
IKON Office Solutions
IMS Health
Independent Electricity System Operator
Independent Order of Foresters
Insurance Corporation of British Columbia
International Flavors & Fragrances

J.M. Smucker

Kellogg
Kendle International
Kennametal
Koppers
Kroger

Land O'Lakes
Lenovo
Leprino Foods
Level 3 Communications
Liberty Property Trust
Life Technologies
Loto-Québec

Manulife Financial
Maple Leaf Foods
Marathon Oil
Massachusetts Mutual
McCormick
McDermott
McGraw-Hill
MDS
MDU Resources
Medicines
Methanex
M/I Homes
Milacron
Mine Safety Appliances
Molson Coors Brewing
M&T Bank
MTS Allstream
MTS Systems

National Bank of Canada
NAV Canada
New York Life
Nexen
Nicor
Nordstrom
Northeast Utilities
NRG Energy

Ontario Power Generation
Oshkosh Truck
Owens-Illinois

Pacific Gas & Electric
Pacific Life
Papa John's
Pennsylvania Real Estate Investment Trust
People's Bank
Petro-Canada
Plexus
PolyOne
Portland General Electric
Principal Financial
Prudential Financial

QUALCOMM

RGA Reinsurance Group of America
Royal & SunAlliance Canada

Schreiber Foods
Schwan's
S.C. Johnson
Securian Financial Group
Security Benefit Group
Shaw Group
Spirit AeroSystems
SPX
SRA International
Starbucks
Starwood Hotels & Resorts
Sunoco
Syncrude Canada

Takeda Pharmaceutical
Tarion
Teradata
Time Warner Cable
T-Mobile USA
Toro
Toronto Hydro Electric Systems
TransCanada
Trinity Industries
Tupperware

UniSource Energy
United States Steel
United Technologies
Unum Group

Valero Energy
Valmont
Vectren
Vermilion Energy Trust
Viacom
Viad
Vulcan Materials
VWR International

Warner Chilcott
Waste Management
Wells' Dairy
Western Digital
Western Union
Whirlpool
Williams Companies
Wm. Wrigley Jr.
World Color Press

Xcel Energy

Zale

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.

towerswatson.com

TOWERS WATSON

EXHIBIT ARC-4 (KPCO Target Total Compensation vs. Market for Technical, Craft and Clerical Jobs)

KPCO Target Total Compensation vs.
2016 EAPDIS Energy Technical, Craft & Clerical Survey (Southeast Region Data)

Survey Job	KPCO Title	EEs	Base[1]	Target Annual Incentive[2]	Target Total Compensation	ETC&C Survey Median Base[3]	ETC&C Survey Median Incentive	ETC&C Survey Median Total Compensation	% Difference KPCO Target Total Comp vs.Survey Total Comp	% Difference KPCO Base vs.Survey Total Comp
Line Mechanic	Line Mechanic-A	32	$73,881	$3,694	$77,575	$80,693	$3,033	$83,726	-7.9%	-13.3%
Storekeeper/Handler	Stores Attendant A	7	$57,990	$2,900	$60,890	$52,465	$1,683	$54,148	11.1%	6.6%
Substation Mechanic/Technician	Station Electrician A	6	$71,375	$3,569	$74,944	$80,693	$3,139	$83,832	-11.9%	-17.45%
Motor Vehicle Mechanic	Fleet Technician A	5	$67,384	$3,369	$70,753	$68,868	$1,717	$70,585	0.2%	-4.8%
Meter Mechanic	Meter Electrician-A	6	$72,991	$3,650	$76,640	$80,693	$3,033	$83,726	-9.2%	-14.7%
Trouble Service Mechanic	Line Servicer	26	$76,128	$3,806	$79,934	$84,800	$3,100	$87,900	-10.0%	-15.5%
Control Operator	Unit Operator	8	$76,196	$3,810	$80,005	$84,405	$3,500	$87,905	-9.9%	-15.4%
Certified Welder	Maintenance Welder	8	$75,878	$3,794	$79,672	$78,317	$5,197	$83,514	-4.8%	-10.1%
Instrument and Control Tech	Control Technician-Sr	3	$76,606	$3,830	$80,437	$80,608	$5,091	$85,699	-6.5%	-11.9%
Equipment Operator	Equipment Operator	1	$66,456	$3,323	$69,779	$72,123	$1,485	$73,608	-5.5%	-10.8%
	Total	102						**Average**	-5.4%	-10.71%
								% of Jobs Above Market Competitive Range[4]	0.0%	0.0%
								% of Jobs Below Market Competitive Range[4]	20.0%	80.0%

Notes

(1) As of November 30, 2016
(2) The Company's target payout is 5 percent of base earnings for all physical and craft jobs
(3) Annualized from April 2016 to November 2016 @ 2.0% salary growth rate
(4) A market competitive range of +/- 10 percent has been used for all physical and craft positions

EXHIBIT ARC-5 (Total Compensation vs. Market for Exempt Positions) Exhibit ARC-5

Compensation Survey Analysis- Exempt Positions

Survey Job		AEP Title	EE Count	AEP Incumbent Data: Avg Base	AEP Incumbent Data: Target Incentive (2)	AEP Incumbent Data: Target Total Compensation	Survey Results[1]: Base	Survey Results[1]: Incentive	Survey Results[1]: Total Compensation	% Difference AEP Target Total Comp vs. Survey Total Comp	% Difference AEP Base vs Survey Total Comp
KPCO Positions (3)											
Electric Distribution Operations-Career Level	EDD010-P3	Dist Dispatcher Sr	5	$85,742	$8,574	$94,317	$89,352	$12,064	$101,416	-7.5%	-18.3%
Energy Delivery/Distribution Supervisor	EDD020-M1	Dist System Supv	3	$106,701	$10,670	$117,371	$99,780	$14,109	$113,889	3.0%	-6.7%
Energy Delivery/Distribution Generalist/Multidiscipline - Career (	EDD000-P3	Dist Line Coord Sr	3	$84,963	$8,496	$93,459	$85,570	$15,437	$101,007	-8.1%	-18.9%
Electric Distribution Engineering-Intermediate Level (P2)	AZE543-P2	Engineer	3	$81,484	$7,334	$88,818	$76,675	$5,419	$82,094	7.6%	-0.7%
Electric Distribution Engineering-Career Level (P3)	AZE543-P3	Engineer Sr	4	$102,520	$10,252	$112,772	$96,815	$7,770	$104,585	7.3%	-2.0%
Budget Analysis - Specialist (P4)	AFT020-P4	Bus Ops Suppt Analyst Prin	1	$101,866	$10,187	$112,053	$107,959	$13,086	$121,045	-8.0%	-18.8%
Land/Right of Way - Career (P3)	ARE040-P3	Right of Way Agent Sr	1	$81,611	$8,161	$89,772	$89,761	$8,895	$98,656	-9.9%	-20.9%
AEPSC Human Resources (4)											
Diversity/EEO-Multi - Specialist (P4)	AHR110-P4	Workforce Diversity Consult Sr	2	$107,259	$16,089	$123,348	$106,119	$6,952	$113,071	8.33%	-5.42%
HR Gnrlst/Consultant Gnrlst/MultiDisc - Intermediate (P2)	AHR000-P2	HR Representative Sr	10	$67,311	$5,385	$72,696	$69,519	$2,760	$72,279	0.57%	-7.38%
Recruitment Generalist/Multidiscipline - Career (P3)	AHR140-P3	Recruiter Sr	3	$84,531	$8,453	$92,984	$85,672	$5,214	$90,886	2.26%	-7.52%
AEPSC Regulatory (4)											
Regulatory Affairs and Compliance - Intermediate (P2)	ACA050-P2	Regulatory Consultant	6	$74,055	$6,665	$80,720	$73,404	$6,236	$79,640	1.34%	-7.54%
AEPSC Business Logistics (4)											
Materials Planning/Scheduling - Career (P3)	ASC015-P3	Material Coordinator Sr	6	$86,252	$8,625	$94,877	$80,969	$2,965	$83,934	11.53%	2.69%
AEPSC Information Technology (4)											
Database Design and Analysis - Career (P3)	AID060-P3	IT Analyst A	1	$90,867	$9,087	$99,953	$104,279	$8,689	$112,968	-13.02%	-24.32%
Application Development Support - Intermediate (P2)	AID055-P2	IT Analyst B	1	$81,250	$6,500	$87,750	$78,004	$2,659	$80,663	8.08%	0.72%
Application Development Support - Career (P3)	AID055-P3	IT Analyst C	17	$94,530	$9,453	$103,983	$100,189	$7,668	$107,857	-3.73%	-14.10%
Application Development - Specialist (P4)	AID010-P4	IT Software Developer Lead	41	$109,181	$10,918	$120,099	$115,422	$8,690	$124,112	-3.34%	-13.68%
Application Development - Career (P3)	AID010-P3	IT Software Developer Sr	49	$95,959	$9,596	$105,555	$94,464	$3,374	$97,838	7.31%	-1.96%
Application Development - Intermediate (P2)	AIT010-P2	IT Software Developer	9	$80,911	$6,473	$87,384	$78,413	$4,396	$82,809	5.24%	-2.35%
Business Systems Analysis - Career (P3)	AID020-P3	IT Business Syst Anlyst Sr	9	$96,819	$9,682	$106,501	$91,499	$4,601	$96,100	9.77%	0.74%
AEPSC Accounting/Finance/Audit/Legal (4)											
General Accounting - Career (P3)	AFB010-P3	Accountant Sr	24	$74,608	$6,715	$81,323	$83,423	$6,747	$90,170	-10.88%	-20.86%
General Accounting - Entry (P1)	AFB010-P1	Accountant Assc	17	$53,014	$3,181	$56,195	$55,411	$3,987	$59,398	-5.70%	-12.04%
General Accounting - Intermediate (P2)	AFB010-P2	Accountant	22	$62,917	$5,033	$67,950	$66,452	$4,498	$70,950	-4.41%	-12.77%
		Incumbent Count	237						Average	-0.11%	-9.6%
Notes:		Job Count	22								
(1) All survey data aged to November 2016 at 3% annual rate											
(2) Reflects annual target incentive potential for job							% of Jobs Above Market Competitive Range[5]			0.0%	0.0%
(3) Survey Data from March 2016 Towers Watson Energy Services Middle Management & Professional Survey							% of Jobs Below Market Competitive Range[5]			0.0%	27.3%
(4) Survey Data from March 2016 Towers Watson General Industry Middle Management & Professional Survey											
(5) A market competitive range of +/- 15 percent has been used for all exempt positions											

EXHIBIT ARC-6 (Target Total Compensation vs. Market for Executive Positions)
Compensation Survey Analysis- Executive Positions

	AEP Incumbent Data ($,000)[1]						Survey Results ($,000)[2]								
AEP Title	Avg Base	Target %	Target Short-Term Incentive	Target Total Cash Comp	Target LTI	Target Total Comp	Base	STI %	STI $	Total Cash Comp	LTI	Total Comp	% Difference AEP Target Total Comp vs Survey Total Comp	% Difference AEP Target Total Cash Comp vs Survey Total Comp	% Difference AEP Base vs Survey Total Comp
CEO	$1,320	125%	$1,650	$2,970	$6,900	$9,870	$1,252	120%	$1,503	$2,773	$6,624	$9,397	5%	-68%	-86%
COO[3]	$721	80%	$577	$1,298	$1,898	$3,196	$600	80%	$480	$1,123	$1,500	$2,623	22%	-51%	-73%
CFO	$728	80%	$582	$1,310	$1,898	$3,208	$646	75%	$484	$1,145	$1,596	$2,741	17%	-52%	-73%
General Counsel	$613	70%	$429	$1,042	$1,125	$2,167	$584	70%	$409	$992	$1,207	$2,199	-1%	-53%	-72%
Exec 5	$560	70%	$392	$952	$900	$1,852	$489	70%	$342	$831	$831	$1,661	11%	-43%	-66%
Exec 6	$530	70%	$371	$901	$1,000	$1,901	$519	68%	$353	$906	$834	$1,740	9%	-48%	-70%
Exec 7	$436	60%	$262	$698	$832	$1,530	$466	68%	$317	$748	$614	$1,362	12%	-49%	-68%
Exec 8	$357	50%	$179	$536	$344	$880	$330	45%	$149	$503	$322	$825	7%	-35%	-57%
Exec 9[4]	$366	55%	$201	$567	$355	$922	$364	60%	$218	$599	$425	$1,024	-10%	-45%	-64%
Exec 10	$370	55%	$204	$574	$440	$1,014	$426	58%	$247	$676	$522	$1,198	-15%	-52%	-69%
Exec 11	$375	50%	$188	$563	$360	$923	$370	50%	$185	$551	$347	$898	3%	-37%	-58%
Exec 12	$268	40%	$107	$375	$155	$530	$265	40%	$106	$380	$219	$560	-5%	-33%	-52%
Exec 13[5]	$460	70%	$322	$782	$832	$1,614	$429	54%	$231	$671	$442	$1,113	45%	-30%	-59%
Exec 15[5]	$380	50%	$190	$570	$344	$914	$387	50%	$194	$581	$289	$869	5%	-34%	-56%
Incumbent Count	14												7.5%	-45.0%	-65.9%
												% of Jobs Above Market Competitive Range[6]	21.4%	0.0%	0.0%
												% of Jobs Below Market Competitive Range[6]	7.1%	100.0%	100.0%

Notes:
(1) AEP data as of July 1, 2016
(2) Median AEP Compensation Peer Group data from March 2015 Towers Watson Energy Services Executive Survey or proxy filings, in either case aged to January 1 2016 at 3% annual rate
(3) Position benchmarked against the Median less 10% due to job scope
(4) Position benchmarked against the Median less 15% due to job scope
(5) Position benchmarked against the 75th percentile due to job scope
(6) A market competitive range of +/- 15 percent has been used for all exempt and executive positions

Center for Advanced Human Resource Studies (CAHRS)

CAHRS Working Paper Series

Cornell University ILR School *Year* 2003

Is It Worth It To Win The Talent War? Evaluating the Utility of Performance-Based Pay

Michael C. Sturman
Cornell University

Charlie O. Trevor
University of Wisconsin-Madison

John W. Boudreau
Cornell University

Barry A. Gerhart
University of Wisconsin-Madison

CAHRS
Center for Advanced Human Resource Studies

CAHRS / Cornell University
187 Ives Hall
Ithaca, NY 14853-3901 USA
Tel. 607 255-9358
www.ilr.cornell.edu/CAHRS/

WORKING PAPER SERIES

Is It Worth It To Win The Talent War? Evaluating the Utility of Performance-Based Pay

Michael C. Sturman
Charlie O. Trevor
John W. Boudreau
Barry Gerhart

Working Paper 03 - 12

CORNELL ilr School of Industrial and Labor Relations

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

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 bay. 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.

