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

ELLIOTT, HALL, MCKENZIE
ON BEHALF OF KENTUCKY POWER COMPANY

SECTION III

VOLUME 2 OF 4

June 28, 2017
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

AMY J. ELLIOTT

ON BEHALF OF KENTUCKY POWER COMPANY
VERIFICATION

The undersigned, Amy J. Elliott, being duly sworn, deposes and says she is a Regulatory Consultant Principal for Kentucky Power Company, that she has personal knowledge of the matters set forth in the foregoing testimony and that the information contained therein is true and correct to the best of her information, knowledge, and belief.

Amy J. Elliott

COMMONWEALTH OF KENTUCKY
COUNTY OF FRANKLIN

Case No. 2017-00179

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Amy J. Elliott, this 23rd day of June 2017.

Judy R. Bousquet
Notary Public

Notary ID Number: 571144
My Commission Expires: January 23, 2021
DIRECT TESTIMONY OF
AMY J. ELLIOTT, ON BEHALF OF KENTUCKY POWER COMPANY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

CASE NO. 2017-00179

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

I. INTRODUCTION

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

A. My name is Amy J. Elliott, and I am a Regulatory Consultant for Kentucky Power Company ("Kentucky Power" or the "Company"). My business address is 101 A Enterprise Drive, Frankfort, Kentucky 40601.

II. BACKGROUND

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. In 2000, I received a Bachelor of Arts degree in Economics from Transylvania University in Lexington, Kentucky. I worked for the Tennessee Department of Commerce and Insurance as an Insurance Examiner from 2002 through late 2005 before moving back to Kentucky and consulting with insurance companies in connection with field audits. I accepted my present position with Kentucky Power in 2008. In 2012, I received a Master of Business Administration degree from the University of Massachusetts at Amherst.

Q. WHAT ARE YOUR PRINCIPAL AREAS OF RESPONSIBILITY WITH KENTUCKY POWER?

A. My primary responsibility is to support the Company’s regulatory activities. As part of this responsibility, I manage the Company’s environmental surcharge and
prepare the environmental surcharge calculation forms utilized by the Company to implement the surcharge. Additionally, I manage the Company’s periodic regulatory filings made with the Kentucky Public Service Commission (“Commission”).

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY REGULATORY COMMISSIONS?


III. PURPOSE OF YOUR TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony in this proceeding is to support the Company’s application for approval of its Fifth Amended Environmental Compliance Plan (“2017 Plan”). In particular, my testimony covers the following topics:

* Changes to the Company’s existing Environmental Compliance Plan included in the proposed Fifth Amendment;

* The calculation of the Company’s monthly environmental base revenue requirement;

* The gross revenue conversion factor (“GRCF”) utilized for environmental expenses;
The weighted average cost of capital ("WACC") used to calculate the environmental project revenue requirement;

Changes to the Company’s Tariff E.S.; and

Continued recovery of costs associated with the Mitchell flue gas desulfurization system ("FGD") through the environmental surcharge.

I am also supporting the following adjustments to test year revenues and operating expenses:

- An adjustment to remove the capital cost of the Mitchell FGD and FGD-associated consumable inventories from rate base;
- An adjustment to remove Mitchell FGD expenses from test year expenses;
- An adjustment to remove Mitchell FGD revenues and to synchronize other environmental surcharge revenues and expenses during the test year;
- An adjustment to remove revenues received under the Company’s Capacity Charge Tariff from test year revenues; and
- An adjustment to annualize property taxes.

Q. PLEASE IDENTIFY THE OTHER WITNESSES WHOSE TESTIMONY SUPPORTS KENTUCKY POWER’S ENVIRONMENTAL COMPLIANCE PLAN.

A.

<table>
<thead>
<tr>
<th>WITNESS</th>
<th>TITLE</th>
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<tr>
<td>Adrien M. McKenzie</td>
<td>President, FinCap, Inc.</td>
<td>Cost of equity</td>
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<tr>
<td>Jeffrey B. Bartsch</td>
<td>Director, Tax Accounting &amp; Regulatory Support</td>
<td>Tax consequences</td>
</tr>
<tr>
<td>Debra L. Osborne</td>
<td>Vice President Generating Assets for Appalachian and Kentucky Power Companies</td>
<td>Project descriptions, cost estimates, and cost-effectiveness of Rockport Unit 1 SCR</td>
</tr>
<tr>
<td>John M. McManus</td>
<td>Vice President, Environmental Services</td>
<td>Environmental laws and regulations</td>
</tr>
</tbody>
</table>
1. Q. HAVE YOU PREPARED ANY EXHIBITS TO YOUR TESTIMONY?

2. A. Yes. I have prepared the following exhibits:

3. • Exhibit AJE-1 – 2017 Environmental Compliance Plan

4. • Exhibit AJE-2 – Environmental Surcharge Tariff (Tariff E.S.) showing changes from the current tariff

5. • Exhibit AJE-3 – Revised Monthly ES (Environmental Surcharge) Calculation Forms

6. • Exhibit AJE-4 – Total Base Revenue Requirement Summary

7. • Exhibit AJE-5 – Estimated revenue requirement associated with the installation of selective catalytic reduction (“SCR”) technology at Rockport Unit 1

IV. KENTUCKY POWER’S 2017 ENVIRONMENTAL COMPLIANCE PLAN

12. Q. PLEASE EXPLAIN WHY THE COMPANY IS UPDATING ITS ENVIRONMENTAL COMPLIANCE PLAN.

13. A. Kentucky Power is updating its Environmental Compliance Plan to add two new projects. First, the Company is adding Project 19 which is the SCR for Rockport Unit 1. Updating the plan allows Kentucky Power to recover costs associated with the Rockport Unit 1 SCR through the Company’s Environmental Surcharge Tariff (“Tariff E.S.”) The Company is also adding Project 20 to clarify the inclusion of consumables necessary to operate all approved projects in the Environmental Compliance Plan and to add the return on the consumable inventory to the environmental surcharge calculation.
Q. HAS THE COMPANY REVISED ITS ENVIRONMENTAL SURCHARGE TARIFF TO REFLECT THE CHANGES PROPOSED IN THE 2017 PLAN?
A. Yes. A copy of the Company’s proposed Tariff E.S., with markups to show changes from the current Tariff E.S., is included as Exhibit AJE-2. The proposed changes to Tariff E.S. are described in more detail later in my testimony.

Q. HAS THE COMPANY ALSO REVISED ITS ENVIRONMENTAL SURCHARGE CALCULATION FORMS USED FOR ITS MONTHLY FILING?
A. Yes. The proposed revised calculation forms are included as Exhibit AJE-3.

Q. PLEASE EXPLAIN GENERALLY HOW KENTUCKY POWER RECOVERS ITS ENVIRONMENTAL COSTS.
A. Kentucky Power recovers the costs of the authorized environmental projects included in its Environmental Compliance Plan through a combination of base rates and the environmental surcharge. The authorized projects included in the Company’s Environmental Compliance Plan are those projects necessary for the Company to comply with the Federal Clean Air act and federal, state, and local requirements applicable to coal combustion wastes and by-products from coal-fired generation facilities (“Environmental Requirements”). Tariff E.S. identifies for each month the amount of environmental costs included in base rates. The process for identifying the monthly environmental base rate amount is described below and reflected in Exhibit AJE-4. Pursuant to the Commission-approved Stipulation and Settlement Agreement in Case No. 2012-00578, costs associated with the

A copy of the proposed 2017 Plan is included as Exhibit AJE-1.
Mitchell FGD are excluded from the monthly environmental base rate amounts and instead included in their entirety through Tariff E.S.

Each month, the Company calculates the total costs associated with the approved environmental projects in the Environmental Compliance Plan. The monthly total cost currently includes expenses and credits related to the operation of approved projects, a return on the environmental compliance rate base, emission allowance expenses, a return on the Company’s emission allowance inventory, costs associated with the consumption of consumables, depreciation, and property taxes for both the Rockport Plant and the Mitchell Plant. The Company then compares the total monthly environmental costs to the amount of environmental costs included in its base rates. If the total monthly environmental costs exceed the monthly base rate amount, customers are charged the difference through the environmental surcharge. If the total monthly environmental costs are less than the monthly base rate amount, customers are credited the difference through the environmental surcharge.

**Environmental Projects**

Q. **IS KENTUCKY POWER REQUESTING APPROVAL TO INCLUDE NEW ENVIRONMENTAL PROJECTS FOR ROCKPORT IN THE 2017 PLAN?**

A. Yes. The Company is proposing to update the current Environmental Compliance Plan to add the SCR for Rockport Unit 1. The SCR for Rockport Unit 1 is Project 19 in the Company’s Environmental Compliance Plan.

Q. **BRIEFLY DESCRIBE THE SCR FOR ROCKPORT UNIT 1.**
Rockport Unit 1 is a 1,310 MW coal-fired generating unit located near Rockport, Indiana. The Rockport Unit 1 SCR project will reduce the plant’s nitrogen oxide (NO\textsubscript{X}) emissions and is required by a 2007 Consent Decree among several AEP entities, including Kentucky Power and Indiana Michigan Power Company (the partial owner of the Rockport Plant), the United States EPA, and several environmental plaintiffs (together with subsequent modifications the “Consent Decree”). More detail concerning the SCR and why its installation is required to comply with the Consent Decree and the Clean Air Act are provided in the testimonies of Company Witnesses McManus and Osborne.

Q. DOES KENTUCKY POWER OWN ROCKPORT UNIT 1?
A. No. Kentucky Power is a party to a FERC-approved unit power agreement (“UPA”) with AEP Generating Company. Under the UPA, Kentucky Power receives 30% of AEP Generating Company’s 50% share of the generation output from Rockport Unit 1 and is responsible for 30% of AEP Generating Company’s Rockport Unit 1 costs. Kentucky Power’s share equates to 15% of the Rockport Unit 1 costs.

Q. IS THE SCR TECHNOLOGY AT ROCKPORT UNIT 1 IN SERVICE?
A. No. Construction on the SCR for Unit 1 is nearing completion and must be in service no later than December 31, 2017 to comply with the Consent Decree. Company Witness Osborne provides additional detail on the installation status of the project as well as the cost-effectiveness of the project.

Q. IS KENTUCKY POWER ADDING ANY OTHER PROJECTS TO ITS ENVIRONMENTAL COMPLIANCE PLAN?
A. Yes. The Company is adding Project 20 to separately identify within the Environmental Compliance Plan the cost of consumables used in conjunction with approved projects. These costs include the costs of consumables used in the operation of the approved projects as well as the return on the consumable inventory. The consumables used in the operation of the approved projects include, but are not limited to, sodium bicarbonate, activated carbon, anhydrous ammonia, trona, lime hydrate, limestone, polymer, and urea.

Q. HAS KENTUCKY POWER PREVIOUSLY RECOVERED THE COSTS OF CONSUMABLES USED IN THE OPERATION OF ENVIRONMENTAL COMPLIANCE PLAN PROJECTS THROUGH THE ENVIRONMENTAL SURCHARGE?

A. Yes. The Company currently includes the cost of consumables used in operating environmental compliance plan projects through the environmental surcharge. The addition of Project 20 simply clarifies that consumables used in the projects are recoverable through Tariff E.S.

Q. DOES PROJECT 20 CHANGE HOW THE COMPANY RECOVERS A RETURN ON THE INVENTORY OF CONSUMABLES USED TO OPERATE THE PROJECTS IN ITS ENVIRONMENTAL COMPLIANCE PLAN?

A. Yes. While the Company recovers through the environmental surcharge the expenses related to the consumption of consumables required to operate approved environmental projects, the return on the inventory of those consumables is currently part of the Company’s general rate base. Accordingly, Kentucky Power
currently recovers its allowed return on the consumable inventory through general
rates.

To move the return on consumable inventory from base rates to the
environmental surcharge, Project 20 will include the inventory of consumables
used to operate approved environmental projects in the Company’s environmental
compliance rate base. The Company will then recover or credit through the
environmental surcharge, as it does with all other costs associated with approved
environmental projects, any monthly variation in the return on its consumables
inventory between the actual return and the return included in monthly
environmental compliance rate base.

Q. WHY IS THE COMPANY PROPOSING THIS CHANGE?

A. Consumables are required to operate the environmental projects included in the
   Company’s Environmental Compliance Plan. Including both the costs incurred in
   the using consumables and a return on the consumables inventory in the Plan aligns
   the costs of operating its environmental projects with the costs recovered through
   the environmental surcharge.

Q. IS THE COMPANY’S PROPOSED TREATMENT OF ENVIRONMENTAL
   PROJECT CONSUMABLES INVENTORY CONSISTENT WITH ITS
   TREATMENT OF EMISSION ALLOWANCE INVENTORY?

A. Yes. The Company recovers a return on its emissions allowance inventory through
   the environmental surcharge.
V. **CALCULATION OF MONTHLY ENVIRONMENTAL BASE REVENUE REQUIREMENT**

Q. **PLEASE EXPLAIN HOW THE MONTHLY ENVIRONMENTAL COMPLIANCE BASE REVENUE REQUIREMENT WAS CALCULATED.**

A. The monthly environmental compliance base revenue requirement was calculated in a step-wise fashion. First, the Company identified Kentucky Power’s share of the costs associated with Mitchell Non-FGD environmental projects in each month. Second, the Company added Kentucky Power’s share of the monthly costs associated with the approved Rockport environmental project. Third, the Company added the monthly return on its share of the Non-FGD consumables inventory at Mitchell and Rockport. Finally, the Company included gains on allowances in each month. The derivation of the monthly environmental compliance base revenue requirement can be found at **EXHIBIT AJE-4.**

Q. **DID THE COMPANY INCLUDE THE RETURN ON NON-FGD CONSUMABLE INVENTORIES IN ITS ENVIRONMENTAL COMPLIANCE BASE REVENUE REQUIREMENT CALCULATION?**

A. Yes. Because the Company is requesting that the return on consumable inventories be recovered through the environmental surcharge, the Company included the return on consumable inventories during the test year in its environmental compliance base revenue requirement calculation.

Q. **WERE THE COSTS FOR ALL OF THE COMPANY’S ENVIRONMENTAL COMPLIANCE PLAN PROJECTS INCLUDED IN THE CALCULATION OF THE MONTHLY ENVIRONMENTAL COMPLIANCE BASE REVENUE REQUIREMENT CALCULATION?**
A. No. The SCR at Rockport Unit 1 was not in service during the test year ended February 28, 2017. To properly identify the base level of environmental project costs, only the costs associated with projects that were in-service during the test year were included in the base revenue requirement calculation. The current revenue requirement, as calculated in each month’s environmental surcharge filing, will include the actual costs associated with in-service and approved environmental projects. An estimate of the revenue requirement associated with the SCR for Rockport Unit 1 is included in Exhibit AJE-5. Additionally, the costs associated with the Mitchell FGD were not included in the calculation of the environmental compliance revenue requirement. The bases for excluding the Mitchell FGD costs from the environmental compliance revenue requirement are described below.

VI. COSTS ASSOCIATED WITH THE MITCHELL FGD

Q. WHY WERE THE MITCHELL FGD COSTS NOT INCLUDED IN THE BASE ENVIRONMENTAL COSTS?

A. Paragraph 6 of the Commission-approved Stipulation and Settlement Agreement in Case No. 2012-00578 requires that all costs associated with the Mitchell FGD system be recovered through the environmental surcharge and excluded from base rates. Pursuant to the Stipulation and Settlement Agreement, this recovery mechanism is to remain in place at least until the Commission sets new base rates that include Mitchell FGD costs for a period commencing after June 30, 2020.

Q. DID YOU PREPARE ANY RATE CASE ADJUSTMENTS TO REMOVE KENTUCKY POWER’S SHARE OF THE COSTS ASSOCIATED WITH THE MITCHELL FGD FROM THE TEST YEAR DATA AND THE
PROPOSED ENVIRONMENTAL COMPLIANCE RATE BASE AMOUNTS?

A. Yes. Please refer to Adjustments W03 and W04 within Section V, Exhibit 2. I prepared Adjustment W03 to remove costs associated with the Mitchell FGD operating and maintenance expenses. Because Paragraph 6 of the Stipulation and Settlement Agreement requires that the Company recover all costs associated with the Mitchell FGD via the environmental surcharge, the Mitchell FGD operating expense adjustment also includes the costs associated with gypsum disposal, limestone, lime hydrate, and polymer in addition to the depreciation, maintenance, and property tax expenses. After allocating the FGD expenses to retail customers as prescribed in Order Dated March 31, 2003 in Case No. 2002-00169, this adjustment reduces test year operating expenses by a total of $13,308,197.

Additionally, I prepared Adjustment W04 to remove the rate base amount of the Mitchell FGD. The rate base deduction was calculated by determining the accumulated depreciation, provided by Company Witness Cash, and accumulated deferred income tax amounts, provided by Company Witness Bartsch from the electric plant in service amount for the FGD. This adjustment also removes the consumable inventory of the limestone that is used in conjunction with the FGD. The production demand allocation factor was then applied to the rate base amount and the production demand energy allocation factor was applied to the consumable inventory. This adjustment results in a reduction of test-year base rate amount of $201,813,677.
Q. WHAT DEPRECIATION RATE WAS USED TO CALCULATE THE DEPRECIATION EXPENSE FOR THE MITCHELL FGD?

A. The Company uses a 3.05% depreciation rate for projects within account 312 – Boiler Plant Equipment. This is the depreciation rate utilized in developing the depreciation expense for the Mitchell FGD and is the same depreciation rate approved by the Commission in Case No. 2014-00396.

VII. WEIGHTED AVERAGE COST OF CAPITAL

Q. WHAT WEIGHTED AVERAGE COST OF CAPITAL (“WACC”) DID KENTUCKY POWER USE IN CALCULATING THE REVENUE REQUIREMENT FOR THE NON-ROCKPORT ENVIRONMENTAL PROJECTS, INCLUDING THE MITCHELL FGD?

A. Kentucky Power used a 7.28% WACC. The WACC is calculated in Section V, Schedule 2, Page 1, of the Application and described in the testimony of Company Witness Miller. In calculating the WACC for the non-Rockport environmental projects, Kentucky Power used the 10.31% rate of return on equity proposed by the Company in this case. The basis for using a 10.31% rate of equity is included in the testimony of Company Witness McKenzie.

Q. WHAT WACC DID KENTUCKY POWER USE IN CALCULATING THE REVENUE REQUIREMENT FOR THE ROCKPORT ENVIRONMENTAL PROJECTS?

A. The Company calculated the Rockport average weighted cost of capital each month using information included within the Unit Power Bill. In calculating the WACC associated with the Rockport environmental projects, the Company’s return on
equity for environmental projects at the Rockport Plant is 12.16% as established by the FERC-approved Rockport UPA.

**VIII. GROSS REVENUE CONVERSION FACTOR**

**Q.** IS THE COMPANY PROPOSING ANY CHANGES TO ITS GROSS REVENUE CONVERSION FACTOR?

**A.** Yes. The Company is proposing to remove the Section 199 manufacturing deduction from the GRCF calculation. The rationale for removing the Section 199 deduction is described in the testimony of Company Witness Bartsch.

**Q.** IS THE COMPANY ALSO PROPOSING A GROSS-UP FOR ITS ENVIRONMENTAL EXPENSES?

**A.** Yes. The Company is proposing to apply a gross-up factor to the costs incurred by the Company to operate the approved environmental projects. This gross-up factor accounts for uncollectable accounts expense and the Commission maintenance assessment fee expense. This change will ensure that the Company properly recovers all costs incurred to operate the approved environmental projects. The derivation of the gross-up factor is found on ES Form 3.15 in **EXHIBIT AJE-3**.

**Q.** HAS THE COMPANY USED A SIMILAR GROSS-UP FACTOR IN OTHER CIRCUMSTANCES?

**A.** Yes. The Company used a similar gross-up factor for expenses included in the calculation of the Big Sandy 1 Operation Rider revenue requirement.
IX. **CHANGES TO THE ENVIRONMENTAL SURCHARGE TARIFF (TARIFF E.S.)**

1 Q. ARE THERE ANY PROPOSED CHANGES TO TARIFF E.S.?

A. Yes. First, the Company is updating Tariff E.S. to reflect the new monthly base environmental costs as described above. Next, the Company is modifying the Tariff to reflect the return on equity proposed in this case and to include a return on inventory of consumables. Finally, the Company is updating the list of environmental projects to match those included in the 2017 Plan. A copy of the Company’s proposed Tariff E.S., with markups to show changes from the current Tariff E.S., is included as **EXHIBIT AJE-2**.

X. **RATE CASE ADJUSTMENTS**

9 Q. IN ADDITION TO THE ENVIRONMENTAL COMPLIANCE ADJUSTMENTS DESCRIBED ABOVE, DID YOU PREPARE ANY ADDITIONAL ADJUSTMENTS?

10 A. Yes. I prepared adjustments to test year revenue amounts to remove FGD-related revenues and deferrals and an adjustment remove the revenues recovered through the Capacity Charge tariff. I also annualized the Company’s property tax expense.

16 Q. PLEASE EXPLAIN THE ENVIRONMENTAL SURCHARGE REVENUE ADJUSTMENT.

18 A. Because the costs associated with the Mitchell FGD have been removed from cost of service, any associated revenues must also be removed. This adjustment is calculated by first determining the total test year revenues associated with the Company’s Environmental Compliance Plan by adding the total amount of
environmental surcharge revenue for the test year to the test year annual environmental compliance base revenue amount. The Company next deducted the going-forward annual environmental compliance base revenue amount as set forth in Exhibit AJE-4. This calculation results in a $37,183,002 reduction to base rates that simultaneously removes the FGD revenues and synchronizes the environmental compliance costs and revenues. In addition to the removal of the FGD revenues, adjustment W05 removes $538,417 of deferred environmental surcharge amounts.

Q. PLEASE EXPLAIN THE CAPACITY CHARGE REVENUE ADJUSTMENT.

A. In accordance with the Stipulation and Settlement Agreement approved by the Commission in Case No. 2004-00420, revenues associated with its Capacity Charge tariff (“Tariff C.C.”) are not to be used when designing rates in a general rate case proceeding. Accordingly, the Company has removed $6,396,832 in revenues received through Tariff C.C. or booked as accounting deferrals from its test year revenue amounts. Please see Adjustment W01 within Section V, Exhibit 2 for a calculation of the revenue adjustment.

Q. PLEASE ALSO EXPLAIN THE PROPERTY TAX ANNUALIZATION ADJUSTMENT.

A. Property tax expense reflected in the test year is based upon the actual property tax amounts collected during the test year. The Company adjusted the property tax expense on a going forward basis using the most recent assessable property value (from December 31, 2016) and the most recent property tax rates. This adjustment
increases property taxes by a jurisdictional amount of $595,507 to reflect increased property tax expense going forward. Please see Adjustment W57 within Section V, Exhibit 2 for a calculation of the property tax adjustment.

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

A. Yes.
### Kentucky Power Company's Previously Approved Environmental Compliance Projects

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<th>Plant</th>
<th>Pollutant</th>
<th>Description</th>
<th>In-Service Year</th>
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<tr>
<td>1</td>
<td>Mitchell</td>
<td>NOx, SO2, and SO3</td>
<td>Mitchell Units 1 and 2 Water Injection, Low NOx Burners, Low NOx Burner Modification, SCR, FGD, Landfill, Coal Blending Facilities and SO3 Mitigation</td>
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<td>Rockport Units 1 and 2 Low NOX Burners, Over Fire Air, and Landfill</td>
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<td>Mitchell and Rockport</td>
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<td>Big Sandy, Mitchell, and Rockport</td>
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<td>Costs Associated with Nox Allowances</td>
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<td>7</td>
<td>Big Sandy, Mitchell, and Rockport</td>
<td>SO2</td>
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### Kentucky Power Company's Proposed Environmental Compliance Projects

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<td>Cost of consumables used in conjunction with approved ECP projects. The costs include the cost of the consumables used as well as the return on the consumable inventory. Consumables include, but are not limited to, sodium bicarbonate, activated carbon, anhydrous ammonia, trona, lime hydrate, limestone, polymer, and urea.</td>
<td>As-Needed</td>
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</table>
TARIFF E.S.  
(Environmental Surcharge)

APPLICABLE.

RATE.
The environmental surcharge shall provide for monthly adjustments based on a percent of revenues, equal to the difference between the environmental compliance costs in the base period as provided in Paragraph 2 below and in the current period as provided in Paragraph 3 below.

The retail share of the revenue requirement will be allocated between residential and non-residential retail customers based upon their respective total revenues during the previous calendar year. The Environmental Surcharge will be implemented as a percentage of total revenues for the residential class and as a percentage of non-fuel revenues for all other customers.

1. Monthly Environmental Surcharge Gross Revenue Requirement, E(m)

Where:  
E(m) = CRR - BRR  
CRR = Current Period Revenue Requirement for the Expense Month.  
BRR = Base Period Revenue Requirement.

(Continued on Sheet 29-2)
RATE (Cont’d)

2. Base Period Revenue Requirement, BRR

\[
\text{BRR} = \text{The Following Monthly Amounts:}
\]

<table>
<thead>
<tr>
<th>Billing Month</th>
<th>Base Net</th>
<th>Environmental Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>JANUARY 2016</td>
<td>$2,646,392</td>
<td>4,136,938</td>
</tr>
<tr>
<td>FEBRUARY 2016</td>
<td>2,624,660</td>
<td>4,052,130</td>
</tr>
<tr>
<td>MARCH 2016</td>
<td>2,736,994</td>
<td>3,858,141</td>
</tr>
<tr>
<td>APRIL 2016</td>
<td>2,795,854</td>
<td>4,164,851</td>
</tr>
<tr>
<td>MAY 2016</td>
<td>2,782,209</td>
<td>4,093,983</td>
</tr>
<tr>
<td>JUNE 2016</td>
<td>2,721,096</td>
<td>3,323,338</td>
</tr>
<tr>
<td>JULY 2016</td>
<td>3,416,840</td>
<td>4,243,326</td>
</tr>
<tr>
<td>AUGUST 2016</td>
<td>3,184,443</td>
<td>4,382,364</td>
</tr>
<tr>
<td>SEPTEMBER 2016</td>
<td>3,236,974</td>
<td>4,118,637</td>
</tr>
<tr>
<td>OCTOBER 2016</td>
<td>3,982,958</td>
<td>4,303,417</td>
</tr>
<tr>
<td>NOVEMBER 2016</td>
<td>3,895,369</td>
<td>4,193,118</td>
</tr>
<tr>
<td>DECEMBER 2016</td>
<td>2,876,988</td>
<td>4,356,104</td>
</tr>
</tbody>
</table>

\[
\text{In accordance with the Stipulation and Settlement Agreement approved by the Commission by its Order dated October 7, 2013 in Case No. 2012-00578, the Mitchell FGD and all related associated costs are not included in base rates or the Base Revenue Requirement but will be included in the Current Period Revenue Requirement. The Mitchell FGD will be excluded from Base Rates at least until June 30, 2020.}
\]

3. Current Period Revenue Requirement, CRR

\[
\text{CRR} = \left[\left(\frac{\text{RB}_{\text{KPC}}}{12}\right) + \text{OE}_{\text{KPC}} + \left[\left(\frac{\text{RB}_{\text{MPC}}}{12}\right) + \text{OE}_{\text{MPC}}\right]\right] \times \left(\frac{0.15}{12}\right) - \text{AS}
\]

Where:

- \(\text{RB}_{\text{KPC}}\) = Environmental Compliance Rate Base for Mitchell.
- \(\text{ROR}_{\text{KPC}}\) = Annual Rate of Return on Mitchell Environmental Compliance Rate Base; Annual Rate divided by 12 to restate to a Monthly Rate of Return.

(Cont’d on Sheet 29-3)
**TARIFF E.S. (Cont’d)**  
(Environmental Surcharge)

<table>
<thead>
<tr>
<th>RATE (Cont’d)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OE&lt;br&gt;KP(C)</td>
<td>Monthly Pollution Control Operating Expenses for Mitchell.</td>
</tr>
<tr>
<td>RB&lt;br&gt;IM(C)</td>
<td>Environmental Compliance Rate Base for Rockport.</td>
</tr>
<tr>
<td>ROR&lt;br&gt;IM(C)</td>
<td>Annual Rate of Return on Rockport Rate Base; Annual Rate divided by 12 to restate to a Monthly Rate of Return.</td>
</tr>
<tr>
<td>OE&lt;br&gt;IM(C)</td>
<td>Monthly Pollution Control Operating Expenses for Rockport.</td>
</tr>
<tr>
<td>AS</td>
<td>Net proceeds from the sale of Title IV and CSAPR SO(_2) emission allowances, ERCs, and NO(_x) emission allowances, reflected in the month of receipt.</td>
</tr>
</tbody>
</table>


The Environmental Compliance Rate Base for both Kentucky Power and Rockport reflects the current cost associated with the 1997 Plan, the 2003 Plan, the 2005 Plan, the 2007 Plan, the 2014 Plan, and the 2017 Plan. The Environmental Compliance Rate Base for Kentucky Power should also include a cash working capital allowance based on the 1/8 formula approach, due to the inclusion of Kentucky Power’s accounts receivable financing in the capital structure and weighted average cost of capital. The Operating Expenses for both Kentucky Power and Rockport should reflect the current operating expenses associated with the 1997 Plan, the 2003 Plan, the 2005 Plan, the 2007 Plan, and the 2017 Plan.

The Rate of Return for Kentucky Power is \(10.25\%\) rate of return on equity as authorized by the Commission in its Order Dated June 22, 2015 XXXX XX, 2017 in Case No. 2014-00396 2017-00179.

The Rate of Return for Rockport should reflect the requirements of the Rockport Unit Power Agreement.

Net Proceeds from the sale of emission allowances and ERCs that reflect net gains will be a reduction to the Current Period Revenue Requirement, while net losses will be an increase.

The Current Period Revenue Requirement will reflect the balances and expenses as of the Expense Month of the filing.

---

**DATE OF ISSUE:** June 28, 2017

**DATE EFFECTIVE:** Service Rendered On And After July 29, 2017

**ISSUED BY:** JOHN A. ROGNESS III

**TITLE:** Director Regulatory Services

By Authority Of an Order of the Public Service Commission

In Case No. 2017-00179 Dated XXXXXXXX
4. Revenue Allocation

Residential Allocation \( RA(m) = \frac{KY \text{ Residential Retail Revenue } RR(b)}{KY \text{ Retail Revenue } R(b)} \)

All Other Allocation \( OA(m) = \frac{KY \text{ All Other Classes Retail Revenue } OR(b)}{KY \text{ Retail Revenue } R(b)} \)

Where:
- \( (m) = \) the expense month
- \( (b) = \) most recent calendar year revenues

5. Environmental Surcharge Factor

Residential Monthly Environmental Surcharge Factor \( = \frac{\text{Net KY Retail } E(m) * RA(m)}{KY \text{ RR}(m)} \)

All Other Monthly Environmental Surcharge Factor \( = \frac{\text{Net KY Retail } E(m) * AO(m)}{KY \text{ OR}(m) - KY \text{ OF}(m)} \)

Where:
- \( \text{Net KY Retail } E(m) = \) Monthly \( E(m) \) allocated to Kentucky Retail Customers, net of Over/(Under) Recovery Adjustment; Allocation based on Percentage of Kentucky Retail Revenues to Total Company Revenues in the Expense Month.

(For purposes of this formula, Total Company Revenues do not include Non-Physical Revenues.)

\( RR(m) = \) Average Kentucky Residential Retail Revenues for the Preceding Twelve Month Period

\( OR(m) = \) Average Kentucky All Other Classes Retail Revenues for the Preceding Twelve Month Period

\( OF(m) = \) Average Kentucky All Other Classes Fuel Revenues for the Preceding Twelve Month Period

(Cont’d on Sheet No. 29-5)
TARIFF E.S. (Cont’d)
(Environmental Surcharge)

RATE (Cont’d)

6. Environmental costs “E” shall be the Company’s costs of compliance with the Clean Air Act and those environmental requirements that apply to coal combustion wastes and by-products, as follows:

Total Company:

- return on Title IV and CASPR SO₂ allowance inventory
- over/under recovery balances between the actual costs incurred less the amount collected through the environmental surcharge
- costs associated with any Commission’s consultant approved by the Commission
- costs associated with the consumption of Title IV and CSAPR SO₂ allowances
- costs associated with the consumption of NOₓ allowances
- return on NOₓ allowance inventory
- costs associated with maintaining approved pollution control equipment including material and contract labor (excluding plant labor)
- Costs associated with consumables used in conjunction with approved environmental projects.
- Return on inventories of consumables used in conjunction with approved environmental projects.

(Cont’d on Sheet No. 29-6)
TARIFF E.S. (Cont’d)
(Environmental Surcharge)

RATe (Cont’d)

The Company’s share of costs associated with the following environmental equipment at the Rockport Plant:

- Continuous Emissions Monitors
- Air Emission Fees
- Costs Associated with the Rockport Unit Power Agreement
- Activated Carbon Injection
- Mercury Monitoring
- Precipitator Modifications
- Dry Sorbent Injection
- Coal Combustion Waste Landfill
- Low NOx burners, over Fire Air Landfill
- Selective Catalytic Reduction Technology at Unit 1

The Company’s share of costs associated with the following environmental equipment at the Mitchell Plant:

- Mitchell Unit Nos 1 and 2 Water Injection, Low NOx burners, Low NOx burner Modification, SCR, FGD, Landfill, Coal Blending Facilities and SOx Mitigation
- Mitchell Plant Common CEMS, Replace Burner Barrier Valves and Gypsum Material Handling Facilities
- Air Emission Fees
- Precipitator Modifications and Upgrades
- Coal Combustion Waste Landfill
- Bottom Ash and Fly Ash Handling
- Mercury Monitoring (MATS)
- Dry Fly Ash Handling Conversion

(Cont’d on Sheet No. 29-7)
<table>
<thead>
<tr>
<th>DATE OF ISSUE:</th>
<th>June 28, 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE EFFECTIVE:</td>
<td>Service Rendered On And After July 29, 2017</td>
</tr>
<tr>
<td>ISSUED BY:</td>
<td>JOHN A. ROGNESS III</td>
</tr>
<tr>
<td>TITLE:</td>
<td>Director Regulatory Services</td>
</tr>
<tr>
<td>By Authority Of an Order of the Public Service Commission</td>
<td></td>
</tr>
<tr>
<td>In Case No. 2017-00179 Dated XXXXXXX</td>
<td></td>
</tr>
</tbody>
</table>
KENTUCKY POWER COMPANY

Environmental Surcharge

Summary

Month Ended: SAMPLE ONLY

Residential Environmental Surcharge Factor = \( \frac{X}{X} = X \)

All Other Classes Environmental Surcharge = \( \frac{X}{X} = \)

Effective Date for Billing

Submitted by: ____________________________
(Signature)

Title: X

Date Submitted: X
### Calculation of E(m)

\[ E(m) = CRR - BRR \]

<table>
<thead>
<tr>
<th>LINE</th>
<th>Description</th>
<th>Residential</th>
<th>All Other Classifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CRR from ES FORM 3.00</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>BRR from ES FORM 1.10</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Mitchell FGD Expenses (E.S. Form 3.13, Line 33)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>E(m) (LINE 1 - LINE 2 + LINE 3)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Kentucky Retail Jurisdictional Allocation Factor, from ES FORM 3.30, Schedule of Revenues, LINE 1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>KY Retail E(m) (LINE 4 * LINE 5)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Under/ (Over) Collection, ES Form 3.30</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Net KY Retail E(m) (Line 6 + Line 7)</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

### Surcharge Factors

<table>
<thead>
<tr>
<th>LINE</th>
<th>Description</th>
<th>Residential</th>
<th>All Other Classifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Allocation Factors, % of revenue during previous Calendar Year</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>10</td>
<td>Current Month's Allocation E(m) (Line 8* Line 9)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>11</td>
<td>Kentucky Residential Revenues/All Other Non-Fuel Revenues</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>12</td>
<td>Surcharge Factors (Line 10/Line 11)</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
## MONTHLY BASE PERIOD REVENUE REQUIREMENT

<table>
<thead>
<tr>
<th>Billing Month</th>
<th>Base Net Environmental Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>JANUARY</td>
<td>$4,136,938</td>
</tr>
<tr>
<td>FEBRUARY</td>
<td>$4,052,130</td>
</tr>
<tr>
<td>MARCH</td>
<td>$3,858,141</td>
</tr>
<tr>
<td>APRIL</td>
<td>$4,164,851</td>
</tr>
<tr>
<td>MAY</td>
<td>$4,093,983</td>
</tr>
<tr>
<td>JUNE</td>
<td>$4,323,338</td>
</tr>
<tr>
<td>JULY</td>
<td>$4,243,526</td>
</tr>
<tr>
<td>AUGUST</td>
<td>$4,382,364</td>
</tr>
<tr>
<td>SEPTEMBER</td>
<td>$4,118,637</td>
</tr>
<tr>
<td>OCTOBER</td>
<td>$4,303,417</td>
</tr>
<tr>
<td>NOVEMBER</td>
<td>$4,193,118</td>
</tr>
<tr>
<td>DECEMBER</td>
<td>$4,356,104</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$50,226,547</td>
</tr>
</tbody>
</table>
### CALCULATION OF CURRENT PERIOD REVENUE REQUIREMENT

<table>
<thead>
<tr>
<th>LINE NO.</th>
<th>COMPONENTS</th>
</tr>
</thead>
</table>
| 1        | **First Component:** Associated with Mitchell Non-FGD expenses  
**ES FORM 3.13, Line 33**  |
| 2        | **Second Component:** Associated with Rockport Plant  
\[
\left(\left(\text{RB IM(C)}\right) \left(\text{ROR IM(C)}/12\right) + \text{OE IM(C)}\right) 
\]  
**ES FORM 3.20, Line 20**  |
| 3        | **Third Component:** Net Proceeds from Emission Allowances Sales  
1) **CAIR SO2** - EPA Auction Proceeds received during Expense Month  
2) **CSAPR SO2** - Net Gain or (Loss) from Allowance Sales, received during Expense Month  
3) **NOx** - EPA Auction Proceeds, received during Expense Month  
4) **NOx** - Net Gain or (Loss) from NOx Allowances Sales, received during Expense Month  
**Total Net Proceeds from SO2 Allowances**  |
| 4        | Total Net Gain or (Loss) from Emission Allowance Sales  
**Total Current Period Revenue Requirement, CRR Record on ES FORM 1.00.**  |

Effective Date for Billing: February 29, 2012
### Table: SO2 Emissions Allowance Inventory

<table>
<thead>
<tr>
<th></th>
<th>(1) Total Allowance Inventory (Quantity)</th>
<th>(2) Total Allowance Inventory (Dollar Value)</th>
<th>(3) Current Allowance Inventory (Quantity)</th>
<th>(4) Current Allowance Inventory (Dollar Value)</th>
<th>(5) Average Cost per Allowance (Current Allowances)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONTHLY BEGINNING INVENTORY</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Additions -</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPA Allowances</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Gavin Reallocation</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>P &amp; E Transfers In</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Intercompany Purchases</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Other (List)</td>
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<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>SO2 Emissions Allowance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjustment</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Withdrawals -</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>P &amp; E Transfers Out</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Intercompany Sales</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Off - System Sales</td>
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</tr>
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<td>Surrenders- Consent Decree</td>
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<td><strong>Consumption Adjustment (RP &amp; ML)</strong></td>
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<tr>
<td><strong>Consumption Adjustment (BS)</strong></td>
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<td></td>
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<tr>
<td><strong>SO2 Emissions Allowances</strong></td>
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<td></td>
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<td></td>
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<tr>
<td>Consumed By Kentucky Power - 1:1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>(Year 2009 &amp; Prior)</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>SO2 Emissions Allowances</td>
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<td></td>
<td></td>
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<tr>
<td>Consumed By Mitchell and Rockport</td>
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<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>SO2 Emissions Allowances</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumed By Big Sandy</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>ENDING INVENTORY - Record</strong></td>
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<td>X</td>
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<td>X</td>
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<tr>
<td><strong>ES FORM 3.13, Line 21</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

* Includes only Mitchell and Rockport allowance consumption.