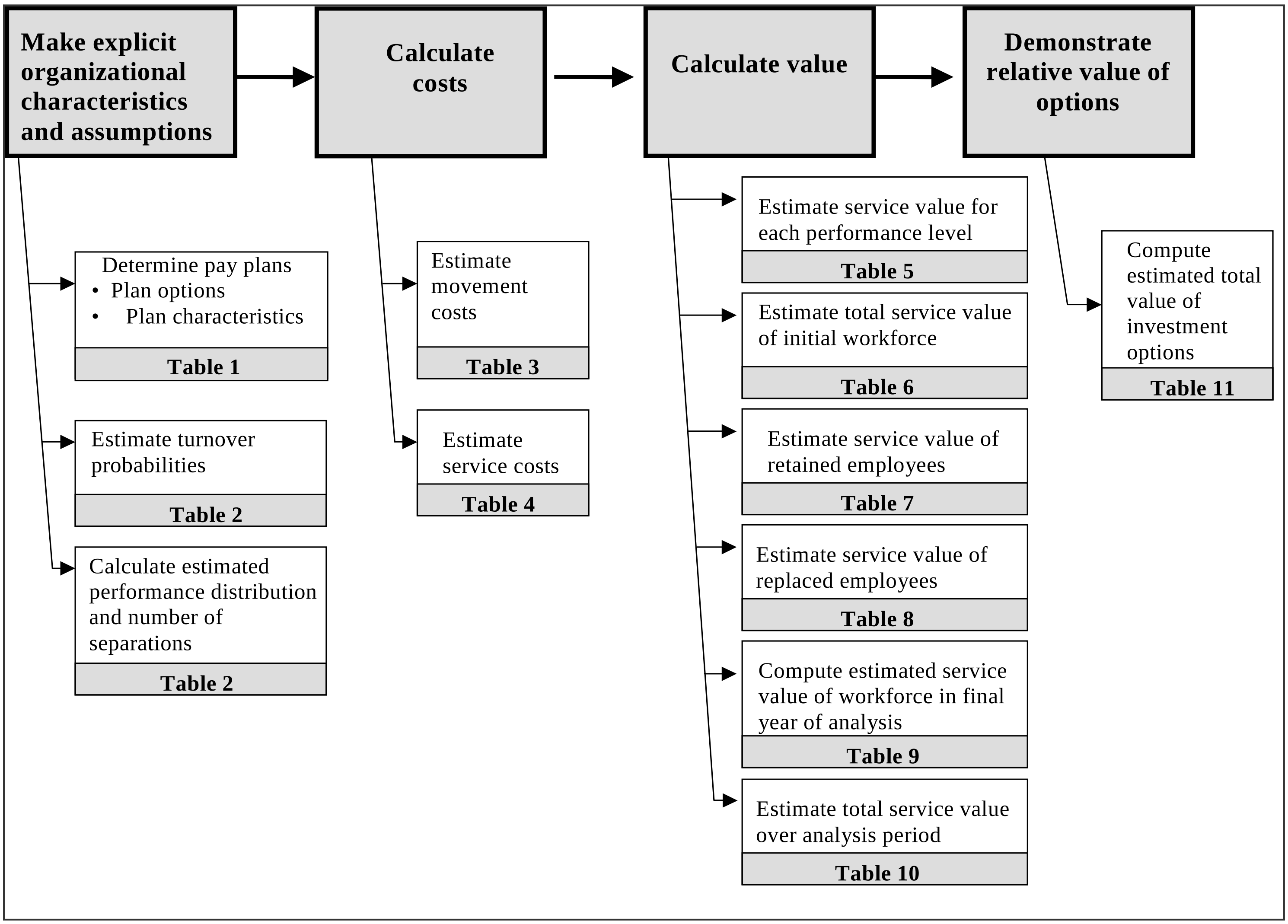
Utility Analysis Applied to Pay Decisions

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.[1]

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	**$47,983**	**$47,983**	**$47,983**	**$47,983**	**$47,983**	**$47,983**	**$47,983**	**$47,983**	**$47,983**
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.[2] 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.

<u>Step 2: Determine Turnover Probabilities</u>

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	**60**	**97**	**1171**	**1090**	**1667**	**672**	**317**	**46**	**23**	5143
Turnover Probabilities[1] (Probability of leaving the organization by 2007)										
Pay Strategy 1	**0.96**	**0.65**	**0.38**	**0.25**	**0.21**	**0.22**	**0.27**	**0.41**	**0.66**	
Pay Strategy 2	**0.96**	**0.65**	**0.38**	**0.25**	**0.21**	**0.14**	**0.11**	**0.11**	**0.14**	
Pay Strategy 3	**0.99**	**0.88**	**0.60**	**0.35**	**0.21**	**0.14**	**0.11**	**0.11**	**0.14**	
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)[2]										
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 (cost of separation as multiple of salary; same for all three Pay Strategies)	**2.0**		
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[1]	$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)	**1.37**	**1.37**	**1.37**
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.[3]

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
Average Service Value (assumed to equal 1.754 * average salary)									
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
Incremental Service Value **SDy =0.30**									
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
Incremental Service Value **SDy =0.60**									
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
Incremental Service Value **SDy =0.90**									
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
Total Individual Service Value (SDy = 30%)[1]									
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
Total Individual Service Value (SDy = 60%)									
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
Total Individual Service Value (SDy = 90%)									
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.[4] 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
2003 Total Service Value										
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 retainee service value of $374,575,510, which is under pay strategy 1 with SDy = 60%, by 3687, which is Table 7's total retainees under pay strategy 1. We note that using pay strategy 1's retainee 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).

References

Bartlett, C. A., & Ghoshal, S. (2002). Building competitive advantage through people. MIT Sloan Management Review, 43 (2), 34-41.

Becker, B. E., & Huselid, M. A. (1992). Direct estimates of SDy and the implications for utility analysis. Journal of Applied Psychology, 77, 227-233.

Berman, J. M. (2001). Industry output and employment projections to 2010. Monthly Labor Review, 124 (11), 39-56.

Boudreau, J. W. (1991). Utility analysis for decisions in human resource management. In M. D. Dunnette & L. M. Hough (Eds.), Handbook of industrial and organizational psychology (2nd Edition., Vol. 2, pp. 621-745). Palo Alto, CA: Consulting Psychologists Press, Inc.

Boudreau, J. W., & Berger, C. J. (1985). Decision-theoretic utility analysis applied to employee separations and acquisitions [Monograph]. Journal of Applied Psychology, 70, 581-612.

Boudreau, J.W. & Ramstad, P.M. (2002). From “professional business partner” to “strategic talent leader”: “What’s next” for human resource management. Working Paper 02-10, Center for Advanced Human Resource Studies, Cornell University. Ithaca, New York.

Boudreau, J.W. & Ramstad, P.M. (2003a). Strategic HRM measurement in the 21st century: From justifying HR to strategic talent leadership. In M. Goldsmith, R.P. Gandossy and M.S. Efron (eds.) HRM in the 21st Century, 79-90. New York: John Wiley

Boudreau, J.W. & Ramstad, P.M. (2003b). Strategic I/O psychology and the role of utility analysis models. In W. Borman, D. Ilgen and R. Klimoski (eds.). Handbook of Psychology, (Vol. 12, “Industrial and Organizational Psychology”, Chapter 9, 193-221). New York: John Wiley.

Boudreau, J.W. & Ramstad, P.R. (1999). Human resource metrics: Can measures be strategic? In P. Wright, L. Dyer, J. Boudreau & G. Milkovich (eds.) Strategic human resources management in the twenty-first century. Supplement 4 to G.R. Ferris (ed.) Research in personnel and human resource management, 75-98. Stamford, CT: JAI Press.

Boudreau, J.W. & Ramstad, P.R. (1997). “Measuring Intellectual Capital: Learning from Financial History.” Human Resource Management, 36 (3), pp. 343-356.

Branch, S. (1998). You hired ‘em, but can you keep ‘em? Fortune, 138, November 9, 247-250.

Bureau of Labor Statistics (2002). National Compensation Survey: Occupational Wages in the United States, 2001. [On-line data source]. Washington, DC: US Department of Labor, Bureau of Labor Statistics.

Cable, D. M., & Judge, T. A. (1994). Pay preference and job search decisions: A person-organization fit perspective. Personnel Psychology, 47, 317-348.

Cascio, W. F. 2000. Costing human resources: The financial impact of behavior in organizations (4th edition). Boston, MA: Kent.

Chambers, E. G., Handfield-Jones, H., Hanking, S.M., & Michaels, E.G., III (1998). Win the war for top talent. Workforce, December, 50-56.

Cronshaw, S. F. (1997). Lo! The stimulus peaks: The insiders view on Whyte and Latham’s “The Futility of Utility Analysis.” Personnel Psychology, 50, 611-616.

Deadrick, D. L., Bennett, N., & Russell, C. J. (1997). Using hierarchical linear modeling to examine dynamic performance criteria over time. Journal of Management, 23, 745-757.

Dreher, G. F. (1982). The role of performance in the turnover process. Academy of Management Journal, 25, 137-147.

Fullerton, H. N. Jr., & Toosi, M. (2001). Labor force projections to 2010: Steady growth and changing composition. Monthly Labor Review, 124 (11), 21-38.

Gerhart, B. (2000). Compensation strategy and organizational performance. In S.L.Rynes & B. Gerhart (eds.), Compensation in organizations. San Francisco: Jossey-Bass.

Gerhart, B., & Milkovich, G. T. (1992). Employee compensation: Research and practice. In M. D. Dunnette & L. M.Hough (Eds.), Handbook of industrial and organizational psychology (2nd Edition, Vol. 3, pp. 481-569). Palo Alto, CA: Consulting Psychologists Press, Inc.

Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000. A meta-analysis of antecedents and correlated of employee turnover: Update, moderator tests, and research implications for the next millennium. Journal of Management, 26, 463-488.

Harrison, D. A., Virick, M., & William, S. (1996). Working without a net: Time, performance, and turnover under maximally contingent rewards. Journal of Applied Psychology, 81, 331-345.

Hewitt Associates. (2002). Twenty-sixth annual U.S. salary increase survey. Lincolnshire, IL.

Hoffman, C. C. (1996). Applying utility analysis to guide decisions on selection system content. Journal of Human Resource Costing and Accounting, 1, 9-17.

Hollenbeck, J. R., & Williams, C. R. (1986). Turnover functionality versus turnover frequency: A note on work attitudes and organizational effectiveness. Journal of Applied Psychology, 71, 606-611.

IOMA. (2002, May). Pay for performance report. New York: Institute of Management and Administration.

Jackofsky, E. F. (1984). Turnover and job performance: An integrated process model. Academy of Management Review, 9, 74-83.

Jenkins, D.G. Jr., Mitra, A., Gupta, N., & Shaw, J.D. (1998). Are financial incentives related to performance? A meta-analytic review of empirical research. Journal of Applied Psychology, 83, 777-787.

Johnson, A. A. (1995). The business case for work-family programs. Journal of Accountancy, 180 (2), 53-57.

Judiesch, M. K., Schmidt, F. L., & Mount, M. K. (1992). Estimates of the dollar value of employee output in utility analyses: An empirical test of two theories. Journal of Applied Psychology, 77, 234-250.

Kalbfleisch, J. D., & Prentice, R. L. (1980). The statistical analysis of failure time data. New York: John Wiley and Sons, Inc.

Klass, B. S., & McClendon, J. A. (1996). To lead, lag, or match: Estimating the financial impact of pay level policies. Personnel Psychology, 49, 121-141.

Kohn, A. (1993, September-October). Why incentive plans cannot work. Harvard Business Review, 54-63.

Latham, G. P., & Whyte, G. (1994). The futility of utility analysis. Personnel Psychology, 47, 31-46.

McKinsey & Company (1998). The war for talent. New York: McKinsey & Company.

Milkovich, G. T., and Newman, J. M. (2002). Compensation (7th ed). Irwin: Boston, MA.

Morita, J. G., Lee, T. W., & Mowday, R. T. (1993). The regression-analog to survival analysis: A selected application to turnover research. Academy of Management Journal, 36, 1430-1464.

Peck, C. (2002). Salary increase budgets: 2002 increases fall in many industries, rebound projected for 2003. Executive Action, 24 (June), 1-5.

Pfeffer, J. (1998). Six dangerous myths about pay. Harvard Business Review, May/June, 76, 108-120.

Ployhart, R. E., & Hakel, M. D. (1998). The substantive nature of performance variability: Predicting interindividual differences in intraindividual performance. Personnel Psychology, 51, 859-901.

Porter, L. W., & Lawler, E. E. (1968). Attitudes and performance. Homewood, Ill.: Irwin-Dorsey.

Raju, N. S., Burke, M. J., & Normand, J. (1990). A new approach for utility analysis. Journal of Applied Psychology, 75, 3-12.

Retherford, R.D., & Choe, M.K. (1993). Statistical models for causal analysis. New York: John Wiley & Sons.
Rich, J. T. (1999). The growth imperative. The Journal of Business Strategy, March/April, 20, 27-31.
Schmidt, F. L., & Hunter, J. E. (1983). Individual differences in productivity: An empirical test of estimates derived from studies of selection procedure utility. Journal of Applied Psychology, 68, 407-414.
Schmidt, F. L., Hunter, J. E., Outerbridge, A. N., & Trattner, M. H. (1986). The economic impact of job selection methods on size, productivity, and payroll costs of the federal work force: An empirically based demonstration. Personnel Psychology, 39, 1-29.
Schwab, D. P. (1991). Contextual variables in employee performance-turnover relationships. Academy of Management Journal, 34, 966-975.
Sherwyn, D. S., & Sturman, M. C. (2002). Job-sharing in the hotel industry: A potential new human resource tool resulting from the events of September 11th. Cornell Hotel and Restaurant Administration, 43 (5), 84-91.
Solomon, J. (1988). Companies try measuring cost savings from new types of corporate benefits. The Wall Street Journal (Dec. 29), B1.
Steers, R. M. & Mowday, R. T. (1981). Employee turnover and the post decision accommodation process. In B. M. Staw & L. L. Cummings (Eds.), Research in Organizational Behavior (pp. 235-281). Greenwich, CT: JAI Press.
Sturman, M. C. (2000). Implications of utility analysis adjustments for estimates of human resource intervention value. Journal of Management, 26, 281-299.
Sturman, M. C., & Short, J. C. (2000). Lump-sum bonus satisfaction: Testing the construct validity of a new pay satisfaction dimension. Personnel Psychology, 53, 673-700
Sturman, M. C., & Trevor C. O. (2001). The implications of linking the dynamic performance and employee turnover literatures. Journal of Applied Psychology, 86, 684-696.
Trevor, C.O. (2001). Interactive effects among actual ease of movement determinants and job satisfaction in the prediction of voluntary turnover. Academy of Management Journal, 44, 621-638.
Trevor C. O., Gerhart, B., & Boudreau, J. W. (1997). Voluntary turnover and job performance: Curvilinearity and the moderating influences of salary growth and promotions. Journal of Applied Psychology, 82, 44-61.
U.S. Department of Labor. (2001). Employer Costs for Employee Compensation: March 2001, Washington, D.C.: U.S. Department of Labor.
Whyte, G., & Latham, G. P. (1997). The futility of utility analysis revisited: When even an expert fails. Personnel Psychology, 50, 601-610.
Williams, C. R., & Livingstone, L. P. (1994). Another look at the relationship between performance and voluntary turnover. Academy of Management Journal, 37, 269-298.
WorldatWork (2002). 29th Annual Report on the 2002-2003 Total Salary Increase Budget Survey. Scottsdale, AZ: WorldatWork.

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 29th 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).

Probability of survival = $S(0)^{e^{(ßX)}}$,
where S(0) = baseline probability of survival, which was 0.77,
ß = a vector of survival analysis regression coefficients,
X = a vector of independent variables,
(ßX) = 4.941 + 0.314 * Salary Growth - 2.541 * Performance + 0.553 * Performance^2 - 0.020 * Performance^3 + 0.007 * Salary Growth^3 - 0.663 * Salary Growth * Performance + 0.071 * Salary Growth * 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 - $S(0)^{e^{(ßX)}}$. 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 - $.77^{e^{(ßX)}}$ = 1 - $.77^{e^{(4.941 – 5.467)}}$ = 1 - $.77^{e^{(-0.526)}}$ = 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 (ßX) 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.

2016 OpCo ICP Framework

Infrastructure Development (25%)

- OpCo Net Income (10%)
- OpCo / AEPU Economic Development (5%)
- **Efficiency and Effectiveness Measures** (10%)
  - OpCo Cost per ASB Hour (5%)
  - OpCo ASB Hours per FTE Equivalent (2.5%)
  - OpCo MRO Cost per Order Completed (2.5%)

Customer Experience (40%)

- **Customer Reliability** *(Total 10%)*
  - OpCo SAIDI (5 %)
  - OpCo Reliability Work Plan Execution (5%)
- **Risk Mitigation Work Plan Execution** (5%)
  - Execution of Risk Mitigation plans (5 Components – Network, Poles, Overhead, Underground Transformer, Contact Voltage)
- **Regulatory Execution** (5%)
  - Pursuit of customer-driven programs with regulators (e.g., solar, AMI)
- **Customer Experience Work Plans** (10%)
  - OpCo –(5%) including Mobile Alert participation %
  - System-Wide (5%) – Outage Mapping & Data Analytics
- JDPA Residential Overall Customer Satisfaction Index (5%)
- Emergency Restoration Planning / ICS Execution (5%)

Employee Experience (35%)

- OpCo Employee Culture/ Experience Work Plan Execution (5%)
- OpCo DART Rate (10%)
  - Combined Employee and Contractor Rate
- Pro-Active Employee Safety Measure (20%)
  - Quality Assurance on Jobsite Observations
  - Engage Employees to identify and address top five high-risk activities
  - Good Catch Program
  - Site Inspection Program

OpCo ICP plans are subject to executive leadership discretion

2016 Performance Measures and Weights

- **Continue the balanced scorecard of earnings, safety and strategic measures**

Performance Category	2016
Budget Funding Measures	
Operating Earnings Per Shares	**75%**
Safety	**10%**
Strategic Initiatives	**15%**

The funding measures above establish the aggregate funding available for all annual incentive groups

BENEFIT PLAN DESIGN AND EMPLOYEE COST SUMMARY GRIDS

January 1, 2016 - December 31, 2016

ELIGIBLE PARTICIPANTS

All full-time (scheduled to work an average of 40 hours per week) employees and their eligible dependents are eligible to participate in the following benefits: group medical, dental, life, accidental death & dismemberment, sick pay, long-term disability, retirement savings (401k), retirement (pension), holiday and vacation pay. All part-time (scheduled to work an average of 20 hours per week) employees are eligible to participate in the group medical, dental, retirement savings plan and retirement (pension) plan beginning the first day of service with AEP. Part-time employees are also eligible for holiday and vacation benefits according to a different schedule than full-time. Temporaries, co-ops and interns are eligible to participate in the pension plan and the 401k plan.

RETIREMENT ELIGIBLITY

Employees who are at least age 55 with at least 10 or more years of service when they terminate employment are eligible to enroll in retiree benefits. For benefit purposes, these employees are referred to as "retirees." Eligible retirees and their eligible dependents may elect retiree medical, dental, and vision coverage. Eligible retirees may elect life insurance. However, employees hired or rehired on or after January 1, 2011, are not eligible for company-paid life insurance upon retirement. Employees hired or rehired on or after January 1, 2014, are not eligible for retiree medical coverage.

Eligible surviving dependents of active and retired employees may continue medical and dental coverage until they reach the limiting age, or for surviving spouses of active employees, attain age 65, or remarry. Surviving spouse of retirees can continue coverage beyond age 65, if unmarried.

PARTICIPANT MEDICAL CONTRIBUTIONS

The pre-tax monthly cost to active full-time employees is calculated based on a percentage of the total cost of coverage. The pre-tax monthly costs to active part-time employees are two and one-half times the monthly costs of active full-time employees. Retiree contributions can vary depending on when the employee retired. The monthly costs for many retirees are a percentage of total premiums ranging from 20% - 46%, and are based on their age and years of service at retirement. Effective with retirements on or after January 1, 2013, company contributions for retiree medical coverage are capped at a fixed amount of $11,500 for under age 65 retirees and $3,800 for retirees age 65. Once this cap is exceeded, the retiree contributions will reflect the cost of coverage above the cap. Eligible surviving dependents generally pay 50% of the total monthly cost of coverage.

January 1, 2016 - December 31, 2016

MEDICAL PLAN SURCHARGES

Spousal Surcharge
Effective January 1, 2014, if an active employee covers his/her spouse/domestic partner on AEP's medical plan, and that spouse/domestic partner has access to medical coverage through his/her employer, the employee will be assessed a surcharge of $50.00 per month.

Tobacco Surcharge
Effective January 1, 2015, employees who use tobacco and nicotine products will have a surcharge, in the amount of $50.00 per month, assessed when they elect coverage under AEP's medical plan.

January 1, 2016 – December 31, 2016

GROUP MEDICAL PLANS

Health Savings Account (HSA) Plan Options	HSA Basic		HSA Plus	
	In-Network	Out-of-Network	In-Network	Out-of-Network
Company Annual Contribution to HSA	NA	NA	participant only: $500 participant + spouse/domestic partner or participant + child(ren): $750 participant + family: $1,000	
Annual Deductible (includes medical, prescription and behavioral health)	$2,700/participant $5,400/participant + spouse/domestic partner $5,400/participant + 1 child $8,100/participant + children $8,100/participant + family	$4,000/participant $8,000/participant + spouse/domestic partner $8,000/participant + 1 child $12,000/participant + children $12,000/participant + family	$2,000/participant $3,000/participant + spouse/domestic partner $3,000/participant + child(ren) $4,000/participant + family	$3,000/participant $4,500/participant + spouse/domestic partner $4,500/participant + child(ren) $6,000/participant + family
Annual out-of-pocket maximum	$4,000/participant $8,000/participant + spouse/domestic partner $8,000/participant + 1 child $12,000/participant + child(ren) $12,000/participant + family	$8,000/participant $16,000/participant + spouse/domestic partner $16,000/participant + 1 child $24,000/participant + child(ren) $24,000/participant + family	$4,000/participant $6,000/participant + spouse/domestic partner $6,000/participant + child(ren) $8,000/participant + family	$6,000/participant $9,000/participant + spouse/domestic partner $9,000/participant + child(ren) $12,000/participant + family
Co-Insurance	10% after deductible	30% after deductible	15% after deductible	30% after deductible
Preventive Care	$0%; no deductible	30% after deductible	$0%; no deductible	30% after deductible
Prescription Coverage	10% after deductible		15% after deductible	
2016 Full-Time Employee Monthly Cost	participant only $31.09 participant + spouse/domestic partner $63.89 participant + child(ren) $62.79 participant + family $95.52		participant only $88.56 participant + spouse/domestic partner: $191.99 participant + child(ren) $170.37 participant + family $273.73	

January 1, 2016 – December 31, 2016

HRA Plan					
		Participant Only	**Participant + Spouse/Domestic Partner or Participant + Child(ren)**		**Participant + Family**
Health Reimbursement Account (HRA)	AEP Annual Allocation	$1,000	$1,500		$2,000
Traditional Health Coverage (Prescription coverage same as any other medical expense)	Annual Deductible (includes medical, prescription drug and behavioral health)	$1,500	$2,250		$3,000
	Then, employee pays coinsurance for covered services	15% for in-network providers 30% for out-of-network providers			
	Annual Out-of-Pocket Maximum	$4,000 if in-network $6,500 if out-of-network	$6,000 if in-network $9,750 if out-of-network		$8,000 if in-network $13,000 if out-of-network
Annual Preventive (not applied to Company's HRA allocation)	In-network: 0%; no deductible Out-of-network: 30% after deductible				
2016 Full-Time Monthly Employee Cost		$132.37	$288.02	$250.61	$406.19

Teladoc
Teladoc provides employees and their eligible dependents with 24/7/365 access to US board-certified physicians by phone or online video. Teladoc can diagnose, recommend treatment and prescribe medication when appropriate, including sinus problem, bronchitis, allergies, poison ivy, cold and flu symptoms, urinary tract infection, respiratory infection and more. The cost to participants for each physician consultation is $40.

This program is available to participants enrolled in an AEP consumer-directed health plan. FirstCare HMO participants are not eligible for this benefit.

January 1, 2016 – December 31, 2016

HMO	FirstCare HMO
Office Visit Co-pay	Primary Care Physician: $20/visit Specialist: $30/visit
Deductible	N/A except for separate prescription drug benefit
Participant Coinsurance	15%
Annual Medical Out-Of-Pocket Maximum	$3,000/participant $6,000/family (includes medical coinsurance and co-pays; does not include prescription drugs)
Prescription Coverage	Deductible: $50/participant; $150/participant + family for retail (deductible waived for mail order) Generics: $10 co-pay retail; $20 co-pay mail Retail Preferred Brand: 20% coinsurance ($20 minimum; $100 maximum) Retail Non-Preferred Brand: 35% coinsurance ($35 minimum; $200 maximum) Mail Preferred Brand: 20% coinsurance ($50 minimum; $200 maximum) Mail Non-Preferred Brand: 35% coinsurance ($90 minimum; $300 maximum)
Annual Prescription Out-Of-Pocket Maximum	$1,000/individual $3,000/family (includes prescription deductible)
2016 Full-Time Employee Monthly Cost	Participant Only $118.42 Participant + Spouse/Domestic Partner $262.59 Participant + Child(ren) $184.10 Participant + Family $323.27

Wellness Program

Healthy living habits are an essential ingredient for healthy employees. For that reason, AEP sponsors a number of programs, including incentives, and initiatives designed to help employees achieve and maintain a healthy lifestyle. All active employees (regardless of whether they are enrolled in a medical plan) are eligible to participate in the following wellness programs along with spouses and domestic partners of active employees who are covered under an AEP medical plan.

- Rewards for preventive care
- Flu Shots
- Health Risk Assessments
- Life Style Coaching, including tobacco cessation

January 1, 2016 – December 31, 2016

GROUP DENTAL

DPPO option

Coverage Level	Participant Only	Participant + Spouse/Domestic Partner	Participant + Child(ren)	Participant + Family
Deductible (does not apply to preventive service)	$50/person	$50/person	$50/person $150/family	$150/Family
Annual Maximum	$1,500 per covered person			
Coinsurance				
Preventive	100%			
Basic Services	80% after deductible			
Major Services	50% after deductible			
Orthodontia	50% up to a lifetime maximum of $1,500 per covered child			
2016 Full-time Monthly Cost	$10.66	$21.05	$32.40	$42.79

DMO Option

A DMO option is available to employees who live within the same zip code area as a network DMO dentist. Similar to a medical Health Maintenance Organization (HMO), the DMO provides dental service through a group of network dentist. The DMO offers no deductibles or annual maximum, no co-pay for covered preventive services and low, fixed co-pays on other dental services.

The full-time 2016 monthly cost for the DMO option is:

Employee Only	$ 9.28
Employee + Spouse	$18.56
Employee + Child(ren)	$20.88
Employee & Family	$30.16

The pre-tax monthly costs to active part-time employees are two and one-half times the monthly costs to active full-time employees. The monthly costs to certain grandfathered retirees and surviving dependents are the same as active employees. The monthly cost to most other retirees and eligible surviving dependents are 100% of the total cost of coverage.

SICK PAY PLAN

The Sick Pay Plan provides full-time employees financial protection in the event of a short-term illness or injury that prevents employees from working. Benefits are payable for the first day of absence from work due to illness or injury and may continue up to 26 weeks.

Sick pay is determined according to the amount of the employee's base pay on the day before the absence begins and is paid at 100% or 60% depending on service with the Company.

The Company pays the full cost of coverage through normal salary allocations as this program is financed as a salary continuation plan.

January 1, 2016 – December 31, 2016

LONG-TERM DISABILITY

The AEP Long-Term Disability plan provides full-time employees financial protection in the event of an employee's illness or injury that prevents them from working for an extended period of time. To qualify for LTD benefits, the employee must be totally disabled because of illness or injury for 26 weeks (elimination period) and unable to perform the functions of their own occupation. After 2 years of approved disability, the employees must be unable to perform the duties of any occupation.

The plan's monthly total disability benefit pays 60% of the employee's base monthly pay in effect immediately before the disability begins. The Company pays the full cost of this coverage. Effective January 1, 2014, eligible employees have the opportunity to purchase additional 10% coverage.

LIFE INSURANCE PLAN

The company provides full-time employees two times their base annual pay in life insurance at no cost to the employee. Most employees can purchase up to eight times their base pay in supplemental coverage. The total amount of combined coverage for most employees cannot exceed $1 million.

AEP provides life insurance coverage equal to a flat $30,000 at no cost to retired employees (at least age 55 with 10 or more years of service). Certain grandfathered retirees are eligible for additional coverage, which reduces as the retiree gets older. However, employees hired or rehired on or after January 1, 2011, are not eligible for company-paid life insurance upon retirement.

The employee pays the total cost of supplemental and dependent life coverage. The monthly after-tax cost for the employee supplemental life coverage is based on the employee's age, tobacco use status, the employee's base pay and the level of coverage. Some active employees, who remained in grandfathered life plans (not open to new enrollments), pay between $0.20 - $0.35 per $1,000 for coverage.

ACCIDENTAL DEATH & DISMEMBERMENT (AD&D) INSURANCE

AEP'S AD&D benefit program offers help with the financial hardship a full-time employee's family may suffer should the employee become seriously injured or die in an accident.

The Company provides employees two times their base pay (up to $1.5 million) at no cost to the employee. For employees on an Emergency Response Team, the Company provides AD&D insurance of an additional two times their base pay (up to $1.5 million) at no cost to the employee. Employees can purchase up to ten times their base pay (up to $1.5 million) in supplemental coverage. Employees can purchase dependent AD&D insurance for their eligible dependents.