** Big Sandy consumption is recovered through BS1OR and not included in E(m).

*** Inventory represents entire Kentucky Power SO2 allowance inventory.
<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Allowance</td>
<td>Total Allowance</td>
<td>Current</td>
<td>Current</td>
<td>Average Cost</td>
</tr>
<tr>
<td></td>
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<td>Inventory</td>
<td>Allowance Inventory</td>
<td>Allowance Inventory</td>
<td>per Allowance</td>
</tr>
<tr>
<td></td>
<td>(Quantity)</td>
<td>(Dollar Value)</td>
<td>(Quantity)</td>
<td>(Dollar Value)</td>
<td>(Current</td>
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<tr>
<td></td>
<td></td>
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<td>Allowances)</td>
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<tr>
<td>MONTHLY BEGINNING INVENTORY</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Additions -</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EPA Allowances</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Gavin Reallocation</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>P &amp; E Transfers In</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Intercompany Purchases</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Other (List)</td>
<td>X</td>
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<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>SO2 Emissions Allowance</td>
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<td>X</td>
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<tr>
<td>Adjustment</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Withdrawals -</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>P &amp; E Transfers Out</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Intercompany Sales</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Off - System Sales</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Consumption Adjustment (RP &amp; ML)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Consumed in Current Month At Rockport and Mitchell Plants</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>CSAPR SO2 Emissions Allowances Consumed in Current Month at Big Sandy Plant</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>ENDING INVENTORY - Record Balance on ES FORM 3.13, Line 22</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

* Includes only Mitchell and Rockport allowances.
** Big Sandy consumption is recovered through BS1OR and not included in E(m).
*** Inventory represents entire Kentucky Power SO2 allowance inventory.
## KENTUCKY POWER COMPANY - ENVIRONMENTAL SURCHARGE REPORT
### CURRENT PERIOD REVENUE REQUIREMENT
CSAPR Annual NOx EMISSIONS ALLOWANCE INVENTORY
SAMPLE ONLY

<table>
<thead>
<tr>
<th></th>
<th>(1) Total Allowance Inventory (Quantity)</th>
<th>(2) Total Allowance Inventory (Dollar Value)</th>
<th>(3) Current Allowance Inventory (Quantity)</th>
<th>(4) Current Allowance Inventory (Dollar Value)</th>
<th>(5) Average Cost per Allowance (Current Allowances)</th>
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<tbody>
<tr>
<td><strong>MONTHLY BEGINNING INVENTORY</strong></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td><strong>Additions -</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPA Allowances</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>P&amp;E Transfers In</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Intercompany Purchases</td>
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</tr>
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<td>Other (List)</td>
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<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td><strong>Withdrawals -</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P &amp; E Transfers Out</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>NOx Consumed By Kentucky Power--Big Sandy Plant</td>
<td>X</td>
<td>X</td>
<td>x</td>
<td>x</td>
<td>x **</td>
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<td>X</td>
<td>X</td>
<td>x</td>
<td>x</td>
<td>x ***</td>
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* Includes only Mitchell and Rockport allowance consumption.
** Big Sandy consumption is recovered through BS1OR and not included in E(m).
*** Inventory represents entire Kentucky Power ANNX allowance inventory.
<table>
<thead>
<tr>
<th>MONTHLY BEGINNING INVENTORY</th>
<th>(1) Total Allowance Inventory (Quantity)</th>
<th>(2) Total Allowance Inventory (Dollar Value)</th>
<th>(3) Current Allowance Inventory (Quantity)</th>
<th>(4) Current Allowance Inventory (Dollar Value)</th>
<th>(5) Average Cost per Allowance (Current Allowances)</th>
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<tbody>
<tr>
<td>Additions -</td>
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<td>X</td>
<td>X</td>
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<td>X</td>
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<td>P&amp;E Transfers In</td>
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<td>X</td>
<td>X</td>
<td>X</td>
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<td>Intercompany Purchases</td>
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<td>X</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>P &amp; E Transfers Out</td>
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<td>X</td>
<td>X</td>
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<td>Intercompany Sales</td>
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<td>X</td>
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<td>X**</td>
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<tr>
<td>NOx Consumed by Kentucky Power -- Big Sandy Plant</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X***</td>
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</table>

* Includes only Mitchell and Rockport allowance consumption.
** Big Sandy consumption is recovered through BS1OR and not included in E(m).
*** Inventory represents entire Kentucky Power ANNX allowance inventory.
<table>
<thead>
<tr>
<th>Ln. No.</th>
<th>Cost Component</th>
<th>Non-FGD Costs</th>
<th>FGD Costs</th>
<th>Total Costs</th>
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<tr>
<td>1</td>
<td>Utility Plant at Original Cost</td>
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<td>2</td>
<td>Less Accumulated Depreciation</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>3</td>
<td>Less Accumulated Deferred Income Tax</td>
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<td>X</td>
<td>X</td>
</tr>
<tr>
<td>4</td>
<td>Net Utility Plant</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>*SO2 Emission Allowance Inventory</td>
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</tr>
<tr>
<td>6</td>
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<td>8</td>
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<td>9</td>
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<td>10</td>
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<td>17</td>
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<td>18</td>
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<td>20</td>
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<td>23</td>
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<td>25</td>
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<td>26</td>
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<td>27</td>
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<td>**Monthly Polymer Expense (5020005)</td>
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<td>33</td>
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<td>34</td>
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<td>36</td>
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<td>38</td>
<td>**Monthly FGD Maintenance Expense</td>
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<td>39</td>
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<td>**Monthly Catalyst Amortization Expense</td>
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<td>43</td>
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<td>45</td>
<td>**Total Monthly Operation, Maintenance, and Other Expenses</td>
<td>$1.00537</td>
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<td>46</td>
<td>**Gross-Up for Uncollectible Expense and KPSC Maintenance Fee</td>
<td>$1.00537</td>
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<td>**Total Revenue Requirement</td>
<td>X</td>
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</tbody>
</table>

* Inventory Includes Total Kentucky Power allowances inventory.

** Includes Consumption for Rockport and Mitchell plants only.
## KENTUCKY POWER COMPANY - ENVIRONMENTAL SURCHARGE REPORT
### CURRENT PERIOD REVENUE REQUIREMENT
#### MITCHELL PLANT COST OF CAPITAL

**SAMPLE ONLY**

<table>
<thead>
<tr>
<th>LINE NO.</th>
<th>Component</th>
<th>Balances</th>
<th>Cap. Structure</th>
<th>Cost Rates</th>
<th>WACC (Net of Tax)</th>
<th>GRCF</th>
<th>WACC (PRE-TAX)</th>
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<td>5.32%</td>
<td>2.90%</td>
<td>1.005370</td>
<td>2.9156%</td>
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<tr>
<td>2</td>
<td>S/T DEBT</td>
<td>$0</td>
<td>0.00%</td>
<td>0.80%</td>
<td>0.00%</td>
<td>1.005370</td>
<td>0.0000%</td>
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<td>3</td>
<td>ACCTS REC FINANCING</td>
<td>$46,105,009</td>
<td>3.87%</td>
<td>1.95%</td>
<td>0.08%</td>
<td>1.005370</td>
<td>0.0804%</td>
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<tr>
<td>4</td>
<td>C EQUITY</td>
<td>$496,766,726</td>
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<td>10.31%</td>
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<td>1.643250</td>
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<td>5</td>
<td>TOTAL</td>
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<td>7.28%</td>
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<td>10.0620%</td>
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6. Operating Revenues
7. Less Uncollectible Accounts Expense
8. KPSC Maintenance Assessment Fee
9. Income Before Income Taxes
10. Less State Income Taxes (Ln 4 x 5.7348)
11. Income Before Federal Income Taxes
12. Less Federal Income Taxes (Ln 13*35%)
13. Operating Income Percentage
14. Gross Up Factor (100.00/Ln 9)

Rate of Return on Common Equity as authorized by the Public Service Commission in Order Dated June 22, 2015 in Case No. 2014-00396.
<table>
<thead>
<tr>
<th>Ln. No.</th>
<th>Cost Component</th>
<th>Total Costs</th>
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<tr>
<td>1</td>
<td>Utility Plant at Original Cost</td>
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</tr>
<tr>
<td>2</td>
<td>Less Accumulated Depreciation</td>
<td>X</td>
</tr>
<tr>
<td>3</td>
<td>Less Accumulated Deferred Income Tax</td>
<td>X</td>
</tr>
<tr>
<td>4</td>
<td>Net Utility Plant</td>
<td>X</td>
</tr>
<tr>
<td>5</td>
<td>Cash Working Capital Allowance</td>
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<tr>
<td>6</td>
<td><strong>Total Rate Base</strong></td>
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<tr>
<td>7</td>
<td>Weighted Average Cost of Capital</td>
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<td>8</td>
<td>Monthly Weighted Avg. Cost of Capital</td>
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<tr>
<td>9</td>
<td>Monthly Return on Rate Base</td>
<td>X</td>
</tr>
<tr>
<td>10</td>
<td>Monthly Sodium Bicarbonate (5020028)</td>
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</tr>
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<td>Monthly Brominated Activated Carbon (5020008)</td>
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<td>12</td>
<td>Monthly IN Air Emission Fee</td>
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</tr>
<tr>
<td>13</td>
<td>Property Tax</td>
<td>X</td>
</tr>
<tr>
<td>14</td>
<td><strong>Total Monthly Operation Costs</strong></td>
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<tr>
<td>15</td>
<td>Monthly Maintenance Expense</td>
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<td>16</td>
<td><strong>Total Monthly Maintenance Expense</strong></td>
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<tr>
<td>17</td>
<td>Monthly Depreciation Expense</td>
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<td>18</td>
<td><strong>Total Monthly Other Expenses</strong></td>
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</tr>
<tr>
<td>19</td>
<td><strong>Total Revenue Requirement</strong></td>
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<tr>
<td>20</td>
<td><strong>KPCo Share of Environmental Revenue Requirement</strong></td>
<td>15%</td>
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</tbody>
</table>

*Indiana does not currently assess property taxes on environmental controls.*
**ES FORM 3.21**

**KENTUCKY POWER COMPANY - ENVIRONMENTAL SURCHARGE REPORT**
CURRENT PERIOD REVENUE REQUIREMENT
ROCKPORT UNIT POWER AGREEMENT COST OF CAPITAL

SAMPLE ONLY

<table>
<thead>
<tr>
<th>LINE NO.</th>
<th>Component</th>
<th>Balances</th>
<th>Cap. Structures</th>
<th>Cost Rates</th>
<th>WACC (NET OF TAX)</th>
<th>GRCF</th>
<th>WACC (PRE - TAX)</th>
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<tbody>
<tr>
<td>1</td>
<td>L/T DEBT</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>S/T DEBT</td>
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<td>DEBT</td>
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</table>

WACC = Weighted Average Cost of Capital

1/ Cost Rates per the Provisions of the Rockport Unit Power Agreement

2/ Gross Revenue Conversion Factor (GRCF) Calculation:

7 OPERATING REVENUE
8 LESS: INDIANA ADJUSTED GROSS INCOME
9 \( \text{LINE 1 \times 0.065} \)
10 INCOME BEFORE FED INC TAX
11 LESS: FEDERAL INCOME TAX
12 \( \text{LINE 4 \times 0.35} \)
13 OPERATING INCOME PERCENTAGE
14 GROSS REVENUE CONVERSION
15 FACTOR \( (100\% / \text{LINE 13}) \)

The WACC (PRE - TAX) value on Line 6 is to be recorded on ES FORM 3.20, Line 7.
## Kentucky Power Company

**SAMPLE ONLY**

<table>
<thead>
<tr>
<th>Plant</th>
<th>Description</th>
<th>Total In Service Cost</th>
<th>Accumulated Depreciation</th>
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<tr>
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<td>Mitchell Units 1 and 2 Water Injection</td>
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<td>Mitchell</td>
<td>Low NOX Burners</td>
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<tr>
<td>Mitchell</td>
<td>Low NOX Burner Modification</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Mitchell</td>
<td>SCR</td>
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<tr>
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<td>X</td>
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<td>Mitchell</td>
<td>Coal Blending Facilities</td>
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<td>Mitchell</td>
<td>Precipitator Modifications - Mitchell Plant Units 1 and 2</td>
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<td>Bottom Ash and Fly Ash Handling - Mitchell Plant Units 1 and 2</td>
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<td>Mitchell</td>
<td>Mercury Monitoring (MATS) - Mitchell Plant Units 1 and 2</td>
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<td>Mitchell</td>
<td>Dry Fly Ash Handling Conversion - Mitchell Plant Units 1 and 2</td>
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<td>Electrostatic Precipitator Upgrade - Mitchell Plant Unit 2</td>
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<td>*Activated Carbon Injection (ACI) and Mercury Monitoring - Rockport Plant</td>
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<td>*Dry Sorbent Injection - Rockport Plant Units 1 and 2</td>
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<td><strong>Total</strong></td>
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### SCHEDULE OF MONTHLY REVENUES

<table>
<thead>
<tr>
<th>Line No.</th>
<th>Description</th>
<th>Monthly Revenues</th>
<th>Percentage of Total Revenues</th>
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<tbody>
<tr>
<td>1</td>
<td>Kentucky Retail Revenues</td>
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<td>X</td>
</tr>
<tr>
<td>2</td>
<td>FERC Wholesale Revenues</td>
<td>X</td>
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</tr>
<tr>
<td>3</td>
<td>Associated Utilities Revenues</td>
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</tr>
<tr>
<td>4</td>
<td>Non-Assoc. Utilities Revenues</td>
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<td>5</td>
<td>Total Revenues for Surcharges Purposes</td>
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<td>6</td>
<td>Non-Physical Revenues for Month</td>
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<td>7</td>
<td>Total Revenues for Month</td>
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The Kentucky Retail Monthly Revenues and Percentage of Total Revenues (Line 1) are to be recorded on ES FORM 1.00, Line 4. The Percentage of Kentucky Retail Revenues to the Total Revenues for the Expense Month will be the Kentucky Retail Jurisdictional Allocation Factor.

### OVER/(UNDER) RECOVERY ADJUSTMENT

<table>
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<tr>
<th>Line No.</th>
<th>Description</th>
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<tr>
<td>1</td>
<td>Surcharge Amount To Be Collected</td>
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<td>Actual Billed Environmental Surcharge Revenues</td>
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<tr>
<td>3</td>
<td>(Over) / Under Recovery (1) - (2) = (3)</td>
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The (Over)/Under Recovery amount is to be recorded on ES FORM 1.00, LINE 7.
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<th>Line No.</th>
<th>Revenue Category</th>
<th>Total (2)</th>
<th>Percentage of Total (3)</th>
<th>Residential/All Other Classes to be used in 201x (4)</th>
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<td>Total Retail Revenues</td>
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<td>4</td>
<td>FERC Wholesale Revenues</td>
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<td>Associated Utilities Revenues</td>
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<td>Non Associated Utilities Revenues</td>
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<td>Non-Physical Sales</td>
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### Residential Revenues

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<tr>
<th>Month</th>
<th>Residential Revenues</th>
<th>Residential Big Sandy Retirement Revenues</th>
<th>Residential Environmental Surcharge Revenues</th>
<th>Residential PPA Revenues</th>
<th>Residential ATR Revenues</th>
<th>Residential, Non-Percentage of Revenue Rider Revenues</th>
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<td>(1) -(2) -(3) -(4) -(5) -(6) -(7) -(8) -(9)</td>
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Average Monthly Residential Revenues for 12-Month Period ended with most Recent Expense Month

### Non-Residential, Non-Fuel Revenues

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<th>Month</th>
<th>Non-Residential Revenues</th>
<th>Base Rate Fuel Revenue</th>
<th>Fuel Adjustment Clause Revenue</th>
<th>Non-Residential Big Sandy Retirement Revenues</th>
<th>ATR</th>
<th>Non-Residential, Non-Percentage of Revenue Rider Revenues</th>
<th>Non-Residential PPA Revenues</th>
<th>Non-Residential, Non-Percentage of Revenue Rider Total Revenues</th>
</tr>
</thead>
<tbody>
<tr>
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Average Monthly Non-Residential Revenues for 12-Month Period ended with most Recent Expense Month

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<th>Mitchell Non-FGD</th>
<th>Mitchell FGD</th>
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</tr>
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<td>March 2017</td>
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<tr>
<td>4</td>
<td>February 2017</td>
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<tr>
<td>5</td>
<td>January 2017</td>
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<tr>
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<td>December 2016</td>
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<tr>
<td>7</td>
<td>November 2016</td>
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<td>8</td>
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<td>9</td>
<td>September 2016</td>
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<td>August 2016</td>
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<td>11</td>
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<td>June 2016</td>
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<td>1/8 of 12-Month Total</td>
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<tr>
<td>Ln No</td>
<td>Month / Year</td>
<td>Mitchell Non-FGD Costs</td>
<td>Kentucky Power’s share of Rockport Environmental Costs</td>
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<tr>
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<td>Environmental Utility Plant at Original Cost</td>
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</tr>
<tr>
<td>--------------</td>
<td>------</td>
<td>---------------------------------------------</td>
<td>--------------------------</td>
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<tr>
<td>November 2017</td>
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<td>October 2018</td>
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<td>($12,602,400)</td>
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</table>

Estimated Total Annual Revenue Requirement $3,903,065
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
BRAD N. HALL
ON BEHALF OF KENTUCKY POWER COMPANY
VERIFICATION

The undersigned, Brad N. Hall, being duly sworn, deposes and says he is the External Affairs Manager for Kentucky Power that he has personal knowledge of the matters set forth in the foregoing testimony and the information contained therein is true and correct to the best of his information, knowledge and belief.

Brad N. Hall

COMMONWEALTH OF KENTUCKY

COUNTY OF BOYD

CASE NO. 2017-00179

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Brad N. Hall, this the 27th day of June 2017.

Notary Public

Notary ID Number: 530202

My Commission Expires: 3-18-19
DIRECT TESTIMONY OF
BRAD N. HALL, ON BEHALF OF
KENTUCKY POWER COMPANY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

CASE NO. 2017-00179

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DIRECT TESTIMONY OF
BRAD N. HALL, 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 Brad N. Hall, and I am the Manager, External Affairs, for Kentucky Power Company ("Kentucky Power" or "Company"). My business address is 855 Central Avenue, Suite 200, Ashland, Kentucky 41101.

II. BACKGROUND

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I was born and raised in Floyd County, within the Company’s service territory, and I graduated from Wheelwright High School in Wheelwright, Kentucky. I hold a Master’s Degree in Business Administration from Morehead State University and a Bachelors of Business Administration with a double emphasis in Accounting and Computer Science from the University of Pikeville. I am also a graduate of the University of Oklahoma’s Economic Development Institute and the U.S. Chamber of Commerce’s Institute for Non-Profit Management.

I have over twenty years of economic development and management experience. Prior to joining Kentucky Power, I served two years as the President & Chief Executive Officer ("CEO") of the Southeast Kentucky Chamber of Commerce, four years as the President & CEO of the Pike County Chamber of Commerce, five years as the Director of Operations for Southeast Telephone
Company, five years as the Controller and Office Manager for Mountain Water District, two years as Senior Accountant – Plant Assets for the University of Kentucky, and three years as Accountant and Pager Department Manager for Eastern Telephone Company. I joined Kentucky Power in my current role five years ago.

Q. WHAT ARE YOUR RESPONSIBILITIES AS MANAGER, EXTERNAL AFFAIRS?

A. I am responsible for the creation, implementation, and management of Kentucky Power’s economic development and government relations efforts for the Company’s twenty county service territory. I also serve as the Company’s environmental affairs manager.

With regard to economic development, I am responsible for the administration of the Kentucky Power Economic Advancement Program (“KEAP”) and the Kentucky Power Economic Growth Grants (“K-PEGG”) program. I also serve as the Company’s representative in regional economic development activities including Shaping our Economic Region (“SOAR”), One East Kentucky, and Ashland Alliance. I work with the economic development organizations in the Company’s service territory to identify and support projects that will attract new businesses to and promote business expansion within the region.

With regards to government relations, I am responsible for coordinating the Company’s relationships with federal, state, and local officials. In this role, I keep Kentucky Power officials apprised of how proposed legislation and
regulations will affect the Company’s operations and provide elected officials with an understanding of how their proposed actions will affect the Company and its ability to provide safe, reliable, and low-cost electric service to its customers.

Finally, as environmental affairs manager, I am responsible for ensuring that the Company remains apprised of how environmental regulations affect its operations and that its operations comply with those regulations.

Q. **HAVE YOU PREVIOUSLY TESTIFIED FOR KENTUCKY POWER BEFORE THIS COMMISSION?**


**III. PURPOSE OF TESTIMONY**

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

A. The purpose of my testimony is to describe Kentucky Power’s economic development efforts and successes within the Company’s service territory. In addition, my testimony covers the following specific topics:

- The Company’s proposal to revise the Kentucky Economic Development Surcharge (“KEDS”) Tariff and increase the KEDS rate by $0.10 per customer per month with a corresponding Company match.
- The Company’s implementation of the Kentucky Power Economic Advancement Program (“KEAP”).
• American Electric Power Company, Inc.’s (“AEP”) investment in economic development within the Company’s service territory.

Additionally, I will describe the potential economic development benefits of the Company’s proposed changes to its Green Pricing Option Rider.

Q. ARE YOU SPONSORING ANY EXHIBITS TO YOUR TESTIMONY?

A. Yes. I am sponsoring the following exhibits:

• **EXHIBIT BNH-1** – InSite Consulting Regional Blueprint for Economic Development report;

• **EXHIBIT BNH-2** – Detailed description of K-PEGG Program grant recipients; and

• **EXHIBIT BNH-3** – Detailed description of KEAP grant recipients.

Q. WERE THESE EXHIBITS PREPARED OR ASSEMBLED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes.

IV. THE NEED FOR ECONOMIC DEVELOPMENT IN THE COMPANY’S SERVICE TERRITORY

Q. CAN YOU PLEASE DESCRIBE THE ECONOMIC TRENDS IN THE COMPANY’S SERVICE TERRITORY?

A. The region the Company serves has seen a downturn in economic activity since 2008. This economic downturn is widespread, but has been primarily driven by a decrease in coal and steel production in the region.

Q. CAN YOU QUANTIFY THE REDUCTION IN COAL PRODUCTION IN THE REGION?
A. Yes. According to the Kentucky Energy and Environment Cabinet’s fourth quarter 2016 Coal Report, the number of employed coal miners in Eastern Kentucky has dropped from an annual average of 14,373 in 2008 to 3,833 in the 2016. Production has dropped even more steeply: from 91,045,224 tons in 2008 to 16,689,541 tons in 2016.

Q. HOW HAS A DECREASE IN STEEL PRODUCTION CONTRIBUTED TO THE ECONOMIC DOWNTURN?

A. As prices for steel have decreased in the global market, steel producers in the region have reduced output. AK Steel idled its blast furnace and related steel-making operations in Ashland, Kentucky in December 2015. Idling the blast furnace resulted in the loss of over 600 jobs. Additionally, Kentucky Electric Steel has reduced its operations as the market has softened.

Q. WHAT HAS BEEN THE IMPACT OF THIS DOWNWARD ECONOMIC TREND ON THE COMPANY?

A. The primary impact of the downward economic trend is the loss of load and customers. Between 2008 and 2016, the Company lost 6,931 customers. During that same period, the Company has seen its total annual sales fall from approximately 7.24 GWh to 5.80 GWh. At the same time, population in the Company’s service territory has decreased by approximately 16,500 individuals.

Q. ARE THERE ANY LESSONS TO BE LEARNED IN THIS DOWNWARD ECONOMIC TREND?

A. Yes. The decrease in production from the coal and steel manufacturing sectors and its impact on the communities Kentucky Power serves show that the region
would benefit from diversifying its economic base. Greater economic diversity will give the region a broader economic platform that in turn will allow it to better weather downturns in specific industries. Greater diversity of industries based in the region also provides increased opportunities for growth and would take advantage of the myriad of talents found within the communities Kentucky Power serves. Kentucky Power’s economic development efforts are focused on helping communities within its service territory to attract and expand businesses to aid in diversifying the region’s economic base.

V. KENTUCKY POWER ECONOMIC DEVELOPMENT HISTORY

Q. WHY IS KENTUCKY POWER ENGAGED IN ECONOMIC DEVELOPMENT?

A. Since 2012 Kentucky Power has worked hard to attract new businesses to its service territory while also working to retain and expand existing businesses. New diversified economic activity in the Company’s service territory benefits both customers and the Company. Increased economic activity means new jobs and opportunity for the service territory, and new customers allow the Company to spread its fixed costs more broadly.

Q. PLEASE DESCRIBE KENTUCKY POWER’S RECENT ECONOMIC DEVELOPMENT EFFORTS.

A. I was hired in 2012 by Kentucky Power to reinitiate the Company’s economic development efforts. Between 2001 and 2012, the Company lacked an employee devoted to economic development efforts. As a first step after I was employed, Kentucky Power commissioned InSite Consulting to perform a “gap analysis” of
economic development efforts in the Company’s service territory and to develop a plan of action to close the gaps. Kentucky Power invested over $175,000 in shareholder funds for InSite’s services.

As I describe below, Kentucky Power in 2014 began the Kentucky Power Economic Advancement Program (“KEAP”). It provides economic development grant assistance to Lawrence County and its contiguous Kentucky counties. Also in 2014, the Company partnered with several banks in the communities it served to participate in its Local Bank Financing Program as part of a larger financing note issuance. The Local Bank Financing Program capitalizes on substantial local bank deposits and employs an otherwise under-utilized financial resource. The program provides investment-grade lending opportunities for local banks in the Company’s service territory and thereby aids in diversifying and strengthening their loan portfolio. The Local Bank Financing Program also aids in the economic development of the Company’s service territory by deploying local capital to fund local infrastructure development.

In 2016, Kentucky Power implemented the K-PEGG program through which the Company issued economic grants throughout its service territory. The K-PEGG Program is funded by revenues collected by the Company through the Kentucky Economic Development Surcharge and a dollar-for-dollar match of those revenues by the Company from shareholder funds. The Company also in 2016 moved its corporate headquarters to Ashland, Kentucky within its service territory. Finally, Kentucky Power recently hired Jacob Colley as another external affairs manager. Prior to joining Kentucky Power, Mr. Colley served as
President and CEO of the Southeast Kentucky Chamber of Commerce. Mr. Colley will be based in Pikeville and, as part of his job, will assist me to implement the Company’s economic development efforts.

Q. PLEASE DESCRIBE THE COMPANY’S LOCAL BANK FINANCING PROGRAM.

A. As part of a $200,000,000 financing package approved by the Commission in Case No. 2014-00210, the Company entered into a four-year variable rate $75 million loan facility with local Kentucky banks. The use of local bank financing is an innovative opportunity for the Company to partner locally to fund Kentucky Power spending with Kentucky capital. The program provided investment-grade lending opportunities for local banks in the Company’s service territory diversifying and strengthening their loan portfolios. Twelve different banks participated in the loan facility.

VI. INSITE ECONOMIC DEVELOPMENT GAP ANALYSIS

Q. WHAT IS AN ECONOMIC DEVELOPMENT GAP ANALYSIS?

A. An economic development gap analysis, like the one performed by InSite for Kentucky Power, is a comprehensive review of the current state of economic development efforts in a region. It evaluates the desired economic development framework against the current state of economic development efforts and identifies where gaps exist.

Q. WHAT DID THE GAP ANALYSIS PERFORMED BY INSITE CONSULTING SHOW?
A. InSite’s analysis identified the following key gaps in economic development efforts in the Company’s service territory:

- A lack of functional and properly trained local or regional economic development organizations;
- Limited competitive and marketable industrial parks and buildings;
- Insufficient marketing infrastructure for available opportunities; and
- Insufficient workforce development and training.

A copy of the InSite gap analysis report is included as EXHIBIT BNH-1.

Q. HOW DID THE RESULTS OF THE GAP ANALYSIS DRIVE KENTUCKY POWER’S ECONOMIC DEVELOPMENT EFFORTS?

A. The InSite gap analysis report provided Kentucky Power with a road map for its economic development program, and the Company’s efforts are directed at closing the gaps identified in the InSite Report. Closing these gaps provides the region with the best chance of attracting new business opportunities and, importantly, jobs. Kentucky Power’s program provides funding, through the K-PEGG Program, KEAP grants, and economic development funds provided by AEP, for economic development agencies to close the gaps identified by InSite.

The economic development projects funded by the Company are discussed in more detail below. However, in general, these projects are smaller projects designed to help regional economic development entities add incremental capabilities or to improve properties to make them competitive for new or expanded businesses.
Q. WHAT TYPES OF PROJECTS ARE SUPPORTED BY KENTUCKY POWER’S ECONOMIC DEVELOPMENT EFFORTS?

A. There are four types of projects supported by Kentucky Power’s economic development efforts:

(1) economic development agency support projects;
(2) workforce training projects;
(3) site development projects; and
(4) marketing and promotional projects.

These projects are designed to address the four key gaps identified in the InSite report.

Q. CAN YOU GENERALLY DESCRIBE THESE PROJECT CATEGORIES?

A. Yes. Economic development agency support projects are those that are designed to provide local economic agencies with resources necessary to best attract and retain businesses in the area. These projects range from initial investments to help economic development agencies get off the ground to on-going budgetary support for those organizations. These projects also include funding for education projects that provide key personnel within the economic development organizations opportunities to receive the best training available. This training equips economic development professionals in the region with the tools necessary to maximize their communities’ economic development potential and attract new businesses and jobs.

Workforce training programs are projects that allow local and regional economic development organizations to provide advanced training to workers.
These projects provide valuable tools to workers in the region in industries that have seen contraction. These tools allow workers to develop new skills that will allow them to compete in the modern workforce.

Site development projects address a lack of adequate building stock and industrial sites within the Company’s service territory. Projects addressing this need help local economic development organizations make the necessary infrastructure improvements in the region that will help them attract new businesses to their communities. These projects also assist communities in their efforts to obtain site certifications that will make the communities more competitive in economic development efforts.

Finally, marketing and promotion projects provide assistance to economic development organizations to allow them to promote their communities as viable options and attract companies looking to relocate or expand. These types of projects include targeted promotion of the sites and buildings that are ready for development and support for key regional organizations with the responsibility for economic development marketing in the service territory.

Q. **CAN YOU ASSESS THE SUCCESS OF KENTUCKY POWER’S ECONOMIC DEVELOPMENT EFFORTS?**

A. It is still early and there is much work to be done, but economic development momentum in the service territory is building. When Kentucky Power commissioned the InSite study in 2012, there were zero active economic development projects – defined as instances where communities were actively involved in potential business relocation or expansion efforts – within the region.
Currently, there are 23 active economic development projects in the service territory. Successful economic development projects have resulted in the creation of approximately 830 full-time jobs in the service territory, including approximately 550 full time (and 1,000 construction) jobs with Braidy Industries in Greenup County, 115 jobs with Logan Corporation in Magoffin County, 75 jobs with RCL Chemical in Floyd and Pike Counties, 65 jobs with Steel Ventures in Greenup County, 18 jobs with Quality Metal in Lawrence County, and 15 jobs with Thoroughbred Aviation Maintenance in Martin County. This is great progress, but much work remains. The Company’s priority is to expand this success throughout the region it serves.

VII. KENTUCKY POWER ECONOMIC GROWTH GRANT PROGRAM

Q. PLEASE DESCRIBE THE KENTUCKY POWER ECONOMIC GROWTH GRANT (“K-PEGG”) PROGRAM.

A. The K-PEGG Program provides grant funding targeted specifically at projects designed to enhance the economic development potential of the communities in the Company’s service territory. The program is focused on the four “gap-filling” project types described earlier in my testimony: (1) economic development agency support projects; (2) workforce training projects; (3) site development projects; and (4) marketing and promotional projects.

Q. HOW IS THE K-PEGG PROGRAM FUNDED?

A. The K-PEGG Program is a joint effort between Kentucky Power and its customers. In Case No. 2014-00396, the Commission approved the Company’s Kentucky Economic Development Surcharge Tariff (“Tariff KEDS”). Under
Tariff KEDS, the Company collects from each of its customers $0.15 monthly to support economic development activities within the service territory. The Company matches, on a dollar-for-dollar basis, the amounts collected through Tariff KEDS.

As of February 28, 2017, the Company had collected $493,529.46 through Tariff KEDS and had contributed a matching total of $493,529.46. Since inception, a total of $987,058.92 has been deposited into the KEDS program account. Kentucky Power maintains the KEDS program funds in a segregated account.

Kentucky Power distributes the funds in the KEDS program account through the K-PEGG Program. Through this program, Kentucky Power issues grants to economic development entities in the Company’s service territories. As of May 13, 2017, the Company has approved 17 K-PEGG Program grants totaling $831,200.

Q. **WHO IS ELIGIBLE TO PARTICIPATE IN THE K-PEGG PROGRAM?**

A. The K-PEGG program is open to communities within the Company’s service territory and to non-profit community economic development organizations such as chambers of commerce, area development districts, and broader regional economic development organizations such as SOAR, One East Kentucky, and Ashland Alliance. Kentucky Power does not issue grants directly to companies because it prefers to rely on the expertise of local economic development agencies to determine what projects and prospects are worth funding.

Q. **PLEASE DESCRIBE THE K-PEGG APPLICATION PROCESS.**
A. Kentucky Power reviews applications for grants under the K-PEGG Program throughout the year. If there are funds available in the K-PEGG Program account and the application is approved by the review team, Kentucky Power will issue a grant.

Each review team member reviews each K-PEGG application independently and then provides a “yes” or “no” vote supplemented by written support for their vote. Once all votes are received, a conference call is held to discuss any potential concerns, provide feedback, and issue a funding recommendation for the project. This recommendation is then forwarded to the Kentucky Power President & COO for final review and acknowledgement of the team’s recommendation. If the Company President accepts the team’s recommendation, I contact the applicant with the Company’s decision. If the Company President rejects the recommendation, the application is returned to the team for additional evaluation and a determination of whether additional support is necessary for the application or if the application should be denied.

Q. WHO SERVES ON THE K-PEGG PROGRAM REVIEW TEAM?
A. The K-PEGG application review team comprises nine members. Seven members of the team are Kentucky Power employees and the remaining two are external economic development professionals. The review team currently includes:

Kentucky Power Representatives

- Director, Customer Services
- Manager, Corporate Communications
- Manager, Reliability Services
Q. PLEASE DESCRIBE THE PROJECTS THAT HAVE RECEIVED GRANTS UNDER THE K-PEGG PROGRAM.

A. Since the launch of the K-PEGG program in January 2016, the Company has received a total of 23 grant requests. Of the 23 requests, the Company has approved 17 and denied 5. One of the applicants withdrew its K-PEGG application and submitted a similar request for a KEAP grant as described later in my testimony. The Company only distributes grant funding when sufficient funds are available in the K-PEGG Account.

Recipients of grants through the K-PEGG Program are listed below:

<table>
<thead>
<tr>
<th>DATE</th>
<th>RECIPIENT</th>
<th>PROJECT DESCR.</th>
<th>PROJECT TYPE</th>
<th>AMT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/23/16</td>
<td>One East KY</td>
<td>Support One East KY Budget Req’ts (2015/2016 budget)</td>
<td>EDA Support</td>
<td>$10,000</td>
</tr>
<tr>
<td>2/23/16</td>
<td>One East KY</td>
<td>Support One East KY Budget Req’ts (2016/2017 budget)</td>
<td>EDA Support</td>
<td>$50,000</td>
</tr>
<tr>
<td>2/17/16</td>
<td>Perry County Economic Dev. Board</td>
<td>Support PCEDB Budget Req’ts</td>
<td>EDA Support</td>
<td>$25,000</td>
</tr>
<tr>
<td>2/28/16</td>
<td>City of Hazard</td>
<td>Sewer Upgrades at Coalfields Ind. Park.</td>
<td>Site Development</td>
<td>$56,000</td>
</tr>
<tr>
<td>2/28/16</td>
<td>SOAR</td>
<td>Support SOAR Budget Req’ts</td>
<td>EDA Support</td>
<td>$25,000</td>
</tr>
<tr>
<td>DATE</td>
<td>RECIPIENT</td>
<td>PROJECT DESCR.</td>
<td>PROJECT TYPE</td>
<td>AMT</td>
</tr>
<tr>
<td>-----------</td>
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<td>---------------------------------------------------</td>
<td>--------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>4/29/16</td>
<td>City of Pikeville</td>
<td>City Broadband Project Engineering Design</td>
<td>Site Development</td>
<td>$75,000</td>
</tr>
<tr>
<td>6/27/16</td>
<td>One East Kentucky</td>
<td>Aerospace Assessment &amp; Marketing Plan</td>
<td>EDA Support; Mkting/Promotion</td>
<td>$37,500</td>
</tr>
<tr>
<td>6/27/16</td>
<td>Big Sandy Regional Ind. Dev. Auth.</td>
<td>Acquisition of Ind. Prop. in Martin Co.</td>
<td>Site Development</td>
<td>$100,000</td>
</tr>
<tr>
<td>7/20/16</td>
<td>Big Sandy Community &amp; Technical College</td>
<td>Equipment for Advanced Technology Center</td>
<td>Workforce Training</td>
<td>$75,000</td>
</tr>
<tr>
<td>7/20/16</td>
<td>Ashland Alliance</td>
<td>Aerospace Cert./ Marketing Plan</td>
<td>EDA Support; Mkting/Promotion</td>
<td>$84,000</td>
</tr>
<tr>
<td>8/15/16</td>
<td>Floyd Co. Fiscal Ct.</td>
<td>Bridge funding for RCL Chemicals Gas to Liquids Project</td>
<td>Site Development</td>
<td>$100,000</td>
</tr>
<tr>
<td>8/15/16</td>
<td>Ashland Alliance</td>
<td>Wurltand Riverport Ind. Park Infrastructure Improvement</td>
<td>Site Development</td>
<td>$15,000</td>
</tr>
<tr>
<td>4/5/17</td>
<td>One East KY</td>
<td>Support One East KY Budget Req’ts (2017/2018 budget)</td>
<td>EDA Support</td>
<td>$50,000</td>
</tr>
<tr>
<td>4/5/17</td>
<td>SOAR</td>
<td>Support SOAR Budget Req’ts</td>
<td>EDA Support</td>
<td>$25,000</td>
</tr>
<tr>
<td>4/5/17</td>
<td>Hazard - Perry County Economic Dev. Alliance</td>
<td>Support HPCEDA Budget Req’ts</td>
<td>EDA Support</td>
<td>$25,000</td>
</tr>
<tr>
<td>4/5/17</td>
<td>Southeast Kentucky Econ. Dev. Corp.</td>
<td>Consulting Services for Companies to receive ISO 9100 and/or AS 9100 certifications</td>
<td>Workforce Training</td>
<td>$60,000</td>
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<td>4/5/17</td>
<td>Pike Co. Fiscal Court</td>
<td>Creation of Teleworks Hubs</td>
<td>Workforce Training</td>
<td>$18,700</td>
</tr>
</tbody>
</table>

Further details of the projects funded by Kentucky Power through the K-PEGG Program are included in **Exhibit BNH-2**.

Q. **HAVE THERE BEEN ANY GRANT APPLICATIONS THAT HAVE BEEN DENIED?**
A. Yes. The Company has denied five K-PEGG requests since the program’s inception in January 2016. All five were denied primarily for lack of detail as to how the funds would be used. The Company provided feedback to the denied applicants on how they could refine their applications to make them more successful.

Q. **HOW DOES KENTUCKY POWER TRACK THE UTILIZATION OF K-PEGG FUNDS?**

A. Every K-PEGG grant recipient is required to provide a quarterly progress report to the Company until the project funded by the grant is complete. These reports provide the Company with information that allows it to ensure that funds provided are being used as planned. All of the money provided through the K-PEGG Program must be directed towards the project identified in the application and not for unrelated administrative expenses.

Q. **HAVE ANY OF THE PROJECTS FUNDED THROUGH THE K-PEGG PROGRAM RESULTED IN NEW JOBS?**

A. Yes. Before describing these early success stories, it’s important to recognize that many of the projects funded through the K-PEGG Program are not designed to result in direct job creation. Instead, those projects are designed to assist the local economic development organizations create and maintain the institutional infrastructure necessary for them to compete for businesses and jobs for the service territory.

That said, there are four projects worth noting as early success stories. First, Logan Corporation, a mining equipment manufacturer facing economic
difficulty as a result of the downturn in the coal mining industry, transitioned its
business to manufacturing dump truck beds. Logan’s facility in Martin County
was of insufficient size to meet the growing demand for its new product. Logan
identified an existing, vacant facility in Magoffin County that would meet its
needs, but needed someone to purchase its Martin County facility to make the
deal work economically. Kentucky Power issued a grant through the K-PEGG
Program to the Big Sandy Regional Industrial Development Authority
(“BSRIDA”) to allow it to purchase the Logan facility in Martin county. This
allowed Logan to purchase the larger facility in Magoffin County for its new
cross truck bed business. As a result of this investment, none of the 35 jobs at the
Martin County facility will leave the service territory, and Logan Corporation will
be adding an additional 80 jobs at the new facility in Magoffin County. In
addition, the BSRIDA now owns a facility it can market to prospective new
businesses.

Second, Kentucky Power provided a grant through the K-PEGG Program
to the Ashland Alliance to offset the costs of expanding a natural gas line in
Greenup County to support the development of a new galvanizing facility for
Steel Ventures, Inc. This new facility will result in 65 new jobs.

Third, Kentucky Power issued a grant to the Floyd County Fiscal Court to
support site development work necessary for RCL Chemical Conversion, LLC to
locate natural gas to liquids facilities in Floyd and Pike Counties. Once
constructed, the new facilities will result in 100 new jobs.
In each of these instances, the funds provided by Kentucky Power through the K-PEGG Program allowed local economic development authorities to close gaps in the packages they offered. Closing these gaps made it possible for the new business prospects to locate within the service territory.

Finally, both Ashland Alliance and One East Kentucky utilized K-PEGG funding to obtain “AEROready” certifications for the communities they serve. These independent certifications will help the communities demonstrate to aerospace-related companies that the region has the skilled workforce and assets necessary to the aviation and aerospace industry. The organizations used K-PEGG funding to complete the studies necessary to obtain the AEROready certification. The AEROready certifications played a key role in attracting Braidy Industries to Greenup County and Thoroughbred Aviation to Maintenance to Martin County.

VIII. NEED TO EXPAND K-PEGG PROGRAM

Q. IS KENTUCKY POWER PROPOSING TO EXPAND THE K-PEGG PROGRAM?

A. Yes. While the early results of the K-PEGG Program show promise, additional work is necessary to make the region’s economic development efforts more competitive. In order to expand the impact that the K-PEGG Program has on the economic development efforts in the region, Kentucky Power is proposing to expand the program by increasing the per customer surcharge from $0.15 per month to $0.25 per month. The Company’s matching contribution will correspondingly increase. The Company estimates that this increase will result in
adding approximately $400,000 annually to the amount available for economic
development through the K-PEGG Program.

Q. HOW WILL THE ADDITIONAL FUNDING FOR THE K-PEGG
PROGRAM IMPACT THE COMPANY’S ECONOMIC DEVELOPMENT
EFFORTS?

A. Increasing the scope of the K-PEGG Program will allow the Company to better
fill the gaps identified in the InSite report. Expanded funding will allow the
Company to support more economic development projects and perhaps more
importantly, give the Company more flexibility to respond to economic
development opportunities as they arise.

As discussed above, the Company can only issue grants for economic
development projects if there are funds available in the segregated K-PEGG
account. In 2016 alone, Kentucky Power had to delay its review of two
applications because there were insufficient funds in the Company’s K-PEGG
account. Increasing the funds available makes it less likely that funds will be
exhausted when economic development opportunities arise.

Also, additional funds in the K-PEGG account will also make it more
likely that the Company will have resources available to support larger economic
development projects in the region as they become available. Simply put,
increasing the amount of funds available in the K-PEGG Program will allow
Kentucky Power to capitalize on the momentum building in the region for
economic development.
IX. KENTUCKY POWER ECONOMIC ADVANCEMENT PROGRAM

Q. PLEASE DESCRIBE THE KENTUCKY POWER ECONOMIC ADVANCEMENT PROGRAM.

A. The Kentucky Power Economic Advancement Program (“KEAP”) is an economic development program through which the Company provides economic development funding for Lawrence County and the six Kentucky counties contiguous to Lawrence County – Boyd, Carter, Elliot, Johnson, Martin, and Morgan Counties (the “KEAP Counties”). Through KEAP, the Company provides $233,000 per year in economic development funding to the seven counties. KEAP originated in the Stipulation and Settlement Agreement relating to the transfer of an undivided fifty-percent interest in the Mitchell Generating Station to Kentucky Power approved by the Commission in Case No. 2012-00578 with certain modifications.

Q. PLEASE DESCRIBE HOW THE COMPANY IMPLEMENTS THE KEAP PROGRAM.

A. Kentucky Power created KEAP to implement its economic development obligations under the Stipulation and Settlement Agreement. Through KEAP, Kentucky Power annually makes $200,000 in grants to economic development projects in the KEAP Counties. The Company also makes annual contributions of $16,500 each to Ashland Community and Technical College and to Big Sandy Community and Technical College, the two community and technical colleges that serve the KEAP program area, for job training. Prior to disbursing money, the Company reviews each college’s planned job training programs to ensure they
meet the goals of the KEAP Program. The Company’s annual total contributions through the KEAP Program (in grants and in contributions to community and technical colleges) is $233,000.

Unlike the K-PEGG Program, where applications are accepted year round, the Company issues KEAP grants based on applications received during a fixed application period. Since inception, the KEAP program has provided a total of $931,150 in economic development funding for the KEAP Counties.

Q. CAN YOU DESCRIBE THE TYPES OF PROJECTS THAT HAVE RECEIVED KEAP GRANTS?

A. Like the projects funded through the K-PEGG Program, Kentucky Power has issued KEAP grants for projects that are consistent with filling the gaps identified in the InSite Report described above. Recipients of KEAP grant funding are listed below:

<table>
<thead>
<tr>
<th>YEAR</th>
<th>RECIPIENT</th>
<th>PROJECT DESCR.</th>
<th>PROJECT TYPE</th>
<th>AMT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>Gateway, FIVCO, &amp; Big Sandy Area Dev. Districts</td>
<td>Economic Development Training</td>
<td>EDA Support</td>
<td>$8,000</td>
</tr>
<tr>
<td>2014</td>
<td>City of Paintsville</td>
<td>Improve parking at Teays Branch property</td>
<td>Site Development</td>
<td>$100,000</td>
</tr>
<tr>
<td>2014</td>
<td>SE KY Chamber of Commerce (Louisa Chapter)</td>
<td>Upgrade existing building to support metal fabrication facility</td>
<td>Site Development</td>
<td>$92,000</td>
</tr>
<tr>
<td>2015</td>
<td>NE KY Regional Ind. Authority</td>
<td>Prepare “build ready” site at EastPark Industrial Park</td>
<td>Site Development</td>
<td>$100,000</td>
</tr>
<tr>
<td>2015</td>
<td>SE KY Chamber of Commerce (Louisa Chapter)</td>
<td>Upgrade industrial facility owned by Lawrence County</td>
<td>Site Development</td>
<td>$90,300</td>
</tr>
<tr>
<td>YEAR</td>
<td>RECIPIENT</td>
<td>PROJECT DESCRI.</td>
<td>PROJECT TYPE</td>
<td>AMT</td>
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<tr>
<td>------</td>
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<td>-----</td>
</tr>
<tr>
<td>2015</td>
<td>Gateway, FIVCO, &amp; Big Sandy Area Dev. Districts</td>
<td>Economic Development Training</td>
<td>EDA Support</td>
<td>$9,700</td>
</tr>
<tr>
<td>2016</td>
<td>Ashland Alliance &amp; NE KY Regional Ind. Authority</td>
<td>Upgrade spec building at EastPark Industrial Park</td>
<td>Site Development</td>
<td>$45,000</td>
</tr>
<tr>
<td>2016</td>
<td>Gateway, FIVCO, &amp; Big Sandy Area Dev. Districts</td>
<td>Economic Development Training</td>
<td>EDA Support</td>
<td>$10,400</td>
</tr>
<tr>
<td>2016</td>
<td>City of Olive Hill</td>
<td>Upgrade wastewater treatment facility to support additional users</td>
<td>Site Development</td>
<td>$25,000</td>
</tr>
<tr>
<td>2016</td>
<td>FIVCO ADD</td>
<td>Marketing property in EastPark Industrial Park</td>
<td>Mkting/Promotion</td>
<td>$4,000</td>
</tr>
<tr>
<td>2016</td>
<td>SE KY Chamber of Commerce (Louisa Chapter)</td>
<td>Upgrade equipment at facility used for metal manufacturing</td>
<td>Site Development</td>
<td>$92,750</td>
</tr>
<tr>
<td>2017</td>
<td>East Kentucky Advanced Manufacturing Institute (eKAMI)</td>
<td>eKAMI startup funding</td>
<td>Site Development</td>
<td>$50,000</td>
</tr>
<tr>
<td>2017</td>
<td>Ashland Alliance</td>
<td>Build Ready site certifications and marketing support</td>
<td>Site Development/Mkting/Promotion</td>
<td>$17,500</td>
</tr>
<tr>
<td>2017</td>
<td>One East KY</td>
<td>MRO Aerospace Project</td>
<td>Site Development</td>
<td>$88,200</td>
</tr>
<tr>
<td>2017</td>
<td>Ashland CTC</td>
<td>Equipment for Fiber Optic Technology Program</td>
<td>Workforce Training</td>
<td>$25,000</td>
</tr>
<tr>
<td>2017</td>
<td>Paintsville-Johnson Co. Chamber of Commerce</td>
<td>AS/ISO Certifications for American Metal Works</td>
<td>Workforce Training/Site Development</td>
<td>$20,000</td>
</tr>
<tr>
<td>2017</td>
<td>Gateway, FIVCO, &amp; Big Sandy Area Dev. Districts</td>
<td>Economic Development Training and Certifications</td>
<td>EDA Support</td>
<td>$3,300</td>
</tr>
<tr>
<td>2017</td>
<td>Lawrence County Fiscal Court</td>
<td>Teleworks Hubs</td>
<td>Workforce Training</td>
<td>$18,000</td>
</tr>
</tbody>
</table>

Details of the projects funded by Kentucky Power through KEAP grants are included in Exhibit BNH-3.
Q. HAS THE COMPANY BEEN ABLE TO QUANTIFY ANY SUCCESSES ASSOCIATED WITH THE KEAP PROGRAM?

A. Yes. As with the K-PEGG Program grants, many of KEAP Program grants are designed to bolster the economic development infrastructure in the region. For example, through funding provided by Kentucky Power through the KEAP grants, economic development professionals from three local economic development agencies have received economic development training from the renowned University of Oklahoma Economic Development Institute. Kentucky Power’s KEAP grants have also paved the way for Quality Metals to create 18 jobs in Lawrence County and for Thoroughbred Aviation Maintenance to create a facility in Martin County with 15 jobs.

Additionally, funding provided through KEAP grants have assisted economic development agencies in the Ashland, Louisa, Olive Hill, and Paintsville areas to improve infrastructure in those communities to attract new and support expansion of existing business. After these infrastructure improvements, economic development activity in these areas increase. In 2012, no sites in the KEAP Counties were actively involved in the site selection process. In 2016, that number had risen to four.

Q. IN 2016, KENTUCKY POWER ONLY ISSUED GRANTS FOR $177,150. HOW DID THE COMPANY ADDRESS THIS SHORTFALL?

A. In 2016, for the first time since the program was created, the Company only received grant applications for $177,500 and was unable to provide the full
$200,000 in grants. In 2017, the Company issued a total of $222,000 in KEAP
grants to make up for most of the 2016 shortfall.

Q. WHEN IS THE KEAP SCHEDULED TO WIND DOWN?
A. The Stipulation and Settlement Agreement requires Kentucky Power to provide
economic development support to the KEAP Counties for five years. Kentucky
Power made its first contributions under the KEAP in calendar year 2014.
Accordingly, KEAP will continue through the end of 2018.

Q. IS KENTUCKY POWER PLANNING TO CONTINUE IMPLEMENTING
THE KEAP AFTER 2018?
A. No. The Company plans to eliminate the KEAP after 2018 and transition all of its
economic development efforts to the expanded K-PEGG program. The K-PEGG
program is available to all economic development organizations within the
Company’s service territory, not just the KEAP Counties. Combining the
Company’s economic development efforts into a single program serving the entire
region will allow the Company to more efficiently utilize its economic
development resources throughout the service territory and to ensure the funds go
to address the most urgent needs. Economic development organizations in the
KEAP Counties will participate in the K-PEGG program, as they are able to
participate now.

X. OTHER KENTUCKY POWER ECONOMIC
DEVELOPMENT ACTIVITIES

Q. DOES KENTUCKY POWER ENGAGE IN ECONOMIC DEVELOPMENT
ACTIVITIES BEYOND THE K-PEGG PROGRAM AND KEAP?
A. Yes. While the KEAP and K-PEGG Programs are Kentucky Power’s primary economic development vehicles, the Company also participates in economic development activities through the use of corporate economic development funds. Additionally, the Company is actively redeveloping a portion of the Big Sandy Plant property for use as an economic development site. Finally, AEP has created the Appalachian Sky Initiative to attract aerospace industry to the region.

Q. CAN YOU DESCRIBE THE USE OF CORPORATE ECONOMIC DEVELOPMENT FUNDS?

A Yes. Every year Kentucky Power is allocated funds from AEP’s Economic and Business Development group for use within the service territory. These funds are wholly shareholder-provided funds.

Between 2012 and 2016, the Company has received over $300,000 from AEP’s Economic and Business Development Group. These funds have been used for economic development training for local economic development agencies, marketing of economic development opportunities in the region, and memberships in statewide economic development agencies that allow the Company to leverage its economic development efforts. Additionally, the funding for the InSite Gap Analysis Report described above was provided through AEP’s Economic and Business Development Group.

Q. HAS KENTUCKY POWER BEEN ALLOCATED ANY FUNDING FROM AEP’S ECONOMIC AND BUSINESS DEVELOPMENT GROUP FOR 2017?
A. Yes. AEP’s Economic and Business Development Group has allocated $54,000 to Kentucky Power for 2017. Kentucky Power will use this money to continue its efforts in closing the gaps identified in the 2012 InSite report.

Q. PLEASE DESCRIBE HOW THE COMPANY IS REDEVELOPING A PORTION OF THE BIG SANDY PLANT PROPERTY AS SITE AVAILABLE FOR ECONOMIC DEVELOPMENT.

A. Kentucky Power retired Big Sandy Unit 2 in 2015 and converted Big Sandy Unit 1 to natural gas in 2016. As a result of the retirement and conversion, Kentucky Power no longer requires the same amount of space to operate the Big Sandy Plant. Because the property is flat, served by utilities, served by rail, and well-located along US-23, the Company has begun redeveloping a portion of the property as a potential economic development location. To facilitate this redevelopment, the Company has advanced the timeline for demolition of Big Sandy Unit 2 and reconditioning of the coal storage yard.

Q. HAS THE BIG SANDY PROPERTY BEEN MARKETED TO ECONOMIC DEVELOPMENT TARGETS?

A. Yes. Kentucky Power is working with one of its regional economic development partners, One East Kentucky, to market the site to companies interested in relocating to the region. One East Kentucky has already submitted information on the site to a large chemical manufacturing company looking to expand its operations. The chemical manufacturing company has indicated that it plans to create 100 jobs. The Big Sandy site has also been marketed by the Kentucky Cabinet for Economic Development to a company interested in locating a facility
with rail access. The Cabinet indicated that the target company plans to create 1,000 jobs.

Q. PLEASE DESCRIBE THE APPALACHIAN SKY INITIATIVE.
A. Appalachian Sky is an initiative led by AEP to promote the Central Appalachian region, including Kentucky Power’s service territory, as a location for the aerospace industry. Appalachian Sky leverages the regional workforce and the skills necessary for the aerospace industry to diversify the economy of the region. Additional information regarding the Appalachian Sky Initiative is included in the testimony of Company Witness Satterwhite.

XI. RENEWABLE POWER OPTION RIDER

Q. ARE YOU FAMILIAR WITH THE CHANGES TO THE GREEN PRICING OPTION RIDER THE COMPANY IS PROPOSING IN THIS CASE?
A. Yes. The Company is proposing to amend to rename its current Green Pricing Option Rider as the Renewable Power Option Rider and incorporate additional options for customers wishing to obtain power from renewable sources. Additional detail regarding the design and operation of the Renewable Power Option Rider is provided in the testimony of Company Witness Vaughan.

Q. WILL THE RENEWABLE POWER OPTION RIDER ASSIST IN THE COMPANY’S ECONOMIC DEVELOPMENT EFFORTS?
A. Yes. The rider provides an additional economic development tool. Importantly, it does so at no costs to those customers who choose not to participate. Many companies that might be a good fit for the Company’s service territory have
established internal renewable energy requirements. This is especially true in high-tech companies that require data centers to run their operations. These data centers are large loads that would be attractive to the service territory. For example, Google has recently announced that it will obtain all of its power from renewable sources by the end of 2017. Other companies that have announced their intention to source their energy solely from renewable resources include Facebook, Bank of America, Microsoft, Philips Lighting, and Walmart. Without the changes proposed in the Renewable Power Option Rider, the communities in Kentucky Power’s service territory cannot compete for these opportunities.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.
SOUTHEAST KENTUCKY CHAMBER OF COMMERCE

REGIONAL BLUEPRINT FOR ECONOMIC DEVELOPMENT

Southeast Kentucky Chamber of Commerce
The Power To Be Heard

AEP KENTUCKY POWER®
A unit of American Electric Power

inSite
August 2013
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<thead>
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<th>SECTION</th>
<th>PAGE</th>
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<td>2: Executive Summary</td>
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<td>3: Asset Inventory</td>
<td>9</td>
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<td>4: Identified Gaps</td>
<td>11</td>
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<td>5: Regional Recommendations to Bridge the Identified Gaps</td>
<td>13</td>
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<tr>
<td>6: Local Recommendations to Bridge the Identified Gaps</td>
<td>30</td>
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<td>7: County and Existing Industry Inventory</td>
<td>31</td>
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<tr>
<td>8: Snapshot of Benchmark and Economic Conditions</td>
<td>41</td>
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<td>9: Implementation Schedule</td>
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SECTION 1: PROJECT INTRODUCTION

Kentucky Power Company retained InSite Consulting, an economic development and site selection consulting firm based in Greer, South Carolina, to develop initiatives and execution items to assist the Southeast Kentucky Chamber of Commerce with forming a regional economic development program for the eight-county region. The eight counties are: Letcher, Lawrence, Floyd, Martin, Johnson, Knott, Pike and Magoffin. This effort included specific focus on the eight-county region “getting on the map” for manufacturing projects. The purpose of the project was to guide the efforts of a customized plan for the region and its stakeholders that determined the best of class strategies, initiatives, methods, and techniques to encourage capital investment, create jobs in desired sectors, and stimulate sustainable economic growth throughout the southeast Kentucky region. InSite’s competitive assessment identifies specific economic development weaknesses and makes recommendations to mitigate those identified weaknesses. InSite’s assessment is a true "gap analysis" with three layers of evaluation: baseline of what is desired in a location; what you have to offer as a location; and what the resulting "gaps" are. A customized implementation plan was developed for the region to mitigate the location-specific gaps. Results: region and organizations that is truly "client ready and desired". The scope of services included:

- Alignment meeting
- Extensive and exhaustive tour and inventory, to include: local and public officials focus group meeting; stakeholders focus group meeting; product evaluation; and quality of life tour completed for:
  - Letcher, Johnson, Lawrence, Floyd, Magoffin, Knott, Martin and Pike counties
- Stakeholder and existing company discussions:
  - Over 26 one-on-one meetings and 122 individuals
- Exhaustive desktop, program and statistical analysis
- Development of a spreadsheet containing economic data relevant to choosing a location:
  - Benchmarking the southeastern Kentucky regional data against Johnson City, TN; Florence, SC; Charleston, WV; and Clarksville, TN-KY
- Recommendations for economic development excellence to include a newly formed regional public / private organization

This is a “working plan” that houses a check-list / step-by-step guide of initiatives that can actually be implemented, along with a suggested prioritized approach. With the proper strategy, the unique assets of the Southeast Kentucky region can be leveraged to recruit quality jobs benefiting all stakeholders. The Southeast Chamber of Commerce must utilize the following working plan to push forward and enhance initiatives that have lain dormant in an incomplete state or have never been addressed. Based on our research, the consulting team’s work experience, and community-level SWOT methodology, the following economic development initiatives will lead the region’s future economic development efforts, beginning with a solid foundation and producing sustainable results. There are four (4) basic outcomes to ensure the successful development of a champion economic development organization:

- Asset inventory
- A client readiness assessment and gap to success analysis for each county
- Organizational development and execution model
- A Regional Organization Blueprint for the future outlining the organizational structure and strategic plan recommendations that takes into account each county’s unique asset and potential liabilities
ORGANIZATIONAL STRATEGIES

It is imperative to first detail the baselines of a legitimate, functional economic development entity. The following are the critical elements that must exist to legitimize having tax-based funds dedicated to an economic development department whose sole purpose is to create jobs and investment for the county:

- Defined program of work for economic development
- Full staff at a minimum of two individuals to accommodate a professional, responsive, functioning economic development focused entity. This staff does not share responsibilities with any other county department and has only an economic development focus — estimated cost of at least $200,000
- Ability to work projects from finish to end (RFI to site visit)
- All individuals proficient in Word, Excel and PowerPoint
- Up-to-date technology to support the efforts of a functioning, professional organization such as smartphones, laptops, and the latest versions of Microsoft Office
- Business retention and expansion program
- Small business and entrepreneurial program
- Product databases, development and management
- Marketing materials for the community and industrial park to include a fully assembled and producible prospect package
- Proactive recruitment plan
- Internal or external communication plans
- Formalized future product development plan to include enhancing the existing and developing new
- Stand-alone economic development website / presence for economic development
- Ability to track business successes and losses
- Formalized incentive package

When inventorying each county and the region as a whole, it is important to note that none of the above is being executed at the local or regional level. So in essence, the counties / region are “out of business”. There is no economic development program in place with a formalized business plan to be the resource and Champion for economic development in Southeast Kentucky. We are not advocating that any of the above elements be executed at the local level. What we are saying is imperative is that the local leaders strongly commit to regional economic development efforts for the eight county southeast Kentucky region (Letcher, Lawrence, Floyd, Martin, Johnson, Knott, Pike and Magoffin) in both resource allocation and plan execution to reach short- and long-term goals. The following recommended strategies provide a best of class plan for the successful implementation of a Southeast Kentucky regional economic development effort to be called One East Kentucky (OEK):

REGIONAL STRUCTURE

A new regional public / private economic development organization must be created (One East Kentucky) within the Southeast Kentucky Chamber of Commerce for the eight county region to execute as a functioning economic development entity. Proposed funding from the private sector would come directly from existing chamber membership and targeted new investors under a new President’s Club for economic development with three funding levels.

FUNDING / BUDGET DEVELOPMENT

InSite recommends funding from local communities come directly from a county $0.20 per capita rate, multi-county coal severance monies annually and private sector contributions of at least fifty (50) percent of total contributions. Based on our benchmarking of best practices for economic development programs, the One East Kentucky (OEK) Regional Economic Development Program should have an annual budget in the range of $700,000 to $900,000.
SECTION 2: EXECUTIVE SUMMARY

PERSONNEL

To successfully implement a quality regional economic development program, there are four main priorities with regard to personnel: President of Economic Development; Vice President of Research; Vice President, Business Retention and Expansion; and Vice President, Project Management.

PROCESS RECOMMENDATIONS

InSite recommends comprehensive procedures be incorporated into project response and execution models for project management including Request For Information (a Request For Information / RFI is a community questionnaire issued by a consultant to a region on behalf of prospective companies to gather critical location information) team training, client visit team training and local company involvement.

REGIONAL BRAND

One East Kentucky must develop a new business brand highlighting the region’s business assets such as highway access, trainable workforce, proximity to markets, UPIKE, healthcare facilities, etc.

PROFESSIONAL DEVELOPMENT

InSite recommends hiring an outside site selection consultant to conduct basic economic development training for community stakeholders including but not limited to OEK personnel, OEK board members, county officials, city officials, utilities, business leaders, etc.

PROGRAM OF WORK STRATEGIES

BUSINESS RETENTION AND EXPANSION PROGRAM (BRE)

One East Kentucky must develop a formalized business retention and expansion program (BRE) staffed by a full-time BRE Vice President. The BRE program will include incentive grants facilitation, industry appreciation event, publication of industry directories, visitation program, milestone achievement awards, creation of a manufacturing managers association, a human resources managers association, a dedicated project management website tab for local companies and adding a vertical marketing element to the program.

PRODUCT AND INFRASTRUCTURE STRATEGIES

Our team evaluated the region’s product from the perspective of a site selection consultant conducting a client site evaluation. The consulting team’s review of the region’s product development offerings reveals an inadequate inventory of viable sites and buildings within the region. Information on most sites and buildings was not readily available, and when information was available, it was inaccurate. There are currently no viable (at least 24 ft. clear height; infrastructure in place with excess capacity; no interior walls; no existing structures; no pits; not a special use; in an industrial park – all are examples of viability), available industrial buildings in the eight-county region listed on the ThinkKentucky.com website. Presently, there is no local or regional mechanism for providing prospective companies with online product information. The lack of product information is at a critical, emergency level. Without viable, fully infrastructure (water in excess, sewer in excess, natural gas, electric, and fiber) product in a community, an economic development program will not attract quality companies.

During our analysis, the consulting team discovered several properties throughout the region that may be viable product development offerings in the future with proper due diligence by the respective landowner. Our team recommends regional inventory and evaluation for available sites, parks and buildings that could be marketed to prospective companies. These efforts are currently underway through Kentucky Power’s Regional Product Development Program. This program will identify, evaluate and prioritize marketable properties in the region.
SECTION 2: EXECUTIVE SUMMARY

Please note for several business parks in the region, InSite has recommended changing the name of the park for marketing purposes. Due to the large percentage of companies utilizing web searches to identify potential locations, it is crucial that these business parks present a national or global presence in order to maximize internet search results. In addition, clients prefer the park name, their “home”, to have a global location impact – an indicator to their suppliers, customers, etc., as to where they are in the world. The following recommendations for the respective landowners focus on a select group of properties within the region:

GATEWAY REGIONAL BUSINESS PARK

This is a 200 acre regional business park located on Hwy. 23 in Letcher County. This site has all utilities and is owned by the Appalachian Industrial Authority. The state site flyer indicates a negative 15,000 gallons in excess sewer capacity which would contribute to the park not being short listed in a competitive site search. InSite recommends: rename the park, increase excess sewer capacity, create new park website, develop comprehensive incentive package for the park, and provide all park information on the website.

HONEY BRANCH REGIONAL BUSINESS PARK

Consisting of approximately 300 acres, this regional business park, located in Martin County, has all utilities on site. Excess sewer capacity is listed at only 37,000 gallons per day which is a significant weakness in a competitive site selection search. The park is adjacent to the Big Sandy Federal Prison, a high security penitentiary housing approximately 1,400 inmates. Our recommendations with regard to making this site marketable: be cognizant that the adjacent prison limits the marketability of the site, so prioritize efforts listed respectively; improve 37,000 gallons per day excess sewer capacity; change the name of the park - create a global, recognizable identity; develop a master plan for the park; develop at least one pad ready site in the park; complete InSite's Site Questionnaire; market as a Permitted Business Ready Park; develop a new marketing piece for the site; and develop a comprehensive incentive package for the park.

STONE CREST SITE

Owned by the City of Prestonsburg and with all utilities on site, this 30 acre site sits adjacent to the Stone Crest golf course. This is a unique site as road access is not great but, if marketed properly, could be positioned as a headquarters location, to include outdoor or sporting equipment companies. Our recommendations with regard to making this site marketable: needs to be master planned; rename it to Southeast Kentucky Vista Corporate Park - create a global, recognizable identity; conduct a site evaluation process to validate marketability; complete InSite’s Site Questionnaire; market as a Permitted Business Ready Park; develop a master plan for the park; create protective covenants for the park; develop a marketing piece for the site; develop a comprehensive incentive package for the park; create a forgivable loan / grant program for the land.

MARION’S BRANCH SITE

Marion’s Branch consists of 1,000 acres (400 acres developable) owned by the City of Pikeville. Water and natural gas service are available on site with plans to extend sewer and telecommunications service within twelve months. Rail accessibility is provided by an off loading site adjacent to the Marion’s Branch Park. Currently, road access to the site is a weakness. The current access road goes through a residential area and would not meet industrial standards. Plans have been completed for the construction of a new road served directly by Hwy. 23. Presently, Marion’s Branch would not compete favorably in a competitive site selection search due to access. However, considering the early developmental stages of the site and planned infrastructure improvements, this site has the potential to become a significant job creation tool for the entire region. The following represents some of our recommendations with regard to marketing initiatives for the Marion’s Branch Site: complete InSite’s Site Questionnaire; construct new entrance road as soon as possible; develop an entrance sign for the park; create protective covenants for the park; create a name for the park - create a global, recognizable identity; provide the most competitive telecommunications infrastructure possible; change the master plan for the park by eliminating residential development; include provisions to ensure the park is pedestrian friendly; and market as a Permitted Business Ready Park.
SECTION 2: EXECUTIVE SUMMARY

SCOTT FORK SITE

This is a 78 acre site owned by Pike County with frontage on Highway 119. Scott Fork has natural gas, water and fiber on site but does not have sewer service available. There are two pad ready sites in the park with the largest contiguous parcel of 20 acres. Scott Fork, due to lack of sewer service, would not be viable in a competitive site selection search. The site is not listed on ThinkKentucky.com and the county does not have an economic development website. The following represents some of our recommendations with regard to marketing initiatives for the Scott Fork site: extend sewer service to the park as soon as possible; change the name of the park (Kentucky Energy Business Park) - create a global, recognizable identity; complete InSite’s Site Questionnaire; market as a Permitted Business Ready Park; develop a master plan for the park; create protective covenants for the park; and develop an entrance sign for the park.

HOLLAND SITE

The Holland site is a privately owned 850 acre tract located in Paintsville. All utilities (water, sewer, natural gas, fiber) are on site. There is a 40,000 SF building (formerly MidWay College) at the entrance to the Holland site. Information regarding excess capacities and topography was limited at the time of our team’s visit. Information obtained included excess water capacity of 3 MGD and excess sewer capacity of 400,000 GPD, which are tremendous assets. The site is not actively being marketed at this time and is not listed with the Kentucky Cabinet for Economic Development. Our team did not conduct an exhaustive review of the 850 acre site but recommends further site due diligence be conducted to determine the viability of developing it as a new business park. If this is a site the community desires to market, the following lists some of items that must be addressed before attempting to market to prospective companies: determine from the landowner the property’s availability and willingness to enter into a marketing agreement; site due diligence – must be completed before any other steps are taken; work with One East Kentucky to identify competitors’ business parks within and outside of the region and develop a superior product offering for expanding and relocating companies; name the park based upon a nationally recognized brand.

COAL FIELDS REGIONAL INDUSTRIAL PARK

Consisting of approximately 385 acres, this regional business park, located in Perry County, has ample excess water and sewer capacity (1.4 MGD) on site. However, the lack of natural gas service in the park is a significant weakness in a competitive site selection search. Coal Fields currently has four tenants in the park and one available industrial building (300,000 SF Woodmark Facility). Some of our recommendations with regard to making this industrial park marketable: extend natural gas service to the park; change the name of the park - create a global, recognizable identity; develop a master plan for the park; and develop at least one pad ready site in the park.

EASTPARK REGIONAL BUSINESS PARK

This is an 800 acre regional business park located in Ashland. This site has all utilities and is owned by the Northeast Kentucky Regional Industrial Authority. The state site flyer indicates an N/A in excess sewer capacity which could contribute to the park not being short listed in a competitive site search. Some of our recommendations with regard to making this park marketable include: develop a new website for the park; leverage the excess water capacity of 13 MGD; and develop at least one pad ready site in the park.

CHESTNUT MOUNTAIN

Knott County owns the 65,000 SF Sportsplex and related baseball and soccer fields, located within the 650 acre Chestnut Mountain development. Chestnut Mountain is owned by a private development company. Currently the site is being marketed as a commercial and residential development. Other than the Knott County recreation complex (Since 2007), there have been no business or residential development in Chestnut Mountain. Chestnut Mountain possesses four lane highway frontage on Hwy. 80. Limited information on natural gas availability and excess water and sewer capacity is a significant weakness. Our team did not conduct an exhaustive review of the 650 acre site but recommends further site due diligence be conducted to determine the viability of developing it as a new business park. If this is a site the community desires to market, the following lists some of items that must be addressed before attempting to market to prospective companies: determine from the landowner the property’s availability as an industrial park and willingness to enter into a marketing agreement; site due diligence – must be completed before any other steps are taken; work with One East Kentucky to identify competitors’ business parks within and outside of the region and develop a superior product offering for expanding and relocating companies; name the park based upon a nationally recognized brand.
SECTION 2: EXECUTIVE SUMMARY

MAGOFFIN COUNTY SITE (GIFFORD SITE)

Magoffin County owns 200 acres (80 useable acres) located on the Mountain Parkway. At the time of our site visit, there was limited access to the site, no natural gas service and limited water and sewer service information. However, this site possesses Mountain Parkway frontage with a planned interchange and improvements of the parkway from two lanes to a four lane highway at the site’s entrance. Magoffin County also owns the site’s mineral rights and may have the opportunity to provide low cost natural gas to potential companies. For this site to be viable, the following list of items must be addressed before attempting to market to prospective companies; site due diligence – must be completed before any other steps are taken; master plan the site; create a forgivable loan/grant program for the land; develop protective covenants for the park; market the availability of inexpensive natural gas; develop a comprehensive incentive package for the park.

SMALL BUSINESS AND ENTREPRENEUR PROGRAM (SBE)

Empowering and supporting small business and entrepreneurial efforts should be a critical element of the region’s sustainable economic development goals. Small businesses and entrepreneurs are primary mobilizers of resources for the local economy and are stabilizing factors in society as a whole. They are a source of innovation in services, products and technologies. These entities provide a tremendous employment base for all thriving communities. One East Kentucky should serve as a clearinghouse of information for small business. Small Business program of work recommendations include providing a dedicated entrepreneur / small business tab on the OEK website, and developing a database of all available commercial and retail buildings in the region.

MARKETING AND COMMUNICATIONS

A region’s identity and “marketing toolbox” is critical to the success of any economic development program. These key items that will assist in the communication of the location assets of the region:

WEBSITE

Currently, there is no dedicated economic development website for the region. Therefore, our consulting team recommends developing a stand-alone One East Kentucky website that features existing companies, new buildings and sites database, incentives tab, a BRE tab, and a workforce tab, etc.

SALES MESSAGE

InSite recommends utilizing “talking points” (see Asset Section) as a consistent economic development message in all written and verbal communication, including the region sound bite.

SALES MATERIALS

Incorporate new regional identity in all marketing materials including the development of site / building brochures; a profile of taxes and incentives; an existing industry testimonial piece; and a comprehensive prospect notebook.

INTERNAL AND EXTERNAL COMMUNICATION PLANS

A communication plan for internal and external audiences was developed that includes the development of an email blast template, a sequencing of communications to all established internal and external databases / targets on a consistent basis, company visitations and permission-based marketing campaign.

OTHER AREA PROGRAM RECOMMENDATIONS

FLOYD, JOHNSON, KNOTT, LAWRENCE, LETCHER, MAGOFFIN, MARTIN AND PIKE COUNTIES

InSite recommends local communities assume the roles and responsibilities for the following program of work elements to include but not limited to: developing local incentive packages; compiling product information; providing RFI and prospect visit support; supporting regional airport initiative; developing fully infrastructured industrial parks; promoting tourism, etc.
SECTION 3: ASSET INVENTORY

REGIONAL ASSET INVENTORY

A critical element of lnSite’s methodology was to inventory the locational asset of the region. Leveraging these assets will be important in the implementation of the organizational recommendations, creating a quantifiable marketing approach to recruit jobs and investment to the area. The following are some of the key business assets discovered:

- Gateway Regional and Honey Branch Business Parks – fully infrastructured industrial parks
- Potential product examples: Marion’s Branch; Holland site; Stonecrest Site; Scott Fork; Chestnut Mountain; East-Park; Coal Fields; Thunder Ridge; Gifford Site; RJ Property; and West Property Group
- Highway transportation - Great four-lane transportation access; quality access to West Virginia and Virginia
- Midway College building
- Brown Foods building
- Woodmark building
- Potential excess water capacity
- Potential excess sewer capacity
- Big Sandy Community and Technical College system
- Available, trainable labor force
- Southeast Kentucky Economic Development Corporation
- Access to higher education
- Access to technical colleges and vocational schools
- Apprentice program in development
- General aviation
- Rail access in limited locales
- Proximity to commercial airports (Huntington, WVA; Charleston, WVA; Lexington, KY; Blountville, TN)
- Southeast Kentucky Chamber of Commerce regional approach
- Renewed focus on economic development from Kentucky Power
- Competitive electric rates
- Eastern Kentucky Concentrated Employment Program, Inc. (EKCEP)
- H.O.M.E. Program
- Governor Patton
- Strong existing industry like Kellogg, Joy Mining, Booth Energy
- UPIKE
- Big Sandy Area Development District
- Kentucky River Area Development District
- Access to Federal and State political resources – Mitch McConnell, Senate Minority Leader; Hal Rogers, Chairman of House Appropriations Committee; Greg Stumbo, Speaker, Kentucky House of Representatives; Robert Stivers, President of the Kentucky Senate
- Hospital / access to medical care
Regional Blueprint for Economic Development
Kentucky Power Company and Southeast Kentucky Chamber of Commerce

InSite's Radical Take on Economic Development Strategies
Confidential and Proprietary Property of InSite, LLC.

SECTION 3: ASSET INVENTORY

- Pikeville Medical Center – Affiliate of Mayo Clinic Healthcare Network
- Access to recreational facilities (golf, trails, lakes, natural resources)
- Low cost of living
- Equine center
- Low crime rates

A unit of American Electric Power
SECTION 4: IDENTIFIED GAPS

IDENTIFIED GAPS

InSite’s process and assessment identified specific economic development strengths within each organization with regard to attracting and retaining investment and jobs. We identified weaknesses and made recommendations to mitigate those identified weaknesses. InSite’s assessment, in cooperation with property owners and local governments, is a true "gap analysis" with three (3) layers of evaluation: baseline of what is desired in a location; what each county has to offer as a location; and what the resulting "gaps" are. In addition, we developed a customized implementation plan for the Southeast Chamber of Commerce’s new economic development department to mitigate location-specific gaps and become the target of companies that are looking for the region’s location-specific assets. Results: in cooperation with owners and local government, a region of communities that is truly "client ready and desired". The following is a comprehensive listing of the existing gaps at the local and regional level to successful economic development efforts for the southeastern region. The recommendations to bridge these gaps follow the identified gaps.

PROGRAM / PRESENCE / OPERATIONS

- No functional, local or regional economic development programs
- No Champion or vision for economic development, locally or regionally
- There is no entity within the Southeast Region representing the interests of economic development in assisting with job growth and capital investment. There is no entity quantifiably working for the best interest of the unemployed in the Southeast Region
- No local or regional economic development programs of work (adequate staff; Business Retention and Expansion; Small Business and Entrepreneurs; proactive marketing; Economic Development website presence; research capability; process execution; product development, etc.)
- No one-source contact person for economic development
- No unified plan to bring all entities together with a common vision
- No local commercial airport
- Dependency on mining
- Lack of globally recognized brand / identity
- Minimal use of “war horses” (UPIKE and Pikeville Medical Center) for economic development efforts
- Inability to work projects from finish to end (Request for Information (RFI) to site visit)
- Lack of leadership’s understanding of what economic development means
- No entity is tracking business wins and losses in the region

PRODUCT

- Limited competitive, marketable industrial parks
- Limited competitive, marketable existing buildings
- No future product development plans / program of work
- Gateway Regional Business Park deficiencies: lack of excess capacity; lack of fiber; lack of critical information available
- Honey Branch Regional Business Park deficiencies: lack of excess capacities; incompatible surrounding use; lack of critical information available
- Lack of information on all product: Marion’s Branch; 850 acres in Johnson County (Holland Property); 40,000 SF former Midway College facility in Paintsville / Johnson County; 650 acres (Chesnut Mountain) in Knott County; 200 acre Gifford Site in Magoffin County; Stonecrest site owned by Prestonsburg; 100 acre Thunder Ridge site in Floyd County; Letcher-County rail served site; 86,000 SF Brown Foods building located in Louisa and Lawrence County; Louisa owned 9 acre site
SECTION 4: IDENTIFIED GAPS

- Consistent theme of lots of “property” but no information which translates to not viable or marketable
- Minimal sewer capacity to key regional product
- Lack of diverse industrial base
- No comprehensive database of available product in the region

MARKETING

- No proactive recruitment plans
- Misperception of great highway system in eastern Kentucky. Several individuals expressed that transportation was a challenge. As site selection experts, we see the transportation system of interstate quality highway systems to be a great asset.
- Billboards cast negative impression on the community. Limit the number of billboards as they distract from the natural and professional integrity of the area
- No dominant economic development web presence
- No internal or external communication plans at the local or regional level
- No marketing materials at the local or regional level for clients
- No formalized prospect packages

WORKFORCE DEVELOPMENT / TRAINING

- Perception of lack of skilled trade workers
- Upgrade the unemployed minors’ skills base
- Need more employer involvement with the community college
- Inability to breakdown the unemployed miner population by type and number of and workers

BUSINESS CLIMATE

- Dependency on mining
- Loss of hope

INCENTIVES

- Lack of formalized incentive programs with documentation at the local level

POLITICAL CLIMATE

- Lack of harnessed political clout that resides at the state level to make things happen at the local level
- Local political system is a monumental gap; county entities work against one another – lack of consensus
- Too dependent on coal severance tax revenue
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

The southeastern Kentucky region is in great need of an organization that creates an economic development presence in the United States. Currently, there is no Champion or vision for economic development locally or regionally. There is no vehicle to develop or execute a plan that brings all the entities touching economic development in the region together with a common vision. There is no arena for the economic development pillars such as UPIKE, Pikeville Medical Center, Appalachian Wireless, Kellogg, Joy Mining and Booth Energy to collaborate and be a force for business expansion and recruitment efforts, both within their own companies and new companies. There is an inability within the region for any entity to work an economic development project / prospect from start to finish – from the request for information (RFI) to the client visit.

InSite is recommending through the following strategies that the Southeast Kentucky Chamber develop an operating division, One East Kentucky (OEK), dedicated solely to the efforts of economic development for the region. The following strategies based upon our evaluation of the region and consulting experience, provide a vehicle for the assets of the entire region to be leveraged, the gaps to success to be addressed and the voice of southeast Kentucky to be heard through the new organization (OEK). These recommendations take into account each county’s capabilities and do not duplicate any efforts that are currently being executed. It provides each county with a team to leverage and support their efforts and a vehicle to not only create a national presence, but also one to recruit new industry and grow existing companies. The following recommendations provide an economic development blueprint for creating jobs and capital investment in the region for OEK to follow, step-by-step, in order to successfully win projects.

ORGANIZATIONAL STRATEGIES

When inventorying each county and the region as a whole, it is important to note that none of the above is being executed at the local or regional level. So in essence, the counties / region are “out of business”. There is no economic development program in place with a formalized business plan to be the resource and Champion for economic development in Southeast Kentucky. We are not advocating that any of the above elements be executed at the local level. What we are saying is imperative is that the local leaders strongly commit to regional economic development efforts for the eight county southeast Kentucky region (Letcher, Lawrence, Floyd, Martin, Johnson, Knott, Pike and Magoffin) in both resource allocation and plan execution to reach short- and long-term goals. The following recommended strategies provide a best of class plan for the successful implementation of a Southeast Kentucky regional economic development effort to be called One East Kentucky (OEK):

REGIONAL STRUCTURE

A new regional Champion, public / private organization, for economic development must be created, beginning with a new regional economic development entity (One East Kentucky) within the Southeast Kentucky Chamber of Commerce for the eight-county region. This organization must have a plan and provide a blueprint for proactive regional economic development. This public / private partnership will be funded from existing chamber members to include local industry and communities.

Proposed funding from the private sector would come directly from existing chamber membership and targeted new investors under a new President’s Club for economic development with three funding levels ranging from $5,000 to $15,000 annually, with contributions equaling at least (50) percent of total contributions. Please note that all regional economic development supporters must be current members of the Southeast Kentucky Chamber or a local chamber. The regional economic development advisory board would be separate from the Chamber board and consist of chosen President level contributors (who must be members of the Chamber or a local chamber) and the immediate past Chairman of the Southeast Kentucky Chamber. The immediate past chairman of the Southeast Kentucky Chamber would become the chairman of the new One East Kentucky regional economic development organization. This board would consist of no more than nine members and would meet on a quarterly basis. All monies raised for economic development would be separate from normal Chamber dues. Key steps in this process include:

- Create a new, professional organization with a qualified plan, to include governing bylaws, that will appeal to investor communities and companies
- Develop a target list of key, potential investors
- Present the region’s new economic development program of work to the target group of key, potential investors individually (entities most likely to contribute first)
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

- Once two or three champions have committed, have them present the economic development vision to a large group of potential investors (including communities) and explain how they can help diversify and grow the local economy. Utilize the new champions to deliver the message

- Develop the governing board of eleven members. These members must contribute at the President level and be directly involved in existing business and industry throughout the eight-county region

- After gaining local community and private sector financial support, meet with county judges and state legislative delegation for commitment of multi-county coal severance monies annually to assist in funding the regional economic development program

FUNDING / BUDGET DEVELOPMENT

Proposed funding, which should be at least fifty-five percent, from the private sector would come directly from existing chamber membership and targeted new investors under a new President’s Club for economic development with three funding levels ranging from $5,000 to $15,000 annually. Proposed funding from local communities would come directly from a $0.20 per capita rate, multi-county coal severance monies of $500,000 annually and occupational tax. Any communities joining after OEK’s first organizational year may join the regional effort at a $0.40 per capita rate. All monies raised for economic development would be dedicated to business expansion / recruitment efforts and remain as a separate accounting function from normal Chamber dues / financial operations. Based on our benchmarking of best practices for economic development programs, the One East Kentucky (OEK) Regional Economic Development Program should have an annual budget in the range of $700,000 to $900,000. Possible economic development budget items may include but not be limited to salaries, FICA, insurance fringe, retirement fringe, workers compensation, vehicle allowance, marketing, office supplies, postage, dues/publications, printing, travel, training, telephone, and professional services.

PERSONNEL

There are several priorities with regard to staffing that need to be addressed by the new economic development operating unit (OEK). The first three staffing priorities are immediate needs:

- The number one priority is to hire a President of Economic Development to focus solely on retention and attraction of companies to the region. Professional qualifications would include but not be limited to; a Bachelor’s degree in business, economics, marketing, finance, or closely related field, with an advanced degree preferred. The ideal candidate will have a proven track record of executive or senior leadership experience and may come from a variety of backgrounds such as: top executive within a progressive and comparably-sized economic development-focused organization; experience as a No. 2 or senior-level executive at a larger like enterprise as described above.

- The second priority is to hire a research person whose main function is to maintain the sites and building database respond to RFIs, update and manage website content and coordinate directly with the counties and Area Development Districts to meet various project needs.

- The third priority for a new staff position must be the addition of a business retention Vice President. The Business Retention and Expansion (BRE) VP’s responsibility will be the implementation of the new BRE program (as outlined further in this document) and assisting with project RFIs and business attraction projects.

- The fourth priority for a new staff position would be the addition of a Project Manager whose responsibility would be to manage prospect leads and new projects.

- Utilize existing chamber communications manager for economic development marketing.