The 2016 pre-tax monthly costs of supplemental/dependent coverage are:

AD&D Option	Cost per $1,000
Participant Only	$.018
Participant + Spouse/Domestic Partner	$.024
Participant + Family	$.029

<u>January 1, 2016 – December 31, 2016</u>

AEP SYSTEM RETIREMENT SAVINGS PLAN (Qualified 401k Plan)

The AEP System Retirement Savings Plan is a 401(k) savings plan that gives employees an opportunity to save through payroll deductions on a pre-tax and after-tax basis. Generally, employees can contribute from 1% to 50% of their eligible compensation on a pre-tax basis, after-tax basis, including Roth 401(k) after-tax, or in a combination of any of the contribution options, up to the limits established by the IRS. The Company adds 100% to their account for every dollar they contribute up to the first 1% and 70% for every dollar they contribute up to the next 5% each pay period. All contribution sources are eligible for the match, but the 6% limit is applied to the total amount contributed each pay period. Employees can invest in any combination of the 19 investment options available and/or the self-directed brokerage account to design their own diversified portfolio. Employees are immediately 100% vested in the value of their contributions and AEP contributions.

AEP SYSTEM RETIREMENT PLAN (Qualified Pension Plan)

Each of the AEP affiliates establishes a recordkeeping account for their employees to track growth of a participant's benefit over time. The plan provides a cash balance benefit. The account balance grows through two annual credits: an interest credit and an annual employer company credit which is a percentage of a participant's pay, based on age and service. Employees are eligible to participate after completing one year of service with AEP. Employees are automatically enrolled in the AEP System Retirement Plan once eligible.

Participants are 100% vested in their accrued benefit after three years of service.

Participants of the AEP System Retirement Plan who were employed by the Company on 12/31/2000 and participants of the Central and South West Retirement Plan who were age 50 or older with at least 10 years of service as of June 30, 1997, are grandfathered in each plan's prior pension formula. Grandfathered participants receive the higher benefit from the prior formulas provided by the plans or the newer cash balance formula.

HOLIDAY

AEP provides pay for 9 holiday days per year for full-time employees and part-time employees who are regularly scheduled to work that day. An additional 24 hours of paid personal holiday time off can be scheduled by the employee with the approval from their supervisor to use throughout the year.

The following nine days* are scheduled by AEP

- New Year's Day
- Good Friday
- Memorial Day (last Monday in May)
- Independence Day (Fourth of July)
- Labor Day
- Thanksgiving Day
- Day after Thanksgiving
- Day before Christmas
- Christmas Day

* days may vary based on collective bargaining agreements

January 1, 2016 – December 31, 2016

VACATION

AEP provides paid vacation time off for all full-time and part-time employees who are scheduled to work an average of 20 hours per week. Part-time employees receive one-half the annual allocation as full-time employees. Refer to complete schedule below:

Group	Exempt Full-time Employees Salary Grades 8 and above	Exempt Full-time Employees Under Salary Grade 8 and all Non-Exempt Employees	Part-Time Employees
Years of Service	**Hours**	**Hours**	**Hours**
Year of hire	10 per month of service (max 120 hours)	8 per month of service (max 80 hours)	4 per month of service (max 40 hours)
1	120	80	40
2	120	88	44
3	120	96	48
4	120	104	52
5-6	120	120	60
7-8	128	128	64
9-10	136	136	68
11-12	144	144	72
13-14	152	152	76
15-23	160	160	80
24 +	200	200	100
	Employees hired on or before the 15th of the month will receive vacation service credit for that month.		

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

Electronic Application Of Kentucky Power Company For (1) A General Adjustment Of Its Rates For Electric Service; (2) An Order Approving Its 2017 Environmental Compliance Plan; (3) An Order Approving Its Tariffs And Riders; (4) An Order Approving Accounting Practices To Establish Regulatory Assets And Liabilities; And (5) An Order Granting All Other Required Approvals And Relief	)	Case No. 2017-00179

DIRECT TESTIMONY OF

JASON A. CASH

ON BEHALF OF KENTUCKY POWER COMPANY

VERIFICATION

The undersigned, Jason A Cash, being duly sworn, deposes and says he is employed by American Electric Power as Accountant Policy and Research Staff, 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

Jason A Cash

STATE OF OHIO)
) 2017-00179
COUNTY OF FRANKLIN)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by (~~Insert Name~~) Jason Cash, this the 20th day of June 2017.

Notary Public

Notary ID Number: 2014-RE-488323

My Commission Expires: April 29, 2019

DIRECT TESTIMONY OF
JASON A. CASH ON BEHALF OF
KENTUCKY POWER COMPANY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

CASE NO. 2017-00179

TABLE OF CONTENTS

SUBJECT	PAGE
I. Introduction	1
II. Purpose Of Direct Testimony	3
III. Definition Of Depreciation.	4
IV. Depreciation Study Overview	5
V. Study Methods and Procedures.	6

EXHIBITS

Exhibit JAC-1. . . . . Depreciation Study Report

Exhibit JAC-2. . . . . Sargent & Lundy Dismantling Study

DIRECT TESTIMONY OF
JASON A. CASH ON BEHALF OF
KENTUCKY POWER COMPANY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jason A. Cash. My business address is 1 Riverside Plaza, Columbus, Ohio 43215.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by American Electric Power Service Corporation ("AEPSC") as a Staff Accountant in Accounting Policy and Research ("AP&R"). AEPSC is a wholly-owned subsidiary of American Electric Power Company, Inc. ("AEP").

My responsibilities include providing the AEP electric operating subsidiaries with accounting support, including the preparation of depreciation studies. I also monitor regulatory proceedings and legislation for accounting implications and assist in determining the appropriate regulatory accounting treatment.

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. I graduated with a Bachelor of Science degree with a major in accounting from The Ohio State University in 2000. In 2000, I joined AEPSC and have held several positions within the Accounting organization, including general ledger accounting and financial reporting for Ohio Power Company and AEPSC. From 2008 through 2013, I worked in AEPSC's Transmission Accounting department where I was promoted to Supervisor of

Transmission Accounting in 2013. I started my current position as Staff Accountant in AP&R in 2014.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE ANY REGULATORY COMMISSIONS?

A. Yes. I have prepared a depreciation study and filed testimony before the Tennessee Regulatory Authority in Docket No. 16-00001 on behalf of AEP subsidiary, Kingsport Power Company. I have also prepared depreciation studies and filed testimony before the Federal Regulatory Energy Commission ("FERC') in Docket No. ER15-2114-000 on behalf of Transource West Virginia, LLC, and in Docket No. ER17-419-000 on behalf of Transource Pennsylvania, LLC and Transource Maryland, LLC. Transource West Virginia, LLC, Transource Pennsylvania, LLC and Transource Maryland, LLC are wholly owned subsidiaries of Transource Energy, LLC. Transource Energy is a joint venture between AEP and Great Plains Energy.

Q. HAVE YOU HAD ANY FORMAL TRAINING RELATING TO DEPRECIATION AND UTILITY ACCOUNTING?

A. Yes. I am a member of the Society of Depreciation Professionals ("SDP") and am currently serving as an at-large director for the SDP. I have completed training courses offered by the SDP, which include Depreciation Fundamentals, Life and Net Salvage Analysis, and Analyzing the Life of Real World Property. These training classes included topics such as introduction to plant and depreciation accounting, data requirements and collection, depreciation models, life cycle analysis, current regulatory issues, actuarial life analysis, net salvage analysis and simulation life analysis.

II. PURPOSE OF TESTIMONY

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

A. My testimony supports the revised depreciation rates proposed by Kentucky Power Company ("Kentucky Power" or "Company") for Big Sandy Unit 1. The revised depreciation rates are based on my depreciation study of the electric utility plant values for Big Sandy Unit 1 in service at December 31, 2016. Schedules I and II in the Depreciation Study Report detail the results of the study. The depreciation rates determined by the study are intended to provide recovery of invested capital, cost of removal, and credit for salvage over the expected remaining life of Big Sandy Unit 1.

The revised depreciation rates are required due to changes in investment and expected life of Big Sandy Unit 1 following Unit 1's conversion to use natural gas in 2016.

Q. ARE YOU PROPOSING TO REVISE THE DEPRECIATION RATES FOR KENTUCKY POWER'S UNDIVIDED INTEREST IN THE MITCHELL PLANT OR ANY OF THE OTHER FUNCTIONAL PLANT GROUPS DURING THIS PROCEEDING?

A. No. Kentucky Power will continue to use the depreciation rates for its ownership share of the Mitchell Plant, and for the Transmission, Distribution, and General Plant functions as approved by the Commission in Case No. 2014-00396. The Distribution Plant function depreciation rates were first established in Case No. 91-066.

Q. ARE YOU SPONSORING ANY EXHIBITS IN THIS PROCEEDING?

A. Yes. I am sponsoring **EXHIBIT JAC-1**, which includes my depreciation study report, and **EXHIBIT JAC-2**, which is a copy of the Sargent & Lundy dismantling study performed for the Big Sandy Plant.

Q. WAS THE DEPRECIATION STUDY PREPARED OR ASSEMBLED BY YOU OR UNDER YOUR DIRECT SUPERVISION?

A. Yes.

III. DEFINITION OF DEPRECIATION

Q. PLEASE EXPLAIN THE DEFINITION OF DEPRECIATION AS USED IN PREPARING YOUR DEPRECIATION STUDY.

A. The definition of depreciation I used in preparing the study is the same that is used by the FERC and the National Association of Regulatory Utility Commissioners. That definition is:

> 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.

This is the same definition of depreciation that was used in preparing the Company's most recent depreciation study prepared for Case No. 2014-00396.

IV. DEPRECIATION STUDY OVERVIEW

Q. HOW DO THE DEPRECIATION RATES AND ANNUAL ACCRUALS CALCULATED IN YOUR 2016 DEPRECIATION STUDY COMPARE WITH KENTUCKY POWER'S CURRENT RATES AND ACCRUALS FOR BIG SANDY?

A. A comparison of Kentucky Power's current rates and accruals for Big Sandy and the study rates and accruals is shown below based on total Company depreciable plant balances at December 31, 2016:

Table 1 - Depreciation Rates and Accruals
Based on Depreciable Plant In Service at December 31, 2016

	Existing		Study		
Functional Plant Group	Rates	Accruals	Rates	Accruals	Difference
Big Sandy Unit 1	3.78%	5,886,810	5.78%	9,003,728	3,116,918

Based on results of the depreciation study, the Company proposes an increase in annual depreciation expense of $3,116,918 due to a change in depreciation rates using depreciable plant balances at December 31, 2016. The change in depreciation rates is necessary because of changes in investment and service life of Big Sandy Unit 1 after Unit 1 was converted to use natural gas in 2016.

It should be noted that the accrual amounts in the above table result from applying the applicable depreciation rates to depreciable balances at December 31, 2016. They do not represent the depreciation accruals that the Company is requesting to be included in its cost of service. The annual depreciation accruals that the Company requests in cost of service in this proceeding are calculated and supported by Company witness Tyler Ross and result from his application of my recommended depreciation rates to the adjusted plant in service balances at Test Year end.

Big Sandy Unit 1's current depreciation rates are based on a 1991 settlement agreement in Case No. 91-066 effective on April 1, 1991 and do not reflect changes in investment in Big Sandy Unit 1 or its service life following conversion to natural gas.

V. STUDY METHODS AND PROCEDURES

Q. PLEASE BRIEFLY DESCRIBE THE METHODS AND PROCEDURES USED IN THE STUDY.

A. The methods and procedures are fully described in my depreciation study report labeled **EXHIBIT JAC-1**. In summary, all of the property included in the depreciation report was considered using the group plan method. Under the group plan method, depreciation is accrued upon the basis of the original cost of all property included in each depreciable plant group instead of individual items of property. Upon retirement of any depreciable property, its full cost, less any net salvage realized, is charged to the accumulated provision for depreciation regardless of the age of the particular item retired. Also under the group plan method, the values 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.

In this study, the plant groups consisted of the individual primary plant accounts for Big Sandy Unit 1 Production plant property only. The depreciation rates were calculated by using the Average Remaining Life Method, which is the same method that was used to calculate Kentucky Power's current depreciation rates. 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.

The original cost, accumulated depreciation, and net salvage by plant account for Big Sandy Unit 1 were combined in the depreciation study. The combined amounts were used to establish depreciation rates for Big Sandy Unit 1 by plant account in order to fully depreciate each plant account by the estimated 2031 retirement year.

Q. YOU INDICATED ABOVE THAT THE AVERAGE REMAINING LIFE METHOD RECOVERS THE ORIGINAL COST OF THE PLANT, ADJUSTED FOR NET SALVAGE. HOW WAS THE NET SALVAGE AMOUNT FOR BIG SANDY UNIT 1 CALCULATED?

A. Net salvage for Big Sandy Unit 1 was determined based on actual historical experience for each Production Plant account, including the amounts related to interim retirements, and an estimate of end-of-life, or terminal, salvage amounts for each account. To determine this terminal salvage amount, Kentucky Power relied on a 2012 conceptual dismantling cost estimate for the Big Sandy Plant prepared by the independent engineering firm, Sargent & Lundy. The proposed depreciation rates for Big Sandy Unit 1 included the dismantling cost at its estimated retirement date.

Q. WHY DID KENTUCKY POWER USE THE SARGENT & LUNDY DISMANTLING STUDY TO DETERMINE THE TERMINAL NET SALVAGE AMOUNT FOR BIG SANDY UNIT 1?

A. The Sargent & Lundy dismantling study provides estimated removal cost and salvage amounts specific to Big Sandy and is therefore a reasonable method to arrive at future expected terminal net salvage amounts. A copy of the Sargent & Lundy dismantling study is included with my testimony as **EXHIBIT JAC-2**.

Q. WERE THERE ANY ADJUSTMENTS MADE TO THE RESULTS PROVIDED BY THE DISMANTLING STUDY WHEN ADDING THE SARGENT & LUNDY NET SALVAGE AMOUNTS TO THE DEPRECIATION STUDY?

A. Yes. Sargent & Lundy provided a terminal net salvage amount in 2013 dollars. I applied a 2.30% inflation rate factor to the net salvage amounts provided by the Sargent & Lundy study to determine the terminal net salvage amount at Big Sandy's retirement year. The terminal net salvage amount after inflation was used in the calculation of net salvage percentages in the depreciation study.

Q. WHAT IS THE SOURCE OF THE 2.30% INFLATION RATE USED FOR THIS PURPOSE?

A. The 2.30% inflation rate was taken from a publication titled "The Livingston Survey" dated December 9, 2016 and is the most recent rate provided by the survey. The Livingston Survey is published by the research department of the Federal Reserve Bank of Philadelphia and provides a long term inflation outlook projecting an inflation rate for a 10 year period.