- Create and fund a formalized, consistent year-round internship program with the University of Pikeville and local Community / Technical Colleges to conduct research and assist with maintaining and updating the economic development website, available site and buildings database, target company database, research and other functions as necessary.
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

PROCESS RECOMMENDATIONS

InSite recommends the following process recommendations be incorporated into project response and execution models for project management:

- Develop relationships locally to extract key data / information
- Develop relationships at the ADD level
- Develop and train a Request for Information (RFI) Team:
  - Most RFIs request consistent information, so make sure individuals proficient and knowledgeable in specific areas are not only educated about the RFI process, but are always mobilized to submit information
  - Content and team includes but not limited to: utilities (water, sewer, electric, natural gas, and fiber — have them calculate the rates); rail; building or site owner; environmental; permitting; taxes; and incentives
  - Sit down with the RFI Team and go over their portion of the RFI to explain the necessary content. Supply them with an overview of the project details and timeline (no matter how brief or short)
  - Communicate the talking points detailed in the Marketing Section for their training purposes
- Develop and train a Consultant / Client Visit Team:
  - Any participant in the visit process should have first had professional economic development training.
  - Each time a consultant and or client visits, the following entities should be represented at all times: local company executives (1 - 2 individuals); new economic development organization professionals; electric utility provider representative; community college; land and / or building owner; all entities directly involved in the incentive decision making process; and only one state project manager.
  - Sit down before the visit with the Visit Team and go over in detail the project description, timeline and completed RFI. Highlight their specific role and purpose in the discussions. Communicate the talking points detailed in the Marketing Section for their training purposes. Discuss in detail what to say and what not to say.
  - Conduct a pre-visit trial run for logistic purposes.
  - Begin all community visits at a local manufacturing company’s facility (Kellogg, Joy Mining, Booth Energy, etc.) as logistics allow. Always have a senior-level company executive conduct the community welcome. Perform the entire community orientation (focus on location orientation, transportation routes, regional labor force statistics, and incentives) and overview at the company’s offices, to include PowerPoint presentation and refreshments. In addition, produce an electronic overview of the site/building clearly delineating all utilities and roads; provide all documents in hard copy and on a flash drive; make all documents accessible via password on a protected project website which will allow prospects real time access to information.
  - Minimize local government and maximize private business exposure to clients / prospects.
  - Have a tent (if possible) and table(s) on the actual, proposed site and or in the building to review the site and park and or building layouts. Include bottled water as refreshment.

REGIONAL BRAND

InSite suggests One East Kentucky focus on an updated brand for the region to assist with website development, a new tag line, marketing materials, site and building brochures, etc.

- Develop a comprehensive and cohesive regional brand for business:
  - The brand should be concise and based upon the region’s business assets such as highway access, trainable workforce, proximity to markets, University of Pikeville, etc.
- Retain an economic development-focused marketing firm to assist with finalizing the brand for production and communication purposes (brochures, website, etc.) to include focused marketing message, tagline and website.
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

PROFESSIONAL DEVELOPMENT

InSite recommends hiring an outside site selection consultant immediately to train the following entities and individuals on basic economic development concepts and the business assets of the region:

- One East Kentucky (OEK) personnel
- OEK board members
- County officials
- City officials
- EKCEP
- Utilities
- Stakeholders
- Any participant in client/prospect visits

InSite recommends a site selection visit simulation with the new economic development team. This will assist with the efforts of training and mobilizing response and visit teams, as detailed in the Process Recommendations of this document.

PROGRAM OF WORK STRATEGIES

Southeast Kentucky’s regional economic development success depends on executing a focused program of work. The following regional program of work concentrates on four primary areas: Business Retention and Expansion Services; Product Development Services; Entrepreneurial & Small Business Services; and Marketing and Communication Services.

BUSINESS RETENTION AND EXPANSION PROGRAM

In discussing the importance of a dedicated, formalized business retention and expansion program (BRE), the following should be emphasized: there must be an organization and staff who maintains ownership of the program; competing states are targeting the region’s existing companies; a large percentage of closures arise from mergers and acquisition, consolidations, restructuring, and planned relocations—some of which can be minimized with a solid BRE plan; and a true program legitimizes the commitment to local companies. Considering the fact that, nationally, roughly 80 percent of all new jobs and capital investment are created by existing companies, InSite recommends the following strategies for One East Kentucky (OEK) for a dedicated business retention and expansion program. The strategies and program language include expanding existing chamber efforts:

COMMITTEES AND ASSOCIATIONS

Existing Industry Committee: The Existing Industry Committee, comprised of local companies, is a committee dedicated to the retention and expansion of existing industry in the Southeast Kentucky eight county region. This committee:

- Meets throughout the year (quarterly) to refine and improve current programs, develop new programs, and discuss new ideas and opportunities pertaining to existing industry and the business retention program.
- Serves as a rapid response team that assists existing companies with small and large emergencies.
- Will be capable of addressing everything from regulatory issues to a potential facility closing.

Manufacturing Managers Association (MMA): OEK manages all operations of the Manufacturing Managers Association (MMA). Members must be comprised of only the top management (General Management) of private sector business and industry (including large commercial and distribution operations) in the region. The MMA will provide these leaders with the opportunity to foster working relationships between and among industry and at the same time work together to better the community. The MMA should meet on an every-other month schedule. During these lunch meetings, members will discuss industrial issues ranging from labor relations, to incentive legislation to facility planning.
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

Human Resource Managers Association (SHRM): OEK should utilize the existing Society for Human Resource Management group (SHRM). Members must be comprised of only the top management (Human Resources) of private sector business and industry (including large commercial and distribution operations) in the region. The SHRM will provide these leaders with the opportunity to foster working relationships between and among industry and at the same time work together to better the region. The SHRM should continue to meet on their regular schedule. During these lunch meetings, members will discuss industrial issues ranging from ergonomics to OSHA regulations to labor needs and availability.

SERVICES AND PROGRAMS

Incentive Grants Facilitation: One East Kentucky (OEK) is to coordinate and assist with all state and federal grant applications pertaining to facilitation of local funds to existing companies within the region. OEK will facilitate with the Area Development Districts and others to walk through the federal and state grant process from beginning to end. Beginning with assistance filling out the application to presenting the grant request to the appropriate governing bodies, OEK’s role will be to make the process smooth and simple for existing industry. There should be no limit to the services provided to existing companies. OEK will utilize the numerous allies that collectively work together to make eastern Kentucky the natural place for industry to thrive. From the Employment Security Commission to the Community College, to the city and county, to utility companies and many more, OEK will mobilize the abundance of resources to aid in assisting the industrial base. Examples of assistance to local companies:

- Fast track permitting – develop permitting process upfront
- Provide information on local apprenticeship programs
- Employment issues
- Procurement information
- Utility issues
- Liaison to local officials and departments
- Provide information and contacts to the cities and county
- Provide information and contacts to state and federal departments
- Community grants and / or incentives
- Public hearing presentations
- Prepare press releases and communication assistance.

Existing Industry Directories: OEK will maintain and provide an online Manufacturers and Distributors Directory, Top 25 Employer Directory and Recent Announcements Summary for the region.

Existing Industry Recognition Event: OEK will host an annual existing industry appreciation event. A suggestion for an inclusive and up-to-date type of event is a family day for executives and their families (potential to coincide with an existing community festival or event). This type of event is considered a best practice for industry appreciation events. The day may include cookout, games, mobile recreational units, water sports, etc.

Expand Visitation Program: Expand annual visits and tours of the region’s industrial facilities to provide an opportunity for the staff to establish and maintain rapport and solid working relationships with existing businesses. It further fosters a better understanding of businesses and their products. The insight and information received during company visits can be used to identify supplier linkages, create new inter-county business relationships and increase OEK’s understanding of the local business community. Most important, it provides the company with the opportunity to learn more about the region’s commitment to retaining and assisting local companies. Through the annual visitation program, OEK will give special attention to any management change within the industry and include contacting headquarters of existing companies to schedule a visit when traveling near their location.

Communication Program: OEK will communicate with regional companies via email blast on a bi-monthly basis. Email blast topics range from legislative updates, to new announcements, to available buildings within the region. This consistent communication helps maintain a close business relationship with local companies.
Expand Milestone Achievement Awards: OEK will present Milestone Achievement Awards each year to manufacturers and distributors as well as significant office operations located in the eight county region. The purpose of the award is to recognize and thank local industry for their past, present and future commitment to the community. Manufacturers and industries operating in the region are eligible for the award. Awards will be presented to companies on their fifth year anniversaries (5, 10, 15, 20, etc.). Milestone Achievement Awards will be presented during an annual luncheon in honor of the recipients.

SUPPORTING BRE EFFORTS AND PROGRAMS

- Develop a comprehensive business resource guide accessible online and in printed format to distribute to all local companies/industries. The guide may include:
  - Brief description of the Business Retention Program and its mission
  - Contact information for regional economic development office
  - Introduction to and explanation of the new existing business website tab
  - Pre-employment training programs
  - Overview of available incentives
- Develop a public relations strategy around getting the word out about local company/industry successes such as contract awards, safety achievements, new employees hired, capital investment spent, etc. This strategy would include local, regional, state and national exposure.
- Create a dedicated website tab for local companies to access important information about incentives, permitting, training and available site and building information.
- Concentrate on a vertical marketing element of the BRE program. Call on existing company executives/management to assist with lead development for target businesses. Solicit and mine leads from these organizations housing suggestions for suppliers, etc. that could potentially relocate to service their market or even other divisions of their company.
- Provide a brief introduction of the region’s BRE program during the project management phase of recruiting new companies to the area.

PRODUCT DEVELOPMENT STRATEGIES

The new regional economic development team will market all viable properties in the eight-county region. In light of the fact that the region does not own any property, the execution of the recommendations for the product to be viable and marketable, lies in the hands of the landowner. Therefore, it is the landowners’ responsibility to provide viable, marketable sites and buildings. It will be the region’s responsibility to market the product. The region’s role in product strategies revolves around: inventory; marketing; and guidance and counsel on future product development to include speculative buildings, pad-ready sites, rail sites, and infrastructure development.

Product development initiatives do not happen by chance. All successful rural communities throughout the country made a deliberate decision, at some point in their history, to invest in themselves and not wait on other organizations. Those communities have utilized local sales tax, TIF financing, public bonds, and a dedicated economic development property tax; just to name a few, to fund long-term product development initiatives.

The consulting team’s review of the region’s product development offerings reveals an inadequate inventory of viable sites and buildings within the region. Information on most sites and buildings was not readily available, and when information was available, it was inaccurate. There are currently no viable (at least 24 ft. clear height; infrastructure in place with excess capacity; no interior walls; no existing structures; no pits; not a special use; in an industrial park – all are examples of viability), available industrial buildings in the eight-county region listed on the ThinkKentucky.com website. Presently, there is no local or regional mechanism for providing prospective companies with online product information. The lack of product information is at a critical, emergency level. Without fully infrastructured (water in excess, sewer in excess, natural gas, electric, and fiber) product in a community, an economic development program will not attract quality companies.
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

Having available product and enhancing a community's physical attributes assures the ability to attract new business and provide options for existing industry to expand. Our team evaluated southeast Kentucky's product from the perspective of a site selection consultant conducting a site evaluation and found most of the product to be in an "incomplete" state, negatively impacting marketability. From a viable building standpoint, there were numerous buildings (Browns Food, Midway College, Woodmark, Hobbs, East Park Shell, Martin County Business Center) within the region ranging in size from 7,500 SF to 300,000 SF, but lack of readily available building information at the local level severely restricts the competitiveness of those buildings in a national site search, in addition to our ability to determine marketability.

During our analysis, the consulting team discovered several properties throughout the region that may be viable product development offerings in the future with proper due diligence by the respective landowner. Our team recommends regional inventory and evaluation for available sites, parks and buildings that could be marketed to prospective companies. These efforts are currently underway through Kentucky Power's Regional Product Development Program. This program will identify, evaluate and prioritize marketable properties in the region. The following recommendations for the respective landowners focus on a select group of properties within the region:

GATEWAY REGIONAL BUSINESS PARK

This is a 200 acre regional business park located on Hwy. 23 in Letcher County. This site has all utilities and is owned by the Appalachian Industrial Authority. The state site flyer indicates a negative 15,000 gallons in excess sewer capacity which would contribute to the park not being short-listed in a competitive site search. Our observations include:

- Has potential to be a tremendous asset
- Adjacent Letcher County-owned land must incorporate same protective covenants as the Gateway Park
- Lack of information with regard to the park is a weakness
- The excess water capacity is stated to be 373,000 GPD which is acceptable
- The excess sewer capacity is stated to be a negative 15,000 GPD, which is a fatal flaw, eliminating consideration for future projects
- Lack of fiber as stated is a fatal flaw, eliminating consideration for most future projects
- Presence of natural gas is an asset
- Access to the park is good
- The location of the future speculative building needs to be moved
- Flat acreage / pad ready sites are an asset
- Grass should be constantly maintained
- Highway visibility is excellent (50 acres)
- Existing tenants are a strength
- No marketing materials and plan for the industrial park is a weakness
- Location within the city limits is a weakness due to perception of higher taxes
- Surrounding uses are incompatible (industrial prefers to be near other industrial, not kid and pedestrian inhabited areas for safety purposes) with the DeVita Dialysis Center going in at the entrance of the industrial park
- Covenants in place are a strength
- Signage is good
- Lack of web-presence is a weakness
- Childers Oil Company presents the capability for automated fueling for trucks
Our recommendations with regard to making this site marketable:

- Develop a new website for the park (do not use the name Appalachian Industrial Authority).
- Change the name of the park. Create a global, recognizable identity.
- Develop a master plan for the park.
- Develop a park conceptual to include the layout of the park and sites.
- Develop at least one pad ready site in the park. A pad ready site has been graded by the community to accelerate a company’s construction schedule.
- Complete the InSite’s Site Questionnaire.
- Market as a Permitted Business Ready Park.
- Develop a new marketing piece for the site. Make this marketing piece accessible on the website.
- Develop a comprehensive incentive package for the park.

HONEY BRANCH REGIONAL BUSINESS PARK

Consisting of approximately 300 acres, this regional business park, located in Martin County, has all utilities on site. Excess sewer capacity is listed at only 37,000 gallons per day which is a significant weakness in a competitive site selection search. The park is adjacent to the Big Sandy Federal Prison, a high security penitentiary housing approximately 1,400 inmates. Our additional observations include:

- Fully infrastructured – a tremendous strength
- Great access
- Available, flat sites are an asset
- Tenants include Chesapeake Energy; David Brown; and Logan Steel – all assets
- Lack of information with regard to the park is a tremendous liability
- The excess capacity for sewer is stated to be 37,000, which is a fatal flaw, eliminating consideration for future projects
- The excess capacity for water is stated to be 150,000, which will limit the parks’ consideration for future projects
- Adjacent to the airport is a strength
- Presence of fiber is an asset
- Presence of natural gas is an asset
- Existing tenants are a strength
- No marketing materials and plan for the industrial park is a weakness

Our recommendations with regard to making this site marketable:

- Be cognizant that the adjacent prison limits the marketability of the site, so prioritize efforts listed below respectively.
- Improve 37,000 gallons per day excess sewer capacity.
- Change the name of the park. Create a global, recognizable identity.
- Develop a master plan for marketing purposes.
- Develop a park conceptual to include the layout of the park and sites.
- Develop at least one pad ready site in the park. A pad ready site has been graded by the community to accelerate a company’s construction schedule.
- Complete InSite’s Site Questionnaire.
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

- Market as a Permitted Business Ready Park.
- Develop a new marketing piece for the site. Make this marketing piece accessible on the website.
- Develop a comprehensive incentive package for the park.

STONE CREST SITE

Owned by the City of Prestonsburg and with all utilities on site, this 30 acre site sits adjacent to the Stone Crest golf course. This is a unique site as road access is not great, but if marketed properly, could be positioned as a headquarters location, to include outdoor or sporting equipment companies. Our additional observations include:

- City-owned is an asset
- Lack of information with regard to the park is a tremendous liability
- Excess sewer capacity of 741,000 gpd – excellent
- Excess water capacity of 1.6 mgd – excellent
- Excellent visibility
- Dual entrance is an asset
- Challenging terrain is a weakness
- Amenities on-site (golf course, lodge, residential, recreation) are an asset

Our recommendations with regard to making this site marketable:

- Rename it to Southeast Kentucky Vista Corporate Park; create a global, recognizable identity.
- A site evaluation process needs to occur to validate marketability; need to complete InSite’s Site Questionnaire.
- Market as a Permitted Business Ready Park.
- Develop a master plan for the park.
- Develop a park conceptual to include the layout of the park and sites.
- Create protective covenants for the park.
- Develop a marketing piece for the site. Make this marketing piece accessible on the website.
- Develop a comprehensive incentive package for the park.
- Create a forgivable loan / grant program for the land. As new companies meet specific job creation and capital investment milestones, a portion of the land cost would be forgiven over a 3 – 5 year time frame.
- Post on the One East Kentucky website.

MARION’S BRANCH SITE

Marion’s Branch consists of 1,000 acres (400 acres developable) owned by the City of Pikeville. Water and natural gas service are available on site with plans to extend sewer and telecommunications service within twelve months. Rail accessibility is provided by an off loading site adjacent to the Marion’s Branch Park. Currently, road access to the site is a weakness. The current access road goes through a residential area and would not meet industrial standards. Plans have been completed for the construction of a new road served directly by Hwy. 23. Presently, Marion’s Branch would not compete favorably in a competitive site selection search due to access. However, considering the early developmental stages of the site and planned infrastructure improvements, this site has the potential to become a significant job creation tool for the entire region. InSite recommends the following marketing initiatives for the Marion’s Branch site:

- Complete InSite’s Site Questionnaire.
- Construct new entrance road as soon as possible.
- Develop an entrance sign for the park.
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

- Create protective covenants for the park.
- Create a name for the park. Create a global, recognizable identity.
- Provide the most competitive telecommunications infrastructure possible.
- Change the master plan for the park by eliminating residential development.
- Develop a park conceptual to include the layout of the park and sites
- Include provisions in the master plan to ensure the park utilizes a campus type atmosphere and is pedestrian friendly.
- Market as a Permitted Business Ready Park.
- Develop a new marketing piece for the site. Highlight rail access information, fully infrastructured and excess capacities on the site flyer. Make the marketing piece accessible via the website.
- Create a dedicated Marion’s Branch website – the website should include a Google earth aerial view, detail excess capacities, illustrate regional workforce numbers, and provide all site certification documents via password.
- Invite all utility service providers, regional, and state officials individually for a comprehensive site and community overview.
- View site via helicopter with prospects / clients when possible.
- Develop a comprehensive incentive package for the park.
- Create a forgivable loan / grant program for the land. As new companies meet specific job creation and capital investment milestones, a portion of the land cost would be forgiven over a 3 – 5 year time frame.
- Partner with the county to develop a Shell building program for the park.
- Post on the City of Pikeville website when marketable.
- Post on the One East Kentucky website when marketable.
- Post on the ThinkKentucky.com website when marketable.

SCOTT FORK SITE

This is a 78 acre site owned by Pike County with frontage on Highway 119. Scott Fork has natural gas, water and fiber on site but does not have sewer service available. There are two pad ready sites in the park with the largest contiguous parcel of 20 acres. Scott Fork, due to lack of sewer service, would not be viable in a competitive site selection search. The site is not listed on ThinkKentucky.com and the county does not have an economic development website. InSite recommends the following marketing initiatives for the Scotts Fork site:

- Lack of information with regard to the park is a tremendous liability.
- Extend sewer service to the park as soon as possible.
- Change the name of the park (Kentucky Energy Business Park). Create a global, recognizable identity.
- Complete InSite’s Site Questionnaire.
- Market as a Permitted Business Ready Park.
- Develop a master plan for the park.
- Develop a park conceptual to include the layout of the park and sites
- Create protective covenants for the park.
- Develop an entrance sign for the park.
- Develop a marketing piece for the site. Make this marketing piece accessible on the website.
- Create a forgivable loan / grant program for the land. As new companies meet specific job creation and capital investment milestones, a portion of the land cost would be forgiven over a 3 – 5 year time frame.
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

- Develop a comprehensive incentive package for the park.
- Post on the One East Kentucky website.
- Post on the ThinkKentucky.com website.

HOLLAND SITE

The Holland site is a privately owned 850 acre tract located in Paintsville. All utilities (water, sewer, natural gas, electric and fiber) are on site. There is a 40,000 SF building (formerly Midway College Building) at the entrance to the Holland site (The Midway Building is not listed on the state or local economic development website). Information regarding excess capacities and topography was limited at the time of our team’s visit. Information obtained included excess water capacity of 3 MGD and excess sewer capacity of 400,000 GPD, which are tremendous assets. Our team did not conduct an exhaustive review of the 850 acre site but recommends further site due diligence be conducted to determine the viability of developing it as a new business park. If this is a site the community desires to market, the following list of items must be addressed before attempting to market to prospective companies:

- Determine from the landowner the property’s availability and willingness to enter into a marketing agreement.
- Site due diligence – must be completed before any other steps are taken: accessibility analysis; infrastructure evaluation; marketability study; Phase; wetlands delineation; archaeological study; endangered species analysis; and geotechnical study.
- Work with One East Kentucky to identify competitors’ business parks within and outside of the region and develop a superior product offering for expanding and relocating companies.
- Name the park based upon a nationally recognized brand.
- Master plan the site to include existing companies located at the park entrance.
- Develop a park conceptual to include the layout of the park and sites.
- Leverage the park by aggressively marketing the former 40,000 SF Midway College Building to prospective private sector tenants.
- Complete InSite’s Site Questionnaire.
- Develop “pad ready” sites in the new business park. A pad ready site has been graded by the community to accelerate a company’ construction schedule.
- Develop a comprehensive incentive package for the park.
- Create a forgivable loan / grant program for the land. As new companies meet specific job creation and capital investment milestones, a portion of the land cost would be forgiven over a 3 – 5 year time frame.
- Develop protective covenants for the park.
- Develop a marketing piece for the site. Make this marketing piece accessible on the website.
- Market as a Permitted Business Ready Site.

COAL FIELDS REGIONAL INDUSTRIAL PARK

Consisting of approximately 385 acres, this regional business park, located in Perry County, has ample excess water and sewer capacity (1.4 MGD) on site. However, the lack of natural gas service in the park is a significant weakness in a competitive site selection search. Coal Fields currently has four tenants in the park and one available industrial building (300,000 SF Woodmark Facility). Our observations include:

- Poor road access
- Lack of natural gas to the park is a tremendous liability
- Tenants include Sykes; FedEx; Scott King Enterprises; and AODD Transport – excellent
- Excellent water and sewer capacity
- No marketing materials for the industrial park is a weakness
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

Our recommendations with regard to making this industrial park marketable:

- Extend natural gas service to the park.
- Change the name of the park. Create a global, recognizable identity.
- Develop a master plan for the park.
- Develop a park conceptual to include the layout of the park and sites.
- Develop at least one pad ready site in the park. A pad ready site has been graded by the community to accelerate a company’s construction schedule.
- Complete InSite’s Site Questionnaire.
- Market as a Permitted Business Ready Park.
- Develop a new marketing piece for the site. Make this marketing piece accessible on the website.
- Develop a comprehensive incentive package for the park.
- Develop new website for the park.

EASTPARK REGIONAL BUSINESS PARK

This is an 800 acre regional business park located in the city of Ashland. This site has all utilities and is owned by the Northeast Kentucky Regional Industrial Authority. The state site flyer indicates an N/A in excess sewer capacity which could contribute to the park not being short-listed in a competitive site search. Our observations include:

- Lack of information on sewer capacity is a major weakness
- Excess water capacity of 13 MGD is excellent
- Presence of a 110,000 SF Speculative Building is an asset
- Access to the park is good
- Flat acreage is an asset
- Ability to assemble large tracts is a strength
- 15 miles from Tri-State Airport is a strength
- Surrounding uses are compatible
- Covenants in place are a strength
- Signage is good
- Lack of a stand-alone quality web-presence is a weakness

Our recommendations with regard to making this park marketable:

- Develop a new website for the park.
- Leverage the excess water capacity of 13 MGD.
- Develop at least one pad ready site in the park. A pad ready site has been graded by the community to accelerate a company’s construction schedule.
- Complete InSite’s Site Questionnaire.
- Market as a Permitted Business Ready Park.
- Develop a new marketing piece for the site. Make this marketing piece accessible on the website.
- Develop a comprehensive incentive package for the park.
- Create a forgivable loan / grant program for the land. As new companies meet specific job creation and capital investment milestones, a portion of the land cost would be forgiven over a 3 – 5 year time frame.
CHESTNUT MOUNTAIN

Knott County owns the 65,000 SF Sportsplex and related baseball and soccer fields, located within the 650 acre Chestnut Mountain development. Chestnut Mountain is owned by a private development company. Currently the site is being marketed as a commercial and residential development. Other than the Knott County recreation complex (Since 2007), there have been no businesses or residences locate in Chestnut Mountain. Chestnut Mountain possesses four lane highway frontage on Hwy. 80. Limited information on natural gas availability, excess water and sewer capacity is a significant weakness. Our team did not conduct an exhaustive review of the 650 acre site but recommends further site due diligence be conducted to determine the viability of developing it as a new business park. If this is a site the community desires to market, the following list of items must be addressed before attempting to market to prospective companies:

- Determine from the landowner the property’s availability as an industrial park and willingness to enter into a marketing agreement.
- Site due diligence – must be completed before any other steps are taken: accessibility analysis; infrastructure evaluation; marketability study; Phase; wetlands delineation; archaeological study; endangered species analysis; and geotechnical study.
- Work with One East Kentucky to identify competitors’ business parks within and outside of the region and develop a superior product offering for expanding and relocating companies.
- Name the park based upon a nationally recognized brand.
- Master plan the site to accommodate industrial users.
- Develop a park conceptual to include the layout of the park and sites.
- Complete InSite’s Site Questionnaire.
- Create a forgivable loan / grant program for the land. As new companies meet specific job creation and capital investment milestones, a portion of the land cost would be forgiven over a 3 – 5 year time frame.
- Develop protective covenants for the park.
- Development a comprehensive incentive package for the park.
- Develop a marketing piece for the site. Make this marketing piece accessible on the website.
- Market as a Permitted Business Ready Site.

MAGOFFIN COUNTY SITE (GIFFORD SITE)

Magoffin County owns 200 acres (80 useable acres) located on the Mountain Parkway. At the time of our site visit, there was limited access to the site, no natural gas service and limited water and sewer service information. However, this site possesses Mountain Parkway frontage with a planned interchange and improvement of the parkway from two lanes to a four lane highway at the site’s entrance. Magoffin County also owns the site’s mineral rights and may have the opportunity to provide low cost natural gas to potential companies. If this is a site the community desires to market, the following list of items must be addressed before attempting to market to prospective companies:

- Site due diligence – must be completed before any other steps are taken: accessibility analysis; infrastructure evaluation; marketability study; Phase; wetlands delineation; archaeological study; endangered species analysis; and geotechnical study.

Work with One East Kentucky to identify competitors’ business parks within and outside of the region and develop a superior product offering for expanding and relocating companies.

- Name the park based upon a nationally recognized brand.
- Master plan the site to show improved road access and future interchange.
- Develop a park conceptual to include the layout of the park and sites.
- Complete InSite’s Site Questionnaire.
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

- Highlight the availability of low cost natural gas.
- Create a forgivable loan / grant program for the land. As new companies meet specific job creation and capital investment milestones, a portion of the land cost would be forgiven over a 3 - 5 year time frame.
- Develop protective covenants for the park.
- Development a comprehensive incentive package for the park.
- Develop a marketing piece for the site. Make this marketing piece accessible on the website.
- Market as a Permitted Business Ready Site.

ENTREPRENEURIAL AND SMALL BUSINESS PROGRAM

Continue to empower and support small business and entrepreneurial efforts should be a critical element of the region’s sustainable economic development goals through the Chamber of Commerce. Small businesses and entrepreneurs are primary mobilizers of resources for the local economy and are stabilizing factors in society as a whole. They are a source of innovation in services, products and technologies. These entities provide a tremendous employment base for all thriving communities. One East Kentucky should serve as a clearinghouse of information for small business. Small Business program of work recommendations are listed below:

- Provide an entrepreneur /small business tab on the One East Kentucky website including information on financing, small business development center, available commercial and retail buildings, etc.
- Provide a comprehensive listing of all available commercial and retail buildings on the OEK website.
- Develop and / or Inventory office and retail space similar to the Martin County Business Center (7,500 SF office building in Inez) throughout the region. Promote as a location for Kentucky Teleworks.

MARKETING AND COMMUNICATIONS

A region’s identity and “marketing toolbox” is critical to the success of any economic development program. These key items that will assist in the communication of the location assets of the region:

WEBSITE

Site selection consultants and prospective companies utilize web searches during the early phases of a site search. In a recent Corporate Executive’s Survey conducted by DCI, corporations listed information on available incentives, workforce statistics / training, demographic information and a directory of available buildings and sites as the four most important areas for an economic development website. With those four categories in mind, our consulting team website recommendations follow:

- Develop a stand-alone One East Kentucky regional economic development website.
- Provide an overview of quality companies and business diversity in the region.
- Provide a Buildings and Sites listings and database by utilizing Kentucky Power’s Location One (LOIS) system. Drop downs should include Available Buildings, Available Industrial / Business Parks, and Available Sites. Develop One East Kentucky building and sites information sheets.
- Provide an “Add my Building or Site” tab that allows owners or communities to list their property on the One East Kentucky database, with baseline parameters for inclusion.
- Profile Available Sites (industrial parks) and Buildings, Incentives and regional demographics links immediately on the homepage.
- Highlight a featured site and building on the home page – (Update every few months).
- Develop a Business Retention and Expansion (BRE) tab for existing companies. The dedicated business retention tab within the One East Kentucky website is designed to give companies an immediate mechanism to gain pertinent information on a variety of subjects. The section would also include comprehensive information on available incentives; pre-employment training; financial assistance; database of all programs offered to business and industry by your area colleges and universities; real estate assistance; and local contacts.
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

- Under workforce tab, provide regional: population, labor force numbers, top ranking public schools, community colleges, University of Pikeville, medical school and training information. Provide information on innovative workforce programs (i.e. H.O.M.E., KY Teleworks, Work Keys and Apprenticeships) and quantify local skill sets.

- Provide an “Incentives” tab on the homepage. Include worker training information within this section.

- Under Incentives tab, provide detailed explanation of incentives. Highlight innovative regional incentive packages.

- Highlight Kentucky’s pre-employment training programs under the “Incentives” and “Workforce” tabs.

- Add a location map highlighting highway access on the homepage.

- Under maps tab, provide regional and transportation maps.

- Provide information about all commercial airports serving the region. Provide number of flights and provide a location map.

- Develop a secure project management client login that is dedicated to new and expansion projects that allows the region to share critical information in real-time with prospective companies.

SALES MESSAGE

InSite recommends utilizing the following “talking points” (see Asset Section) as a consistent economic development message in all written and verbal communication, including the region sound bite:

- Fully infrastructured industrial parks and buildings

- Excess water and sewer capacity

- Excellent transportation routes

- Recognizable, strong, stable existing industry – examples Kellogg, Joy Mining, Booth Energy

- Available, trainable labor force; access to excellent Community College systems

- General aviation

- Rail access

- Proximity to commercial airports (Huntington, WVA; Charleston, WVA; Lexington, KY; Blountville, TN)

- Presence of University of Pikeville

- Promote the area as a region; market the region as a whole intensely

SALES MATERIALS

- Incorporate new regional identity in all marketing materials.

- Develop a flyer detailing regional services offered by OEK.

- Develop new marketing flyers for all regional available product (buildings and sites). All information should be available on the website.

- Develop a one page, front and back profile of taxes and incentives per county.

- Develop a one page, front and back existing industry testimonial piece.
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

- Develop a comprehensive prospect notebook for companies when they visit the region. The prospect notebook would include the following:
  - General Region Overview
  - Education
  - Regional Labor Force
  - Utilities
  - Regional Quality of Life
  - Transportation
  - Incentives
  - Sites / Buildings (listing excess capacities)
  - Regional Major Employers
  - Target Industries
  - Contact Us

- Utilize regional population and workforce numbers on all marketing / promotional / collateral materials.

DEVELOP NON-TRADITIONAL TARGETS FOR COMMUNICATION

One East Kentucky's non-traditional sectors (groups or organizations that can generate or influence projects for the region) listed below should receive the same communication as all other primary sectors. This important target group can influence and generate projects and should not be overlooked in the marketing plan:

- Local Utilities (water, sewer, electric, natural gas and fiber)
- All Railroads
- Community and Technical Colleges, vocational schools and higher education facilities
- EKCEP
- SKED
- MAECD
- Area Development Districts
- Site Selection Consultants
- Community Stakeholders and Leadership
- Kentucky Cabinet for Economic Development
- Legislative Delegation
- Local Government Officials (City and County)
- Southeast Kentucky Chamber Board
- Local Chambers of Commerce
- Local Tourism Offices
- Real Estate Companies
SECTION 5: REGION RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

INTERNAL AND EXTERNAL COMMUNICATION

- Meet with each town, county, Kentucky Cabinet for Economic Development, railroad providers, and electric utility providers to explain One East Kentucky’s new program of work and key economic development selling points.

- Develop, maintain and update a database of entire internal / local and external audience (leadership, all government-related officials (to include school system), general public, universities and colleges, local and state media, etc.) and include them in the communication plan. Include all non-traditional targets, as identified above, in the local audience database.

- Develop a customized One East Kentucky email blast template for all communications and schedule monthly blasts to the database.

- Create a systemized economic development public relation strategy / internal communication schedule to create local buy-in and awareness. This schedule must include minimum monthly communication to your internal audience.

- Consistently communicate and promote: industry recruitment; existing industry initiatives and successes; entrepreneurial and small business developments; incentives; available product; etc.

- Develop and maintain a regional, state and national media contact list and publicize regional successes to those entities.

- Continual database management. Staff will update database as new contacts are added and deleted from the program.
Regional Blueprint for Economic Development
Kentucky Power Company and Southeast Kentucky Chamber of Commerce

InSite’s Radical Take on Economic Development Strategies
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SECTION 6: LOCAL RECOMMENDATIONS TO BRIDGE THE IDENTIFIED GAPS

LOCAL ECONOMIC DEVELOPMENT ORGANIZATIONS

Communities must focus on product development and local incentives. The number one responsibility for local communities is leading product development efforts and becoming the expert on all buildings and sites within your respective community. The importance of communities formalizing a local incentive package for expanding and newly locating companies cannot be overstated. A formalized (in writing and approved by the local government) incentive package sends a pro-business message to prospective companies and lets prospects know that your community is comfortable with the incentive process. Examples of local incentives may include reduced water and sewer rates, impact fee waivers, property tax abatements, discounted building permit fees, land grants, occupational tax abatements, temporary office or training space, reduced home mortgage rates, expedited construction permits, etc. The second priority is communicating product and local incentive information to the region. The local economic development organization will be the point person in working with the region on economic development initiatives. InSite recommends the local entities assume the roles and responsibilities for the following program of work elements:

- Develop local incentive packages
- Compile all necessary product information to assist in regional marketing efforts
- Project research support for RFIs and prospect visits
- Provide project support for prospect visits
- Create a mechanism to procure funds to develop, maintain and sustain industrial parks
- Develop fully infrastructured industrial parks – local counties must be in support of and proactive in developing viable, marketable industrial parks
- Construct speculative buildings with guidance and counsel from the One East Kentucky
- Inventory all local office and retail space. Be able to utilize LOIS to track properties
- Provide internal contacts (leadership, political, industry, stakeholders, and local officials) to the region for internal and external communication plan
- Identify potential location for Kentucky Teleworks Hub
- Identify additional location for a County Business Center
- Support regional airport initiative
- Tourism
- Main Street
- Retail
- Downtown
SECTION 7: COUNTY AND EXISTING INDUSTRY INVENTORY

This section, Section 7, details first, the baselines of a legitimate, functional economic development entity. Then it dives into an inventory of each county for what exists, specifically, program- and product-specific and a gap analysis, all of which were utilized to determine the local recommendations detailed on Section 6.

As stated previously in the document, the following are the critical elements that must exist to legitimize having tax-based funds dedicated to an economic development department:

- Defined program of work for economic development
- Full staff at a minimum of two individuals to accommodate a professional, responsive, functioning economic development focused entity. This staff does not share responsibilities with any other county department and has only an economic development focus
- Ability to work projects from finish to end (RFI to site visit)
- All individuals proficient in Word, Excel and PowerPoint
- Up-to-date technology to support the efforts of a functioning, professional organization such as smartphones, laptops, and the latest versions of Microsoft Office
- Business retention and expansion program
- Small business and entrepreneurial program
- Product databases, development and management
- Marketing materials for the community and industrial park to include a fully assembled and producible prospect package
- Proactive recruitment plan
- Internal or external communication plans
- Formalized future product development plan to include enhancing the existing and developing new
- Stand-alone economic development website / presence for economic development
- Ability to track business successes and losses
- Formalized incentive package
SECTION 7: COUNTY AND EXISTING INDUSTRY INVENTORY

The following is an inventory of each county for what exists, specifically, program- and product-specific and a gap analysis, all of which were utilized to determine the local recommendations detailed on Section 6.

LETCHER COUNTY

Letcher County is home to one of the few industrial parks in the region, the Gateway Regional Business Park, making it an attractive location for business and industry. The population for the area as of 2010 was 24,519, and the county seat is Whitesburg, population of 1,600. Based on desktop research and visits to the county, the following information is an inventory of the county’s assets and liabilities:

**ASSETS** (other than those mentioned for the entire region which applies to each county)

- There is a sincere desire to support the regional effort
- Commitment to a speculative building
- Potential for a county-owned rail site on 40 acres
- Types of existing industries
- Kentucky River Area Development District
- Access to life support services (retail, restaurants, grocery, etc.)
- Strong and revitalized school system
- Recreation center
- Golf course
- Trail system
- Downtown Whitesburg
- The Cut Through is a tremendous, yet unknown asset.

**LIABILITIES**

- There is no county-wide economic development program of work (as described above)
- Having only one person to accommodate economic development but is not solely dedicated to economic development
- The county only being in a position to react
- Lack of available, affordable housing
SECTION 7: COUNTY AND EXISTING INDUSTRY INVENTORY

JOHNSON COUNTY

Johnson County is home to the Paintsville Chamber of Commerce who oversees the economic development efforts county-wide. Excess water capacity of 3 MGD and excess sewer capacity of 400,000 GPD are tremendous selling points for the Johnson County / Paintsville area. Coupled with a unique available building opportunity (former MidWay College facility) and the recently formed Paintsville / Johnson County Industrial Authority, the community is poised to successfully leverage a regional proactive approach to economic development. Based on desktop research and visits to the county, the following information is an inventory of the county’s assets and liabilities:

**ASSETS** (other than those mentioned for the entire region which applies to each county)

- The chamber economic development program of work includes:
  - Downtown Paintsville has an economic development plan
  - Business retention and expansion
- Big Sandy Area Development District.
- Support for tourism
- Paintsville controls all utilities
- There is a sincere desire to support the regional effort
- Downtown
- Strong and revitalized school system is an asset; Two quality school districts.
- Access to life support services (retail, restaurants, grocery, etc.).
- Available, affordable housing
- Golf course
- Lakes
- Shopping hub

**LIABILITIES**

- There is no county-wide economic development program of work (as described above)
- Having only one person part-time to accommodate economic development but is not solely dedicated to economic development
- Lack of competitive, marketable industrial parks
- Lack of competitive, marketable existing buildings
- Lack of accessible information on available product
- No large private sector employers
- Limited manufacturing operations in the area
- The county only being in a position to react
FLOYD COUNTY

Floyd County, Kentucky is considered to be the home of the “Star City” where five major highways converge. It is home to the city of Prestonsburg, an area hosting economic development assets for the region. The locational attributes make Floyd County attractive for industrial development. Based on desktop research and visits to the county, the following information is an inventory of the county’s assets and liabilities:

**ASSETS** (other than those mentioned for the entire region which applies to each county)

- City-owned infrastructure
- Big Sandy Area Development District
- Planetarium
- Home of natural outdoor assets (trails, parks, lake)
- The town of Prestonsburg has an economic development plan
- There is a sincere desire to support the regional effort
- Vibrant downtown
- Strong and revitalized school system
- Hospital / access to medical care
- Access to life support services (retail, restaurants, grocery, etc.)
- Golf course
- Lake
- Access to local cultural events
- Available space for business in the town of Prestonsburg

**LIABILITIES**

- There is no county-wide economic development program of work (as described above) to include zero staff
- Lack of competitive, marketable industrial parks
- Lack of competitive, marketable existing buildings
- Minimal municipal sewer capacity
- The county only being in a position to react
- Absentee landowners in downtown
- Cost to develop property is high
- Intense presence of billboards is a negative
SECTION 7: COUNTY AND EXISTING INDUSTRY INVENTORY

LAWRENCE COUNTY

Lawrence County, Kentucky has many business climate assets (such as excess water and sewer capacity) to leverage in the promotion of the region. Its location and accessibility make it a viable location for manufacturing expansions. Based on desktop research and visits to the county, the following information is an inventory of the county’s assets and liabilities:

**ASSETS** (other than those mentioned for the entire region which applies to each county)

- Excess water capacity of 1.6 MGD
- Excess sewer capacity of 700,000 gpd
- Quality transportation access: Highway 23 and proximity to I-64
- Proximity to commercial airport (Huntington, WVA)
- Attitude of staff toward regional economic development
- Nearby Riverport
- Access to life support services (retail, restaurants, grocery, etc.)
- Golf course
- Yatesville Lake and marina
- Downtown
- Potential rail site availability

**LIABILITIES**

- There is no county-wide economic development program of work nor any full-time professionals dedicated to the program
- Lack of a manufacturing presence in the county
- Lack of competitive, marketable industrial parks
- Lack of broadband capacity
- Low education attainment
Magoffin County is home to the well-known and successful company called Joy Mining. The presence of Joy Mining sends the message to other manufacturing / industrial prospects that they, too, can thrive in this area. As of 2010, the population was 13,333 and the county seat is Salyersville. Based on desktop research and visits to the county, the following information is an inventory of the county’s assets and liabilities:

**ASSETS** *(other than those mentioned for the entire region which applies to each county)*

- Presence of Joy Mining and Mineral Labs (100 employees).
- Rails to trails project
- Access to fiber
- County owned industrial site
- Civil War Project
- Big Sandy Area Development District

**LIABILITIES**

- There is no county-wide economic development program of work nor any full-time professionals dedicated to the program
- Lack of access to medical care facility / hospital
- Lack of infrastructure with excess capacity
- Lack of leadership on infrastructure planning
KNOTT COUNTY

Knott County, Kentucky has many business climate assets to leverage in the promotion of the region. The community has displayed the willingness to work regionally as evidenced by Knott County’s participation in the Coalfields Regional Industrial Park and possesses the region’s largest available industrial building (311,000 SF Woodmark Building). Knott County is also the home of Alice Lloyd College, with a 1,000 student enrollment offering a pre-med program and unique work study requirement for all students. Based on desktop research and visits to the county, the following information is an inventory of the county’s assets and liabilities:

**ASSETS** (other than those mentioned for the entire region which applies to each county)
- Alice Lloyd College is a strength – leverage their work study and internship programs and provide an incentive
- Kentucky River Area Development District
- Knott County Appalachian Artisan Center for tourism
- Hindman Settlement School
- Limited economic development website / presence on the knottcountyadventure.com website

**LIABILITIES**
- There is no county-wide economic development program of work nor any full-time professionals dedicated to the program
- Limited excess water and sewer capacities
- Historical political climate and lack of political leadership
- Lack of a manufacturing presence in the county
- Lack of life support services (lodging, restaurants, downtown, etc.)
SECTION 7: COUNTY AND EXISTING INDUSTRY INVENTORY

MARTIN COUNTY

The Martin County / Inez area possesses one of the two regional industrial parks (Honey Branch Regional Industrial Park) in the eight county study region. The city and county have a successful history of working together on various projects. The community has redeveloped several properties within the county including the 35,000 SF Martin County Business Center located in downtown Inez. Based on desktop research and visit to the county, the following information is an inventory of the county’s assets and liabilities:

**ASSETS** (other than those mentioned for the entire region which applies to each county)

- Big Sandy Area Development District
- Economic Development participants such as Jim Booth
- Attitude of staff toward regional economic development
- Access to trails and outdoor recreation

**LIABILITIES**

- There is no county-wide economic development program of work (as described above)
- Having only one person to accommodate economic development but is not solely dedicated to economic development
- Limited manufacturing presence in the community
- Culturally and economically isolated
- Low workforce participation
- Low self-esteem; feeling of lack of hope
SECTION 7: COUNTY AND EXISTING INDUSTRY INVENTORY

PIKEVILLE / PIKE COUNTY

Serving as the region’s business and retail hub, Pikeville / Pike County is home to UPIKE, Pikeville Medical Center and the third largest banking hub in Kentucky. A real opportunity exists for the city and county to work closer together and become a dynamic economic development leader for the southeast Kentucky region. Several ongoing product development initiatives within the community have the potential to transform the local economy. Based on desktop research and visit to the county, the following information is an inventory of the county’s assets and liabilities:

ASSETS (other than those mentioned for the entire region which applies to each county)

- Presence of Kellogg
- Presence of University of Pikeville, Medical School
- City of Pikeville’s presence and proactive approach to economic development
- City of Pikeville’s willingness to be creative to create jobs and investment (i.e. Texas Roadhouse)
- City of Pikeville’s commitment to comprehensive planning
- Big Sandy Area Development District
- Excess water and sewer capacity
- Natural gas availability
- Potential rail access
- Excellent schools – 4th highest test scores in Kentucky
- Fourth largest Banking community in Kentucky
- Access to life support services (retail, restaurants, grocery, etc.)
- Presence of EQT
- Access to local cultural events
- Presence of two high quality hotels downtown

LIABILITIES

- There is no county-wide economic development program of work (as described above)
- Having only one person to accommodate economic development but is not solely dedicated to economic development
- There is no county-wide economic development website presence with key information.
- UPIKE graduates leave region because limited job opportunities.
- Two hours to the nearest airport
- Lack of middle class housing
- Lack of public transportation
- Lack of funding for infrastructure development
- Pikeville and Pike County do not work together
- Without Pikeville’s efforts, Pike County has nothing to offer new and expanding companies
Regional Blueprint for Economic Development
Kentucky Power Company and Southeast Kentucky Chamber of Commerce

SECTION 7: COUNTY AND EXISTING INDUSTRY INVENTORY

EXISTING INDUSTRY

Local industry has to work harder in the region to be successful due to the lack of a support system / program. The following is information as perceived by existing industry in the region:

- There is a lack of understanding about economic development in the general public.
- Need to leverage the existing companies in the region by utilizing them in the economic development process.
- Potential for multi-county incentive packages.
- Local regulations for construction are inhibitive.
- State regulations for construction are inhibitive.
- Need to lobby the state for more business-friendly regulations.
- People want to work – strong work ethic.
- The region seems to be in a reactionary mode for projects versus proactive.
- Needs to be a strong marketing effort on behalf of the region.
- Must to be a strong BRE effort on behalf of the region.
- Utilities are a strength - natural gas is an asset.
- Existing industries’ needs have to be heard so they will expand in the area.
- Need assistance with rail companies for rail in and rail out.
- Transportation costs are a weakness.
- Negative perception of eastern Kentucky is a problem.
- Regional parks are weak – counties will not work together.
- Kentucky’s largest domiciled bank holding company – HQ.
- Local protectionism is a weakness.
- Challenge to recruit skilled labor – electrical, mechanical.
- Turnover and absentee low.
- Lack of regional air service – weakness.
- Horrible local political systems – major weakness.
- Lack of vision for economic development.
- There is no understanding of the training program, its financial and education capabilities.
- There needs to be an education process for existing companies, through a strong BRE program, on the state and local incentives available to them.
- Local technical college needs to work closer with industry to offer quality, impactful training programs.
- There is no entity assisting with recruiting parts supplies or supply chain.
- Finding skilled labor is an issue.
- Lack of cell service in some areas is an issue.
- Great extended family and church network.
## SECTION 8: SOUTHEAST KENTUCKY CHAMBER REGION / KENTUCKY POWER PROJECT
### SNAPSHOT OF BENCHMARK AND ECONOMIC CONDITIONS

#### POPULATION CHARACTERISTICS

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<tr>
<th>County</th>
<th>No MSA</th>
<th>Population 3 years and over enrolled in school</th>
<th>Nursery school, preschool</th>
<th>Kindergarten</th>
<th>Elementary school (grades 1-8)</th>
<th>High school (grades 9-12)</th>
<th>College or graduate school</th>
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#### EMPLOYMENT STATISTICS

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<th>County</th>
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<th>Unemployed</th>
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#### EDUCATION

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<th>9th to 12th grade, no diplomas</th>
<th>High school graduate (includes equivalency)</th>
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## SECTION 8: SOUTHEAST KENTUCKY CHAMBER REGION / KENTUCKY POWER PROJECT

### SNAPSHOT OF BENCHMARK AND ECONOMIC CONDITIONS

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<th>Pike County - In MSA</th>
<th>Huntington-Scott</th>
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<th>Florence, SC, MSA</th>
<th>Charleston, WV, MSA</th>
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<tr>
<td><strong>Number</strong></td>
<td><strong>Percent</strong></td>
<td><strong>Number</strong></td>
<td><strong>Percent</strong></td>
<td><strong>Number</strong></td>
<td><strong>Percent</strong></td>
<td><strong>Number</strong></td>
<td><strong>Percent</strong></td>
<td><strong>Number</strong></td>
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<td>Finance and insurance, and real estate and rental and leasing</td>
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<td>Professional, scientific, and management, and administrative and waste management services</td>
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<td>Educational services, and health care and social assistance</td>
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<td>Arts, entertainment, and recreation, and accommodation and food services</td>
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<td>Other services, except public administration</td>
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<td>3.3%</td>
<td>3,108</td>
<td>3.1%</td>
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<td><strong>Source:</strong> Kentucky Power Project</td>
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**Exhibit BNH-1**

**Page 42 of 59**

Confidential and Proprietary Property of inSight

MAA US Comps 6/21/2013
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PRIORITY 1: EASTPARK (ASHLAND / BOYD) INDUSTRIAL PARK

This industrial park is competitive in a global / national search and should be a marketing priority for southeast Kentucky. Our recommendations with regard to making this site more marketable:

- Change the name of the park. Create a global, recognizable identity.
- Conduct a wetlands delineation on the park
- Develop new signage at the existing entrance. The park needs to look like a destination.

Items to highlight in the marketing process:

- Existence of an available 110,000 sf speculative building
- Acreage
- Ability to be subdivided
- Available water, sewer, electric, natural gas and fiber
- Excess water and sewer capacity
- Flat terrain
- Surrounding uses
- Completion of Phase 1, geotechnical, archeological and endangered species studies

PRIORITY 1: EASTPARK (ASHLAND / BOYD) SPECULATIVE BUILDING

This speculative building is competitive in a global / national search and should be a marketing priority for southeast Kentucky. Our recommendations with regard to making this facility more marketable:

- Pour 6 inch reinforced floor
- Pave parking area (minimal, but enough to make a more impactful first impression)
- Reduce the sales price
- Develop and advertise an aggressive incentive package for the building
- Change the name of the building. Create a global, recognizable identity.

Items to highlight in the marketing process:

- Size of facility
- Expansion capability
- Available water, sewer, electric, natural gas and fiber
- Excess water and sewer capacity
- Clear height
- Presence in an existing industrial park
InSite’s Radical Take on Community and Product Readiness
A Quantifiable, Unique and Revolutionary Approach
Confidential and Proprietary Property of InSite – 10/10/2013

- Surrounding uses
- Column spacing
- 10 percent office space
- Completion of Phase 1, geotechnical, archeological and endangered species studies

Path Forward:
- This is a viable, marketable park and building that could compete on a national level for global projects if the above items are completed
- Invest time, develop resources for funding, and allocate such funding for the above recommendations
- Input site and building information into LOIS
- Present both products to targeted audiences who generate projects (state, region, electric utility, consultants, etc.)
PRIORITY 1: COALFIELDS INDUSTRIAL PARK (PERRY) - (fatal flaws - natural gas, incentives, maintenance, marketing materials)

The following must be executed to make Coalfields Industrial Park marketable:

- Conduct a Phase 1 and all site due diligence (geotechnical, wetlands delineation, archeological and endangered species)
- Extend natural gas to the site
  - Cost
  - Schedule
  - Feasibility
- Verify excess water and sewer capacities
- Formalize an aggressive incentive package for the park
- Change the name of the park. Create a global, recognizable identity.
- Develop new marketing materials and website
- Cut the grass
- Identify and hold accountable a responsible champion for the park

PRIORITY 2: AMERICAN WOODMARK BUILDING (PERRY) - (fatal flaws - sales price, natural gas)

The following must be executed to make the American Woodmark building marketable:

- Reduce purchase and lease cost
- Extend natural gas to the building
  - Cost
  - Schedule
  - Feasibility
- Verify excess water and sewer capacities
- Verify column spacing
- Change the name of the building. Create a global, recognizable identity.
Path Forward:

- This can be a viable, marketable park and building that could compete on a national level for global projects if the above items are completed
- Invest time, develop resources for funding, and allocate such funding for the above recommendations
- Redirect funding from the AD (Area Development District) to the regional economic development team, One East Kentucky, for management of the park
- Input site and building information into LOIS
- Feature both on the regional website
- Present both products to targeted audiences who generate projects (state, region, electric utility, consultants, etc.)
PRIORITIZING OF SITES FOR SOUTHEAST KENTUCKY

InSite was contracted by Kentucky Power Company to inventory and prioritize sites and buildings throughout the South-eastern Kentucky Region. The majority of projects, whether lead by the company, a site selection team, or real estate entity, begin with an available site / building search and an RFI (request for information). The quickest way to get on the radar screen for a project is to have viable, available product in your community. If a community does not have a place for industry to locate, a site or building that is viable by industry standards, unfortunately your economic development program is not merely losing; it is not even in the game.

SHORT-TERM: CURRENTLY NOT VIABLE

This following sites / parks are not currently competitive in a global / national search and should be prioritized based upon money and time to improve their competitiveness.

PRIORITY 3: MARIONS BRANCH (PIKE) - (fatal flaws - road / entrance, zoning, site due diligence, excess sewer capacity, fiber)

The following must be executed to make Marions Branch marketable:

- Conduct a Phase 1 / site due diligence (geotechnical, wetlands delineation, archeological and endangered species)
- Increase excess sewer capacity from 20,000 gpd to a minimum of 500,000 gpd
  - Cost
  - Schedule
  - Feasibility
- Extend fiber to the park
  - Cost
  - Schedule
  - Feasibility
- Construct new entrance road
  - Cost
  - Schedule
  - Feasibility
- Eliminate residential from the master plan
- Zone industrial with protective covenants
- Grade a building pad that meets load bearing requirements
- Change the name of the park. Create a global, recognizable identity.
- Develop aggressive incentive package including cost offsets for site work required

Path Forward:

- This can be a viable, marketable park that could compete on a national level for global projects if the above items are completed
- Invest time, develop resources for funding, and allocate such funding for the above recommendations
- Input site information into LOIS
- Feature on the regional website
- Present both products to targeted audiences who generate projects (state, region, electric utility, consultants, etc.)
InSite’s Radical Take on Community and Product Readiness
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PRIORITIZING OF SITES FOR SOUTHEAST KENTUCKY

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SHORT-TERM: CURRENTLY NOT VAILABLE

PRIORITY 4: DEVELOP AN INDUSTRIAL PARK

The following must be executed to develop an additional industrial park without fatal flaws:

- Find at least 300 acres in a county with good access, in an industrial setting with access to water, sewer, electric, natural gas and fiber, along with having at least 500,000 gpd excess water and sewer capacity.
PRIORITIZING OF SITES FOR SOUTHEAST KENTUCKY

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NOT A PRIORITY FOR REGIONAL INVESTMENT IN MONEY AND RESOURCES

HOLLAND SITE (JOHNSON) - (fatal flaws - availability, price, excess sewer capacity, site due diligence)

The following must be executed to make the Holland Site marketable:

- Determine owners willingness to market, which means must have a price to be available
- Determine industrial price per acre and develop a marketing agreement with the landowner
- Conduct a Phase 1 and due diligence (geotechnical, wetlands delineation, archeological and endangered species studies)
- Increase excess sewer capacity from 100,000 gpd to 500,000 gpd
  - Cost
  - Schedule
  - Feasibility
- Incorporate into an industrial park; develop a master plan showing developable acreage
- Change the name of the park. Create a global, recognizable identity.

Path Forward:

- This currently is not a viable, marketable park that could compete on a national level for global projects based upon the noted fatal flaws in red
- Based upon the extent of the recommendations above, this would not be a priority for the region to develop / promote as an industrial park - do not invest time, nor develop resources for funding for the above recommendations
- This park can compete for local / regional projects looking for a place to expand or have a specific need for local resources
- Input site information into LOIS
- Realize this is a long-term project
PRIORITIZING OF SITES FOR SOUTHEAST KENTUCKY

InSite was contracted by Kentucky Power Company to inventory and prioritize sites and buildings throughout the South-eastern Kentucky Region. The majority of projects, whether lead by the company, a site selection team, or real estate entity, begin with an available site / building search and an RFI (request for information). The quickest way to get on the radar screen for a project is to have viable, available product in your community. If a community does not have a place for industry to locate, a site or building that is viable by industry standards, unfortunately your economic development program is not merely losing; it is not even in the game.

NOT A PRIORITY FOR REGIONAL INVESTMENT IN MONEY AND RESOURCES

CHESTNUT MOUNTAIN (KNOTT) - (fatal flaws - zoning, availability, asking price per acre, excess sewer capacity, current recreation use)

The following must be executed to make Chestnut Mountain marketable:

- Determine leaderships’ willingness to change the use of the park from recreation to industrial
- Conduct a Phase 1
- Zone industrial
- Determine industrial cost per acre – existing price is not marketable
- Increase the line size of natural gas to accommodate future industrial use
- Incorporate into an industrial park
- Consider redeveloping the 68,000 SF Sportsplex as an available industrial building and relocate the existing use
- Change the name of the park. Create a global, recognizable identity.
- Develop a marketing agreement with the landowner

Path Forward:

- This currently is not a viable, marketable park that could compete on a national level for global projects based upon the noted fatal flaws in red
- Based upon the extent of the recommendations above, this would not be a priority for the region to develop / promote as an industrial park - do not invest time, nor develop resources for funding for the above recommendations
- Input site information into LOIS
PRIORITIZING OF SITES FOR SOUTHEAST KENTUCKY

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NOT A PRIORITY FOR REGIONAL INVESTMENT IN MONEY AND RESOURCES

GATEWAY (LETCHER) - (fatal flaws - dialysis center at entrance, excess sewer capacity, maintenance)

The following must be executed to make the Gateway Business Park marketable:

- Increase excess sewer capacity from 0 gpd to 500,000 gpd
  - Cost
  - Schedule
  - feasibility
- Relocate dialysis center to another location outside of the park
  - Cost
  - Schedule
  - feasibility
- Or divert the entrance
  - Cost
  - Schedule
  - feasibility
- Change the name of the park. Create a global, recognizable identity
- Develop new marketing materials and website
- Cut the grass on shoulder of road

Path Forward:

- This currently is not a viable, marketable park that could compete on a national level for global projects based upon the noted fatal flaws in red
- Based upon the extent of the recommendations above, this would not be a priority for the region to develop / promote as an industrial park - do not invest time, nor develop resources for funding for the above recommendations
- This park can compete for local / regional projects looking for a place to expand or have a specific need for local resources
- Input site information into LOIS
PRIORITIZING OF SITES FOR SOUTHEAST KENTUCKY

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NOT A PRIORITY FOR REGIONAL INVESTMENT IN MONEY AND RESOURCES

HONEY BRANCH (MARTIN) - (fatal flaws - endangered species, excess water capacity, surrounding use of a prison, mineral rights)

The following must be executed to make Honey Branch marketable:

- Engage the EPA with regard to steps to mitigate the endangered species designation
- Conduct a Phase 1 and additional due diligence (wetlands delineation)
- Control mineral rights
- Increase excess water capacity from 78,000 gpd to 250,000 gpd
  - Cost
  - Schedule
  - Feasibility
- Change the name of the park. Create a global, recognizable identity
- Develop new marketing materials and website
- Develop an aggressive incentive package for the park

Path Forward:

- This currently is not a viable, marketable park that could compete on a national level for global projects based upon the noted fatal flaws in red
- Based upon the extent of the recommendations above, this would not be a priority for the region to develop as an industrial park - do not invest time, nor develop resources for funding for the above recommendations
- This park can compete for local / regional projects looking for a place to expand or have a specific need for local resources
- Input site information into LOIS
## PROPERTIES FOR SITE EVALUATIONS

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### Notes
- Confidential and Proprietary Information
- Initial Status: 10/10/2013
| Property | Original | REVISI | Industrial Park Setting | One-mile Residential | One-mile Schools | One-mile Public Parks | Electric to the Site | Water Supply to the Site | Sewer to the Site | Sewer Capacity to the Site | Natural Gas to the Site | Flood Phase 1 | Zoning Study | Zoning Deletion | Court for Variance | Archaeological Study | Endorsement | Species Study |
|----------|----------|--------|------------------------|---------------------|-----------------|----------------------|-------------------|-----------------------|-----------------|-----------------------------|----------------------|----------------|-----------------|-----------------|-------------------|----------------|-----------------|
| Floyd County | Pavilion | 1 | yes | yes | yes | yes | yes | 1.3 mgd | yes | 1.1 mgd | yes | yes | no | yes | yes | yes | no | yes | yes | yes |
| Columbia County | Midland Heights | see data | no | no | no | no | yes | yes | no answer | yes | no answer | yes | yes | no | no | yes | yes | no | no | yes |
| Cherokee County | Services Food | no response | no | no | no | no | no | no | no | no | no | no | no | no | no | no | no | no | no |
| Shelby County | Stanley Allen (local marketability) | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Wilson County | Wilson Farm (local marketability) | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Henderson County | Thunder Ridge | no response | no | no | no | no | yes | yes | no answer | yes | no answer | yes | yes | no | n/a | no | yes | no | no | yes |
| Mecklenburg County | Celebrity (local marketability) | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Cabarrus County | Kannapolis Wal-Mart (local marketability) | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Gaston County | Wood Building (local marketability) | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Cleveland County | Midway Building (Building Availability on Hold) | long on hold | long on hold | long on hold | long on hold | long on hold | long on hold | long on hold | long on hold | long on hold | long on hold | long on hold | long on hold | long on hold | long on hold | long on hold | long on hold | long on hold | long on hold |
| Cabarrus County | Charlotte Mountain Sportsplex | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Cabarrus County | Charlotte Mountain | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Lincoln County | Food World (local marketability) | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Davidson County | Golden Isles | see data | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Mecklenburg County | N.C. Old Tappan | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Union County | N.C. Property | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Cabarrus County | Don Bailey Building | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response |
| Cabarrus County | Industrial Site Old Toll Exit | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response | no response |
| Mecklenburg County | Airport Business Park | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Mecklenburg County | Airport Business Park | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Mecklenburg County | Charlotte NC Business Center (local marketability) | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Mecklenburg County | Midcom Building / Henry Branch (local marketability) | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Iredell County | American Woodmark | see data | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Iredell County | Indian Industrial Park | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Polk County | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Polk County | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Polk County | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Polk County | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
## Properties for Site Evaluations

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### PROPERTIES FOR SITE EVALUATIONS

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## Properties for Site Evaluations

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<td>653</td>
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<td>Eco/Residential</td>
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<td>Properties for Site Evaluations</td>
<td>KPC / AEP</td>
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<td><strong>Status and Priority</strong></td>
<td>Marketing Status</td>
<td>Industrial Park Setting</td>
<td>One mile Residential</td>
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<td>One mile Public Parks</td>
<td>Electric to the Site</td>
<td>Water</td>
<td>Waste</td>
<td>Excess sewer capacity</td>
<td>Sewer to the Site</td>
<td>Excess water capacity</td>
<td>National Gas Sites</td>
<td>Fiber to the Site</td>
<td>Phase I</td>
<td>Geotechnical Study</td>
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<td>East Park A &amp; Zed Building</td>
<td><strong>Visible Now</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>1.8 mgd</td>
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<td>Yes</td>
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<td>1.6 mgd</td>
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<td>1 mgd</td>
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<td>Yes</td>
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<td>Yes</td>
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<td>Elkhorn County</td>
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<td>Yes</td>
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K-PEGG PROGRAM

GRANT RECIPIENT SUMMARIES

- **Recipient:** One East Kentucky
  
  **Date of Grant:** February 23, 2016
  
  **Amount:** $10,000
  
  **Counties Served:** Floyd, Johnson, Knott, Lawrence, Letcher, Magoffin, Martin, Perry, and Pike
  
  **Project Description:** Kentucky Power issued a K-PEGG grant to One East Kentucky to support the organization’s budget requirements for the 2015-2016 budget year. One East Kentucky used these funds to help cover costs incurred to meet with potential new employers, necessary travel, attend economic development conferences, and market the region. One East Kentucky is one of Kentucky Power’s key regional economic development partners.

- **Recipient:** One East Kentucky
  
  **Date of Grant:** February 23, 2016
  
  **Amount:** $50,000
  
  **Counties Served:** Floyd, Johnson, Knott, Lawrence, Letcher, Magoffin, Martin, Perry, and Pike
  
  **Project Description:** Kentucky Power issued a K-PEGG grant to One East Kentucky to support the organization’s budget requirements for the 2016-2017 budget year. As with the grant issued for the 2015-2016 budget year, One East Kentucky used or will use these funds to help cover costs incurred to meet with potential new employers, necessary travel, attend economic development conferences, and market the region. One East Kentucky is one of Kentucky Power’s key regional economic development partners.

- **Recipient:** Perry County Economic Development Board
  
  **Date of Grant:** February 17, 2016
  
  **Amount:** $25,000
  
  **Counties Served:** Perry
  
  **Project Description:** Kentucky Power issued a K-PEGG grant to the Perry County Economic Development Board to support the development of a Perry County economic development organization. The funds were used to create a strategic plan and provide
budgeting support for the organization whose mission is to attract, develop, and expand a diversified business base in the counties.

- **Recipient**: City of Hazard
  
  **Date of Grant**: February 28, 2016
  
  **Amount**: $56,000
  
  **Counties Served**: Perry, Harlan, Leslie, Letcher, and Breathitt
  
  **Project Description**: Kentucky Power issued a K-PEGG grant to the City of Hazard to fund improvements to the sanitary sewer system that serves the Coalfields Regional Industrial Park. The industrial park is a partnership among Perry, Knott, Leslie, Harlan, and Breathitt Counties. The funds were used to replace impellers in lift station pumps that increased the capacity of the sanitary sewer system. Replacing the impellers and increasing the capacity of the sanitary sewer system addressed specifically one of the infrastructure gaps identified in the InSite gap analysis report. Increasing the sewer capacity to 260,000 gallons per day at the Coalfields Industrial Park makes that site more attractive to businesses looking to relocate to the area.

- **Recipient**: Shaping Our Appalachian Region, Inc. (“SOAR”)
  
  **Date of Grant**: February 28, 2016
  
  **Amount**: $25,000
  
  **Counties Served**: Entire Kentucky Power service territory
  
  **Project Description**: Kentucky Power issued a K-PEGG grant to SOAR to help SOAR fulfill its mission of expanding job creation, enhancing regional opportunity, innovation, and identity, improving the quality of life, and supporting all those working to achieve these goals in Appalachian Kentucky. The funds provided by Kentucky Power allowed SOAR to cover a portion of its operational expenses, support regional projects, and develop and on-line community. SOAR is one of Kentucky Power’s key regional economic development partners.

- **Recipient**: City of Pikeville
  
  **Date of Grant**: April 29, 2016
  
  **Amount**: $75,000
  
  **Counties Served**: Pike
  
  **Project Description**: Kentucky Power issued a K-PEGG grant to the City of Pikeville to provide the City with the funding necessary to hire engineers to design the “last mile” portion of the broadband infrastructure provided through the KentuckyWired project.
The Kentucky Wired project only provides the broadband infrastructure backbone or the “middle mile.” The City’s project provided the engineering design necessary to extend broadband service from backbone to individual customers. The access to high-quality broadband service is intended to assist the City of Pikeville to attract new businesses to the area.

- **Recipient:** One East Kentucky
  
  **Date of Grant:** June 27, 2016
  
  **Amount:** $37,500
  
  **Counties Served:** Floyd, Johnson, Knott, Lawrence, Letcher, Magoffin, Martin, Perry, and Pike

  **Project Description:** Kentucky Power issued a K-PEGG grant to One East Kentucky to complete an Aerospace Assessment and Marketing Plan for the region. One East Kentucky used the funds to hire an outside consultant to perform the assessment and planning. As a result of the assessment and marketing plan, communities served by One East Kentucky received the AEROready designation. This designation helps One East Kentucky give assurances to private aerospace and aviation companies that an independent firm has verified that the workforce and assets of the region can support their facilities.

- **Recipient:** Big Sandy Regional Industrial Development Authority
  
  **Date of Grant:** June 27, 2016
  
  **Amount:** $100,000
  
  **Counties Served:** Martin and Magoffin

  **Project Description:** Kentucky Power issued a K-PEGG grant to the Big Sandy Regional Industrial Development Authority (“BSRIDA”) to provide the final funding necessary for BSRIDA to purchase Logan Corporation’s facility in Martin County. Logan Corporation sought to sell the property so that it would be able to purchase a larger facility in Magoffin County to expand its business. The facility in Martin County was insufficiently sized to support Logan’s operations as it transitioned from manufacturing mining equipment to dump truck beds. BSRIDA’s purchase of Logan’s facility in Martin County made the move to Magoffin County practical. As a result, none of the 35 jobs at Logan’s facility will be lost from the region and Logan will eventually create 80 new jobs at its Magoffin County facility. In addition, the BSRIDA now owns an industrial facility it can market to potential new businesses.

- **Recipient:** Big Sandy Community and Technical College
  
  **Date of Grant:** July 20, 2016
Amount: $75,000

Counties Served: Floyd, Johnson, Magoffin, Martin, and Pike

Project Description: Kentucky Power issued a K-PEGG grant to Big Sandy Community and Technical College (“BSCTC”) to purchase equipment for the college’s new Advanced Technology Center at its Pikeville campus. This equipment helps students in BSCTC’s Fiber Optics Technician training program develop the skills necessary to serve as certified technicians for the new broadband infrastructure to be installed in the region through the KentuckyWired and other related projects.

- **Recipient:** Ashland Alliance
- **Date of Grant:** July 20, 2016
- **Amount:** $84,000

Counties Served: Boyd and Greenup

Project Description: Kentucky Power issued a K-PEGG grant to Ashland Alliance for two projects: (1) to obtain an “AEROready certification” for Greenup and Boyd Counties and (2) to hire an outside consultant to assist with the region’s marketing and branding efforts. As a result of the funds provided through the K-PEGG grant, Ashland Alliance obtained the AEROready certification. This designation helps Ashland Alliance give assurances to private aerospace and aviation companies that an independent firm has verified that the workforce and assets of the region can support their facilities. Additionally, Ashland Alliance obtained a marketing and branding plan that will assist Ashland Alliance in marketing the region to interested companies.

- **Recipient:** Floyd County Fiscal Court
- **Date of Grant:** August 15, 2016
- **Amount:** $100,000

Counties Served: Floyd

Project Description: Kentucky Power issued a K-PEGG grant to the Floyd County Fiscal Court to allow it to provide bridge funding for the RCC Big Shoal, LLC gas-to-liquids project. The bridge funding provided by this grant allowed RCC Big Shoal to complete pre-construction project development activities including site evaluation and engineering. RCC Big Shoal’s facility will be located on a reclaimed coal mine and will provide the equivalent of 500-600 jobs during construction. Once complete, the project is anticipated to result in 50 to 75 full-time jobs.

- **Recipient:** Ashland Alliance
- **Date of Grant:** August 15, 2016
Amount: $15,000  
Counties Served: Boyd/Greenup

Project Description: Kentucky Power issued a K-PEGG grant to Ashland Alliance to offset a portion of the cost of upgrading an existing natural gas line at the Wurtland Riverport Industrial Park. The natural gas line upgrade was necessary to attract Steel Ventures, a West Virginia based company, to construct a steel galvanizing and distribution facility at the industrial park. Steel Ventures began construction on the new facility and anticipates it becoming operational in the summer of 2017. Steel Venture’s new facility will eventually employ 65 personnel.

- **Recipient:** One East Kentucky  
  **Date of Grant:** April 5, 2017  
  **Amount:** $50,000  
  **Counties Served:** Floyd, Johnson, Knott, Lawrence, Letcher, Magoffin, Martin, Perry, and Pike

  Project Description: Kentucky Power issued a K-PEGG grant to One East Kentucky to support the organization’s budget requirements for the 2017-2018 budget year. As with the grants issued in previous years, One East Kentucky used or will use these funds to help cover costs incurred to meet with potential new employers, necessary travel, attend economic development conferences, and market the region. One East Kentucky is one of Kentucky Power’s key regional economic development partners.

- **Recipient:** Shaping Our Appalachian Region, Inc. (“SOAR”)  
  **Date of Grant:** April 5, 2017  
  **Amount:** $25,000  
  **Counties Served:** Entire Kentucky Power service territory

  Project Description: Kentucky Power issued a K-PEGG grant to SOAR to help SOAR fulfill its mission of expanding job creation, enhancing regional opportunity, innovation, and identity, improving the quality of life, and supporting all those working to achieve these goals in Appalachian Kentucky. Like the grant issued in 2016, the funds provided by Kentucky Power will allow SOAR to cover a portion of its operational expenses, support regional projects, and develop and on-line community. SOAR is one of Kentucky Power’s key regional economic development partners.

- **Recipient:** Hazard-Perry County Economic Development Alliance  
  **Date of Grant:** April 5, 2017
Amount: $25,000

Counties Served: Perry

Project Description: Kentucky Power issued a K-PEGG grant to the Hazard-Perry County Economic Development Alliance to provide budgetary support for the organization whose mission is to attract, develop, and expand a diversified business base in the counties. The Alliance’s primary focus is marketing the Coal Fields Regional Industrial Park as an economic development site.

- **Recipient:** Southeast Kentucky Economic Development Corporation
- **Date of Grant:** April 5, 2017
- **Amount:** $60,000

Counties Served: Boyd, Breathitt, Carter, Clay, Elliott, Floyd, Johnson, Knott, Lawrence, Leslie, Letcher, Magoffin, Martin, Morgan, Owsley, Perry, and Pike

Project Description: Kentucky Power issued a K-PEGG grant to the Southeast Kentucky Economic Development Corporation to provide funds necessary to assist four companies in the Company’s service territory obtain quality control certifications necessary to compete for subcontracting work to major military and government contractors.

- **Recipient:** Pike County Fiscal Court
- **Date of Grant:** April 5, 2017
- **Amount:** $18,700

Counties Served: Pike

Project Description: Kentucky Power issued a K-PEGG grant to the Pike County Fiscal Court to provide funds necessary to market the activities at the Pike County Teleworks Hub including job training and placement services.
KEAP PROGRAM

GRANT RECIPIENT SUMMARIES

- **Recipient:** Gateway Area Development District, Big Sandy Gateway Area Development District, and FIVCO Area Development District

  Grant Year: 2014
  
  Amount: $8,000
  
  Counties Served: Boyd, Carter, Elliott, Lawrence, Johnson, Martin, and Morgan

  **Project Description:** Kentucky Power issued a KEAP grant to the Big Sandy, FIVCO, and Gateway Area Development Districts to support economic development training for members of each organization. With the funding provided in the grant, one member of staff from each organization was able to attend the annual University of Oklahoma Economic Development Institute (EDI) training session. The Oklahoma EDI is a premier economic development training course that allowed the staff members from each organization to develop the economic development skills necessary to make their communities competitive. This was the first of three years of training necessary for obtaining the Oklahoma EDI certification.

- **Recipient:** City of Paintsville

  Grant Year: 2014
  
  Amount: $100,000
  
  Counties Served: Johnson

  **Project Description:** Kentucky Power issued a KEAP grant to the City of Paintsville to support its work to upgrade the then-vacant Teays Branch site. Specifically, the funding provided by the Company allowed the City to improve the parking at the facility to make it more attractive to new businesses. The work on the parking facilities is now complete, and the site is now the home of the Eastern Kentucky Advanced Manufacturing Institute.

- **Recipient:** Southeast Kentucky Chamber of Commerce – Louisa Chapter

  Grant Year: 2014
  
  Amount: $92,000
  
  Counties Served: Lawrence

  **Project Description:** Kentucky Power issued a KEAP grant to the Louisa Chapter of the Southeast Kentucky Chamber of Commerce to provide a portion of the start-up funding
for Quality Metal Roofing, a sheet metal and roofing manufacturing facility, to locate in Louisa. Quality Metal Roofing’s facility has been constructed, and the Company currently employs eleven individuals full-time.

- **Recipient:** Northeast Kentucky Regional Industrial Park Authority  
  **Grant Year:** 2015  
  **Amount:** $100,000  
  **Counties Served:** Boyd, Lawrence, Carter, Greenup, and Elliott

  **Project Description:** Kentucky Power issued a KEAP grant to the Northeast Kentucky Regional Industrial Park Authority for site development work at the Authority’s East Park Industrial Park in Boyd County. Specifically, the funding was used for soil compaction on a 150,000 building pad within the park. Soil compaction is necessary because the entire industrial park is built on a reclaimed surface mine. The soil compaction work on this project is complete.

- **Recipient:** Southeast Kentucky Chamber of Commerce – Louisa Chapter  
  **Grant Year:** 2015  
  **Amount:** $90,300  
  **Counties Served:** Lawrence

  **Project Description:** Kentucky Power issued a KEAP grant to the Louisa Chapter of the Southeast Kentucky Chamber of Commerce to provide funding to update an industrial facility in Louisa and make it marketable as “site ready” for new businesses. The renovation work was completed in 2016.

- **Recipient:** Gateway Area Development District, Big Sandy Gateway Area Development District, and FIVCO Area Development District  
  **Grant Year:** 2015  
  **Amount:** $9,700  
  **Counties Served:** Boyd, Carter, Elliott, Lawrence, Johnson, Martin, and Morgan

  **Project Description:** Kentucky Power issued a KEAP grant to the Big Sandy, FIVCO, and Gateway Area Development Districts to support continued economic development training for members of each organization. With the funding provided in the grant, one member of staff from each organization was able to attend the annual University of Oklahoma Economic Development Institute (EDI) training session. This was the second of three years of training necessary for obtaining the Oklahoma EDI certification.
- **Recipient**: Ashland Alliance and Northeast Kentucky Regional Industrial Park Authority  
  **Grant Year**: 2016  
  **Amount**: $45,000  
  **Counties Served**: Boyd, Lawrence, Carter, Greenup, and Elliott  
  **Project Description**: Kentucky Power issued a KEAP grant to Ashland Alliance and the Northeast Kentucky Regional Industrial Park Authority to fund improvements to the EastPark Industrial Park. These improvements were necessary to make the park more attractive to potential new businesses. This project included work to update signage at the site and to improve the spec building at the park. This project was completed in early 2017.

- **Recipient**: Gateway Area Development District, Big Sandy Gateway Area Development District, and FIVCO Area Development District  
  **Grant Year**: 2016  
  **Amount**: $10,400  
  **Counties Served**: Boyd, Carter, Elliott, Lawrence, Johnson, Martin, and Morgan  
  **Project Description**: Kentucky Power issued a KEAP grant to the Big Sandy, FIVCO, and Gateway Area Development Districts to support economic development training for members of each organization. With the funding provided in the grant, one member of staff from each organization was able to attend the annual University of Oklahoma Economic Development Institute (EDI) training session. This was the final of three years of training with the Oklahoma EDI. All three participants received their certification from the EDI and are assisting their communities with economic development efforts.

- **Recipient**: City of Olive Hill  
  **Grant Year**: 2016  
  **Amount**: $25,000  
  **Counties Served**: Carter  
  **Project Description**: Kentucky Power issued a KEAP grant to the City of Olive Hill to fund preliminary engineering services to support a capital project to upgrade the city’s wastewater treatment facility. Preliminary engineering services funded by this grant included surveying, measurements of existing treatment capacities, and preliminary layout and design for system upgrades. The City is upgrading its wastewater treatment facility by 25% to allow for additional residential and industrial use. This expansion will make the City more attractive to new business and industry.
- **Recipient:** FIVCO Area Development District  
  Grant Year: 2016  
  Amount: $4,000  
  Counties Served: Boyd, Lawrence, Carter, Greenup, and Elliott  
  Project Description: Kentucky Power issued a KEAP grant to the FIVCO Area Development District to support marketing efforts for the EastPark Industrial Park. These marketing funds were used to install signs identifying available space in the park as well as to participate in marketing efforts with commercial realtors to increase their awareness and understanding of the available parcels within the park.

- **Recipient:** Southeast Kentucky Chamber of Commerce – Louisa Chapter  
  Grant Year: 2016  
  Amount: $92,750  
  Counties Served: Lawrence  
  Project Description: Kentucky Power issued a KEAP grant to the Louisa Chapter of the Southeast Kentucky Chamber of Commerce to allow it to provide funding for the expansion of Quality Metal Roofing, a business created with the support of a KEAP grant in 2014. The business has thrived and the funding provided through this second KEAP grant allowed Quality Metal Roofing to add a new product line and create up to seven new jobs in Louisa.

- **Recipient:** Eastern Kentucky Advanced Manufacturing Institute (eKAMI)  
  Grant Year: 2017  
  Amount: $50,000  
  Counties Served: Johnson  
  Project Description: Kentucky Power issued a KEAP grant to eKAMI to support the repurposing of its facility in Paintsville into an education center. The eKAMI education center will focus on re-training out-of-work coal miners in skills necessary for advanced manufacturing.

- **Recipient:** Ashland Alliance  
  Grant Year: 2017  
  Amount: $17,500  
  Counties Served: Boyd, Carter, Elliott, Greenup, and Lawrence
Project Description: Kentucky Power issued a KEAP grant to the Ashland Alliance to support the EastPark industrial park. Specifically, this grant would be used to obtain a build ready certification from the state and to fund recruitment and marketing efforts for the site.

- **Recipient:** One East Kentucky
  
  **Grant Year:** 2017
  
  **Amount:** $88,200
  
  **Counties Served:** Martin

Project Description: Kentucky Power issued a KEAP grant to One East Kentucky to provide funding to Thoroughbred Aviation Maintenance to support the development of a helicopter painting facility at the Big Sandy Regional Airport in Martin County. Once constructed, the Thoroughbred facility will be the only helicopter paint facility within 400 miles.

- **Recipient:** Ashland Community and Technical College
  
  **Grant Year:** 2017
  
  **Amount:** $25,000
  
  **Counties Served:** Boyd, Carter, Elliott, Greenup, and Lawrence

Project Description: Kentucky Power issued a KEAP grant to the Ashland Community and Technical College to purchase equipment for its new fiber optics training program. The goal of the training program is to develop a workforce capable of supporting installation and maintenance requirements associated with the planned increased investment in fiber optics infrastructure in the region.

- **Recipient:** Paintsville-Johnson County Chamber of Commerce
  
  **Grant Year:** 2017
  
  **Amount:** $20,000
  
  **Counties Served:** Johnson

Project Description: Kentucky Power issued a KEAP grant to the Paintsville-Johnson County Chamber of Commerce to support American Metal Works in obtaining ISO 9001 and AS 9100 certifications. These quality assurance certifications will allow American Metal Works to compete more effectively for military and aerospace industry contracts.

- **Recipient:** Gateway Area Development District, Big Sandy Gateway Area Development District, and FIVCO Area Development District
Grant Year: 2017

Amount: $3,300

Counties Served: Boyd, Carter, Elliott, Lawrence, Johnson, Martin, and Morgan

Project Description: Kentucky Power issued a KEAP grant to the Big Sandy, FIVCO, and Gateway Area Development Districts to support economic development certification testing for members of each organization. This funding will allow representatives from each organization to sit for the Certified Economic Developer examination.

- **Recipient**: Lawrence County Fiscal Court

Grant Year: 2017

Amount: $18,000

Counties Served: Lawrence

Project Description: Kentucky Power issued a KEAP grant to the Lawrence County Fiscal Court to purchase equipment for a new Teleworks hub in the county. The Teleworks hub will include both work spaces for those engaged in the Teleworks program and training facilities for new employees.
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

ADRIEN M. MCKENZIE, CFA

ON BEHALF OF KENTUCKY POWER COMPANY
VERIFICATION

The undersigned, Adrien M. McKenzie being duly sworn deposes and says he is the President of FINCAP, Inc., and that he has personal knowledge of the matters set forth in the forgoing testimony and the information contained therein is true and correct to the best of his information, knowledge, and belief.

Adrien M. McKenzie

STATE OF TEXAS
COUNTY OF TRAVIS

Subscribed and sworn to before me, a Notary Public in and before said County and State, by, Adrien M. McKenzie this 22nd day of June 2017.

Notary Public

My Commission Expires: 9-13-17
DIRECT TESTIMONY OF
ADRIEN M. MCKENZIE, CFA

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1 Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
A1. My name is Adrien M. McKenzie, and by business address is 3907 Red River, Austin, Texas 78751.