Q. WERE THERE ANY OTHER ADJUSTMENTS MADE TO THE RESULTS PROVIDED BY THE DISMANTLING STUDY WHEN ADDING THE SARGENT & LUNDY NET SALVAGE AMOUNTS TO THE DEPRECIATION STUDY?

A. Yes. The terminal net salvage amount provided by Sargent & Lundy in the dismantling study was for the entire Big Sandy Plant, which included both Units 1 and 2. A calculation was made to allocate a portion of the total terminal net salvage to Unit 1 based on the generating capacity of each unit. The calculation resulted in 26.27% of the terminal net salvage costs identified in the Sargent & Lundy dismantling study being allocated to Big Sandy Unit 1 based on its relative generating capacity as compared to Big Sandy Unit 2.

Q. DO YOU RECOMMEND ANY CHANGES IN HOW THE DEPRECIATION RATES CALCULATED IN THIS DEPRECIATION STUDY ARE APPLIED TO BIG SANDY UNIT 1 FROM WHEN THE RATES WERE LAST UPDATED IN CASE NO. 91-066?

A. Yes. Kentucky Power currently applies depreciation rates and maintains accumulated depreciation for Big Sandy Unit 1 by functional plant classification (Production). The Company proposes to adopt and apply the proposed depreciation accrual rates at the primary plant account level, and that the accumulated depreciation by primary plant account be established as of the date the revised depreciation rates become effective. Maintaining accumulated depreciation at the primary account level will facilitate monitoring depreciation accruals and actual salvage and removal activity for future depreciation study purposes. In addition, the application of depreciation accrual rates at the primary account level has been applied to the Kentucky Power's undivided interest in the Mitchell Plant, the Transmission Plant function, and the General Plant function as a result of the settlement agreement in Case No. 2014-00396.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

KENTUCKY POWER COMPANY

DEPRECIATION STUDY REPORT

FOR

BIG SANDY UNIT 1

ELECTRIC PLANT IN SERVICE

AT

DECEMBER 31, 2016

DEPRECIATION STUDY REPORT

Table of Contents

SUBJECT	PAGE
I. Introduction	1
II. Discussion of Methods and Procedures Used In The Study	2
III. Net Salvage	4
IV. Study Results	5
SCHEDULE I – Explanation of Columns	6
SCHEDULE I – Calculation of Depreciation Rates by the Remaining Life Method	7
SCHEDULE II – Compare Depreciation Rates Using Current and Study Rates	8

I. INTRODUCTION

This report presents the results of a depreciation study of Kentucky Power Company's ("Kentucky Power" or "Company") depreciable Big Sandy Unit 1 electric utility plant in service at December 31, 2016 (the "Study"). The study was prepared by Jason A. Cash, Staff Accountant – Accounting Policy and Research at American Electric Power Service Corporation ("AEPSC"). The purpose of the Study was to develop updated annual depreciation accrual rates for Unit 1 of Kentucky Power's Big Sandy Plant.

The proposed 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 the Study is the same used by the Federal Energy Regulatory Commission ("FERC") and the National Association of Regulatory Utility Commissioners and in preparing the Company's most recent depreciation study in Case No. 2014-00396:

> 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 proposed depreciation accrual rates for Big Sandy Unit 1. Schedule II compares depreciation expense of Big Sandy Unit 1 using rates approved by the Commission and rates recommended by the depreciation study. A comparison of Kentucky

Power's current rates and accruals for Big Sandy Unit 1 and the Study rates and accruals is shown below based on total Company depreciable plant balances at December 31, 2016:

Table 1 - Depreciation Rates and Accruals
Based on Depreciable Plant In Service at December 31, 2016

	Existing		Study		
Functional Plant Group	Rates	Accruals	Rates	Accruals	Difference
Big Sandy Unit 1	3.78%	5,886,810	5.78%	9,003,728	3,116,918

Based on Big Sandy Unit 1 Depreciable Plant In-Service as of December 31, 2016, the Company proposes an increase in depreciation rates that result in an increase in annual depreciation expense of $3,116,918. The depreciation rate changes are necessary because of changes in investment and the service life of Big Sandy Unit 1 after it was converted to use natural gas in 2016. Big Sandy Unit 1's current depreciation rates are based on a 1991 settlement agreement in Case No. 91-066 and were made effective on April 1, 1991.

II. DISCUSSION OF METHODS AND PROCEDURES USED IN THE STUDY

1. Group Method

All of the depreciable property included in the Study was considered using the group plan method. Under the group plan method, 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 the group plan method, the amount 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

Kentucky Power'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:

$$\text{Annual Depreciation Expense} = \frac{\text{(Orig. Cost) (Net Salvage Ratio) - Accumulated Depreciation}}{\text{Average Remaining Life}}$$

$$\text{Annual Depreciation Rate} = \frac{\text{Annual Depreciation Expense}}{\text{Original Cost}}$$

3. Life Span Analysis

For Kentucky Power's Big Sandy Unit 1, a life span analysis was used to arrive at the historically realized mortality characteristics and service life of the depreciable plant investment. 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 Big Sandy's surviving investments at December 31, 2016 was obtained from the accounting records of Kentucky

Power. AEPSC engineering and Kentucky Power operational personnel provided the estimated retirement date used in the life-span analysis for Big Sandy Unit 1.

Big Sandy Unit 1

At December 31, 2016, Kentucky Power's depreciable investment in Steam Production Plant includes Big Sandy Unit 1. Big Sandy Unit 1 is located on Highway 23 near Louisa, Kentucky and was originally placed in service in 1963. Kentucky Power converted Big Sandy Unit 1 from a coal fired unit to a natural gas fired unit in 2016. Following the conversion to natural gas, Big Sandy Unit 1's capacity is 285 MW. The anticipated retirement date for Big Sandy Unit 1 as a natural gas unit is 2031. Additionally, since the last depreciation study performed for Kentucky Power (property investment dated December 31, 2013), Kentucky Power retired Big Sandy Unit 2 and the coal related assets of Big Sandy Unit 1 in 2015.

III. NET SALVAGE

1. Net Salvage - Steam Production Plant

The net salvage analysis for steam production plant included a review of the experienced functional interim retirement, salvage and removal history for Steam Production Plant for the period 2001-2016.

While the net salvage characteristics include 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 Kentucky Power's Big Sandy Unit 1, Kentucky Power relied on a conceptual demolition costs estimate prepared by Sargent & Lundy for the Big Sandy Plant. The Sargent & Lundy demolition cost estimates are based on 2013 price levels which were inflated to retirement date in the depreciation study. The terminal net salvage amount provided by Sargent & Lundy in the dismantling study was for the entire Big Sandy Plant, which included both Units 1 and 2. A portion of the terminal net salvage amount was allocated to Unit 1 based on the generating capacity of each unit. These estimates were incorporated into the calculation of net salvage ratios for Big Sandy's Production Plant.

2. 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. STUDY RESULTS

Steam Production Plant

Depreciation rates for Big Sandy Unit 1 were calculated by plant account with the expectation that the total cost including interim net salvage would be recovered by 2031, which is the estimated retirement date for the unit. A comparison of the Big Sandy Unit 1 steam production depreciation accruals is provided on Schedule II using the currently approved depreciation rates and the study depreciation rates. The original cost and accumulated depreciation amounts used for Big Sandy Plant are the plant's original cost and accumulated depreciation on Kentucky Power's books at December 31, 2016.

Depreciation rates for the Big Sandy Plant increased from 3.78% to 5.78%. As a result, depreciation expense increased by $3,116,918. The increase in steam production depreciation expense due to the change in depreciation rates was primarily because of the changes in investment and the service life of Big Sandy Unit 1 after it was converted to use natural gas in 2016.

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, 2016
Column IV	-	Net Salvage Ratio.
Column V	-	Total to be Recovered (Column III) * (Column IV).
Column VI	-	Calculated Depreciation Requirement.
Column VII	-	Accumulated Depreciation.
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 BIG SANDY UNIT 1 DEPRECIATION RATES BY THE REMAINNG LIFE METHOD
BASED ON PLANT IN SERVICE AT DECEMBER 31, 2016
AVERAGE LIFE GROUP (ALG) METHOD ACCRUAL RATES

									Annual Accrual	
Acct.	Title	Original Cost	Net Salvg. Ratio	Total to be Recovered	Calculated Depreciation Requirement	Accumulated Depreciation	Remaining to Be Recovered	Avg. Remain Life	Amount	Percent
(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)	(X)	(XI)
STEAM PRODUCTION PLANT										
Big Sandy Unit 1										
311.0	Structures & Improvements	11,756,127	1.09	12,814,178	7,526,502	4,805,397	8,008,781	14.10	567,999	4.83%
312.0	Boiler Plant Equipment	75,388,722	1.09	82,173,707	22,552,265	9,774,280	72,399,427	13.43	5,390,873	7.15%
314.0	Turbogenerator Units	61,392,346	1.09	66,917,657	36,338,075	28,424,981	38,492,676	13.86	2,777,249	4.52%
315.0	Accessory Electrical Equip.	3,877,136	1.09	4,226,078	2,964,549	2,578,951	1,647,127	14.03	117,400	3.03%
316.0	Misc. Power Plant Equip.	3,321,344	1.09	3,620,265	2,153,127	1,512,867	2,107,398	14.03	150,207	4.52%
	Total	155,735,675		169,751,885	71,534,518	47,096,476	122,655,409		9,003,728	5.78%
	Total Depreciable Plant	155,735,675	1.09	169,751,885	71,534,518	47,096,476	122,655,409	13.62	9,003,728	5.78%

N/A = Not Applicable

KENTUCKY POWER COMPANY
SCHEDULE II - COMPARE BIG SANDY UNIT 1 DEPRECIATION EXPENSE USING CURRENT AND STUDY RATES
ANNUAL DEPRECIATION RATES AND ACCRUALS BY THE REMAINNG LIFE METHOD
BASED ON PLANT IN SERVICE AT DECEMBER 31, 2016

NO. (1)	TITLE (2)	ORIGINAL COST AT 12/31/2015 (3)	CURRENT APPROVED RATE (4)	ANNUAL ACCRUAL (5)	STUDY RATE (6)	STUDY ACCRUAL (7)	DIFFERENCE (DECREASE) (8)
STEAM PRODUCTION PLANT							
BIG SANDY UNIT 1							
311.0	Structures & Improvements	11,756,127	3.78%	444,382	4.83%	567,999	123,617
312.0	Boiler Plant Equipment	75,388,722	3.78%	2,849,694	7.15%	5,390,873	2,541,179
314.0	Turbogenerator Units	61,392,346	3.78%	2,320,631	4.52%	2,777,249	456,618
315.0	Accessory Electrical Equipment	3,877,136	3.78%	146,556	3.03%	117,400	(29,156)
316.0	Misc. Power Plant Equip.	3,321,344	3.78%	125,547	4.52%	150,207	24,660
	Total	155,735,675	3.78%	5,886,810	5.78%	9,003,728	3,116,918
	Total Depreciable Plant	155,735,675	3.78%	5,886,810	5.78%	9,003,728	3,116,918

Big Sandy Plant Unit 1 & 2

CONCEPTUAL DEMOLITION COST ESTIMATE

Prepared for:
American Electric Power Company

Project No. 11488-066
March 28, 2013
Revision 0

Sargent & Lundy LLC
55 East Monroe Street
Chicago, IL 60603-5780 USA

AMERICAN ELECTRIC POWER

Big Sandy Plant Unit 1 & 2
American Electric Power Company
Conceptual Demolition Cost Estimate
March 28, 2013

Issue Summary Page

Revision Number	Date	Purpose	Prepared By	Reviewed By	Approved By	Pages Affected
A	03/12/13	Comments	R. Kinsinger	J. A. Evanchik D. F. Franczak		All
0	03/28/13	Use	R. Kinsinger	J. A. Evanchik D. F. Franczak	S.R. Bertheau	All

TABLE OF CONTENTS

Section **Page**

Section		Page
1	**INTRODUCTION**	**1**
2	**COST ESTIMATE SUMMARY**	**1**
3	**TECHNICAL BASIS**	**2**
4	**COMMERCIAL BASIS**	**2**
4.1	**General Information**	**2**
4.2	**Quantities/Material Cost**	**3**
4.3	**Construction Labor Wages**	**3**
4.4	**Scrap Value**	**4**
4.5	**Indirect Costs**	**4**
4.6	**Escalation**	**4**
4.7	**Contingency**	**4**
4.8	**Assumptions**	**5**
5	**REFERENCES**	**7**

EXHIBIT	DESCRIPTION
1	Conceptual Demolition Cost Estimate No. 31983B

1.0 INTRODUCTION

The Big Sandy Plant is located near Louisa, Kentucky in Lawrence County. The plant consists of two (2) generating units with a total generating capacity of 1,097 megawatts (Unit 1 = 281MW, Unit 2 = 816 MW). Units 1 & 2 were placed in operation in 1963 and 1969 respectively.

The American Electric Power Company (AEP) recently contracted Sargent & Lundy, LLC. to prepare a conceptual demolition cost estimate using 1st Quarter 2013 pricing levels. The objective of the conceptual demolition cost estimate is to determine the gross demolition costs for Big Sandy 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. 31983B, dated March 28, 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

Account Number	Description
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

Description	Total Cost
Demolition Cost	$38,725,498
Scrap Value	$(20,887,112)
Direct Cost Subtotal	$17,838,386
Indirect Cost	$ 1,783,800
Contingency Cost	$9,209,600
Total Project Cost	$28,831,786

3.0 TECHNICAL BASIS

The scope of dismantlement includes the complete Big Sandy Plant Units 1 & 2 generating facility and plant common services associated with both units. Common facilities include:

- 825 ft Chimney
- Various Buildings
- Coal Rail and Truck Unloading Facilities

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 Big Sandy Plant is a conceptual estimate of the cost to dismantle Big Sandy 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 (1st 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 Kentucky 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 1.05 regional labor productivity multiplier was included based on Compass International Global Construction Yearbook, 2013 Edition, for non-union work in Kentucky.