4 Q2. IN WHAT CAPACITY ARE YOU EMPLOYED?
A2. I am President of Financial Concepts and Applications, Inc. (“FINCAP”), a firm engaged in financial, economic, and policy consulting to business and government.

7 Q3. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.
A3. A description of my background and qualifications, including a resume containing the details of my experience, is attached as Exhibit AMM-1.

11 Q4. WHAT IS THE PURPOSE OF YOUR TESTIMONY?
A4. The purpose of my testimony is to present to the Kentucky Public Service Commission (“Commission”) my independent assessment of the fair and reasonable rate of return on equity (“ROE”) that Kentucky Power Company (“Kentucky Power” or “the Company”) should be authorized to earn on its investment in providing electric utility service, including a reasonable return on environmental compliance-related capital expenditures. In addition, I also examined the reasonableness of Kentucky Power’s capital structure, considering both the specific risks faced by the Company, as well as other industry guidelines.
Q5. PLEASE SUMMARIZE THE INFORMATION AND MATERIALS YOU
RELIED ON TO SUPPORT THE OPINIONS AND CONCLUSIONS
CONTAINED IN YOUR TESTIMONY.

A5. To prepare my testimony, I referenced information from a variety of sources that
would normally be relied upon by a person in my capacity. I am familiar with the
organization, finances, and operations of Kentucky Power from my participation in
prior proceedings before the Commission. In connection with this filing, I
considered and relied upon corporate disclosures, publicly available financial
reports and filings, and other published information relating to Kentucky Power and
its parent company, American Electric Power Company, Inc. (“AEP”). I also
reviewed information relating generally to capital market conditions and specifically
to investor perceptions, requirements, and expectations for utilities. These sources,
coupled with my experience in the fields of finance and utility regulation, have
given me a working knowledge of the issues relevant to investors’ required return
for Kentucky Power, and they form the basis of my analyses and conclusions.

Q6. HOW IS YOUR TESTIMONY ORGANIZED?

A6. After first summarizing my conclusions and recommendations, I briefly review
Kentucky Power’s operations and finances. I then examine current conditions in the
capital markets and their implications in evaluating a fair and reasonable ROE for
Kentucky Power. With this as a background, I conduct well-accepted quantitative
analyses to estimate the current cost of equity for a reference group of comparable-
risk utilities. These included the discounted cash flow (“DCF”) model, the Capital
Asset Pricing Model (“CAPM”), the empirical form of CAPM (“ECAPM”), an
equity risk premium approach based on allowed ROEs, and reference to expected
earned rates of return for utilities, which are all methods that are commonly relied
on in regulatory proceedings. In addition, I discuss the proper use of data from Regulatory Research Associates (“RRA”) in reviewing recommendations concerning the required ROE, and explain why the development and consideration of substantial record evidence is necessary to meet the regulatory principles set forth by the U.S. Supreme Court in the *Bluefield*¹ and *Hope*² cases.

Based on the cost of equity estimates indicated by my analyses, I evaluate a fair and reasonable ROE for Kentucky Power, taking into account the specific risks for its jurisdictional utility operations in Kentucky and the Company’s requirements for financial strength, as well as flotation costs, which are properly considered in setting a fair and reasonable ROE. Further, I corroborate my utility quantitative analyses by applying the DCF model to a group of low risk non-utility firms.

II. RETURN ON EQUITY FOR KENTUCKY POWER

Q7. WHAT IS THE PURPOSE OF THIS SECTION?

A7. This section presents my conclusions that 10.31% is a fair and reasonable ROE applicable to Kentucky Power’s electric utility operations. This section also discusses the relationship between ROE and preservation of a utility’s financial integrity and the ability to attract capital.

A. Importance of Financial Strength

Q8. WHAT IS THE ROLE OF THE ROE IN SETTING A UTILITY'S RATES?

A8. The ROE is the cost of attracting and retaining common equity investment in the utility’s physical plant and assets. This investment is necessary to finance the asset

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base needed to provide utility service. Investors commit capital only if they expect to earn a return on their investment commensurate with returns available from alternative investments with comparable risks. Moreover, a fair and reasonable ROE is integral in meeting sound regulatory economics and the standards set forth by the U.S. Supreme Court in the Bluefield and Hope cases. A utility’s allowed ROE should be sufficient to: 1) fairly compensate the utility’s investors, 2) enable the utility to offer a return adequate to attract new capital on reasonable terms, and 3) maintain the utility’s financial integrity. These standards should allow the utility to fulfill its obligation to provide reliable service while meeting the needs of customers through necessary system replacement and expansion, but the Supreme Court’s requirements can only be met if the utility has a reasonable opportunity to actually earn its allowed ROE.

While the Hope and Bluefield decisions did not establish a particular method to be followed in fixing rates, these and subsequent cases enshrined the importance of an end result that meets the opportunity cost standard of finance. Under this doctrine, the required return is established by investors in the capital markets based on expected returns available from comparable risk investments. Coupled with modern financial theory, which has led to the development of formal risk-return models (e.g., DCF and CAPM), practical application of the Bluefield and Hope standards involves the independent, case-by-case consideration of capital market data in order to evaluate an ROE that will produce a balanced and fair end result for investors and customers.
Q9. WHAT PART DOES REGULATION PLAY IN ENSURING THAT KENTUCKY POWER HAS ACCESS TO CAPITAL UNDER REASONABLE TERMS AND ON A SUSTAINABLE BASIS?

A9. Regulatory signals are a major driver of investors’ risk assessment for utilities. Investors recognize that constructive regulation is a key ingredient in supporting utility credit ratings and financial integrity, particularly during times of adverse conditions. Security analysts study commission orders and regulatory policy statements to advise investors about where to put their money. As Moody’s Investors Service (“Moody’s”) noted, “the regulatory environment is the most important driver of our outlook because it sets the pace for cost recovery.”

Similarly, S&P Global Ratings (“S&P”) observed that, “Regulatory advantage is the most heavily weighted factor when S&P Global Ratings analyzes a regulated utility’s business risk profile.” In a recent report on Kentucky Power, Moody’s concluded, “Regulatory support with sufficient cost recovery is a key rating driver.”

Furthermore, the ROE set by the Commission impacts investor confidence in not only the jurisdictional utility, but also in the ultimate parent company that is the entity that actually issues common stock.

Q10. DO CUSTOMERS BENEFIT BY ENHANCING THE UTILITY’S FINANCIAL FLEXIBILITY?

A10. Yes. Providing an ROE that is sufficient to maintain Kentucky Power’s ability to attract capital under reasonable terms, even in times of financial and market stress,

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is not only consistent with the economic requirements embodied in the U.S. Supreme Court’s Hope and Bluefield decisions, it is also in customers’ best interests. Customers enjoy the benefits that come from ensuring that the utility has the financial wherewithal to take whatever actions are required to ensure safe and reliable service.

B. Recommended ROE

Q11. WHAT IS YOUR RECOMMENDATION AS TO A FAIR AND REASONABLE ROE FOR KENTUCKY POWER?

A11. I recommend an ROE of 10.31% for Kentucky Power’s electric utility operations. The bases for my conclusion are summarized below:

- In order to reflect the risks and prospects associated with Kentucky Power’s jurisdictional utility operations, my analyses focused on a proxy group of eighteen other electric utilities ("Utility Group").
- Because investors’ required return on equity is unobservable and no single method should be viewed in isolation, I applied the DCF, CAPM, ECAPM, and risk premium methods to estimate a fair and reasonable ROE for Kentucky Power, as well as referencing the expected earnings approach.
- As summarized on Exhibit AMM-2, considering the results of these analyses, and giving less weight to extremes at the high and low ends of the range, I concluded that the cost of equity for the proxy group of utilities is in the 9.6% to 10.8% range.
- Adding a flotation cost adjustment of 11 basis points to this bare bones cost of equity range resulted in an ROE range for the proxy group of 9.71% to 10.91%;
- An ROE of 10.31% is equal to the midpoint of the proxy group range.
- Considering capital market expectations and the economic requirements necessary to maintain financial integrity and support additional capital investment even under adverse circumstances, an ROE of 10.31% at the midpoint of the proxy group range represents a fair and reasonable ROE for Kentucky Power.
Q12. WHAT ELSE SHOULD BE CONSIDERED IN WEIGHING YOUR QUANTITATIVE RESULTS?

A12. Current capital market conditions continue to reflect the impact of unprecedented policy measures taken in response to dislocations in the economy and financial markets stemming from the Great Recession, and are not representative of what is likely to prevail over the near-term future. As a result, the DCF results for utilities may be affected by potentially unrepresentative financial inputs. In this light, it is important to consider alternatives to the DCF model. As shown in Exhibit AMM-2, alternative risk premium models \( i.e., \) the CAPM, ECAPM and utility risk premium approaches produce ROE estimates that generally exceed the DCF results. My expected earnings approach corroborated these outcomes.

Q13. HAVE SUCH ALTERNATIVE ROE METHODS BEEN ACCEPTED BY OTHER REGULATORS?

A13. Yes. In its recent Opinion 551, issued September 28, 2016, FERC reiterated its support for several of the very same methodologies relied on in my testimony. For example, FERC determined:

For the reasons discussed below, we conclude that the record in this proceeding demonstrates the presence of unusual capital market conditions, such that we have less confidence that the central tendency of the DCF zone of reasonableness (the midpoint in this case) accurately reflects the equity returns necessary to meet Hope and Bluefield.\(^6\)

Rather, that finding supports a consideration of other cost of equity estimation methodologies in determining whether mechanically setting the ROE at the central tendency satisfies the capital attraction standards of Hope and Bluefield.\(^7\)

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\(^6\) Opinion No. 551, 156 FERC ¶ 61,234 at P 119 (2016).

\(^7\) Id. at P 120.
We therefore find it necessary and reasonable to consider additional
record evidence, including evidence of alternative methodologies and
state-commission approved ROEs, to gain insight into the potential
impacts of these unusual capital market conditions on the
appropriateness of using the resulting midpoint.\(^8\)

The “alternative methodologies” referred to above include the CAPM, utility risk
premium, and expected earnings approaches summarized on Exhibit AMM-2. After
considering the results of these methods, FERC established an ROE for electric
transmission services at the middle of the upper half of the DCF range, or 10.32\%.\(^9\)

**Q14. WHAT DID THE DCF RESULTS FOR YOUR SELECT GROUP OF NON-
UTILITY FIRMS INDICATE WITH RESPECT TO YOUR EVALUATION?**

A14. Average DCF estimates for a low-risk group of firms in the competitive sector of the
economy ranged from 10.4\% to 10.8\%, and averaged 10.6\% before consideration of
flotation costs. While I did not base my recommendation directly on these results,
they confirm that a 10.31\% ROE falls in a reasonable range to maintain Kentucky
Power’s financial integrity, provide a return commensurate with investments of
comparable risk, and support the Company’s ability to attract capital.

**C. Other Factors**

**Q15. ARE THERE REGULATORY MECHANISMS THAT AFFECT KENTUCKY
POWER’S RATES FOR UTILITY SERVICE?**

A15. Yes. In addition to a fuel adjustment clause, Kentucky Revised Statute 278.183
provides, in part, that “… a utility shall be entitled to the current recovery of its
costs of complying with the Federal Clean Air Act as amended and those federal,
state, or local environmental requirements which apply to coal combustion wastes

\(^8\) Id. at P 122.
\(^9\) Id. at P 9.
and by-products from facilities utilized for production of energy from coal …”
Consistent with this statutory provision, the Commission has approved an
environmental surcharge for the Company that allows for recovery of related costs.
In addition, Kentucky Power operates under a Demand Side Management (“DSM”)
rate mechanism that provides for recovery of the full costs associated with DSM
programs – including any new revenues lost due to reduced sales – as well as a rider
to address the decommissioning costs associated with Big Sandy Unit 2 and the Big
Sandy Unit 1 coal related assets.

Q16. DOES THE FACT THAT KENTUCKY POWER OPERATES UNDER
CERTAIN REGULATORY MECHANISMS WARRANT ANY ADJUSTMENT
IN YOUR EVALUATION OF A FAIR AND REASONABLE ROE?
A16. No. Investors recognize that Kentucky Power is exposed to significant risks
associated with the ability to recover rising costs and investment on a timely basis,
and concerns over these risks have become increasingly pronounced in the industry.
The Commission’s rate adjustment mechanisms are a tool to address these risks, but
they do not eliminate them. In addition, investors also recognize that the periodic
reviews accompanying trackers expose the Company to an increased risk of
retroactive disallowances. While the regulatory mechanisms approved for Kentucky
Power partially attenuate exposure to attrition in an era of rising costs and
investment, this leveling of the playing field only serves to address factors that
could otherwise impair the Company’s opportunity to earn its authorized return.

Q17. DO THESE MECHANISMS SET KENTUCKY POWER APART FROM
OTHER FIRMS OPERATING IN THE UTILITY INDUSTRY?
A17. No. Adjustment mechanisms and cost trackers have been increasingly prevalent in
the utility industry in recent years. In response to the increasing risk sensitivity of
investors to uncertainty over fluctuations in costs and the importance of advancing other public interest goals such as reliability, energy conservation, and safety, utilities and their regulators have sought to mitigate some of the cost recovery uncertainty and align the interest of utilities and their customers through a variety of regulatory mechanisms. Based largely on the expanded use of ratemaking mechanisms to address operational risks and investment recovery, Moody’s upgraded most regulated utilities in January 2014.\textsuperscript{10} This is consistent with the view that investors perceive the impact of regulatory mechanisms to be an industry-wide factor. Just as a rising tide lifts all boats, ratemaking mechanisms have had an across-the-board impact on risk perceptions for virtually all utilities.

Q18. **HAVE YOU SUMMARIZED THE VARIOUS REGULATORY MECHANISMS AVAILABLE TO THE FIRMS IN YOUR UTILITY GROUP?**

A18. Yes. Reflective of industry trends, the companies in the Utility Group operate under a variety of regulatory adjustment mechanisms. As summarized on Exhibit AMM-3, these mechanisms are ubiquitous and wide ranging. For example, the vast majority of the proxy utilities benefit from mechanisms that allow for recovery of new infrastructure investment outside a formal rate proceeding. Many of these utilities operate under revenue decoupling and other mechanisms that insulate the utility from volatility related to fluctuations in sales volumes, as well as the ability to implement periodic rate adjustments to reflect changes in a diverse range of operating and capital costs, including expenditures related to environmental mandates, conservation programs, transmission costs, and storm recovery efforts.

Q19. WHAT IS YOUR CONCLUSION REGARDING THE IMPACT OF REGULATORY MECHANISMS IN EVALUATING A FAIR AND REASONABLE ROE FOR KENTUCKY POWER?

A19. Investors recognize that the use of adjustment mechanisms is widely prevalent in the utility industry, and the relative impact is already considered in the data for my proxy group. As a result, any mitigation in risks associated with Kentucky Power’s ability to attenuate regulatory lag through adjustment mechanisms is already reflected in the quantitative results presented in my testimony, and no adjustment to the ROE is justified or warranted.

Q20. DOES THE CAPITAL STRUCTURE HAVE IMPLICATIONS FOR THE RATES PAID BY CUSTOMERS?

A20. Yes. Because the cost of equity exceeds the cost of debt, the relative proportion of debt and equity in a utility’s capital structure will impact the overall weighted average cost of capital, which is used to calculate the return component of a utility’s revenue requirements.

Q21. WHAT IS YOUR CONCLUSION AS TO THE REASONABILITY OF THE COMPANY’S CAPITAL STRUCTURE?

A21. Based on my evaluation, I conclude that the Company’s proposed common equity ratio of 41.68% represents a reasonable basis from which to calculate Kentucky Power’s overall rate of return. This conclusion was based on the following findings:

- Kentucky Power’s common equity ratio is well within the range of capitalizations maintained by the firms in the proxy group of utilities and by other electric utility operating companies based on data at year-end 2016 and near-term expectations.

- While the Company’s proposed equity ratio is within the range of comparable company capitalizations, it is below the average equity ratios maintained by these companies.
Kentucky Power’s requested capitalization is consistent with the Company’s need to maintain its credit standing and financial flexibility as it seeks to raise additional capital to fund significant system investments and meet the requirements of its customers.

As noted above, Kentucky Power’s capital structure contains relatively less common equity than the firms in my proxy group, which reduces the equity return component of the revenue requirements, and in turn, the overall rate of return.

Q22. HOW DOES KENTUCKY POWER’S REQUESTED 4.30% WEIGHTED COST OF EQUITY COMPARE WITH THOSE RECENTLY APPROVED FOR ELECTRIC UTILITIES IN OTHER JURISDICTIONS?

A22. The bar chart below shows the weighted costs of equity approved by state regulators for investor-owned electric utilities across the country during 2016 and for the first quarter of 2017. These observations represent all decisions reported by RRA that specify an ROE and an equity ratio for electric utilities during this period:
As shown above, when the Company’s capital structure is considered along with my recommended ROE of 10.31%, the resulting weighted cost of equity of 4.30% for Kentucky Power falls at the lower end of the distribution of these weighted costs of equity allowed by state regulators for other electric utilities.\(^{11}\)

\(^{11}\) Unlike Kentucky Power, which is an integrated electric utility, certain of the observations reflected in Figure 2 are for distribution-only utilities.
III. FUNDAMENTAL ANALYSES

Q23. WHAT IS THE PURPOSE OF THIS SECTION?

A23. As a predicate to subsequent quantitative analyses, this section briefly reviews the operations and finances of Kentucky Power. In addition, it examines conditions in the capital markets and the general economy. An understanding of the fundamental factors driving the risks and prospects of electric utilities is essential in developing an informed opinion of investors’ expectations and requirements that are the basis of a fair rate of return.

A. Kentucky Power Company

Q24. BRIEFLY DESCRIBE KENTUCKY POWER.

A24. Headquartered in Ashland, Kentucky, Kentucky Power is a wholly-owned subsidiary of AEP principally engaged in the generation, transmission, and distribution of electric power. The Company provides electric service to approximately 168,000 retail customers in eastern Kentucky. In addition to providing retail electric utility service, the Company also sells electric power at wholesale to municipalities. At December 31, 2016, Kentucky Power’s total assets amounted to $2.46 billion, with annual revenues amounting to approximately $655 million.

Kentucky Power has approximately 1,450 megawatts (MW) of generating capacity. Over the past few years, in an effort to address both environmental and reliability issues, Kentucky Power has significantly transformed the makeup of its generation resources. In 2013, it acquired, based on the Commission’s determination that the acquisition was the least cost alternative, a 50% interest (780 MW) in the cleaner-burning coal-fired Mitchell plant. In May 2015, it closed 800
MW of coal capacity at Big Sandy Unit 2 and, in 2016, completed the conversion of Big Sandy Unit 1 to a 285 MW natural gas fired facility. The Company also purchases a share of the Rockport plant (393 MW) under a long-term unit power agreement, and operates under a Power Coordination Agreement with its affiliates, Indiana Michigan Power Company, Appalachian Power Company, and Wheeling Power Company.

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

Q25. PLEASE DESCRIBE THE AEP SYSTEM.

A25. AEP delivers electricity to more than 5 million customers across 11 states, including Ohio, Indiana, West Virginia, Virginia, Kentucky, Michigan, Tennessee, Oklahoma, Texas, Louisiana, and Arkansas. AEP is one of the largest electric utilities in the U.S., with its combined utility system including approximately 26,000 MW of generating capacity and more than 40,000 miles of transmission lines. During 2016, AEP’s revenues totaled approximately $16.4 billion, with total assets at December 31, 2016 of $63.5 billion.

Q26. WHERE DOES KENTUCKY POWER OBTAIN THE CAPITAL USED TO FINANCE ITS INVESTMENT IN ELECTRIC UTILITY PLANT?

A26. As a wholly-owned subsidiary of AEP, the Company obtains common equity capital solely from its parent, whose common stock is publicly traded on the New York
Stock Exchange. In addition to capital supplied by AEP, Kentucky Power also issues debt securities directly under its own name.

Q27. DOES KENTUCKY POWER ANTICIPATE THE NEED FOR ADDITIONAL CAPITAL GOING FORWARD?

A27. Yes. Kentucky Power will require capital investment to provide for necessary maintenance and replacements of its utility infrastructure, as well as to fund investment in new facilities. The Company anticipates that capital expenditures will total $363.4 million from 2017-2019, which represents approximately 30.6% of adjusted rate base. Moody’s noted the challenges associated with the Company’s “[l]arge capital expenditure program,” and “[h]igh coal concentration.” Support for Kentucky Power’s financial integrity and flexibility will be instrumental in attracting the capital necessary to fund its share of these projects in an effective manner.

Q28. WHAT CREDIT RATINGS ARE ASSIGNED TO KENTUCKY POWER?

A28. Currently, Kentucky Power is assigned a corporate credit rating of A- by S&P, while Moody’s has assigned the Company an issuer rating of Baa2. Fitch Ratings Ltd. assigns Kentucky Power an issuer default rating of BBB-.

B. Outlook for Capital Costs

Q29. PLEASE SUMMARIZE CURRENT CAPITAL MARKET CONDITIONS?

A29. Current capital market conditions continue to be affected by the Federal Reserve's unprecedented monetary policy actions, which were designed to push interest rates to historically and artificially low levels in an effort to support economic growth and

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bolster employment. Since the Great Recession, investors have also had to contend with a heightened level of economic uncertainty. The ongoing potential for renewed turmoil in the capital markets has been seen repeatedly and investors have reacted to such periods of “risk off” behavior by seeking a safe haven in U.S. government bonds. As a result of this “flight to safety,” Treasury bond yields have been pushed significantly lower in the face of political, economic, and capital market risks. In the aftermath of the Brexit vote, for example, AP News reported that, “Fear and uncertainty about the global economy are leading investors to embrace the relative safety of U.S. Government debt and slashing yields to record lows.”

Q30. HAS THERE BEEN A FUNDAMENTAL SHIFT IN FEDERAL RESERVE MONETARY POLICIES?
A30. No. The Federal Reserve continues to exert considerable influence over capital market conditions through its massive holdings of Treasuries and mortgage-backed securities. Prior to the initiation of the stimulus program in 2009, the Federal Reserve’s holdings of U.S. Treasury bonds and notes amounted to approximately $400-$500 billion. With the implementation of its asset purchase program, balances of Treasury securities and mortgage backed instruments climbed steadily, and their effect on capital market conditions became more pronounced. Table 1 below charts the course of the Federal Reserve’s asset purchase program:

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Far from representing a return to normal, the Federal Reserve’s holdings of Treasury bonds and mortgage-backed securities continue to exceed $4.2 trillion. Of course, the corollary to these observations is that changes to this policy of reinvestment would further reduce stimulus measures and could place significant upward pressure on bond yields, especially considering the unprecedented magnitude of the Federal Reserve’s holdings of Treasury bonds and mortgage-backed securities. As a *Financial Analysts Journal* article noted:

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

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Similarly, a report from the global investment management firm BlackRock cited the potential for yield spikes and the exposure of the utilities sector to rising yields, concluding that, “We are in uncharted territory,” when it comes to the implications of unwinding the Federal Reserve’s balance sheet holdings. More recently, the Wall Street Journal echoed these concerns:

A great deal is at stake with the bond decision. Shrinking the portfolio could jolt financial markets, pushing up interest costs on government debt and mortgage bonds and reverberating through the broader economy.

Officials don’t know how markets will react when they shrink the holdings because they have never done it before. But they know plenty about the skittishness of investors. When they signaled they would end bond purchases in 2013, they sparked a market “taper tantrum” that sent interest rates higher and hurt emerging markets.

More recently, the Wall Street Journal observed the potential for “considerable upward pressure on long-term interest rates” if the need to finance higher deficits associated with stimulative fiscal policies coincides with a higher supply of Treasury securities as the Federal Reserve unwinds its balance sheet holdings.

Q31. DO THE FEDERAL RESERVE’S RECENT MONETARY POLICY ACTIONS MARK A RETURN TO “NORMAL” IN THE CAPITAL MARKETS?

A31. No. The Federal Reserve’s long-anticipated moves to increase the federal funds rate represent a modest step towards implementing the process of monetary policy.
normalization outlined in its September 17, 2014 press release. While the Federal Reserve’s actions mark a continuation of the normalization process that began with its initial 25 basis point rate rise in the federal funds rate in December 2015, these modest and gradual moves do not result in a fundamental alteration of its accommodative monetary policy.

Nor have they removed uncertainty over the trajectory of further interest rate increases or the overhanging implications of the Federal Reserve’s enormous holdings of long-term securities. While affirming its existing policy of reinvesting principal payments from its securities holdings, the Federal Reserve recently announced that it expects to begin implementing a gradual balance sheet normalization program later in 2017, subject to caps and an economic outlook in line with current expectations. Uncertainties over just how the process of normalizing the Federal Reserve’s unprecedented monetary policies will affect capital markets further support the consideration of alternative DCF analyses and ROE benchmarks when evaluating a just and reasonable ROE for the Company.

Q32. **IS THERE EVIDENCE THAT INVESTORS ANTICIPATE SIGNIFICANTLY HIGHER INTEREST RATES IN THE FORESEEABLE FUTURE?**

A32. Yes. Investors continue to anticipate that interest rates will increase significantly from present levels. With apprehension surrounding future Federal Reserve actions, uncertainties regarding future fiscal policies, world-wide geopolitical exposures, and the overhanging risk of a global economic slowdown, the potential for significant volatility and higher capital costs is clearly evident to investors.

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For example, the June 1, 2017 long-term consensus forecast of economists published in the Blue Chip Financial Forecast (“Blue Chip”) anticipates that corporate bond yields will increase approximately 150 basis points between 2017 and 2022.  

Figure 1 below compares six-month average interest rates on 10-year and 30-year Treasury bonds, triple-A rated corporate bonds, and double-A rated utility bonds as of May 2017 with the respective near-term projections from The Value Line Investment Survey (“Value Line”), IHS Global Insight, Blue Chip, and the Energy Information Administration (“EIA”), which are sources that are highly regarded and widely referenced:

**FIGURE 1**

**INTEREST RATE TRENDS**

![Interest Rate Trends Graph]

*Source:*
IHS Global Insight (Apr. 2017)

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As evidenced above, projections by investment advisors, forecasting services, and
government agencies support the general consensus in the investment community
that the present artificial low level of long-term interest rates will not be sustained.

Q33. WHAT DO THESE EVENTS IMPLY WITH RESPECT TO THE ROE FOR
KENTUCKY POWER MORE GENERALLY?

A33. Current capital market conditions continue to reflect the impact of unprecedented
policy measures taken in response to recent dislocations in the economy and
financial markets. As a result, current capital costs are not representative of what is
likely to prevail over the near-term future. As FERC concluded:

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

This conclusion continues to be supported by comparisons of current conditions to
the historical record and independent forecasts. As demonstrated above, recognized
economic forecasting services project that long-term capital costs will increase from
present levels.

Thus, while the DCF model is a recognized approach to estimating the ROE,
it is not without shortcomings and does not otherwise eliminate the need to ensure
that the “end result” is fair. The Indiana Utility Regulatory Commission has also
recognized this principle:

There are three principal reasons for our unwillingness to place a
great deal of weight on the results of any DCF analysis. One is . . .

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21 Opinion No. 531, 147 FERC ¶ 61,234 at P 41 (2014).
the failure of the DCF model to conform to reality. The second is the undeniable fact that rarely if ever do two expert witnesses agree on the terms of a DCF equation for the same utility – for example, as we shall see in more detail below, projections of future dividend cash flow and anticipated price appreciation of the stock can vary widely. And, the third reason is that the unadjusted DCF result is almost always well below what any informed financial analysis would regard as defensible, and therefore require an upward adjustment based largely on the expert witness’s judgment. In these circumstances, we find it difficult to regard the results of a DCF computation as any more than suggestive.22

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

IV. COMPARABLE RISK UTILITY PROXY GROUP

Q34. HOW DID YOU IMPLEMENT QUANTITATIVE METHODS TO ESTIMATE THE COST OF COMMON EQUITY FOR KENTUCKY POWER?

A34. Application of quantitative methods to estimate the cost of common equity requires observable capital market data, such as stock prices. Moreover, even for a firm with publicly traded stock, the cost of common equity can only be estimated. As a result, applying quantitative models using observable market data only produces an estimate that inherently includes some degree of observation error. Thus, the accepted approach to increase confidence in the results is to apply quantitative

methods to a proxy group of publicly traded companies that investors regard as risk-comparable.

**Q35. WHAT SPECIFIC PROXY GROUP OF UTILITIES DID YOU RELY ON FOR YOUR ANALYSIS?**

**A35.** In order to reflect the risks and prospects associated with Kentucky Power’s jurisdictional utility operations, my analyses focused on a reference group of other utilities composed of those companies in Value Line’s electric utility industry groups with:

1. Corporate credit ratings from S&P and Moody’s corresponding to one notch above and below the Company’s current ratings. For S&P, this resulted in a ratings range of BBB+, A-, and A; for Moody’s the range was Baa3, Baa2, and Baa1.
2. A Value Line Safety Rank of 1 or 1, consistent with AEP’s rank of 1.
3. No ongoing involvement in a major merger or acquisition.  
4. No cuts in dividend payments during the past six months and no announcement of a dividend cut since that time.

**Q36. HOW DID YOU EVALUATE THE RISKS OF THE UTILITY GROUP RELATIVE TO KENTUCKY POWER?**

**A36.** My evaluation of relative risk considered four objective, published benchmarks that are widely relied on in the investment community. Credit ratings are assigned by independent rating agencies for the purpose of providing investors with a broad assessment of the creditworthiness of a firm. Ratings generally extend from triple-A (the highest) to D (in default). Other symbols (e.g., "+" or "-") are used to show relative standing within a category. Because the rating agencies’ evaluation includes all of the factors normally considered important in assessing a firm’s relative credit

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23 Westar Energy was eliminated due to ongoing involvement in a major merger or acquisition.
standing, corporate credit ratings provide a broad, objective measure of overall investment risk that is readily available to investors. Widely cited in the investment community and referenced by investors, credit ratings are also frequently used as a primary risk indicator in establishing proxy groups to estimate the cost of common equity.

While credit ratings provide the most widely referenced benchmark for investment risks, other quality rankings published by investment advisory services also provide relative assessments of risks that are considered by investors in forming their expectations for common stocks. Value Line’s primary risk indicator is its Safety Rank, which ranges from “1” (Safest) to “5” (Riskiest). This overall risk measure is intended to capture the total risk of a stock, and incorporates elements of stock price stability and financial strength. Given that Value Line is perhaps the most widely available source of investment advisory information, its Safety Rank provides useful guidance regarding the risk perceptions of investors.

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

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

> Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors. … Value Line betas are computed on a theoretically sound basis using a broadly based market index, and they are adjusted for the regression tendency of betas to converge to 1.00.24

Q37. **HOW DO THE OVERALL RISKS OF YOUR PROXY GROUP COMPARE TO KENTUCKY POWER?**

A37. Table 2 compares the Utility Group with Kentucky Power across the four key indicators of investment risk discussed above. Because the Company has no publicly traded common stock, the Value Line risk measures shown reflect those published for its parent, AEP:

<table>
<thead>
<tr>
<th>Table 2: COMPARISON OF RISK INDICATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Credit Rating</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Utility Group</td>
</tr>
<tr>
<td>Kentucky Power</td>
</tr>
</tbody>
</table>

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Q38. WHAT DOES THIS COMPARISON INDICATE REGARDING INVESTORS’ ASSESSMENT OF THE RELATIVE RISKS ASSOCIATED WITH YOUR UTILITY GROUP?

A38. As shown above, Kentucky Power’s credit ratings are identical to the average for the Utility Group. Meanwhile, the Safety Rank and Financial Strength rating corresponding to the Company are one notch higher than the group average. Both of these measures indicate slightly lower risk for AEP and its related operating companies. On the other hand, the beta value corresponding to the Company is essentially equal to that of the Utility Group. Considered together, these comparisons of objective measures, which incorporate a broad spectrum of risks, including financial and business position, relative size, and exposure to company specific factors, indicates that investors would likely conclude that the overall investment risks for Kentucky Power are comparable to those of the firms in the Utility Group.

Q39. IS AN EVALUATION OF THE CAPITAL STRUCTURE MAINTAINED BY A UTILITY RELEVANT IN ASSESSING ITS RETURN ON EQUITY?

A39. Yes. Other things equal, a higher debt ratio, or lower common equity ratio, translates into increased financial risk for all investors. A greater amount of debt means more investors have a senior claim on available cash flow, thereby reducing the certainty that each will receive his contractual payments. This increases the risks to which lenders are exposed, and they require correspondingly higher rates of interest. From common shareholders’ standpoint, a higher debt ratio means that there are proportionately more investors ahead of them, thereby increasing the uncertainty as to the amount of any remaining cash flow.
Q40. **WHAT IS KENTUCKY POWER’S COMMON EQUITY RATIO?**

A40. The Company’s capital structure is presented in Section V, Workpaper S-2, page 1, of the rate filing package. As summarized there, common equity as a percent of the capital sources used to compute the overall rate of return for Kentucky Power was 41.68%.

Q41. **HOW DOES THIS COMPARE TO THE AVERAGE CAPITALIZATION MAINTAINED BY THE UTILITY GROUP?**

A41. As shown on page 1 of Exhibit AMM-4, common equity ratios for the individual firms in the Utility Group ranged from a low of 28.3% to a high of 75.7% at year-end 2016, and averaged 44.5%. Excluding the highest and lowest results would result in an adjusted equity ratio of 43.6%. Meanwhile, Value Line’s three-to-five year forecast indicates an average common equity ratio of 45.6% for the Utility Group, with the individual equity ratios ranging from 29.5% to 76.0%.\(^{25}\)

Q42. **WHAT CAPITALIZATION RATIOS ARE MAINTAINED BY OTHER UTILITY OPERATING COMPANIES?**

A42. Pages 2 and 3 of Exhibit AMM-4 displays capital structure data at year-end 2016 for the group of electric utility operating companies owned by the firms in the Utility Group used to estimate the cost of equity.\(^{26}\) As shown there, the simple average common equity ratio for these utilities is 53.5% and the weighted average is 51.7%. Of the 50 operating companies, 49 have equity ratios equal to or greater than the 41.68% common equity requested by Kentucky Power.

\(^{25}\) Removing the highest and lowest values from Value Line’s projections would produce an adjusted equity ratio of 44.7%.

\(^{26}\) I excluded Kentucky Power from this analysis.
Q43. WHAT DID YOU CONCLUDE REGARDING THE REASONABLENESS OF KENTUCKY POWER'S REQUESTED CAPITAL STRUCTURE?

A43. Based on my evaluation, I conclude that the 41.68% common equity ratio requested by Kentucky Power represents a reasonable mix of capital sources from which to calculate the Company’s overall rate of return. Nonetheless, this common equity ratio falls somewhat below the historical (44.5%) and projected (45.6%) averages maintained by the Utility Group, and well below the historical average maintained by other utility operating companies (53.5%).

V. CAPITAL MARKET ESTIMATES

Q44. WHAT IS THE PURPOSE OF THIS SECTION?

A44. This section presents capital market estimates of the cost of equity. First, I address the concept of the cost of common equity, along with the risk-return tradeoff principle fundamental to capital markets. Next, I describe various quantitative analyses conducted to estimate the cost of common equity for the proxy group of comparable risk utilities. Finally, I examine flotation costs, which are properly considered in evaluating a fair and reasonable rate of return on equity.

A. Economic Standards

Q45. WHAT FUNDAMENTAL ECONOMIC PRINCIPLE UNDERLIES THE COST OF EQUITY CONCEPT?

A45. The fundamental economic principle underlying the cost of equity concept is the notion that investors are risk averse. In capital markets where relatively risk-free assets are available (e.g., U.S. Treasury securities), investors can be induced to hold riskier assets only if they are offered a premium, or additional return, above the rate of return on a risk-free asset. Because all assets compete with each other for
investor funds, riskier assets must yield a higher expected rate of return than safer assets to induce investors to invest and hold them.

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

\[
k_i = R_f + RP_i
\]

where:

- \( R_f \) = Risk-free rate of return, and
- \( RP_i \) = Risk premium required to hold riskier asset i.

Thus, the required rate of return for a particular asset at any time is a function of:

1. the yield on risk-free assets, and
2. the asset’s relative risk, with investors demanding correspondingly larger risk premiums for bearing greater risk.

**Q46. IS THERE EVIDENCE THAT THE RISK-RETURN TRADEOFF PRINCIPLE ACTUALLY OPERATES IN THE CAPITAL MARKETS?**

**A46.** Yes. The risk-return tradeoff can be readily documented in segments of the capital markets where required rates of return can be directly inferred from market data and where generally accepted measures of risk exist. Bond yields, for example, reflect investors’ expected rates of return, and bond ratings measure the risk of individual bond issues. Comparing the observed yields on government securities, which are considered free of default risk, to the yields on bonds of various rating categories demonstrates that the risk-return tradeoff does, in fact, exist.

**Q47. DOES THE RISK-RETURN TRADEOFF OBSERVED WITH FIXED INCOME SECURITIES EXTEND TO COMMON STOCKS AND OTHER ASSETS?**

**A47.** It is widely accepted that the risk-return tradeoff evidenced with long-term debt extends to all assets. Documenting the risk-return tradeoff for assets other than fixed income securities, however, is complicated by two factors. First, there is no
standard measure of risk applicable to all assets. Second, for most assets –
including common stock – required rates of return cannot be directly observed. Yet
there is every reason to believe that investors exhibit risk aversion in deciding
whether or not to hold common stocks and other assets, just as when choosing
among fixed-income securities.

Q48. IS THIS RISK-RETURN TRADEOFF LIMITED TO DIFFERENCES
BETWEEN FIRMS?

A48. No. The risk-return tradeoff principle applies not only to investments in different
firms, but also to different securities issued by the same firm. The securities issued
by a utility vary considerably in risk because they have different characteristics and
priorities. As noted earlier, common shareholders are the last in line and they
receive only the net revenues, if any, remaining after all other claimants have been
paid. As a result, the rate of return that investors require from a utility’s common
stock, the most junior and riskiest of its securities, must be considerably higher than
the yield offered by the utility’s senior, long-term debt.

Q49. DOES THE FACT THAT KENTUCKY POWER IS ULTIMATELY A
SUBSIDIARY OF AEP IN ANY WAY ALTER THESE FUNDAMENTAL
STANDARDS UNDERLYING A FAIR AND REASONABLE ROE?

A49. No. While Kentuck Power has no publicly traded common stock and AEP is
ultimately its only shareholder, this does not change the standards governing the
determination of a fair and reasonable ROE for the Company. The common equity
that is required to support the utility operations of Kentuck Power must be raised
by AEP in the capital markets, where investors consider the Company’s ability to
offer a rate of return that is competitive with other risk-comparable alternatives.
Unless there is a reasonable expectation that the Company can earn a return that is
commensurate with the underlying risks, capital will be allocated elsewhere, Kentucky Power’s financial integrity will be weakened, and investors will demand an even higher rate of return. Kentucky Power’s ability to offer a reasonable return on investment is a necessary ingredient in ensuring that customers continue to enjoy economical rates and reliable service.

Q50. WHAT DOES THE ABOVE DISCUSSION IMPLY WITH RESPECT TO ESTIMATING THE COST OF COMMON EQUITY FOR A UTILITY?

A50. Although the cost of common equity cannot be observed directly, it is a function of the returns available from other investment alternatives and the risks to which the equity capital is exposed. Because it is not readily observable, the cost of common equity for a particular utility must be estimated by analyzing information about capital market conditions generally, assessing the relative risks of the company specifically, and employing various quantitative methods that focus on investors’ required rates of return. These various quantitative methods typically attempt to infer investors’ required rates of return from stock prices, interest rates, or other capital market data.

B. Discounted Cash Flow Analyses

Q51. HOW IS THE DCF MODEL USED TO ESTIMATE THE COST OF COMMON EQUITY?

A51. DCF models are based on the assumption that the price of a share of common stock is equal to the present value of the expected cash flows (i.e., future dividends and stock price) that will be received while holding the stock, discounted at investors’
required rate of return. Rather than developing annual estimates of cash flows into perpetuity, the DCF model can be simplified to a “constant growth” form:\(^27\)

\[ P_0 = \frac{D_1}{k_e - g} \]

where: \(P_0\) = Current price per share;
\(D_1\) = Expected dividend per share in the coming year;
\(k_e\) = Cost of equity; and,\( g\) = Investors’ long-term growth expectations.

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

\[ k_e = \frac{D_1}{P_0} + g \]

This constant growth form of the DCF model recognizes that the rate of return to stockholders consists of two parts: 1) dividend yield (\(D_1/P_0\)); and, 2) growth (\(g\)). In other words, investors expect to receive a portion of their total return in the form of current dividends and the remainder through price appreciation.

\(^{27}\) The constant growth DCF model is dependent on a number of strict assumptions, which in practice are never met. These include a constant growth rate for both dividends and earnings; a stable dividend payout ratio; the discount rate exceeds the growth rate; a constant growth rate for book value and price; a constant earned rate of return on book value; no sales of stock at a price above or below book value; a constant price-earnings ratio; a constant discount rate (i.e., no changes in risk or interest rate levels and a flat yield curve); and all of the above extend to infinity. Nevertheless, the DCF method provides a workable and practical approach to estimate investors’ required return that is widely referenced in utility ratemaking.
Q52. **WHAT STEPS ARE REQUIRED TO APPLY THE CONSTANT GROWTH DCF MODEL?**

A52. The first step in implementing the constant growth DCF model is to determine the expected dividend yield \((D_{t}/P_{0})\) for the firm in question. This is usually calculated based on an estimate of dividends to be paid in the coming year divided by the current price of the stock. The second, and more controversial, step is to estimate investors’ long-term growth expectations \((g)\) for the firm. The final step is to sum the firm’s dividend yield and estimated growth rate to arrive at an estimate of its cost of common equity.

Q53. **HOW DID YOU DETERMINE THE DIVIDEND YIELD FOR THE UTILITY GROUP?**

A53. Estimates of dividends to be paid by each of these utilities over the next twelve months, obtained from Value Line, served as \(D_{1}\). This annual dividend was then divided by a 30-day average stock price as of May 19, 2017 for each utility to arrive at the expected dividend yield. The expected dividends, stock prices, and resulting dividend yields for the firms in the Utility Group are presented on page 1 of Exhibit AMM-5. As shown there, dividend yields for the firms in the Utility Group ranged from 2.9% to 5.2%.