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).
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 chimney will be subcontracted. The chimney is 825 ft high and is located approximately 580 ft from the Big Sandy River to the South and 480 ft from the main switchyard to the North. Also, the main line for the Chesapeake and Ohio Railroad is approximately 825 ft North and US 29 is approximately 50 ft beyond the railroad. Therefore Careful Demolition (top down demolition process) will be used to dismantle the chimney. The 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 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), and the one (1) chimney thick mat foundation 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
0	12-5030-2	0	Plot Plan
0	12-5030-10	0	Plot Plan
0	12-5030A-2	0	SCR Project Plot Plan
1	1-1200A-18	1	Auxiliary One Line
1	1-5031-2	1	General Cross Section
1	1-5032-2	1	Long Section Thru Turbine Room & Service Building Unit 1
1	1-5033-2	1	Long Section Thru Heater Bay & Service Building & Elev. South Side of Blr
2	2-1395	2	Fire Protection Foam House Electrical Assembly
2	2-1396	2	Fire Protection Sump F.O. Tank, & Truck Unloading Station Electrical Assemblies
2	2-3044-4-1	2	Concrete Stack Circular Steel Platforms
2	2-4101-2	2	Plumbing & Drainage, Roof & Drain System Sheet 1 of 6
2	2-4103-1	2	Plumbing & Drainage, Roof & Drain System Sheet 3 of 6
2	2-4107-2	2	Plumbing & Drainage, Floor Plan Service Building
2	2-4112-4	2	Plumbing & Drainage, Locomotive House & Tractor Shed Building
2	2-4122	2	Plumbing & Drainage, Service Building Annex Plans & Details
2	2-5001-3	2	Composite Cycle Diagram Unit 2
2	2-5050-15	2	Circulating Water Piping Sheet 1 of 3
2	2-5051-10	2	Circulating Water Piping Sheet 2 of 3
2	2-5109-1	2	Metal Cleaning Waste Treatment Facility General Arrangement & Yard Piping
2	2-5110-1	2	Metal Cleaning Waste Treatment Facility Piping Details
2	2-5135-32	2	Yard Piping Unit No 2, Sheet 1 of 3
2	2-536801-3	2	Urea Conversion Area Piping Composite
2	2-536802-0	2	Urea Preparation Area Piping Composite
2	2-536803-2	2	Urea Conversion Area Piping Composite
2	2-536804-2	2	Urea Conversion Area Piping Composite
2	2-538806-0	2	SCR Project Composite Piping Units 1 & 2 Precipitator Area
2	2-538807-1	2	SCR Project Piping Site Key Plan
2	2-538829-0	2	SCR Project Composite Piping Plans El. 116' 3"
2	Figure BS-2-3-15-1	2	Cooling Tower
2	2-MSK-459	2	Study of Revised River Water Makeup for Units 1 & 2
2	100109-9267512-02	2	SCR General Arrangement, Front Sectional View
2	100109-9267513-02	2	SCR General Arrangement, Unit 2 - Rear Sectional Views

Unit	Document Number	Revision	Title
2	100109-9267514-02	2	SCR General Arrangement, Unit 2 - Auxiliary Views
2	100109-9267520-02	2	SCR General Arrangement, SCR 2 - Plan View
2	100109-9267521-02	2	SCR General Arrangement, Unit 2 - Plan View
2	100109-9267530-02	2	SCR General Arrangement, Big Sandy 2, Isometric View
2	Training Document	2	Big Sandy Unit 2 Longitudinal Sections
2	Training Document	2	Big Sandy Unit 2 General Cross Section

0 = Common For Units 1& 2

1 = Unit 1

2 = Unit 2

EXHIBIT 1
Big Sandy Plant Units 1 & 2
Conceptual Demolition Cost Estimate No. 31983B

AMERICAN ELECTRIC POWER
Decommissioning Study Big Sandy
Units 1, 2 and Common Facilities

Project name	Big Sandy
Estimator	RCK
Labor rate table	13NUKY
Project No.	11488-066
Station Name	Big Sandy
Unit	1, 2 and Common
Location	Kentucky
Product Factor	1
Price Level	2013
Issue Date	3/28/2013
Estimate Date	3/28/2013
Reviewed By	JAE
Approved By	MNO
Estimate No.	31983B
Estimate Class	Conceptual
Report format	Sorted by 'Area/Group phase' 'Group phase' summary
Cost index	NUKY

AMERICAN ELECTRIC POWER
Decommissioning Study Big Sandy
Units 1, 2 and Common Facilities

Estimate Totals

Description	Amount	Totals	Hours
LABOR	29,540,432		357,986.217 hrs
MATERIAL	7,535,066		
SUBCONTRACT	1,650,000		
SCRAP RECOVERY	(20,887,112)		
	17,838,386	17,838,386	
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			
		17,838,386	
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	1,783,800		
93-8 EPC FEE			
	1,783,800	19,622,186	
94-3 CONTINGENCY ON MATERIAL	1,130,300		
94-4 CONTINGENCY ON LABOR	4,431,100		
94-5 CONTINGENCY ON SUB.	247,500		
94-6 CONTINGENCY ON SCRAP	3,133,100		
94-7 CONTINGENCY ON INDIRECTS	267,600		
	9,209,600	28,831,786	
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			
		28,831,786	
98 INTEREST DURING CONSTR.			
		28,831,786	
Total		***28,831,786***	

ESTIMATE NO.: 31983B
PROJECT NO.: 11488-066
ISSUE DATE: 3/28/2013
PREP./REV.: RCK/JAE
APPROVED: MNO

AMERICAN ELECTRIC POWER
Decommissioning Study Big Sandy
Units 1, 2 and Common Facilities

AREA	GROUP	PHASE	DESCRIPTION	SCRAP AMOUNT	MATERIAL AMOUNT	LABOR MAN HRS	LABOR AMOUNT	TOTAL AMOUNT
Common								
	10.00.00		WHOLE PLANT DEMOLITION		7,449,896	74,076	8,819,470	17,919,366
	18.00.00		SCRAP VALUE	(2,183,209)				(2,183,209)
			Common	**(2,183,209)**	**7,449,896**	**74,076**	**8,819,470**	**15,736,157**
Unit 1								
	10.00.00		WHOLE PLANT DEMOLITION		27,770	82,596	6,043,293	6,071,063
	18.00.00		SCRAP VALUE	(5,153,373)				(5,153,373)
			Unit 1	**(5,153,373)**	**27,770**	**82,596**	**6,043,293**	**917,690**
Unit 2								
	10.00.00		WHOLE PLANT DEMOLITION		57,400	201,314	14,677,668	14,735,068
	18.00.00		SCRAP VALUE	(13,550,530)				(13,550,530)
			Unit 2	**(13,550,530)**	**57,400**	**201,314**	**14,677,668**	**1,184,539**

AMERICAN ELECTRIC POWER
Decommissioning Study Big Sandy
Units 1, 2 and Common Facilities

Area	Group	Phase	DESCRIPTION	TAKEOFF QUANTITY	SCRAP AMOUNT	MATERIAL AMOUNT	LABOR MAN HRS	LABOR PRICE	LABOR AMOUNT	TOTAL AMOUNT
Common										
	10.00.00		WHOLE PLANT DEMOLITION							
		10.21.00	CIVIL WORK							
			COVERED DISTURBED AREAS OF SITE W/2 FT TOPSOIL	296,500.00 CY	-	7,116,000	15,572	102.05 /MH	1,589,171	8,705,171
			SEED AND MULCH	92.00 AC	-	256,496	2,609	32.86 /MH	85,740	342,236
			PAVED SURFACES	15,400.00 SY	-	0	1,941	102.05 /MH	198,097	198,097
			DEMOLITION - 26450 TRACK FEET of 110# RAILROAD TRACK	26,450.00 TF	-	0	8,335	102.05 /MH	850,595	850,595
			DEMOLITION - PERIMETER FENCE	4,500.00 LF	-	0	189	102.05 /MH	19,295	19,295
			CIVIL WORK			7,372,496	28,647		2,742,899	10,115,395
		10.22.00	CONCRETE							
			BUILDING PAD FOUNDATION 110LB/CY, OUTBUILDINGS & MISC FDNS	2,555.00 CY	-	0	3,019	76.08 /MH	229,708	229,708
			EQUIPMENT FOUNDATION 110 LB/CY, MISC EQUIPMENT	1,300.00 CY	-		1,387	76.08 /MH	105,553	105,553
			INTAKE CLOSURE	800.00 CY	-	73,600	840	76.08 /MH	63,933	137,533
			CONCRETE			73,600	5,247		399,194	472,794
		10.24.00	ARCHITECTURAL							
			BUILDING, WAREHOUSE #4, 100 ' X 35' X 14' TALL	49,000.00 CF	-		309	74.88 /MH	23,125	23,125
			BUILDING, CHEMICAL BLDG. 3900 SF X 14' TALL	54,600.00 CF	-		344	74.88 /MH	25,768	25,768
			BUILDING, WAREHOUSE #5, 100' X50' X14' TALL	70,000.00 CF	-		441	74.88 /MH	33,035	33,035
			BUILDING, CONSTRUCTION OFFICES, 140' X 50' X 14' TALL	98,000.00 CF	-		618	74.88 /MH	46,249	46,249
			BUILDING, CONSTRUCTION LOCKERROOM / WAREHOUSE, 100' X 40' X 14' TALL	56,000.00 CF	-		353	74.88 /MH	26,428	26,428
			BUILDING, ANNEX, 85' X 48' 14' TALL	57,120.00 CF	-		360	74.88 /MH	26,957	26,957
			BUILDING, CAR DUMPER, 40' X68' X 22' TALL	59,840.00 CF	-		377	74.88 /MH	28,240	28,240
			BUILDING, SHOWER BLDG & COAL HANDLING OFFICE, 80' X 74' X 20' TALL	118,400.00 CF	-		746	74.88 /MH	55,877	55,877
			BUILDING, THAW-OUT SHED, 220' X 24' X 14' TALL	73,920.00 CF	-		466	74.88 /MH	34,885	34,885
			BUILDING, THAW-OUT SHED ELECTRICAL, 90' X 20' X 14' TALL	25,200.00 CF	-		159	74.88 /MH	11,893	11,893
			BUILDING, TRACTOR REPAIR BUILDING PART 1 88' X 25' X 14' TALL	30,800.00 CF	-		194	74.88 /MH	14,536	14,536
			BUILDING, TRACTOR REPAIR BUILDING PAR2 1 40' X 24' X 14' TALL	13,440.00 CF	-		85	74.88 /MH	6,343	6,343
			BUILDING, PICNIC SHELTER, 60' X 34' X 10' TALL	20,400.00 CF	-		129	74.88 /MH	9,627	9,627
			BUILDING, WAREHOUSE BOB AREA, 150' X 74' X 14' TALL	155,400.00 CF	-		979	74.88 /MH	73,338	73,338

AMERICAN ELECTRIC POWER
Decommissioning Study Big Sandy
Units 1, 2 and Common Facilities

Area	Group	Phase	DESCRIPTION	TAKEOFF QUANTITY	SCRAP AMOUNT	MATERIAL AMOUNT	LABOR MAN HRS	LABOR PRICE	LABOR AMOUNT	TOTAL AMOUNT
		10.24.00	ARCHITECTURAL							
			BUILDING, OLD GATEHOUSE - TRAIONING BLDG, 35' X 30' X 12' TALL	12,600.00 CF	-		79	74.88 /MH	5,946	5,946
			BUILDING, RIVER SCREEN HOUSEM 50' X 30' X 14' TALL	21,000.00 CF	-		132	74.88 /MH	9,911	9,911
			BUILDING, FOAM HOUSE, 30' X 30' X 12' TALL	10,800.00 CF	-		68	74.88 /MH	5,097	5,097
			BUILDING, WATER TREATING BLDG, 40' X 30' X 14' TALL	16,800.00 CF	-		106	74.88 /MH	7,928	7,928
			BUILDING, GATEHOUSE - NORTH ENTRANCE, 20' X 16' X 14' TALL	4,480.00 CF	-		28	74.88 /MH	2,114	2,114
			BUILDING, FIREHOUSE, 30' X 15' X 12' TALL	5,400.00 CF	-		34	74.88 /MH	2,548	2,548
			BUILDING, UNIDENTIFED BLDG WEST OF FIRE HOUSE, 60' X 24' X 12' TALL	17,280.00 CF	-		109	74.88 /MH	8,155	8,155
			BUILDING, UNIDENTIFED BLDG EAST OF FIRE HOUSE, 60' X 24' X 12' TALL	17,280.00 CF	-		109	74.88 /MH	8,155	8,155
			BUILDING, SHED SW OF UNIT 1 SERVICE BLDG, 40' X 30' X 12' TALL	14,400.00 CF	-		91	74.88 /MH	6,796	6,796
			ARCHITECTURAL				6,316		472,952	472,952
		10.25.00	CONCRETE CHIMNEY & STACK							
			825' TALL CONCRETE CHIMNEY	825.00 VLF	-			76.08 /MH		1,650,000
			CONCRETE CHIMNEY & STACK							1,650,000
		10.31.00	MECHANICAL EQUIPMENT							
			TANKS, FUEL OIL TANK, 3,400,000 GALLONS, BOTTOM ONLY (TOP HAS BEEN REMOVED)	32.40 TN	-		91	65.32 /MH	5,940	5,940
			TANKS, FUEL OIL TANK, 500,000 GALLONS	50.00 TN	-		140	65.32 /MH	9,167	9,167
			TANKS, METAL CLEANING WASTE TANK 1,000,000 GALLONS	83.00 TN	-		233	65.32 /MH	15,217	15,217
			MECHANICAL EQUIPMENT				464		30,324	30,324
		10.33.00	MATERIAL HANDLING EQUIPMENT							
			MATERIAL HANDLING EQUIPMENT - COAL HANDLING SYSTEM	1,015.00 TN	-		2,159	65.32 /MH	141,026	141,026
			MATERIAL HANDLING EQUIPMENT				2,159		141,026	141,026
		10.35.00	PIPING							
			PIPING - CIRC WATER PIPING AND TUNNELS	1.00 LS	-		1,071	76.08 /MH	81,514	81,514
			PIPING - DEMO BOP PIPING AND HANGERS	1.00 LS	-		535	65.32 /MH	34,924	34,924
			PIPING				1,606		116,439	116,439
		10.41.00	ELECTRICAL EQUIPMENT							
			MISCELLANEOUS ELECTRICAL EQUIPMENT	75.00 TN	-		211	65.32 /MH	13,750	13,750
			MISCELLANEOUS ELECTRICAL EQUIPMENT, TRANSFORMERS	50.00 TN	-		140	65.32 /MH	9,167	9,167

AMERICAN ELECTRIC POWER
Decommissioning Study Big Sandy
Units 1, 2 and Common Facilities

Area	Group	Phase	DESCRIPTION	TAKEOFF QUANTITY	SCRAP AMOUNT	MATERIAL AMOUNT	LABOR MAN HRS	LABOR PRICE	LABOR AMOUNT	TOTAL AMOUNT
			ELECTRICAL EQUIPMENT				**351**		**22,917**	**22,917**
		10.42.00	**RACEWAY, CABLE TRAY, & CONDUIT**							
			RACEWAY, CABLE TRAY, & CONDUIT -	225.00 TN	-		479	65.32 /MH	31,262	31,262
			RACEWAY, CABLE TRAY, & CONDUIT				**479**		**31,262**	**31,262**
		10.86.00	**WASTE**							
			WASTE - OIL CONTAMINATED FILL, 3,400,000 GALLON OIL TANK COINTAINMENT	16,225.00 CY	-	0	20,179	168.94 /MH	3,409,039	3,409,039
			WASTE - METAL CLEANING TANK BERMED AREA CONTAMINATED FILL	3,889.00 CY	-	0	4,837	168.94 /MH	817,119	817,119
			WASTE - BUILDING WASTE - COMMON BLDGS	380.00 CY	-	3,800	40	65.32 /MH	2,607	6,407
			WASTE - OIL CONTAMINATED FILL, 500,000 GALLON OIL TANK COINTAINMENT	3,016.00 CY	-	0	3,751	168.94 /MH	633,693	633,693
			WASTE			**3,800**	**28,807**		**4,862,457**	**4,866,257**
			WHOLE PLANT DEMOLITION			**7,449,896**	**74,076**		**8,819,470**	**17,919,366**
	18.00.00		**SCRAP VALUE**							
		18.10.00	**MIXED STEEL**							
			MIXED STEEL REBAR RECOVERY FROM OUTBUILDINGS FOUNDATIONS & MISC FDNS	-164.00 TN	(47,068)	-		65.89 /MH		(47,068)
			MIXED STEEL REBAR RECOVERY FROM 825' CHIMNEY	-448.00 TN	(128,576)	-		65.89 /MH	0	(128,576)
			MIXED STEEL, STEEL LINER FROM 825' CHIMNEY	-278.00 TN	(79,786)	-		65.89 /MH	0	(79,786)
			MIXED STEEL, EQUIPMENT FOUNDATION110 LB/CY, MISC EQUIPMENT, REINFORCING	-72.00 TN	(20,664)	-		65.89 /MH		(20,664)
			MIXED STEEL, MATERIAL HANDLING EQUIPMENT - COAL HANDLING SYSTEM, COMMON	-1,015.00 TN	(291,305)	-		65.89 /MH		(291,305)
			MIXED STEEL, 26450 TF OF RAILROAD TRACK , 110# rRAIL	-970.00 TN	(278,390)	-		65.89 /MH	0	(278,390)
			MIXED STEEL, RACEWAY, CABLE TRAY, & CONDUIT -	-225.00 TN	(64,575)	-		65.89 /MH	0	(64,575)
			MIXED STEEL, MISCELLANEOUS ELECTRICAL EQUIPMENT, TRANSFORMERS	-25.00 TN	(7,175)	-		65.89 /MH		(7,175)
			MIXED STEEL, TANKS, FUEL OIL TANK, 3,400,000 GALLONS, BOTTOM ONLY (TOP HAS BEEN REMOVED)	-32.40 TN	(9,299)	-		65.89 /MH		(9,299)
			MIXED STEEL, TANKS, FUEL OIL TANK, 500,000 GALLONS	-50.00 TN	(14,350)	-		65.89 /MH		(14,350)

AMERICAN ELECTRIC POWER
Decommissioning Study Big Sandy
Units 1, 2 and Common Facilities

Area	Group	Phase	DESCRIPTION	TAKEOFF QUANTITY	SCRAP AMOUNT	MATERIAL AMOUNT	LABOR MAN HRS	LABOR PRICE	LABOR AMOUNT	TOTAL AMOUNT
		18.10.00	MIXED STEEL							
			MIXED STEEL, TANKS, METAL CLEANING WASTE TANK 1,000,000 GALLONS	-83.00 TN	(23,821)	-		65.89 /MH		(23,821)
			MIXED STEEL		(965,009)					(965,009)
		18.30.00	COPPER							
			COPPER SCRAP CABLE & COMMON	-150.00 TN	(913,650)	-		65.89 /MH		(913,650)
			COPPER, MISCELLANEOUS ELECTRICAL EQUIPMENT, TRANSFORMERS	-50.00 TN	(304,550)	-		65.89 /MH		(304,550)
			COPPER		(1,218,200)					(1,218,200)
			SCRAP VALUE		(2,183,209)					(2,183,209)
			Common		**(2,183,209)**	**7,449,896**	**74,076**		**8,819,470**	**15,736,157**
Unit 1										
	10.00.00		WHOLE PLANT DEMOLITION							
		10.22.00	CONCRETE							
			BUILDING PAD FOUNDATION 110 LB/CY, UNIT 1 COOLING TOWER BASIN	3,835.00 CY	-	0	4,532	76.08 /MH	344,787	344,787
			BUILDING PAD FOUNDATION 110LB/CY, OUTBUILDINGS & MISC FDNS	49.00 CY	-		58	76.08 /MH	4,405	4,405
			ELEVATED FOUNDATION 110/CY, UNIT 1 COOLING TOWER SHELL	7,112.00 CY	-	0	4,475	76.08 /MH	340,449	340,449
			ELEVATED FOUNDATION, UNIT 1 TURBINE AND BLR BLDGS	2,000.00 CY	-	0	1,258	76.08 /MH	95,739	95,739
			TURBINE PEDESTAL FOUNDATION 140 LB/CY, UNIT 1	1,911.00 CY	-	0	3,613	76.08 /MH	274,895	274,895
			CONCRETE				13,936		1,060,276	1,060,276
		10.23.00	STEEL							
			DUCTWORK W/BREECHINGS AND STEEL SUPPORTS, UNIT 1	537.00 TN	-	0	1,507	65.89 /MH	99,310	99,310
			STEEL				1,507		99,310	99,310
		10.24.00	ARCHITECTURAL							
			BUILDING, UNIT 1 POWER BLOCK, INCLUDING TURBINE BLDG, BOILER HOUSE PREHTR FAN ENCLOSURE & COAL BUNKERS	4,501,000.00 CF	-	0	47,279	74.88 /MH	3,540,282	3,540,282
			BUILDING, UNIT 1 THAW-OUT SHED, 60' X 22' X 16' TALL	21,120.00 CF	-		133	74.88 /MH	9,967	9,967
			ARCHITECTURAL				47,413		3,550,250	3,550,250
		10.31.00	MECHANICAL EQUIPMENT							
			MAIN BOILER AND APPURTENANCES, UNIT 1	3,218.00 TN	-	0	6,845	71.35 /MH	488,392	488,392
			FD & ID FANS, UNIT 1	214.00 TN	-	0	455	71.35 /MH	32,478	32,478
			FEEDWATER DEARATING EQUIPMENT, UNIT 1	100.00 TN	-	0	213	65.32 /MH	13,894	13,894
			TANKS, UNIT 1 CONDENSATE STORAGE TANK, 300,000 GALLONS	29.00 TN	-		81	65.32 /MH	5,317	5,317

AMERICAN ELECTRIC POWER
Decommissioning Study Big Sandy
Units 1, 2 and Common Facilities

Area	Group	Phase	DESCRIPTION	TAKEOFF QUANTITY	SCRAP AMOUNT	MATERIAL AMOUNT	LABOR MAN HRS	LABOR PRICE	LABOR AMOUNT	TOTAL AMOUNT
		10.31.00	MECHANICAL EQUIPMENT							
			WATER TREATMENT DEMINERALIZATION & CHEMICAL TREATMENT EQUIPMENT, UNIT 1	136.00 TN	-	0	289	65.32 /MH	18,896	18,896
			TURBINE GENERATOR, UNIT 1	750.00 TN	-	0	1,595	65.32 /MH	104,207	104,207
			CONDENSER, UNIT 1	423.00 TN	-	0	900	65.32 /MH	58,773	58,773
			CIRCULATING WATER EQUIPMENT, UNIT 1	69.00 TN	-	0	147	65.32 /MH	9,587	9,587
			COOLING TOWER, UNIT 1 REMOVE FILL	295,000.00 CF	-	0	1,859	65.32 /MH	121,446	121,446
			MECHANICAL EQUIPMENT - UNIT 1 MISC. POWER PLANT EQUIPMENT	155.00 TN	-	0	330	65.32 /MH	21,536	21,536
			MECHANICAL EQUIPMENT - DEMOLISH UNIT 1 TURBINE ROOM OVERHEAD CRANE	1.00 LS	-	0	331	65.32 /MH	21,613	21,613
			MECHANICAL EQUIPMENT - UNIT 1 DUST COLLECTORS	137.00 TN	-	0	291	65.32 /MH	19,035	19,035
			MECHANICAL EQUIPMENT - PRECIPITATORS UNIT 1	200.00 TN	-	0	425	65.32 /MH	27,788	27,788
			MECHANICAL EQUIPMENT				13,762		942,962	942,962
		10.33.00	MATERIAL HANDLING EQUIPMENT							
			MATERIAL HANDLING EQUIPMENT - UNIT 1 ASH HANDLING EQUIPMENT	77.00 TN	-	0	164	65.32 /MH	10,699	10,699
			MATERIAL HANDLING EQUIPMENT - UNIT 1 FUEL EQUIPMENT, CONVEYORS INCL TRUSSES & BENTS	837.00 TN	-	0	1,780	65.32 /MH	116,295	116,295
			MATERIAL HANDLING EQUIPMENT				1,944		126,993	126,993
		10.34.00	HVAC							
			HVAC - UNIT 1	1.00 LS	-		897	65.32 /MH	58,596	58,596
			HVAC				897		58,596	58,596
		10.35.00	PIPING							
			PIPING - UNIT 1 BOILER PLANT AND TURBINE PIPING	799.00 TN	-	0	1,784	65.32 /MH	116,552	116,552
			PIPING				1,784		116,552	116,552
		10.41.00	ELECTRICAL EQUIPMENT							
			GENERATOR BUS TRANSFORMERS UNIT 1 MAIN POWER TRANSFORMER	344.00 TN	-	0	966	65.32 /MH	63,067	63,067
			STATION AUXILIARY TRANSFORMERS, UNIT 1 MAIN AUX TRANSFORMERS	34.00 TN	-	0	95	65.32 /MH	6,233	6,233
			ELECTRICAL EQUIPMENT				1,061		69,301	69,301
		10.86.00	WASTE							
			WASTE - UNIT 1 COOLING TOWER FILL	1,094.00 CY	-	10,940	115	65.32 /MH	7,506	18,446
			WASTE - UNIT 1 BLDG WASTE	1,683.00 CY	-	16,830	177	65.32 /MH	11,548	28,378
			WASTE			27,770	292		19,054	46,824
			WHOLE PLANT DEMOLITION			27,770	82,596		6,043,293	6,071,063
	18.00.00		SCRAP VALUE							
		18.10.00	MIXED STEEL							

AMERICAN ELECTRIC POWER
Decommissioning Study Big Sandy
Units 1, 2 and Common Facilities

Area	Group	Phase	DESCRIPTION	TAKEOFF QUANTITY	SCRAP AMOUNT	MATERIAL AMOUNT	LABOR MAN HRS	LABOR PRICE	LABOR AMOUNT	TOTAL AMOUNT
		18.10.00	MIXED STEEL							
			MIXED STEEL, UNIT 1 POWER BLOCK, INCLUDING TURBINE BLDG, BOILER HOUSE PREHTR FAN ENCLOSURE & COAL BUNKERS & SERVICE BLDG	-2,251.00 TN	(646,037)	-		65.89 /MH		(646,037)
			MIXED STEEL, REBAR RECOVERED, TURBINE PEDESTAL FOUNDATION 140 LB/CY, UNIT 1	-105.00 TN	(30,135)	-		65.89 /MH	0	(30,135)
			MIXED STEEL, UNIT 1 COOLING TOWER REINFORCING RECOVERED	-603.00 TN	(173,061)	-		65.89 /MH	0	(173,061)
			MIXED STEEL, ELEVATED FOUNDATION, UNIT 1 TURBINE AND BLR BLDGS, REINFORCING	-110.00 TN	(31,570)	-		65.89 /MH		(31,570)
			MIXED STEEL, MAIN BOILER AND APPURTENANCES, UNIT 1	-3,218.00 TN	(923,566)	-		65.89 /MH	0	(923,566)
			MIXED STEEL, FD & ID FANS, UNIT 1	-214.00 TN	(61,418)	-		65.89 /MH	0	(61,418)
			MIXED STEEL, DUCTWORK W/BREECHINGS AND STEEL SUPPORTS, UNIT 1	-537.00 TN	(154,119)	-		65.89 /MH	0	(154,119)
			MIXED STEEL, FEEDWATER DEARATING EQUIPMENT, UNIT 1	-100.00 TN	(28,700)	-		65.89 /MH	0	(28,700)
			MIXED STEEL, WATER TREATMENT DEMINERALIZATION & CHEMICAL TREATMENT EQUIPMENT, UNIT 1	-136.00 TN	(39,032)	-		65.89 /MH	0	(39,032)
			MIXED STEEL, UNIT 1 CONDENSER	-287.00 TN	(82,369)	-		65.89 /MH	0	(82,369)
			MIXED STEEL, MATERIAL HANDLING EQUIPMENT - UNIT 1 ASH HANDLING EQUIPMENT	-77.00 TN	(22,099)	-		65.89 /MH	0	(22,099)
			MIXED STEEL, MATERIAL HANDLING EQUIPMENT - UNIT 1 FUEL EQUIPMENT, CONVEYORS INCL TRUSSES & BENTS	-837.00 TN	(240,219)	-		65.89 /MH	0	(240,219)
			MIXED STEEL, TURBINE GENERATOR, UNIT 1	-750.00 TN	(215,250)	-		65.89 /MH	0	(215,250)
			MIXED STEEL, CIRCULATING WATER EQUIPMENT, UNIT 1	-69.00 TN	(19,803)	-		65.89 /MH	0	(19,803)
			MIXED STEEL, MECHANICAL EQUIPMENT - UNIT 1 MISC. POWER PLANT EQUIPMENT	-155.00 TN	(44,485)	-		65.89 /MH	0	(44,485)
			MIXED STEEL, MECHANICAL EQUIPMENT - UNIT 1 DUST COLLECTORS	-137.00 TN	(39,319)	-		65.89 /MH	0	(39,319)
			MIXED STEEL, PIPING - UNIT 1 BOILER PLANT AND TURBINE PIPING	-799.00 TN	(229,313)	-		65.89 /MH		(229,313)
			MIXED STEEL, MECHANICAL EQUIPMENT - PRECIPITATORS UNIT 1	-200.00 TN	(57,400)	-		65.89 /MH	0	(57,400)
			MIXED STEEL, GENERATOR BUS TRANSFORMERS UNIT 1 MAIN POWER TRANSFORMER	-193.50 TN	(55,535)	-		65.89 /MH	0	(55,535)