Q54. **WHAT IS THE NEXT STEP IN APPLYING THE CONSTANT GROWTH DCF MODEL?**

A54. The next step is to evaluate growth expectations, or “g”, for the firm in question. In constant growth DCF theory, earnings, dividends, book value, and market price are all assumed to grow in lockstep, and the growth horizon of the DCF model is infinite. But implementation of the DCF model is more than just a theoretical exercise; it is an attempt to replicate the mechanism investors used to arrive at
observable stock prices. A wide variety of techniques can be used to derive growth
dates, but the only “g” that matters in applying the DCF model is the value that
investors expect.

**Q55. WHAT ARE INVESTORS MOST LIKELY TO CONSIDER IN
DEVELOPING THEIR LONG-TERM GROWTH EXPECTATIONS?**

**A55.** Implementation of the DCF model is solely concerned with replicating the forward-
looking evaluation of real-world investors. In the case of utilities, dividend growth
rates are not likely to provide a meaningful guide to investors’ current growth
expectations. This is because utilities have significantly altered their dividend
policies in response to more accentuated business risks and capital requirements in
the industry, with the payout ratios falling significantly from historical levels. As a
result, dividend growth in the utility industry has lagged growth in earnings as
utilities conserve financial resources.

A measure that plays a pivotal role in determining investors’ long-term
growth expectations are future trends in earnings per share (“EPS”), which provide
the source for future dividends and ultimately support share prices. The importance
of earnings in evaluating investors’ expectations and requirements is well accepted
in the investment community, and surveys of analytical techniques relied on by
professional analysts indicate that growth in earnings is far more influential than
trends in dividends per share (“DPS”).

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

Q56. **DO THE GROWTH RATE PROJECTIONS OF SECURITY ANALYSTS CONSIDER HISTORICAL TRENDS?**

A56. Yes. Professional security analysts study historical trends extensively in developing their projections of future earnings. Hence, to the extent there is any useful information in historical patterns, that information is incorporated into analysts’ growth forecasts.

Q57. **DID PROFESSOR MYRON J. GORDON, WHO ORIGINATED THE DCF APPROACH, RECOGNIZE THE PIVOTAL ROLE THAT EARNINGS PLAY IN FORMING INVESTORS’ EXPECTATIONS?**

A57. Yes. Dr. Gordon specifically recognized that “it is the growth that investors expect that should be used” in applying the DCF model and he concluded:

A number of considerations suggest that investors may, in fact, use earnings growth as a measure of expected future growth.”

Q58. **ARE ANALYSTS’ ASSESSMENTS OF GROWTH RATES APPROPRIATE FOR ESTIMATING INVESTORS’ REQUIRED RETURN USING THE DCF MODEL?**

A58. Yes. In applying the DCF model to estimate the cost of common equity, the only relevant growth rate is the forward-looking expectations of investors that are captured in current stock prices. Investors, just like securities analysts and others in the investment community, do not know how the future will actually turn out. They

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can only make investment decisions based on their best estimate of what the future holds in the way of long-term growth for a particular stock, and securities prices are constantly adjusting to reflect their assessment of available information.

Any claims that analysts’ estimates are not relied upon by investors are illogical given the reality of a competitive market for investment advice. If financial analysts’ forecasts do not add value to investors’ decision making, then it is irrational for investors to pay for these estimates. Similarly, those financial analysts who fail to provide reliable forecasts will lose out in competitive markets relative to those analysts whose forecasts investors find more credible. The reality that analyst estimates are routinely referenced in the financial media and in investment advisory publications, as well as the continued success of services such as Thomson Reuters and Value Line, implies that investors use them as a basis for their expectations.

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

Because of the dominance of institutional investors and their influence on individual investors, analysts’ forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of growth. The accuracy of
these forecasts in the sense of whether they turn out to be correct is
not an issue here, as long as they reflect widely held expectations.29

Q59. HAVE REGULATORS ALSO RECOGNIZED THAT ANALYSTS’ GROWTH
RATE ESTIMATES ARE AN IMPORTANT AND MEANINGFUL GUIDE TO
INVESTORS’ EXPECTATIONS?

A59. Yes. The Commission has indicated its preference for relying on analysts’
projections in establishing investors’ expectations:

KU’s argument concerning the appropriateness of using investors’
extpectations in performing a DCF analysis is more persuasive than
the AG’s argument that analysts’ projections should be rejected in
favor of historical results. The Commission agrees that analysts’
projections of growth will be relatively more compelling in forming
investors’ forward-looking expectations than relying on historical
performance, especially given the current state of the economy.30

Similarly, FERC has expressed a clear preference for projected EPS growth rates in
applying the DCF model to estimate the cost of equity for both electric and natural
gas pipeline utilities:

Opinion No. 414-A held that the IBES five-year growth forecasts for
each company in the proxy group are the best available evidence of
the short-term growth rates expected by the investment community.
It cited evidence that (1) those forecasts are provided to IBES by
professional security analysts, (2) IBES reports the forecast for each
firm as a service to investors, and (3) the IBES reports are well
known in the investment community and used by investors. The
Commission has also rejected the suggestion that the IBES analysts
are biased and stated that “in fact the analysts have a significant
incentive to make their analyses as accurate as possible to meet the
needs of their clients since those investors will not utilize brokerage
firms whose analysts repeatedly overstate the growth potential of
companies.”31

The Public Utility Regulatory Authority of Connecticut has also noted that “there is not growth in DPS without growth in EPS,” and concluded that securities analysts’ growth projections have a greater influence over investors’ expectations and stock prices.\(^{32}\)

**Q60.** WHAT ARE SECURITY ANALYSTS CURRENTLY PROJECTING IN THE WAY OF GROWTH FOR THE FIRMS IN THE UTILITY GROUP?

**A60.** The earnings growth projections for each of the firms in the Utility Group reported by Value Line, IBES,\(^{33}\) Zacks Investment Research (“Zacks”), Bloomberg, and S&P Capital IQ are displayed on page 2 of Exhibit AMM-5.

**Q61.** HOW ELSE ARE INVESTORS’ EXPECTATIONS OF FUTURE LONG-TERM GROWTH PROSPECTS OFTEN ESTIMATED WHEN APPLYING THE CONSTANT GROWTH DCF MODEL?

**A61.** In constant growth theory, growth in book equity will be equal to the product of the earnings retention ratio (one minus the dividend payout ratio) and the earned rate of return on book equity. Furthermore, if the earned rate of return and the payout ratio are constant over time, growth in earnings and dividends will be equal to growth in book value. Despite the fact that these conditions are never met in practice, this “sustainable growth” approach may provide a rough guide for evaluating a firm’s growth prospects and is frequently proposed in regulatory proceedings.

The sustainable growth rate is calculated by the formula, \( g = br + sv \), where “\( b \)” is the expected retention ratio, “\( r \)” is the expected earned return on equity, “\( s \)” is the percent of common equity expected to be issued annually as new common stock,


\(^{33}\) Formerly I/B/E/S International, Inc., IBES growth rates are now compiled and published by Thomson Reuters.
and “v” is the equity accretion rate. Under DCF theory, the “sv” factor is a component of the growth rate designed to capture the impact of issuing new common stock at a price above, or below, book value. The sustainable, “br+sv” growth rates for each firm in the Utility Group are summarized on page 2 of Exhibit AMM-5, with the underlying details being presented on Exhibit AMM-6.34

Q62. ARE THERE SIGNIFICANT SHORTCOMINGS ASSOCIATED WITH THE “BR+SV” GROWTH RATE?

A62. Yes. First, in order to calculate the sustainable growth rate, it is necessary to develop estimates of investors’ expectations for four separate variables; namely, “b”, “r”, “s”, and “v.” Given the inherent difficulty in forecasting each parameter and the difficulty of estimating the expectations of investors, the potential for measurement error is significantly increased when using four variables, as opposed to referencing a direct projection for EPS growth. Second, empirical research in the finance literature indicates that sustainable growth rates are not as significantly correlated to measures of value, such as share prices, as are analysts’ EPS growth forecasts.35 The “sustainable growth” approach was included for completeness, but evidence indicates that analysts’ forecasts provide a superior and more direct guide to investors’ growth expectations. Accordingly, I give less weight to cost of equity estimates based on br+sv growth rates in evaluating the results of the DCF model.

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

Q63. **WHAT COST OF COMMON EQUITY ESTIMATES WERE IMPLIED FOR THE UTILITY GROUP USING THE DCF MODEL?**

A63. After combining the dividend yields and respective growth projections for each utility, the resulting cost of common equity estimates are shown on page 3 of Exhibit AMM-5.

Q64. **IN EVALUATING THE RESULTS OF THE CONSTANT GROWTH DCF MODEL, IS IT APPROPRIATE TO ELIMINATE ILLOGICAL LOW OR HIGH-END VALUES?**

A64. Yes. In applying quantitative methods to estimate the cost of equity, it is essential that the resulting values pass fundamental tests of reasonableness and economic logic. Accordingly, DCF estimates that are implausibly low or high should be eliminated when evaluating the results of this method.

Q65. **HOW DID YOU EVALUATE DCF ESTIMATES AT THE LOW END OF THE RANGE?**

A65. I based my evaluation of DCF estimates at the low end of the range on the fundamental risk-return tradeoff, which holds that investors will only take on more risk if they expect to earn a higher rate of return to compensate them for the greater uncertainly. Because common stocks lack the protections associated with an investment in long-term bonds, a utility’s common stock imposes far greater risks on investors. As a result, the rate of return that investors require from a utility’s common stock is considerably higher than the yield offered by senior, long-term debt. Consistent with this principle, DCF results that are not sufficiently higher than the yield available on less risky utility bonds must be eliminated.
Q66. HAVE SIMILAR TESTS BEEN APPLIED BY REGULATORS?

A66. Yes. FERC has noted that adjustments are justified where applications of the DCF approach produce illogical results. FERC evaluates DCF results against observable yields on long-term public utility debt and has recognized that it is appropriate to eliminate estimates that do not sufficiently exceed this threshold. FERC affirmed that:

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

Q67. WHAT INTEREST RATE BENCHMARK DID YOU CONSIDER IN EVALUATING THE DCF RESULTS FOR THE UTILITY GROUP?

A67. Baa utility bonds represent the lowest ratings grade for which Moody’s publishes an index of average yields, and the closest available approximation for the risks of common stock, which are significantly greater than those of long-term debt. Monthly yields for Baa utility bonds reported by Moody’s averaged 4.60% during the six-months ending May 2017.

37 Opinion No. 531, 147 FERC ¶ 61,234 at P 122 (2014).
38 Moody’s Investors Service, CreditTrends.
Q68. **WHAT ELSE SHOULD BE CONSIDERED IN EVALUATING DCF ESTIMATES AT THE LOW END OF THE RANGE?**

A68. As indicated earlier, it is generally expected that long-term interest rates will rise as the Federal Reserve normalizes monetary policies. As shown in Table 3 below, forecasts of IHS Global Insight and the EIA imply an average triple-B bond yield of 6.28% over the period 2018-2022:

**TABLE 3**

<table>
<thead>
<tr>
<th>IMPLIED BBB BOND YIELD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baa Yield</strong></td>
</tr>
<tr>
<td><strong>2018-22</strong></td>
</tr>
<tr>
<td>Projected Aa Utility Yield</td>
</tr>
<tr>
<td>IHS Global Insight (a) 5.81%</td>
</tr>
<tr>
<td>EIA (b)                5.56%</td>
</tr>
<tr>
<td>Average                5.68%</td>
</tr>
<tr>
<td>Current Baa - Aa Yield Spread (c) 0.60%</td>
</tr>
<tr>
<td><strong>Implied Baa Utility Yield</strong> 6.28%</td>
</tr>
</tbody>
</table>

(a) IHS Global Insight (Apr. 2017).

The increase in debt yields anticipated by IHS Global Insight and EIA is also supported by the widely-referenced Blue Chip, which as noted earlier, projects that yields on corporate bonds will climb on the order of 150 basis points through 2022.

Q69. **WHAT DOES THIS TEST OF LOGIC IMPLY WITH RESPECT TO THE DCF RESULTS FOR THE UTILITY GROUP?**

A69. Adding a 100 basis-point premium to the historical and projected average utility bond yields implies a threshold to evaluate the reasonableness of low-end values on
the order of 5.6% to 7.3%. As highlighted on page 3 of Exhibit AMM-5, after considering this test and the distribution of individual estimates, I eliminated low-end DCF estimates ranging from 4.2% to 6.9%. Based on my professional experience and the risk-return tradeoff principle that is fundamental to finance, it is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock. As a result, consistent with the threshold established by historical and projected utility bond yields, the values below the threshold provide little guidance as to the returns investors require from utility common stocks and should be excluded.

Q70. WHAT ELSE SHOULD BE CONSIDERED IN EVALUATING DCF ESTIMATES AT THE LOW END OF THE RANGE?

A70. While FERC has historically relied on a 100 basis point spread over public utility bond yields as a starting place in evaluating low-end values, reference to a static test ignores the implications of current low bond yields. Specifically, the premium that investors demand to bear the higher risks of common stock is not constant. As I demonstrate later in my testimony, equity risk premiums expand when interest rates fall, and vice versa. Given that bond yields have remained uncharacteristically low, this inverse relationship implies a significant increase in the equity risk premium that investors require to accept the higher uncertainties associated with an investment in utility common stocks versus bonds. As a result, using a fixed premium of 100 basis points over public utility bond yields will vastly understate the threshold for investors’ minimum required return on utility stocks.
Q71. **DO YOU ALSO RECOMMEND EXCLUDING ESTIMATES AT THE HIGH END OF THE RANGE OF DCF RESULTS?**

A71. While it is just as important to evaluate DCF estimates at the upper end of the range, there is no objective benchmark analogous to the bond yield averages used to eliminate illogical low-end values. In response, FERC has consistently applied a two-pronged test for high-end values based on the magnitude of the cost of equity estimate and its underlying growth rate. As FERC observed:

> The Presiding Judge found that the [utilities’] criteria for screening high-end outliers substantially complies with Commission precedent. The Presiding Judge further stated that the Commission’s high-end outlier test since 2004 has been to exclude from the proxy group any company whose cost of equity estimate is at or above 17.7 percent and whose growth rate is at or above 13.3 percent.\(^{39}\)

The upper end of the DCF results for the Utility Group is set by a cost of equity estimate of 15.2%. This cost of equity estimate, and the underlying growth rate, falls well below the threshold tests employed by FERC. Moreover, while a 15.2% cost of equity estimate may exceed the majority of the remaining values, remaining low-end estimates in the 7.0% range are assuredly far below investors’ required rate of return. Nevertheless, considering the dispersion of the DCF results in this case, I elected to exclude the 15.2% DCF estimate from my analysis. Taken together and considered along with the balance of the results, the remaining values provide a reasonable basis on which to frame the range of plausible DCF estimates and evaluate investors’ required rate of return.

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\(^{39}\) Opinion No. 531, 147 FERC ¶ 61,234 at P 115 (2014)(footnotes omitted).
Q72. WHAT COST OF COMMON EQUITY ESTIMATES ARE IMPLIED BY YOUR DCF RESULTS FOR THE UTILITY GROUP?

A72. As shown on page 3 of Exhibit AMM-5 and summarized in Table 4, below, after eliminating illogical values, application of the constant growth DCF model resulted in the following average cost of common equity estimates:

<table>
<thead>
<tr>
<th></th>
<th>Cost of Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth Rate</strong></td>
<td><strong>Average</strong></td>
</tr>
<tr>
<td>Value Line</td>
<td>9.8%</td>
</tr>
<tr>
<td>IBES</td>
<td>9.6%</td>
</tr>
<tr>
<td>Zacks</td>
<td>9.8%</td>
</tr>
<tr>
<td>Bloomberg</td>
<td>9.6%</td>
</tr>
<tr>
<td>S&amp;P Capital/IQ</td>
<td>9.7%</td>
</tr>
<tr>
<td>br+sv</td>
<td>8.7%</td>
</tr>
</tbody>
</table>

TABLE 4

DCF RESULTS – UTILITY GROUP

C. Capital Asset Pricing Model

Q73. PLEASE DESCRIBE THE CAPM.

A73. The CAPM is a theory of market equilibrium that measures risk using the beta coefficient. Assuming investors are fully diversified, the relevant risk of an individual asset (e.g., common stock) is its volatility relative to the market as a whole, with beta reflecting the tendency of a stock’s price to follow changes in the market. A stock that tends to respond less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00. The CAPM is mathematically expressed as:
\[ R_j = R_f + \beta_j(R_m - R_f) \]

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

Under the CAPM formula above, a stock’s required return is a function of the risk-free rate ($R_f$), plus a risk premium that is scaled to reflect the relative volatility of a firm’s stock price, as measured by beta ($\beta$). Like the DCF model, the CAPM is an ex-ante, or forward-looking model based on expectations of the future. As a result, in order to produce a meaningful estimate of investors’ required rate of return, the CAPM must be applied using estimates that reflect the expectations of actual investors in the market, not with backward-looking, historical data.

Q74. **WHY IS THE CAPM APPROACH A RELEVANT COMPONENT WHEN EVALUATING THE COST OF EQUITY FOR KENTUCKY POWER?**

A74. The CAPM approach (which also forms the foundation of the ECAPM) generally is considered to be the most widely referenced method for estimating the cost of equity among academicians and professional practitioners, with the pioneering researchers of this method receiving the Nobel Prize in 1990. Because this is the dominant model for estimating the cost of equity outside the regulatory sphere, the CAPM (and ECAPM) provides important insight into investors’ required rate of return for utility stocks, including Kentucky Power.

Q75. **HOW DID YOU APPLY THE CAPM TO ESTIMATE THE COST OF COMMON EQUITY?**

A75. Application of the CAPM to the Utility Group based on a forward-looking estimate for investors’ required rate of return from common stocks is presented on Exhibit AMM-7. In order to capture the expectations of today’s investors in current capital
markets, the expected market rate of return was estimated by conducting a DCF analysis on the dividend paying firms in the S&P 500.

The dividend yield for each firm was obtained from Value Line, and the growth rate was equal to the average of the earnings growth projections for each firm published by Value Line, IBES and Zacks, with each firm’s dividend yield and growth rate being weighted by its proportionate share of total market value. Based on the weighted average of the projections for the individual firms, current estimates imply an average growth rate over the next five years of 9.6%. Combining this average growth rate with a year-ahead dividend yield of 2.4% results in a current cost of common equity estimate for the market as a whole ($R_m$) of approximately 12.0%. Subtracting a 3.0% risk-free rate based on the average yield on 30-year Treasury bonds for the six-months ending May 2017 produced a market equity risk premium of 9.0%.

**Q76. WHAT WAS THE SOURCE OF THE BETA VALUES YOU USED TO APPLY THE CAPM?**

**A76.** As indicated earlier in my discussion of risk measure for the Utility Group, I relied on the beta values reported by Value Line, which in my experience is the most widely referenced source for beta in regulatory proceedings.

**Q77. WHAT ELSE SHOULD BE CONSIDERED IN APPLYING THE CAPM?**

**A77.** Financial research indicates that the CAPM does not fully account for observed differences in rates of return attributable to firm size. Accordingly, a modification is required to account for this size effect. As explained by *Morningstar*:

> One of the most remarkable discoveries of modern finance is that of a relationship between company size and return. ... The relationship between company size and return cuts across the entire size spectrum; it is not restricted to the smallest stocks. ... This size-rated
phenomenon has prompted a revision to the CAPM, which includes a size premium.40

According to the CAPM, the expected return on a security should consist of the riskless rate, plus a premium to compensate for the systematic risk of the particular security. The degree of systematic risk is represented by the beta coefficient. The need for the size adjustment arises because differences in investors’ required rates of return that are related to firm size are not fully captured by beta. To account for this, researchers have developed size premiums that need to be added to account for the level of a firm’s market capitalization in determining the CAPM cost of equity.41 Accordingly, my CAPM analyses also incorporated an adjustment to recognize the impact of size distinctions, as measured by the market capitalization for the firms in the Utility Group.

Q78. ARE YOU RECOMMENDING THAT THE COMMISSION AWARD KENTUCKY POWER A PREMIUM TO THE ROE BECAUSE OF ITS SIZE?

A78. Absolutely not. I am not proposing to apply a general size risk premium in evaluating a fair and reasonable ROE for Kentucky Power and my recommendation does not include any adjustment related to the Company’s size. Rather, the size adjustment is specific to the CAPM and merely corrects for an observed inability of the beta measure to fully reflect the risks perceived by investors for the firms in the Utility Group. As FERC has recognized, “This type of size adjustment is a generally accepted approach to CAPM analyses.”42

41 Originally compiled by Ibbotson Associates and published in their annual yearbook entitled, “Stocks, Bonds, Bills and Inflation,” these size premia are now developed by Duff & Phelps and presented in its “Valuation Handbook – Guide to Cost of Capital.”
Q79. **WHAT IS THE IMPLIED ROE FOR THE UTILITY GROUP USING THE CAPM APPROACH?**

A79. As shown on page 1 of Exhibit AMM-7, after adjusting for the impact of firm size the CAPM approach implied an average and midpoint cost of equity estimates of 9.3% and 9.2%, respectively, for the Utility Group.

Q80. **DID YOU ALSO APPLY THE CAPM USING FORECASTED BOND YIELDS?**

A80. Yes. As discussed earlier, there is general consensus that interest rates will increase materially as the Federal Reserve normalizes its monetary policies going forward. Accordingly, in addition to the use of current bond yields, I applied the CAPM based on the forecasted long-term Treasury bond yields developed based on projections published by Value Line, IHS Global Insight, and Blue Chip. As shown on page 2 of Exhibit AMM-7, incorporating a forecasted Treasury bond yield for 2018-2022 implied an average cost of equity estimate of 9.7% for the Utility Group after adjusting for the impact of relative size, with a midpoint of 9.6%.

**D. Empirical Capital Asset Pricing Model**

Q81. **HOW DOES THE ECAPM APPROACH DIFFER FROM TRADITIONAL APPLICATIONS OF THE CAPM?**

A81. Empirical tests of the CAPM have shown that low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted. In other words, the CAPM tends to overstate the actual sensitivity of the cost of capital to beta, with low-beta stocks tending to have higher returns
and high-beta stocks tending to have lower returns than predicted by the CAPM. This is illustrated graphically in the figure below:

Because the betas of utility stocks, including those in the Utility Group, are generally less than 1.0, this implies that cost of equity estimates based on the traditional CAPM would understate the cost of equity. This empirical finding is widely reported in the finance literature, as summarized in *New Regulatory Finance*:

As discussed in the previous section, several finance scholars have developed refined and expanded versions of the standard CAPM by relaxing the constraints imposed on the CAPM, such as dividend yield, size, and skewness effects. These enhanced CAPMs typically produce a risk-return relationship that is flatter than the CAPM prediction in keeping with the actual observed risk-return relationship. The ECAPM makes use of these empirical relationships.44

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43 Because the betas of utility stocks, including those in the Utility Group, are generally less than 1.0, this implies that cost of equity estimates based on the traditional CAPM would understate the cost of equity.

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

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

Like the CAPM formula presented earlier, the ECAPM represents a stock’s required return as a function of the risk-free rate ($R_f$), plus a risk premium. In the formula above, this risk premium is composed of two parts: (1) the market risk premium ($R_m - R_f$) weighted by a factor of 25%, and (2) a company-specific risk premium based on the stocks relative volatility ($[\beta](R_m - R_f)$) weighted by 75%. This ECAPM equation, and its associated weighting factors, recognizes the observed relationship between standard CAPM estimates and the cost of capital documented in the financial research, and corrects for the understated returns that would otherwise be produced for low beta stocks.

**Q82. IS THE USE OF THE ECAPM CONSISTENT WITH THE USE OF VALUE LINE BETAS?**

**A82.** Yes. Value Line beta values are adjusted for the observed tendency of beta to converge toward the mean value of 1.00 over time.\(^{45}\) The purpose of this adjustment is to refine beta values determined using historical data to better match forward-looking estimates of beta, which are the relevant parameter in applying the CAPM or ECAPM models. Meanwhile, the ECAPM does not involve any adjustment to beta whatsoever. Rather, it represents a formal recognition of findings in the financial literature that the observed risk-return tradeoff illustrated in Figure 2 is

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flatter than predicted by the CAPM. In other words, even if a firm’s beta value were estimated with perfect precision, the CAPM would still understate the return for low-beta stocks and overstate the return for high-beta stocks. The ECAPM and the use of adjusted betas represent two separate and distinct issues in estimating returns.

**Q83. HAVE OTHER REGULATORS RELIED ON THE ECAPM?**

A83. Yes. The ECAPM approach has been relied on by the Staff of the Maryland Public Service Commission. For example, Staff witness Julie McKenna noted that “the ECAPM model adjusts for the tendency of the CAPM model to underestimate returns for low Beta stocks,” and concluded that, “I believe under current economic conditions that the ECAPM gives a more realistic measure of the ROE than the CAPM model does.”\(^{46}\) The Regulatory Commission of Alaska has also relied on the ECAPM approach, noting that:

Tesoro averaged the results it obtained from CAPM and ECAPM while at the same time providing empirical testimony that the ECAPM results are more accurate than [sic] traditional CAPM results. The reasonable investor would be aware of these empirical results. Therefore, we adjust Tesoro’s recommendation to reflect only the ECAPM result.\(^{47}\)

**Q84. WHAT COST OF EQUITY ESTIMATES WERE INDICATED BY THE ECAPM?**

A84. My applications of the ECAPM were based on the same forward-looking market rate of return, risk-free rates, and beta values discussed earlier in connections with the CAPM. As shown on page 1 of Exhibit AMM-8, applying the forward-looking ECAPM approach to the firms in the Utility Group results in an average cost of

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\(^{46}\) Direct Testimony and Exhibits of Julie McKenna, Maryland PSC Case No. 9299 (Oct. 12, 2012) at page 9.

\(^{47}\) Regulatory Commission of Alaska, Order No. P-97-004(151) at 145 (Nov. 27, 2002).
equity estimate of 10.0% after incorporating the size adjustment corresponding to
the market capitalization of the individual utilities.48

As shown on page 2 of Exhibit AMM-8, incorporating a forecasted Treasury
bond yield for 2018-2022 implied an average and midpoint cost of equity for the
Utility Group of approximately 10.3% after adjusting for the impact of relative size.

E. Utility Risk Premium

Q85. BRIEFLY DESCRIBE THE RISK PREMIUM METHOD.

A85. The risk premium method extends the risk-return tradeoff observed with bonds to
estimate investors’ required rate of return on common stocks. The cost of equity is
estimated by first determining the additional return investors require to forgo the
relative safety of bonds and to bear the greater risks associated with common stock,
and by then adding this equity risk premium to the current yield on bonds. Like the
DCF model, the risk premium method is capital market oriented. However, unlike
DCF models, which indirectly impute the cost of equity, risk premium methods
directly estimate investors’ required rate of return by adding an equity risk premium
to observable bond yields.

Q86. IS THE RISK PREMIUM APPROACH A WIDELY ACCEPTED METHOD
FOR ESTIMATING THE COST OF EQUITY?

A86. Yes. The risk premium approach is based on the fundamental risk-return principle
that is central to finance, which holds that investors will require a premium in the
form of a higher return in order to assume additional risk. This method is routinely
referenced by the investment community and in academia and regulatory

48 The midpoint of the size adjusted ECAPM range was also 10.0%.
proceedings, and provides an important tool in estimating a fair and reasonable ROE for Kentucky Power.

Q87. **HOW DID YOU IMPLEMENT THE RISK PREMIUM METHOD?**

A87. Estimates of equity risk premiums for utilities were based on surveys of previously authorized ROEs. Authorized ROEs presumably reflect regulatory commissions’ best estimates of the cost of equity, however determined, at the time they issued their final order. Such ROEs should represent a balanced and impartial outcome that considers the need to maintain a utility’s financial integrity and ability to attract capital. Moreover, allowed returns are an important consideration for investors and have the potential to influence other observable investment parameters, including credit ratings and borrowing costs. Thus, when considered in the context of a complete and rigorous analysis, this data provides a logical and frequently referenced basis for estimating equity risk premiums for regulated utilities.\(^{49}\)

Q88. **IS IT CIRCULAR TO CONSIDER RISK PREMIUMS BASED ON AUTHORIZED RETURNS IN ASSESSING A FAIR AND REASONABLE ROE FOR KENTUCKY POWER?**

A88. No. In establishing authorized ROEs, regulators typically consider the results of alternative market-based approaches, including the DCF model. Because allowed risk premiums consider objective market data (e.g., stock prices dividends, beta, and interest rates), and are not based strictly on past actions of other regulators, this mitigates concerns over any potential for circularity.

\(^{49}\) Later in this testimony, I further discuss the proper role of statistics concerning recently-allowed ROEs in setting a utility’s ROE.
Q89. **HOW DID YOU CALCULATE THE EQUITY RISK PREMIUMS BASED ON ALLOWED ROES?**

A89. The ROEs authorized for electric utilities by regulatory commissions across the U.S. are compiled by RRA and published in its *Regulatory Focus* report. In Exhibit AMM-9, the average yield on public utility bonds is subtracted from the average allowed ROE for electric utilities to calculate equity risk premiums for each year between 1974 and 2016.\(^{50}\) As shown on page 3 of Exhibit AMM-9, over this period, these equity risk premiums for electric utilities averaged 3.67%, and the yield on public utility bonds averaged 8.38%.

Q90. **IS THERE ANY CAPITAL MARKET RELATIONSHIP THAT MUST BE CONSIDERED WHEN IMPLEMENTING THE RISK PREMIUM METHOD?**

A90. Yes. The magnitude of equity risk premiums is not constant and equity risk premiums tend to move inversely with interest rates. In other words, when interest rate levels are relatively high, equity risk premiums narrow, and when interest rates are relatively low, equity risk premiums widen. The implication of this inverse relationship is that the cost of equity does not move as much as, or in lockstep with, interest rates. Accordingly, for a 1% increase or decrease in interest rates, the cost of equity may only rise or fall some fraction of 1%. Therefore, when implementing the risk premium method, adjustments may be required to incorporate this inverse relationship if current interest rate levels have diverged from the average interest rate level represented in the data set.

\(^{50}\) My analysis encompasses the entire period for which published data is available.
Q91. HAS THIS INVERSE RELATIONSHIP BEEN DOCUMENTED IN THE FINANCIAL RESEARCH?

A91. Yes. There is considerable empirical evidence that when interest rates are relatively high, equity risk premiums narrow, and when interest rates are relatively low, equity risk premiums are greater. This inverse relationship between equity risk premiums and interest rates has been widely reported in the financial literature.51 As summarized by New Regulatory Finance:

Published studies by Brigham, Shome, and Vinson (1985), Harris (1986), Harris and Marston (1992, 1993), Carelton, Chambers, and Lakonishok (1983), Morin (2005), and McShane (2005), and others demonstrate that, beginning in 1980, risk premiums varied inversely with the level of interest rates – rising when rates fell and declining when rates rose.52

Other regulators have also recognized that the cost of equity does not move in tandem with interest rates.53 This relationship is illustrated in the figure on page 4 of Exhibit AMM-9.

Q92. WHAT COST OF EQUITY IS IMPLIED BY THE RISK PREMIUM METHOD USING SURVEYS OF ALLOWED ROES?

A92. Based on the regression output between the interest rates and equity risk premiums displayed on page 4 of Exhibit AMM-9, the equity risk premium for electric utilities increased (decreased) approximately 43 basis points for each percentage point decrease (increase) in the yield on average public utility bonds. As illustrated on

page 1 of Exhibit AMM-9, with an average yield on public utility bonds for the six-months ending May 2017 of 4.26%, this implied a current equity risk premium of 5.44% for electric utilities. Adding this equity risk premium to the average yield on triple-B utility bonds of 4.60% implies a current cost of equity of 10.04%.

Q93. WHAT RISK PREMIUM COST OF EQUITY ESTIMATE WAS PRODUCED AFTER INCORPORATING FORECASTED BOND YIELDS?

A93. As shown on page 2 of Exhibit AMM-9, incorporating a forecasted yield for 2018-2022 and adjusting for changes in interest rates since the study period implied an equity risk premium of 4.72% for electric utilities, which is less than the current equity risk premium. This lower equity risk premium is consistent with the inverse relationship I described above. Adding this equity risk premium to the implied average yield on triple-B public utility bonds for 2018-2022 of 6.28% resulted in an implied cost of equity of 11.00%.

Q94. THE EQUITY RISK PREMIUMS CALCULATED IN YOUR STUDY WERE BASED ON AUTHORIZED ROES PUBLISHED BY RRA. WOULD IT NOT BE EQUALLY APPROPRIATE TO USE RECENT VALUES COMPLIED BY RRA TO ESTABLISH KENTUCKY POWER’S ROE DIRECTLY?

A94. No, it would not. While data on allowed returns published by RRA can have a role in evaluating a fair and reasonable ROE, there is no basis to place undue weight on a single, summary statistic in lieu of comprehensive analyses and a case-specific evidentiary record. Most importantly, such an approach fails to satisfy the standards mandated by the U.S. Supreme Court in its Bluefield and Hope decisions, which dictate that the ROE reflect contemporaneous returns to investments of comparable risk.
These bedrock opinions require regulators to consider the individual and specific risks and financial circumstances facing the utility, as well as the capital market conditions and investor expectations concurrent with their deliberations. Meeting these standards necessitates detailed analyses and the application of financial models and approaches with inputs that are specific to the utility in question. In context of a rate case, alternative analyses and expert opinions are subject to thorough discovery and cross examination from all stakeholders, with the results being carefully weighed by regulators to arrive at their best estimate of the cost of equity. Developing the evidentiary record necessary to satisfy the Hope and Bluefield tests is a rigorous process that cannot be reduced to an isolated summary statistic from an industry publication such as RRA.

Q95. PLEASE ELABORATE ON WHY A RECENT AVERAGE ROE REPORTED BY RRA FALLS SHORT OF ACCEPTED REGULATORY STANDARDS.

A95. Setting a utility’s ROE is a very company-specific process, and is a function of investors’ perceptions of the risks and prospects for the subject company at a given point in time. Meanwhile, quarterly allowed ROEs reported by RRA are not necessarily representative or directly comparable to the utility at hand. That is, there may be an “apples and oranges” issue when the RRA data is applied in the current rate setting environment.

For instance, there may a limited number of proceedings reported in any given quarter, which undermines the ability to make broader inferences as to the ROE for a specific utility. There can also be significant differences in investment risks (e.g., credit ratings) between the utilities that are the subject of a specific quarterly average ROE reported by RRA and the subject company in a rate proceeding. There may be distinctions in capital structure that give rise to financial
risk differences, functional differences (integrated utilities versus “wires only”
distribution services), differentiation based on approved rate mechanisms (e.g.,
decoupling and recovery riders and trackers) and regulatory conventions (e.g.,
formula rate plans, forward test years), as well as other utility-specific
characteristics (e.g. size differences, capital requirements, and economic conditions
in the service territory). In some instances, ROEs reported by RRA may include
disallowances or incentive adders based on management, customer service, safety,
or reliability measures. Average authorized ROEs reported by RRA also include the
results of settled cases, which may reflect a trade-off between other elements in a
proceeding. On balance and over long periods, such as the forty-plus years covered
by my risk premium study, there is no basis to suggest that ROEs resulting from
settlements are biased one way or the other, but focusing on a narrow pool of recent
cases may undermine this assurance. Finally, capital market conditions during the
evidentiary record that underlies the decisions reported by RRA are not likely to be
identical to those prevailing during a subsequent rate proceeding. The very nature
of RRA’s quarterly publication schedule ensures that there will always be a lag
between the results it reports and the ongoing case under study. Capital markets are
continuously in flux and the distinctions between the historical time periods underlying
the past findings of other regulatory agencies undermine the use of recent RRA data
as a primary means to establish a fair and reasonable ROE in this case. All of these
differences can lead to a potential disconnect between the broad summary statistics
reported by RRA and the comprehensive and detailed analyses required to meet the
Hope and Bluefield standards.
Q96. DON’T THESE SAME CONCERNS EQUALLY AFFECT YOUR USE OF THE RRA-REPORTED AUTHORIZED ROES TO CALCULATE YOUR RISK PREMIUM COST OF EQUITY ESTIMATE?

A96. No. My risk premium study considers all reported data concerning allowed ROEs over a forty-two year horizon. As a result, it incorporates findings that reflect regulators’ broad assessment of the required rate of return for the electric utility industry in general, and is not unduly influenced by the specific risks or circumstances of a small subset of the industry that make up an isolated statistic based on decision in a particular calendar quarter. In addition, my application of the risk premium approach based on allowed ROEs from RRA specifically accounts for the impact of changes in capital market conditions by adjusting for the observed inverse relationship between equity risk premiums and interest rates, and by incorporating current bond yields when calculating the implied cost of equity.

Q97. COULD USE OF THE RECENT AVERAGE ROE FROM RRA AS THE AUTHORIZED ROE ALSO TIE THE HANDS OF THE COMMISSION?

A97. Yes. Placing undue weight on RRA data means, in effect, that the methods and deliberations used by other state regulators to determine the ROE would dictate the actions of the Commission. If a recent average ROE statistic from RRA is given substantial weight in establishing the authorized ROE, all of the methodologies, approaches, and assessments that are weighed and embedded in those results are also implicitly approved. In contrast to careful deliberation of a detailed and comprehensive evidentiary record on a case-by-case basis, the Commission would in large part relinquish control over the regulatory process and outcome in such a scenario.
Q98. CAN THE PROCESS BECOME CIRCULAR IF STATE REGULATORS
WERE TO ROUTINELY ACCEPT ROE RESULTS FROM OTHER STATES
AS THE BASIS TO SET A UTILITY’S RETURN?

A98. Yes. As noted above, the standard practice in regulatory proceedings is to consider
the results of numerous approaches that are grounded in current capital market
evidence when establishing a utility’s ROE. If, instead, regulators were to simply
rely on the most recent determinations of other state agencies, the connection
between regulatory findings and investors in the capital markets would soon be
broken. The cost of equity is determined by investors, not by regulators, and such
a circular outcome would undermine the standards governing the evaluation of a fair
and reasonable ROE. The New Hampshire Public Utilities Commission cited the
pitfalls of such a process:

The Company urged the PUC to consider, in making its
determination of the Company’s allowed ROE, numerous ROEs set
by other regulatory agencies in other jurisdictions. Such a “bald
comparison” between the Company and these other companies is
flawed. The ROEs set in other jurisdictions may combine with and
reflect business, regulatory or financial risk differences of those other
jurisdictions that do not apply to New Hampshire, or to utilities
operating within New Hampshire. . . . There is also no evidence in
the record as to whether ROE was litigated or the result of a
settlement in the other jurisdictions. Presuming that it could consider
an ROE from another jurisdiction without a circular effect, which is
questionable, the PUC would need additional information.
Therefore, without a complete picture of the companies cited by the
Company and the cases in which the ROEs were decided, the rate of
profit allowed these other utilities by regulatory agencies in other
jurisdictions is simply not useful to PUC’s determination of the
Company’s current cost of common equity.

54 While RRA data may be one factor considered by investors in developing their expectations, the required
return is a function of the underlying risks associated with the utility at issue and the other investment
opportunities available in the capital markets, including non-utility firms.
For these reasons, state regulatory agencies are charged with the responsibility of independently evaluating detailed evidence to establish an ROE corresponding to the specific risks, capital market conditions, and investor expectations facing the utility under its jurisdiction. This is precisely the standard dictated by the *Hope* and *Bluefield* decisions.

**Q99. ARE YOU SAYING THERE IS NO PLACE FOR RRA DATA IN THIS PROCESS?**

**A99.** No. As discussed earlier, I use such data in my risk premium approach as an input to calculate annual average historical risk premiums, which are then adjusted to account for changes in interest rates and specific risk differences. The resulting cost of equity estimate is extremely useful because, at its core, it is based on current and expected capital market conditions and on the fundamental financial principle that, due to differences in risk, the cost of equity must exceed the cost of debt. Using this method, allowed ROE data from RRA is one of a number of inputs in a comprehensive, multi-year study that ultimately leads to a cost of equity estimate specific to the utility at hand and steeped in both investor expectations and financial theory.

It is also common to reference allowed ROEs reported by RRA as a benchmark or guidepost when assessing the reasonableness of cost of equity estimates derived from primary methodologies, such as the DCF and CAPM. In other words, RRA data is valuable as a “secondary” approach, useful in judging whether an ROE estimate based on the application of accepted financial models makes sense “on its face.” In the right context, allowed ROE data from RRA can contribute in a valuable supporting role as part of the ROE estimation process.
F. Expected Earnings Approach

Q100. WHAT OTHER ANALYSES DID YOU CONDUCT TO ESTIMATE THE COST OF COMMON EQUITY?

A100. As I noted earlier, I also evaluated the cost of common equity using the expected earnings method. Reference to rates of return available from alternative investments of comparable risk can provide an important benchmark in assessing the return necessary to assure confidence in the financial integrity of a firm and its ability to attract capital. This expected earnings approach is consistent with the economic underpinnings for a fair and reasonable rate of return established by the U.S. Supreme Court in *Bluefield* and *Hope*. Moreover, it avoids the complexities and limitations of capital market methods, such as the DCF and CAPM methodologies, and instead focuses on the returns earned on book equity, which are readily available to investors.

Q101. WHAT ECONOMIC PREMISE UNDERLIES THE EXPECTED EARNINGS APPROACH?

A101. The simple, but powerful concept underlying the expected earnings approach is that investors compare each investment alternative with the next best opportunity. If the utility is unable to offer a return similar to that available from other opportunities of comparable risk, investors will become unwilling to supply the capital on reasonable terms. For existing investors, denying the utility an opportunity to earn what is available from other similar risk alternatives prevents them from earning their opportunity cost of capital. Such an outcome would violate the *Hope* and *Bluefield* standards and undermine the utility’s access to capital on reasonable terms.
Q102. HOW IS THE EXPECTED EARNINGS APPROACH TYPICALLY IMPLEMENTED?

A102. The traditional comparable earnings test identifies a group of companies that are believed to be comparable in risk to the utility. The actual earnings of those companies on the book value of their investment are then compared to the allowed return of the utility. While the traditional comparable earnings test is implemented using historical data taken from the accounting records, it is also common to use projections of returns on book investment, such as those published by recognized investment advisory publications (e.g., Value Line). Because these returns on book value equity are analogous to the allowed return on a utility’s rate base, this measure of opportunity costs results in a direct, “apples to apples” comparison.

Moreover, regulators do not set the returns that investors earn in the capital markets, which are a function of dividend payments and fluctuations in common stock prices- both of which are outside their control. Regulators can only establish the allowed ROE, which is applied to the book value of a utility’s investment in rate base, as determined from its accounting records. This is directly analogous to the expected earnings approach, which measures the return that investors expect the utility to earn on book value. As a result, the expected earnings approach provides a meaningful guide to ensure that the allowed ROE is similar to what other utilities of comparable risk will earn on invested capital. This expected earnings test does not require theoretical models to indirectly infer investors’ perceptions from stock prices or other market data. As long as the proxy companies are similar in risk, their expected earned returns on invested capital provide a direct benchmark for investors’ opportunity costs that is independent of fluctuating stock prices, market-
to-book ratios, debates over DCF growth rates, or the limitations inherent in any theoretical model of investor behavior.