Area	Group	Phase	DESCRIPTION	TAKEOFF QUANTITY	SCRAP AMOUNT	MATERIAL AMOUNT	LABOR MAN HRS	LABOR PRICE	LABOR AMOUNT	TOTAL AMOUNT
		18.10.00	MIXED STEEL							
			MIXED STEEL, STATION AUXILIARY TRANSFORMERS, UNIT 1 MAIN AUX TRANSFORMERS	-19.70 TN	(5,654)	-		65.89 /MH	0	(5,654)
			MIXED STEEL, TANKS, UNIT 1 CONDENSATE STORAGE TANK, 300,000 GALLONS	-29.00 TN	(8,323)	-		65.89 /MH		(8,323)
			MIXED STEEL		(3,107,406)					(3,107,406)
		18.30.00	COPPER							
			COPPER, UNIT 1 CONDENSER TUBES COPPER / NI	-135.40 TN	(824,721)	-		65.89 /MH		(824,721)
			COPPER, GENERATOR BUS TRANSFORMERS UNIT 1 MAIN POWER TRANSFORMER	-147.50 TN	(898,423)	-		65.89 /MH		(898,423)
			COPPER, STATION AUXILIARY TRANSFORMERS, UNIT 1 MAIN AUX TRANSFORMERS	-53.00 TN	(322,823)	-		65.89 /MH		(322,823)
			COPPER		(2,045,967)					(2,045,967)
			SCRAP VALUE		(5,153,373)					(5,153,373)
			Unit 1		**(5,153,373)**	**27,770**	**82,596**		**6,043,293**	**917,690**
Unit 2										
	10.00.00		WHOLE PLANT DEMOLITION							
		10.22.00	CONCRETE							
			BUILDING PAD FOUNDATION 110 LB/CY, UNIT 2 COOLING TOWER BASIN	9,583.00 CY	-		11,324	76.08 /MH	861,564	861,564
			BUILDING PAD FOUNDATION 110LB/CY, OUTBUILDINGS & MISC FDNS	363.00 CY	-		429	76.08 /MH	32,636	32,636
			ELEVATED FOUNDATION 110/CY, UNIT 2 COOLING TOWER SHELL	13,122.00 CY	-		8,256	76.08 /MH	628,146	628,146
			ELEVATED FOUNDATION , UNIT 2 TURBINE AND BLR BLDGS	2,035.00 CY	-		1,280	76.08 /MH	97,415	97,415
			TURBINE PEDESTAL FOUNDATION 140 LB/CY, UNIT 2	7,778.00 CY	-		14,706	76.08 /MH	1,118,856	1,118,856
			CONCRETE				35,997		2,738,616	2,738,616
		10.23.00	STEEL							
			DUCTWORK W/BREECHINGS AND STEEL SUPPORTS, UNIT 2	1,022.00 TN	-		2,868	65.89 /MH	189,004	189,004
			STEEL				2,868		189,004	189,004
		10.24.00	ARCHITECTURAL							
			BUILDING, UNIT 2 POWER BLOCK, INCLUDING TURBINE BLDG, BOILER HOUSE PREHTR FAN ENCLOSURE & COAL BUNKERS	8,863,000.00 CF	-	0	93,099	74.88 /MH	6,971,234	6,971,234
			BUILDING, UNIT 2, UREA SYSTEM BLDG, 60' 45' X 40' TALL	108,000.00 CF	-		681	74.88 /MH	50,969	50,969

AMERICAN ELECTRIC POWER
Decommissioning Study Big Sandy
Units 1, 2 and Common Facilities

Area	Group	Phase	DESCRIPTION	TAKEOFF QUANTITY	SCRAP AMOUNT	MATERIAL AMOUNT	LABOR MAN HRS	LABOR PRICE	LABOR AMOUNT	TOTAL AMOUNT
		10.24.00	ARCHITECTURAL							
			BUILDING, UNIT 2 UREA SYSTEM AMMONIOA ON DEMAND (AOD) BLDG, 60' X 40' X14' TALL	33,600.00 CF	-		212	74.88 /MH	15,857	15,857
			BUILDING, UNIT 2 SCR BLDG, 70' 67' X 20' TALL	93,800.00 CF	-		591	74.88 /MH	44,267	44,267
			ARCHITECTURAL				94,582		7,082,327	7,082,327
		10.31.00	MECHANICAL EQUIPMENT							
			MAIN BOILER AND APPURTENANCES, UNIT 2	12,160.00 TN	-		25,866	71.35 /MH	1,845,507	1,845,507
			FD & ID FANS, UNIT 2	6,135.00 TN	-		13,050	71.35 /MH	931,101	931,101
			FEEDWATER DEARATING EQUIPMENT, UNIT 2	215.00 TN	-		457	65.32 /MH	29,873	29,873
			TANKS, UNIT 2 CLEAN CONDENSATE TANK, 750,000 GALLONS	77.00 TN	-		216	65.32 /MH	14,117	14,117
			TANKS, UNIT 2 CONTAMINATED CONDENSATE TANK, 500,000 GALLONS	50.00 TN	-		140	65.32 /MH	9,167	9,167
			TANKS, UNIT 2 UREA SOLUTION STORAGE TANK, 200,000 GALLONS TK103-100	25.00 TN	-		70	65.32 /MH	4,583	4,583
			TANKS, UNIT 2 UREA SOLUTION STORAGE TANK, 200,000 GALLONS TK104-100	25.00 TN	-		70	65.32 /MH	4,583	4,583
			WATER TREATMENT DEMINERALIZATION & CHEMICAL TREATMENT EQUIPMENT, UNIT 2	269.00 TN	-		572	65.32 /MH	37,375	37,375
			TURBINE GENERATOR, UNIT 2	2,045.00 TN	-		4,350	65.32 /MH	284,137	284,137
			CONDENSER, UNIT 2	1,165.00 TN	-		2,478	65.32 /MH	161,868	161,868
			CIRCULATING WATER EQUIPMENT, UNIT 2	484.00 TN	-		1,030	65.32 /MH	67,248	67,248
			COOLING TOWER, UNIT 2 REMOVE FILL	664,000.00 CF	-		4,185	65.32 /MH	273,356	273,356
			MECHANICAL EQUIPMENT - UNIT 2 MISC. POWER PLANT EQUIPMENT	613.00 TN	-		1,304	65.32 /MH	85,172	85,172
			MECHANICAL EQUIPMENT - DEMOLISH UNIT 2 TURBINE ROOM OVERHEAD CRANE	1.00 LS	-		331	65.32 /MH	21,613	21,613
			MECHANICAL EQUIPMENT - UNIT 2 DUST COLLECTORS	269.00 TN	-		572	65.32 /MH	37,375	37,375
			MECHANICAL EQUIPMENT - PRECIPITATORS UNIT 2	600.00 TN	-		1,276	65.32 /MH	83,365	83,365
			MECHANICAL EQUIPMENT - SCR UNIT 2	664.00 TN	-		1,412	65.32 /MH	92,258	92,258
			MECHANICAL EQUIPMENT				57,380		3,982,698	3,982,698
		10.33.00	MATERIAL HANDLING EQUIPMENT							
			MATERIAL HANDLING EQUIPMENT - UNIT 2 ASH HANDLING EQUIPMENT	377.00 TN	-		802	65.32 /MH	52,381	52,381
			MATERIAL HANDLING EQUIPMENT - UNIT 2 FUEL EQUIPMENT, CONVEYORS INCL TRUSSES & BENTS	32.00 TN	-		68	65.32 /MH	4,446	4,446

AMERICAN ELECTRIC POWER
Decommissioning Study Big Sandy
Units 1, 2 and Common Facilities

Area	Group	Phase	DESCRIPTION	TAKEOFF QUANTITY	SCRAP AMOUNT	MATERIAL AMOUNT	LABOR MAN HRS	LABOR PRICE	LABOR AMOUNT	TOTAL AMOUNT
			MATERIAL HANDLING EQUIPMENT				**870**		**56,827**	**56,827**
		10.34.00	**HVAC**							
			HVAC - UNIT 2	1.00 LS	-		1,780	65.32 /MH	116,300	116,300
			HVAC				**1,780**		**116,300**	**116,300**
		10.35.00	**PIPING**							
			PIPING - UNIT 2 BOILER PLANT AND TURBINE PIPING	2,690.00 TN	-		6,007	65.32 /MH	392,396	392,396
			PIPING				**6,007**		**392,396**	**392,396**
		10.41.00	**ELECTRICAL EQUIPMENT**							
			GENERATOR BUS TRANSFORMERS UNIT 2 MAIN POWER TRANSFORMER	328.00 TN	-		921	65.32 /MH	60,134	60,134
			STATION AUXILIARY TRANSFORMERS, UNIT 2 MAIN AUX TRANSFORMERS	109.00 TN	-		306	65.32 /MH	19,984	19,984
			ELECTRICAL EQUIPMENT				**1,227**		**80,117**	**80,117**
		10.86.00	**WASTE**							
			WASTE - UNIT 2 COOLING TOWER FILL	2,460.00 CY	-	24,600	258	65.32 /MH	16,879	41,479
			WASTE - UNIT 2 BLDG WASTE	3,280.00 CY	-	32,800	345	65.32 /MH	22,505	55,305
			WASTE			**57,400**	**603**		**39,384**	**96,784**
			WHOLE PLANT DEMOLITION			**57,400**	**201,314**		**14,677,668**	**14,735,068**
	18.00.00		**SCRAP VALUE**							
		18.10.00	**MIXED STEEL**							
			MIXED STEEL, UNIT 2 POWER BLOCK, INCLUDING TURBINE BLDG, BOILER HOUSE PREHTR FAN ENCLOSURE & COAL BUNKERS & SERVICE BLDG	-4,431.50 TN	(1,271,841)	-		65.89 /MH		(1,271,841)
			MIXED STEEL, REBAR RECOVERED, TURBINE PEDESTAL FOUNDATION 140 LB/CY, UNIT 2	-467.00 TN	(134,029)	-		65.89 /MH		(134,029)
			MIXED STEEL, UNIT 2 COOLING TOWER REINFORCING RECOVERED	-1,249.00 TN	(358,463)	-		65.89 /MH		(358,463)
			MIXED STEEL, ELEVATED FOUNDATION , UNIT 2 TURBINE AND BLR BLDGS, REINFORCING	-112.00 TN	(32,144)	-		65.89 /MH		(32,144)
			MIXED STEEL, MAIN BOILER AND APPURTENANCES, UNIT 2	-12,160.00 TN	(3,489,920)	-		65.89 /MH		(3,489,920)
			MIXED STEEL, FD & ID FANS, UNIT 2	-6,135.00 TN	(1,760,745)	-		65.89 /MH		(1,760,745)
			MIXED STEEL, DUCTWORK W/BREECHINGS AND STEEL SUPPORTS, UNIT 2	-1,022.00 TN	(293,314)	-		65.89 /MH		(293,314)
			MIXED STEEL, FEEDWATER DEARATING EQUIPMENT, UNIT 2	-215.00 TN	(61,705)	-		65.89 /MH		(61,705)
			MIXED STEEL, WATER TREATMENT DEMINERALIZATION & CHEMICAL TREATMENT EQUIPMENT, UNIT 2	-269.00 TN	(77,203)	-		65.89 /MH		(77,203)
			MIXED STEEL, UNIT 2 CONDENSER	-792.00 TN	(227,304)	-		65.89 /MH		(227,304)

AMERICAN ELECTRIC POWER
Decommissioning Study Big Sandy
Units 1, 2 and Common Facilities

Area	Group	Phase	DESCRIPTION	TAKEOFF QUANTITY	SCRAP AMOUNT	MATERIAL AMOUNT	LABOR MAN HRS	LABOR PRICE	LABOR AMOUNT	TOTAL AMOUNT
		18.10.00	MIXED STEEL							
			MIXED STEEL, MATERIAL HANDLING EQUIPMENT - UNIT 2 ASH HANDLING EQUIPMENT	-377.00 TN	(108,199)	-		65.89 /MH		(108,199)
			MIXED STEEL, MATERIAL HANDLING EQUIPMENT - UNIT 2 FUEL EQUIPMENT, CONVEYORS INCL TRUSSES & BENTS	-35.00 TN	(10,045)	-		65.89 /MH		(10,045)
			MIXED STEEL, TURBINE GENERATOR, UNIT 2	-2,045.00 TN	(586,915)	-		65.89 /MH		(586,915)
			MIXED STEEL, CIRCULATING WATER EQUIPMENT, UNIT 2	-484.00 TN	(138,908)	-		65.89 /MH		(138,908)
			MIXED STEEL, MECHANICAL EQUIPMENT - UNIT 2 MISC. POWER PLANT EQUIPMENT	-613.00 TN	(175,931)	-		65.89 /MH		(175,931)
			MIXED STEEL, MECHANICAL EQUIPMENT - UNIT 2 DUST COLLECTORS	-269.00 TN	(77,203)	-		65.89 /MH		(77,203)
			MIXED STEEL, PIPING - UNIT 2 BOILER PLANT AND TURBINE PIPING	-2,690.00 TN	(772,030)	-		65.89 /MH		(772,030)
			MIXED STEEL, MECHANICAL EQUIPMENT - PRECIPITATORS UNIT 2	-600.00 TN	(172,200)	-		65.89 /MH		(172,200)
			MIXED STEEL, GENERATOR BUS TRANSFORMERS UNIT 2 MAIN POWER TRANSFORMERS	-180.50 TN	(51,804)	-		65.89 /MH		(51,804)
			MIXED STEEL, STATION AUXILIARY TRANSFORMERS, UNIT 2 MAIN AUX TRANSFORMERS	-56.00 TN	(16,072)	-		65.89 /MH		(16,072)
			MIXED STEEL, MECHANICAL EQUIPMENT - SCR UNIT 2	-664.00 TN	(190,568)	-		65.89 /MH		(190,568)
			MIXED STEEL, TANKS, UNIT 2 CLEAN CONDENSATE TANK, 750,000 GALLONS	-77.00 TN	(22,099)	-		65.89 /MH		(22,099)
			MIXED STEEL, TANKS, UNIT 2 CONTAMINATED CONDENSATE TANK, 500,000 GALLONS	-50.00 TN	(14,350)	-		65.89 /MH		(14,350)
			MIXED STEEL, TANKS, UNIT 2 UREA SOLUTION STORAGE TANK, 200,000 GALLONS TK103-100	-25.00 TN	(7,175)	-		65.89 /MH		(7,175)
			MIXED STEEL, TANKS, UNIT 2 UREA SOLUTION STORAGE TANK, 200,000 GALLONS TK104-100	-25.00 TN	(7,175)	-		65.89 /MH		(7,175)
			MIXED STEEL		(10,057,341)					(10,057,341)
		18.30.00	COPPER							
			COPPER, UNIT 2 CONDENSER TUBES COPPER / NI	-373.00 TN	(2,271,943)	-		65.89 /MH		(2,271,943)
			COPPER, GENERATOR BUS TRANSFORMERS UNIT 2 MAIN POWER TRANSFORMER	-147.50 TN	(898,423)	-		65.89 /MH		(898,423)

Area	Group	Phase	DESCRIPTION	TAKEOFF QUANTITY	SCRAP AMOUNT	MATERIAL AMOUNT	LABOR MAN HRS	LABOR PRICE	LABOR AMOUNT	TOTAL AMOUNT
		18.30.00	**COPPER**							
			COPPER, STATION AUXILIARY TRANSFORMERS, UNIT 2 MAIN AUX TRANSFORMERS	-53.00 TN	(322,823)	-		65.89 /MH		(322,823)
			COPPER		**(3,493,189)**					**(3,493,189)**
			SCRAP VALUE		**(13,550,530)**					**(13,550,530)**
			Unit 2		**(13,550,530)**	**57,400**	**201,314**		**14,677,668**	**1,184,539**