Q103. WHAT RATES OF RETURN ON EQUITY ARE INDICATED FOR KENTUCKY POWER BASED ON THE EXPECTED EARNINGS APPROACH?

A103. Value Line’s projections imply an average rate of return on common equity for the electric utility industry of 10.8% over its 2020-2022 forecast horizon. Meanwhile, for the firms in the Utility Group specifically, the year-end returns on common equity projected by Value Line over its forecast horizon are shown on Exhibit AMM-10. As I explained earlier in my discussion of the br+sv growth rates used in applying the DCF model, Value Line’s returns on common equity are calculated using year-end equity balances, which understates the average return earned over the year. Accordingly, these year-end values were converted to average returns using the same adjustment factor discussed earlier and developed on Exhibit AMM-6. As shown on Exhibit AMM-10, after excluding values at the bottom and top of the range, Value Line’s projections for the Utility Group suggest an average ROE of approximately 11.8%, with a midpoint value of 11.5%.

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56 The Value Line Investment Survey (Mar. 17, Apr. 28, & May 19, 2017). Recall that Value Line reports return on year-end equity so the equivalent return on average equity would be higher.
57 For example, to compute the annual return on a passbook savings account with a beginning balance of $1,000 and an ending balance of $5,000, the interest income would be divided by the average balance of $3,000. Using the $5,000 balance at the end of the year would understate the actual return.
G. Flotation Costs

Q104. WHAT OTHER CONSIDERATIONS ARE RELEVANT IN SETTING THE RETURN ON EQUITY FOR A UTILITY?

A104. The common equity used to finance the investment in utility assets is provided from either the sale of stock in the capital markets or from retained earnings not paid out as dividends. When equity is raised through the sale of common stock, there are costs associated with “floating” the new equity securities. These flotation costs include services such as legal, accounting, and printing, as well as the fees and discounts paid to compensate brokers for selling the stock to the public. Also, some argue that the “market pressure” from the additional supply of common stock and other market factors may further reduce the amount of funds a utility nets when it issues common equity. While Kentucky Power has no publicly traded stock and does not incur flotation costs directly, equity capital is provided by investors through AEP’s sale of common shares. Thus, these expenses are also relevant when evaluating the fair and reasonable ROE for a wholly-owned subsidiary, such as the Company.

Q105. IS THERE AN ESTABLISHED MECHANISM FOR A UTILITY TO RECOGNIZE EQUITY ISSUANCE COSTS?

A105. No. While debt flotation costs are recorded on the books of the utility, amortized over the life of the issue, and thus increase the effective cost of debt capital, there is no similar accounting treatment to ensure that equity flotation costs are recorded and ultimately recognized. No rate of return is authorized on flotation costs necessarily incurred to obtain a portion of the equity capital used to finance plant. In other words, equity flotation costs are not included in a utility’s rate base because neither that portion of the gross proceeds from the sale of common stock used to pay flotation
costs is available to invest in plant and equipment, nor are flotation costs capitalized as an intangible asset. Unless some provision is made to recognize these issuance costs, a utility’s revenue requirements will not fully reflect all of the costs incurred for the use of investors’ funds. Because there is no accounting convention to accumulate the flotation costs associated with equity issues, they must be accounted for indirectly, with an upward adjustment to the cost of equity being the most appropriate mechanism.

Q106. THE COMMISSION HAS NOT ROUTINELY APPROVED A FLOTATION COST ADJUSTMENT FOR KENTUCKY POWER. WHY DO YOU CONTINUE TO RECOMMEND AN ADJUSTMENT IN THIS CASE?

A106. I am aware that the Commission has not routinely approved a flotation cost adjustment for Kentucky Power in past proceedings. Nevertheless, the financial literature and evidence in this case provides a sound theoretical and practical basis to include consideration of flotation costs for Kentucky Power. An adjustment for flotation costs associated with past equity issues is appropriate, even when the utility is not contemplating any new sales of common stock. The need for a flotation cost adjustment to compensate for past equity issues has been recognized in the financial literature. In a *Public Utilities Fortnightly* article, for example, Brigham, Aberwald, and Gapenski demonstrated that even if no further stock issues are contemplated, a flotation cost adjustment in all future years is required to keep shareholders whole, and that the flotation cost adjustment must consider total equity, including retained earnings.\(^58\) Similarly, *New Regulatory Finance* contains the following discussion:

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Another controversy is whether the flotation cost allowance should still be applied when the utility is not contemplating an imminent common stock issue. Some argue that flotation costs are real and should be recognized in calculating the fair rate of return on equity, but only at the time when the expenses are incurred. In other words, the flotation cost allowance should not continue indefinitely, but should be made in the year in which the sale of securities occurs, with no need for continuing compensation in future years. This argument implies that the company has already been compensated for these costs and/or the initial contributed capital was obtained freely, devoid of any flotation costs, which is an unlikely assumption, and certainly not applicable to most utilities. ... The flotation cost adjustment cannot be strictly forward-looking unless all past flotation costs associated with past issues have been recovered.59

Q107. CAN YOU ILLUSTRATE WHY INVESTORS WILL NOT HAVE THE OPPORTUNITY TO EARN THEIR REQUIRED ROE UNLESS A FLOTATION COST ADJUSTMENT IS INCLUDED?

A107. Yes. Assume a utility sells $10 worth of common stock at the beginning of year 1. If the utility incurs flotation costs of $0.48 (5% of the net proceeds), then only $9.52 is available to invest in rate base. Assume that common shareholders’ required rate of return is 11.5%, the expected dividend in year 1 is $0.50 (i.e., a dividend yield of 5 percent), and that growth is expected to be 6.5% annually. As developed in Table 5 below, if the allowed rate of return on common equity is only equal to the utility’s 11.5% “bare bones” cost of equity, common stockholders will not earn their required rate of return on their $10 investment, since growth will really only be 6.25%, instead of 6.5%:

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The reason that investors never really earn 11.5% on their investment in the above example is that the $0.48 in flotation costs initially incurred to raise the common stock is not treated like debt issuance costs (i.e., amortized into interest expense and therefore increasing the embedded cost of debt), nor is it included as an asset in rate base.

Including a flotation cost adjustment allows investors to be fully compensated for the impact of these costs. One commonly referenced method for calculating the flotation cost adjustment is to multiply the dividend yield by a flotation cost percentage. Thus, with a 5% dividend yield and a 5% flotation cost percentage, the flotation cost adjustment in the above example would be approximately 25 basis points. As shown in Table 6 below, by allowing a rate of return on common equity of 11.75% (an 11.5% cost of equity plus a 25 basis point flotation cost adjustment), investors earn their 11.5% required rate of return, since actual growth is now equal to 6.5%:

### TABLE 5
**NO FLOTATION COST ADJUSTMENT**

<table>
<thead>
<tr>
<th>Year</th>
<th>Stock</th>
<th>Earnings</th>
<th>Total Equity</th>
<th>Market Price</th>
<th>M/B Ratio</th>
<th>Allowed ROE</th>
<th>Earnings Per Share</th>
<th>Dividends Per Share</th>
<th>Payout Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$ 9.52</td>
<td>-</td>
<td>$ 9.52</td>
<td>$ 10.00</td>
<td>1.050</td>
<td>$ 1.09</td>
<td>$ 0.50</td>
<td>45.7%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>$ 9.52</td>
<td>0.59</td>
<td>$ 10.11</td>
<td>$ 10.62</td>
<td>1.050</td>
<td>$ 1.16</td>
<td>$ 0.53</td>
<td>45.7%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>$ 9.52</td>
<td>0.63</td>
<td>$ 10.75</td>
<td>$ 11.29</td>
<td>1.050</td>
<td>$ 1.24</td>
<td>$ 0.56</td>
<td>45.7%</td>
<td></td>
</tr>
<tr>
<td>Growth</td>
<td>6.25%</td>
<td>6.25%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.25%</td>
<td>6.25%</td>
<td></td>
</tr>
</tbody>
</table>

| Growth | 6.25%   | 6.25%    |              |              |           |             | 6.25%             | 6.25%               |

### TABLE 6
**INCLUDING FLOTATION COST ADJUSTMENT**

<table>
<thead>
<tr>
<th>Year</th>
<th>Stock</th>
<th>Earnings</th>
<th>Total Equity</th>
<th>Market Price</th>
<th>M/B Ratio</th>
<th>Allowed ROE</th>
<th>Earnings Per Share</th>
<th>Dividends Per Share</th>
<th>Payout Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$ 9.52</td>
<td>-</td>
<td>$ 9.52</td>
<td>$ 10.00</td>
<td>1.050</td>
<td>$ 1.12</td>
<td>$ 0.50</td>
<td>44.7%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>$ 9.52</td>
<td>0.62</td>
<td>$ 10.14</td>
<td>$ 10.65</td>
<td>1.050</td>
<td>$ 1.19</td>
<td>$ 0.53</td>
<td>44.7%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>$ 9.52</td>
<td>0.66</td>
<td>$ 10.80</td>
<td>$ 11.34</td>
<td>1.050</td>
<td>$ 1.27</td>
<td>$ 0.57</td>
<td>44.7%</td>
<td></td>
</tr>
<tr>
<td>Growth</td>
<td>6.50%</td>
<td>6.50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.50%</td>
<td>6.50%</td>
<td></td>
</tr>
</tbody>
</table>
The only way for investors to be fully compensated for issuance costs is to include an ongoing adjustment to account for past flotation costs when setting the return on common equity. This is the case regardless of whether or not the utility is expected to issue additional shares of common stock in the future.

Q108. WHAT IS THE MAGNITUDE OF THE ADJUSTMENT TO THE “BARE BONES” COST OF EQUITY TO ACCOUNT FOR ISSUANCE COSTS?

A108. The most common method used to account for flotation costs in regulatory proceedings is to apply an average flotation-cost percentage to a utility’s dividend yield. Based on a review of the finance literature, Regulatory Finance: Utilities’ Cost of Capital concluded:

The flotation cost allowance requires an estimated adjustment to the return on equity of approximately 5% to 10%, depending on the size and risk of the issue.\(^60\)

Alternatively, a study of data from Morgan Stanley regarding issuance costs associated with utility common stock issuances suggests an average flotation cost percentage of 3.6%,\(^61\) with AEP incurring issuance costs equal to approximately 3.02% of the gross proceeds from its 2009 public offering of common stock.\(^62\) Applying a 3.0% expense percentage to a representative dividend yield of 3.8% implies a minimum flotation cost adjustment on the order of 11 basis points. I thus

\(^{60}\) Id. at 323.

\(^{61}\) Application of Yankee Gas Services Company for a Rate Increase, DPUC Docket No. 04-06-01, Direct Testimony of George J. Eckenroth (Jul. 2, 2004) at Exhibit GJE-11.1. Updating the results presented by Mr. Eckenroth through April 2005 also resulted in an average flotation cost percentage of 3.6%. Meanwhile, AEP incurred underwriting discounts equal to approximately 3.0% of the gross proceeds from its 2011 public offering of common stock. AEP Corporation, Form 10-K Report) at 296 (2011).

recommend the Commission increase the cost of equity by 11 basis points in arriving at a fair and reasonable ROE for Kentucky Power.

Q109. HAVE OTHER REGULATORS RECOGNIZED FLOTATION COSTS IN EVALUATING A FAIR AND REASONABLE ROE?

A109. Yes. For example, in Docket No. UE-991606 the Washington Utilities and Transportation Commission concluded that a flotation cost adjustment of 25 basis points should be included in the allowed return on equity:

The Commission also agrees with both Dr. Avera and Dr. Lurito that a 25 basis point markup for flotation costs should be made. This amount compensates the Company for costs incurred from past issues of common stock. Flotation costs incurred in connection with a sale of common stock are not included in a utility's rate base because the portion of gross proceeds that is used to pay these costs is not available to invest in plant and equipment.63

More recently, in Case No. INT-G-16-02 the staff of the Idaho Public Utilities Commission supported the use of the same flotation cost methodology that I recommend above, concluding:

[...] is the standard equation for flotation cost adjustments and is referred to as the “conventional” approach. Its use in regulatory proceedings is widespread, and the formula is outlined in several corporate finance textbooks.64

Similarly, the South Dakota Public Utilities Commission has recognized the impact of issuance costs, concluding that, “recovery of reasonable flotation costs is appropriate.”65 Another example of a regulator that approves common stock issuance costs is the Mississippi Public Service Commission, which routinely

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63 Third Supplemental Order, WUTC Docket No. UE-991606, et al., p. 95 (September 2000).
64 Case No. INT-G-16-02, Direct Testimony of Mark Rogers at 18 (Dec. 16, 2016).
includes a flotation cost adjustment in its Rate Stabilization Adjustment Rider formula. The Public Utilities Regulatory Authority of Connecticut and the Minnesota Public Utilities Commission have also recognized that flotation costs are a legitimate expense worthy of consideration in setting a fair and reasonable ROE.

VI. NON-UTILITY BENCHMARK

Q110. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?
A110. This section presents the results of my DCF analysis applied to a group of low-risk firms in the competitive sector, which I refer to as the “Non-Utility Group.” This analysis was not directly considered in arriving at my recommended ROE range of reasonableness; however, it is my opinion that this is a relevant consideration in evaluating a fair and reasonable ROE for the Company.

Q111. DO UTILITIES HAVE TO COMPETE WITH NON-REGULATED FIRMS FOR CAPITAL?
A111. Yes. The cost of capital is an opportunity cost based on the returns that investors could realize by putting their money in other alternatives. Clearly, the total capital invested in utility stocks is only the tip of the iceberg of total common stock investment, and there are a plethora of other enterprises available to investors beyond those in the utility industry. Utilities must compete for capital, not just against firms in their own industry, but with other investment opportunities of comparable risk. Indeed, modern portfolio theory is built on the assumption that

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rational investors will hold a diverse portfolio of stocks, not just companies in a single industry.

Q112. IS IT CONSISTENT WITH THE BLUEFIELD AND HOPE CASES TO CONSIDER INVESTORS’ REQUIRED ROE FOR NON-UTILITY COMPANIES?

A112. Yes. The cost of equity capital in the competitive sector of the economy form the very underpinning for utility ROEs because regulation purports to serve as a substitute for the actions of competitive markets. The Supreme Court has recognized that it is the degree of risk, not the nature of the business, which is relevant in evaluating an allowed ROE for a utility. The Bluefield case refers to “business undertakings attended with comparable risks and uncertainties.” It does not restrict consideration to other utilities. Similarly, the Hope case states:

By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks.69

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

Q113. DOES CONSIDERATION OF THE RESULTS FOR THE NON-UTILITY GROUP HELP TO IMPROVE THE RELIABILITY OF DCF RESULTS?

A113. Yes. The estimates of growth from the DCF model depend on analysts’ forecasts. It is possible for utility growth rates to be distorted by short-term trends in the industry, or by the industry falling into favor or disfavor by analysts. The result of such distortions would be to bias the DCF estimates for utilities. Because the Non-Utility Group includes low-risk companies from more than one industry, it helps to

insulate against any possible distortion that may be present in results for a particular sector.

Q114. WHAT CRITERIA DID YOU APPLY TO DEVELOP THE NON-UTILITY GROUP?

A114. My low-risk group of competitive firms was composed of those United States companies followed by Value Line that:

(1) pay common dividends;
(2) have a Safety Rank of “1”;
(3) have a Financial Strength Rating of “A” or greater;
(4) have a beta of 0.75 or less; and
(5) have investment grade credit ratings from S&P and Moody’s.70

Q115. HOW DO THE OVERALL RISKS OF THIS NON-UTILITY GROUP COMPARE WITH THE UTILITY GROUP?

A115. Table 7 compares the Non-Utility Group with the Utility Group and Kentucky Power across the four key risk measures discussed earlier:

<table>
<thead>
<tr>
<th>Credit Rating</th>
<th>Value Line</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>S&amp;P</td>
<td>Moody's</td>
</tr>
<tr>
<td>Non-Utility Group</td>
<td>A-</td>
</tr>
<tr>
<td>Utility Group</td>
<td>A-</td>
</tr>
<tr>
<td>Kentucky Power</td>
<td>A-</td>
</tr>
</tbody>
</table>

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70 Credit rating firms, such as S&P, use designations consisting of upper- and lower-case letters 'A' and 'B' to identify a bond's credit quality rating. 'AAA', 'AA', 'A', and 'BBB' ratings are considered investment grade. Credit ratings for bonds below these designations ('BB', 'B', 'CCC', etc.) are considered speculative grade, and are commonly referred to as "junk bonds". The term “investment grade” refers to bonds with ratings in the ‘BBB’ category and above.
When considered together, a comparison of these objective measures, which consider a broad spectrum of risks, including financial and business position, relative size, and exposure to company-specific factors, indicates that investors would likely conclude that the overall investment risks for the Utility Group and Kentucky Power are greater than those of the firms in the Non-Utility Group.

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

Q116. DO THE BETA VALUES FOR THE NON-UTILITY GROUP ADDRESS THE CONCERNS EXPRESSED BY THE KPSC IN A PRIOR RATE PROCEEDING FOR KENTUCKY POWER?

A116. Yes. The Commission concluded in Case No. 2009-00548 that utilities must compete with non-regulated firms for capital and recognized that investors consider the opportunity costs associated with investment alternatives outside the utility industry. However, the Commission found that lower beta values for utility common stocks supported a finding that the non-utility companies were “riskier

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alternatives.” My proxy group criteria restricted the Non-Utility Group to include only firms with beta values of 0.75 or less, while beta values for the firms in the Utility Group range as high as 0.80.

Q117. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS FOR THE NON-UTILITY GROUP?

A117. I applied the DCF model to the Non-Utility Group using analysts EPS growth projections, as described earlier for the Utility Group, with the results being presented in Exhibit AMM-11. As summarized in Table 8, below, application of the constant growth DCF model resulted in the following cost of equity estimates:

<table>
<thead>
<tr>
<th>Growth Rate</th>
<th>Average</th>
<th>Midpoint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Line</td>
<td>10.4%</td>
<td>11.5%</td>
</tr>
<tr>
<td>IBES</td>
<td>10.5%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Zacks</td>
<td>10.8%</td>
<td>11.5%</td>
</tr>
</tbody>
</table>

As discussed earlier, reference to the Non-Utility Group is consistent with established regulatory principles. Required returns for utilities should be in line with those of non-utility firms of comparable risk operating under the constraints of free competition. Because the actual cost of equity is unobservable, and DCF results inherently incorporate a degree of error, cost of equity estimates for the Non-Utility Group provide an important benchmark in evaluating a fair and reasonable ROE for Kentucky Power.

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72 Id.
1 Q118. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?
2 A118. Yes.
QUALIFICATIONS OF ADRIEN M. MCKENZIE

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I received B.A. and M.B.A. degrees with a major in finance from The University of Texas at Austin, and hold the Chartered Financial Analyst (CFA®) designation. Since joining FINCAP in 1984, I have participated in consulting assignments involving a broad range of economic and financial issues, including cost of capital, cost of service, rate design, economic damages, and business valuation. I have extensive experience in economic and financial analysis for regulated industries, and in preparing and supporting expert witness testimony before courts, regulatory agencies, and legislative committees throughout the U.S. and Canada. I have personally sponsored direct and rebuttal testimony in approximately seventy-five proceedings filed with the Federal Energy Regulatory Commission (“FERC”), the Regulatory Commission of Alaska, the Colorado Public Utilities Commission, the Hawaii Public Utilities Commission, the Idaho Public Utilities Commission, the Indiana Utility Regulatory Commission, the Iowa Utilities Board, the Kansas State Corporation Commission, the Kentucky Public Service Commission, the Maryland Public Service Commission, the Montana Public Service Commission, the Nebraska Public Service Commission, the Ohio Public Utilities Commission, the Oregon Public Utilities Commission, the South Dakota Public Utilities Commission, the Virginia State Corporation Commission, the Washington Utilities and Transportation Commission, the West Virginia Public Service Commission, and the Wyoming Public Service Commission. My testimony addressed the establishment of risk-comparable proxy groups, the application of alternative quantitative methods, and the consideration of
regulatory standards and policy objectives in establishing a fair rate of return on equity for regulated electric, gas, and water utility operations. In connection with these assignments, my responsibilities have included critically evaluating the positions of other parties and preparation of rebuttal testimony, representing clients in settlement negotiations and hearings, and assisting in the preparation of legal briefs.

In addition, over the course of my career I worked with Dr. William Avera to prepare prefilled direct and rebuttal testimony in over 250 regulatory proceedings before FERC, the Canadian Radio-Television and Telecommunications Commission, and regulatory agencies in over 30 states.¹ Prior to joining FINCAP, I was employed by an oil and gas firm and was responsible for operations and accounting. A resume containing the details of my qualifications and experience is attached below.

¹ This testimony was sponsored by Dr. William Avera, who was formerly President of FINCAP, Inc.
ADRIEN M. MCKENZIE

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Financial Concepts and Applications
Economic and Financial Counsel

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Fax (512) 458–4768
fincap3@texas.net

Summary of Qualifications

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

Employment

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

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

Manager,
McKenzie Energy Company

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

M.B.A., Finance, University of Texas at Austin (Sep. 1982 to May. 1984)
Program included coursework in corporate finance, accounting, financial modeling, and statistics. Received Dean's Award for Academic Excellence and Good Neighbor Scholarship.
Professional Report: *The Impact of Construction Expenditures on Investor-Owned Electric Utilities*

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

Simon Fraser University, Vancouver, Canada and University of Hawaii at Manoa, Honolulu, Hawaii (Jan. 1979 to Dec 1980)
Coursework in accounting, finance, economics, and liberal arts.

Professional Associations
Received Chartered Financial Analyst (CFA®) designation in 1990.
*Member – CFA Institute.*

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


Presentations


**Representative Assignments**

Mr. McKenzie has prepared and supported prefiled testimony submitted in over 250 regulatory proceedings. In addition to filings before regulators in over thirty state jurisdictions, Mr. McKenzie has considerable expertise in preparing expert analyses and testimony before the Federal Energy Regulatory Commission (“FERC”) on the issue of rate of return on equity (“ROE”), and has broad experience in applying and evaluating the results of quantitative methods to estimate a fair ROE, including discounted cash flow approaches, the Capital Asset Pricing Model, risk premium methods, and other quantitative benchmarks. Other representative assignments have included the application of econometric models to analyze the impact of anti-competitive behavior and estimate lost profits; development of explanatory models for nuclear plant capital costs in connection with prudency reviews; and the analysis of avoided cost pricing for cogenerated power.
## SUMMARY OF RESULTS

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<td>10.8%</td>
</tr>
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<td>Zacks</td>
<td>9.8%</td>
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</tr>
<tr>
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<td>10.1%</td>
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### GLOSSARY OF TERMS

- **AMS** -- Advanced Metering System Recovery Rider
- **BDR** -- Bad Debt Cost Recovery Rider
- **DSM** -- Demand Side Management / Conservation / Energy Efficiency Adj Clause
- **ECA** -- Environmental and/or Emissions Cost Adjustment Clause
- **ESM** -- Earnings Sharing Mechanism
- **FCA** -- Fuel and/or Power Cost Adjustment Clause
- **FRP** -- Formula Rate Plan
- **FTY** -- Jurisdiction allows for future test year
- **ICR** -- Infrastructure Investment / Renewables Cost Recovery Mechanism
- **NDT** -- Nuclear Decommissioning Tracker
- **PCR** -- Pension Cost Recovery Mechanism
- **PGA** -- Gas Cost Adjustment Clause
- **RDM** -- Revenue Decoupling Mechanism
- **SCR** -- Storm Cost Recovery Tracker
- **TAX** -- Property / Franchise Tax Recovery Mechanism
- **TCR** -- Transmission Cost Recovery Tracker
- **WNA** -- Weather Normalization Adjustment or other mitigants

**Sources:**
- Company 10-K reports;
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## REGULATORY MECHANISMS

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Exhibit AMM-3
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<td>Georgia Power</td>
<td>Elec.</td>
<td>GA</td>
<td>√</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>√</td>
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<tr>
<td>Gulf Power</td>
<td>Elec.</td>
<td>FL</td>
<td>√</td>
<td>√</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>√</td>
<td>√</td>
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<tr>
<td>Mississippi Power</td>
<td>Elec.</td>
<td>MS</td>
<td>√</td>
<td>√</td>
<td>-</td>
<td>√</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td><strong>VECTREN CORP.</strong></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Southern Indiana G&amp;E</td>
<td>Elec.</td>
<td>IN</td>
<td>√</td>
<td>√</td>
<td>-</td>
<td>√</td>
<td>-</td>
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<td>-</td>
<td>√</td>
<td>√</td>
<td></td>
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</tr>
</tbody>
</table>

**Sources:**

**Notes:**
* Partial decoupling provision relates to the lost revenue provision of KRS 278.285(2).
D - Delivery-only utility.
C - Fully-forecasted test years commonly used in the state listed for this operating company.
O - Fully-forecasted test years occasionally used in the state listed for this operating company.
P - Partially-forecasted test years commonly or occasionally used in the state listed for this operating company.
LIR - Limited issue reopeners.
## UTILITY GROUP

<table>
<thead>
<tr>
<th>Company</th>
<th>At Fiscal Year-End 2016 (a)</th>
<th>Value Line Projected (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Debt</td>
<td>Preferred</td>
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<tr>
<td>Alliant Energy</td>
<td>64.2%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Ameren Corp.</td>
<td>50.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>American Elec Pwr</td>
<td>53.8%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Avangrid, Inc.</td>
<td>24.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>CMS Energy Corp.</td>
<td>68.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Dominion Energy</td>
<td>65.5%</td>
<td>0.0%</td>
</tr>
<tr>
<td>DTE Energy Co.</td>
<td>54.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Duke Energy Corp.</td>
<td>53.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Emera Inc.</td>
<td>68.4%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Eversource Energy</td>
<td>46.9%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Fortis Inc.</td>
<td>56.2%</td>
<td>4.3%</td>
</tr>
<tr>
<td>NextEra Energy, Inc.</td>
<td>54.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>PPL Corp.</td>
<td>64.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Pub Sv Enterprise Grp.</td>
<td>46.5%</td>
<td>0.0%</td>
</tr>
<tr>
<td>SCANA Corp.</td>
<td>53.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Sempra Energy</td>
<td>50.2%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Southern Company</td>
<td>62.7%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Vectren Corp.</td>
<td>49.2%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>54.9%</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

(a) Company Form 10-K and Annual Reports.
(b) The Value Line Investment Survey (Mar. 17, Apr. 28, & May 19, 2017; Emera, Mar. 24, 2017).
## Electric Group Operating Subsidiaries

<table>
<thead>
<tr>
<th>Operating Company</th>
<th>Debt</th>
<th>Preferred</th>
<th>Common Equity</th>
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</thead>
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</tr>
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<td>48.9%</td>
</tr>
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<td>0.0%</td>
<td>53.0%</td>
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<tr>
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<tr>
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<td>53.4%</td>
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<tr>
<td><strong>American Elec Pwr</strong></td>
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<td></td>
</tr>
<tr>
<td>AEP Texas Inc.</td>
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</tr>
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<td>Appalachian Power Co.</td>
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<td>0.0%</td>
<td>47.0%</td>
</tr>
<tr>
<td>Indiana Michigan Power Co.</td>
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<td>0.0%</td>
<td>46.5%</td>
</tr>
<tr>
<td>Kingsport Power Co.</td>
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<td>Ohio Power Co.</td>
<td>45.4%</td>
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<td>54.6%</td>
</tr>
<tr>
<td>Public Service Co. of Oklahoma</td>
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<td>48.6%</td>
</tr>
<tr>
<td>Southwestern Electric Pwr Co.</td>
<td>54.7%</td>
<td>0.0%</td>
<td>45.3%</td>
</tr>
<tr>
<td>Wheeling Power Co.</td>
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<td>54.2%</td>
</tr>
<tr>
<td><strong>Avangrid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Maine Pwr</td>
<td>37.6%</td>
<td>0.0%</td>
<td>62.4%</td>
</tr>
<tr>
<td>NY State E&amp;G</td>
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<td>48.8%</td>
</tr>
<tr>
<td>Rochester G&amp;E</td>
<td>45.7%</td>
<td>0.0%</td>
<td>54.3%</td>
</tr>
<tr>
<td>United Illuminating</td>
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<td>54.2%</td>
</tr>
<tr>
<td><strong>CMS Energy</strong></td>
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<tr>
<td>Consumers Energy Co.</td>
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<td>0.3%</td>
<td>50.9%</td>
</tr>
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<td><strong>Dominion Resources</strong></td>
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<td>50.4%</td>
</tr>
<tr>
<td>** Duke Energy**</td>
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<td>Duke Energy Carolinas</td>
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<td>52.9%</td>
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<td>44.4%</td>
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<td>51.8%</td>
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<tr>
<td>Duke Energy Ohio</td>
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<td>Duke Energy Progress</td>
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<td>Tampa Electric Co.</td>
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</table>
## ELECTRIC GROUP OPERATING SUBSIDIARIES

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Debt</th>
<th>Preferred</th>
<th>Common Equity</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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<td>Connecticut Light &amp; Power</td>
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<td>54.6%</td>
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<td>55.7%</td>
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<td>43.6%</td>
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<td>56.4%</td>
</tr>
<tr>
<td>Western Massachusetts Electric Co.</td>
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<td>FORTIS INC.</td>
<td></td>
<td></td>
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<tr>
<td>UNS Electric</td>
<td>46.4%</td>
<td>0.0%</td>
<td>53.6%</td>
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<tr>
<td>Central Hudson</td>
<td>49.4%</td>
<td>0.0%</td>
<td>50.6%</td>
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<tr>
<td>International Transmission Co.</td>
<td>40.0%</td>
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<tr>
<td>ITC Great Plains</td>
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<td>ITC Midwest</td>
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<td>NEXTERA ENERGY, INC.</td>
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<td>62.2%</td>
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<tr>
<td>PPL CORP.</td>
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<td>60.5%</td>
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<td>0.0%</td>
<td>54.5%</td>
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<tr>
<td>PUB SV ENTERPRISE GRP.</td>
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<tr>
<td>Pub Service Electric &amp; Gas Co.</td>
<td>47.3%</td>
<td>0.0%</td>
<td>52.7%</td>
</tr>
<tr>
<td>SCANA CORP</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>South Carolina Electric &amp; Gas</td>
<td>48.6%</td>
<td>0.0%</td>
<td>51.4%</td>
</tr>
<tr>
<td>SEMPR ENERGY</td>
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<td></td>
</tr>
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<td>53.9%</td>
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<td>Alabama Power Co.</td>
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<tr>
<td>Georgia Power Co.</td>
<td>47.9%</td>
<td>1.2%</td>
<td>50.9%</td>
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<td>Gulf Power Co.</td>
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<td>53.2%</td>
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<td>0.5%</td>
<td>46.9%</td>
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<tr>
<td>VECTREN CORP.</td>
<td></td>
<td></td>
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<tr>
<td>Southern Indiana Gas &amp; Electric Co.</td>
<td>43.3%</td>
<td>0.0%</td>
<td>56.7%</td>
</tr>
</tbody>
</table>

Minimum 34.8% 0.0% 40.2%
Maximum 59.8% 5.6% 65.2%
Simple Average 46.1% 0.4% 53.5%
Weighted Average 48.0% 0.4% 51.7%

Sources:
Company 10-K and FERC Form 1 reports.
## DIVIDEND YIELD

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<tr>
<th>Company</th>
<th>Price</th>
<th>Dividends</th>
<th>Yield</th>
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<td>$ 39.69</td>
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<tr>
<td>Ameren Corp.</td>
<td>$ 54.84</td>
<td>$ 1.79</td>
<td>3.3%</td>
</tr>
<tr>
<td>American Elec Pwr</td>
<td>$ 67.84</td>
<td>$ 2.42</td>
<td>3.6%</td>
</tr>
<tr>
<td>Avangrid, Inc.</td>
<td>$ 43.72</td>
<td>$ 1.73</td>
<td>4.0%</td>
</tr>
<tr>
<td>CMS Energy Corp.</td>
<td>$ 45.35</td>
<td>$ 1.35</td>
<td>3.0%</td>
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<tr>
<td>Dominion Energy</td>
<td>$ 77.67</td>
<td>$ 3.14</td>
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<td>DTE Energy Co.</td>
<td>$ 104.37</td>
<td>$ 3.42</td>
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<tr>
<td>Duke Energy Corp.</td>
<td>$ 67.84</td>
<td>$ 3.54</td>
<td>5.2%</td>
</tr>
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<td>Emera Inc.</td>
<td>$ 47.26</td>
<td>$ 2.09</td>
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<td>Eversource Energy</td>
<td>$ 59.67</td>
<td>$ 1.90</td>
<td>3.2%</td>
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<tr>
<td>Fortis Inc.</td>
<td>$ 32.70</td>
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<td>NextEra Energy, Inc.</td>
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</tr>
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<td>PPL Corp.</td>
<td>$ 38.15</td>
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<tr>
<td>Pub Sv Enterprise Grp.</td>
<td>$ 44.13</td>
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<tr>
<td>SCANA Corp.</td>
<td>$ 65.83</td>
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<td>Sempra Energy</td>
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<tr>
<td>Southern Company</td>
<td>$ 49.79</td>
<td>$ 2.34</td>
<td>4.7%</td>
</tr>
<tr>
<td>Vectren Corp.</td>
<td>$ 59.30</td>
<td>$ 1.72</td>
<td>2.9%</td>
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</table>

**Average** | 3.8%

(a) Average of closing prices for 30 trading days ended May 19, 2017.
(b) The Value Line Investment Survey, Summary & Index (May 19, 2017).
## GROWTH RATES

<table>
<thead>
<tr>
<th>Company</th>
<th>V Line</th>
<th>IBES</th>
<th>Zacks</th>
<th>Bloomberg</th>
<th>Capital IQ</th>
<th>Growth</th>
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</thead>
<tbody>
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<td>1 Alliant Energy</td>
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<td>6.5%</td>
<td>5.5%</td>
<td>6.4%</td>
<td>5.9%</td>
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<td>6.5%</td>
<td>5.8%</td>
<td>6.1%</td>
<td>3.9%</td>
</tr>
<tr>
<td>3 American Elec Pwr</td>
<td>4.0%</td>
<td>2.4%</td>
<td>5.6%</td>
<td>4.0%</td>
<td>4.1%</td>
<td>4.4%</td>
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<tr>
<td>4 Avangrid, Inc.</td>
<td>n/a</td>
<td>9.0%</td>
<td>8.5%</td>
<td>9.0%</td>
<td>7.8%</td>
<td>1.7%</td>
</tr>
<tr>
<td>5 CMS Energy Corp.</td>
<td>6.5%</td>
<td>7.5%</td>
<td>6.0%</td>
<td>6.8%</td>
<td>7.4%</td>
<td>5.8%</td>
</tr>
<tr>
<td>6 Dominion Energy</td>
<td>5.5%</td>
<td>4.0%</td>
<td>6.0%</td>
<td>5.0%</td>
<td>5.6%</td>
<td>0.1%</td>
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<tr>
<td>7 DTE Energy Co.</td>
<td>5.0%</td>
<td>4.6%</td>
<td>5.9%</td>
<td>6.0%</td>
<td>5.7%</td>
<td>4.2%</td>
</tr>
<tr>
<td>8 Duke Energy Corp.</td>
<td>4.5%</td>
<td>2.6%</td>
<td>5.0%</td>
<td>5.5%</td>
<td>3.6%</td>
<td>2.3%</td>
</tr>
<tr>
<td>9 Emera Inc.</td>
<td>9.0%</td>
<td>n/a</td>
<td>n/a</td>
<td>7.0%</td>
<td>8.2%</td>
<td>8.1%</td>
</tr>
<tr>
<td>10 Eversource Energy</td>
<td>6.5%</td>
<td>6.0%</td>
<td>6.3%</td>
<td>6.1%</td>
<td>5.8%</td>
<td>4.2%</td>
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<tr>
<td>11 Fortis Inc.</td>
<td>9.0%</td>
<td>n/a</td>
<td>5.5%</td>
<td>5.0%</td>
<td>6.2%</td>
<td>3.0%</td>
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<tr>
<td>12 NextEra Energy, Inc.</td>
<td>6.5%</td>
<td>6.7%</td>
<td>7.0%</td>
<td>7.0%</td>
<td>6.9%</td>
<td>6.2%</td>
</tr>
<tr>
<td>13 PPL Corp.</td>
<td>n/a</td>
<td>2.4%</td>
<td>5.0%</td>
<td>1.2%</td>
<td>5.2%</td>
<td>6.7%</td>
</tr>
<tr>
<td>14 Pub Sv Enterprise Grp.</td>
<td>2.5%</td>
<td>0.7%</td>
<td>3.0%</td>
<td>3.2%</td>
<td>5.1%</td>
<td>4.6%</td>
</tr>
<tr>
<td>15 SCANA Corp.</td>
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<td>5.8%</td>
<td>5.3%</td>
<td>6.0%</td>
<td>5.4%</td>
<td>4.7%</td>
</tr>
<tr>
<td>16 Sempra Energy</td>
<td>8.0%</td>
<td>9.9%</td>
<td>8.7%</td>
<td>12.2%</td>
<td>8.0%</td>
<td>3.7%</td>
</tr>
<tr>
<td>17 Southern Company</td>
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<td>3.8%</td>
<td>5.0%</td>
<td>4.7%</td>
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<td>3.5%</td>
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<tr>
<td>18 Vectren Corp.</td>
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<td>5.7%</td>
<td>5.5%</td>
<td>5.7%</td>
<td>6.3%</td>
</tr>
</tbody>
</table>

(a) The Value Line Investment Survey (Mar. 17, Apr. 28, & May 19, 2017).
(c) www.zacks.com (May 25, 2017).
(d) SNL, S&P Global, Inc. (May 25, 2017).
(e) See Exhibit AMM-6.
## DCF COST OF EQUITY ESTIMATES

<table>
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<tr>
<th>Company</th>
<th>V Line</th>
<th>IBES</th>
<th>Zacks</th>
<th>Bloomberg</th>
<th>Capital/IQ</th>
<th>S&amp;P</th>
<th>br+sv</th>
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<td>9.6%</td>
<td>9.1%</td>
<td>9.1%</td>
<td>8.8%</td>
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<td>9.3%</td>
<td>9.3%</td>
<td>9.8%</td>
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<td>9.4%</td>
<td>9.4%</td>
<td>7.1%</td>
</tr>
<tr>
<td>American Elec Pwr</td>
<td>7.6%</td>
<td>6.0%</td>
<td>9.2%</td>
<td>7.6%</td>
<td>7.7%</td>
<td>7.7%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Avangrid, Inc.</td>
<td>n/a</td>
<td>13.0%</td>
<td>12.5%</td>
<td>13.0%</td>
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<td>11.8%</td>
<td>5.7%</td>
</tr>
<tr>
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<td>10.5%</td>
<td>9.0%</td>
<td>9.8%</td>
<td>10.4%</td>
<td>10.4%</td>
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</tr>
<tr>
<td>Dominion Energy</td>
<td>9.5%</td>
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<td>9.0%</td>
<td>9.6%</td>
<td>9.6%</td>
<td>4.2%</td>
</tr>
<tr>
<td>DTE Energy Co.</td>
<td>8.3%</td>
<td>7.9%</td>
<td>9.2%</td>
<td>9.3%</td>
<td>9.0%</td>
<td>9.0%</td>
<td>7.5%</td>
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<td>8.8%</td>
<td>7.6%</td>
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<td>12.6%</td>
<td>12.5%</td>
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<tr>
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<td>9.5%</td>
<td>9.3%</td>
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<td>9.0%</td>
<td>7.4%</td>
</tr>
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<td>9.9%</td>
<td>9.3%</td>
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<td>9.4%</td>
<td>11.0%</td>
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<tr>
<td>Pub Sv Enterprise Grp.</td>
<td>6.4%</td>
<td>4.6%</td>
<td>6.9%</td>
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<td>9.0%</td>
<td>9.0%</td>
<td>8.5%</td>
</tr>
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<td>SCANA Corp.</td>
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<td>8.5%</td>
</tr>
<tr>
<td>Sempra Energy</td>
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<td>11.0%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Southern Company</td>
<td>8.2%</td>
<td>8.5%</td>
<td>9.7%</td>
<td>9.3%</td>
<td>9.1%</td>
<td>9.1%</td>
<td>8.2%</td>
</tr>
<tr>
<td>Vectren Corp.</td>
<td>9.9%</td>
<td>8.4%</td>
<td>8.6%</td>
<td>8.4%</td>
<td>8.6%</td>
<td>8.6%</td>
<td>9.2%</td>
</tr>
<tr>
<td><strong>Average (b)</strong></td>
<td>9.8%</td>
<td>9.6%</td>
<td>9.8%</td>
<td>9.6%</td>
<td>9.7%</td>
<td>9.7%</td>
<td>8.7%</td>
</tr>
<tr>
<td><strong>Midpoint (b,c)</strong></td>
<td>10.8%</td>
<td>10.4%</td>
<td>10.5%</td>
<td>10.0%</td>
<td>10.1%</td>
<td>10.1%</td>
<td>9.8%</td>
</tr>
</tbody>
</table>

(a) Sum of dividend yield (Exhibit AMM-5, p. 1) and respective growth rate (Exhibit AMM-5, p. 2).
(b) Excludes highlighted figures.
(c) Average of low and high values.
## DCF MODEL - UTILITY GROUP

### BR+SV GROWTH RATE

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<tr>
<th>Company</th>
<th>2021 EPS</th>
<th>2021 DPS</th>
<th>BVPS</th>
<th>b</th>
<th>r</th>
<th>Factor</th>
<th>Adjusted r</th>
<th>&quot;sv&quot; Factor</th>
<th>br + sv</th>
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</thead>
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<td>Alliant Energy</td>
<td>$2.50</td>
<td>$1.58</td>
<td>$19.05</td>
<td>36.8%</td>
<td>13.1%</td>
<td>1.0100</td>
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<td>$2.15</td>
<td>$35.50</td>
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<td>9.9%</td>
<td>1.0190</td>
<td>10.0%</td>
<td>3.9%</td>
<td>-</td>
</tr>
<tr>
<td>American Elec Pwr</td>
<td>$4.75</td>
<td>$2.90</td>
<td>$43.25</td>
<td>38.9%</td>
<td>11.0%</td>
<td>1.0202</td>
<td>11.2%</td>
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<td>1.0060</td>
<td>5.3%</td>
<td>1.7%</td>
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<td>CMS Energy Corp.</td>
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<td>13.1%</td>
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<td>18.6%</td>
<td>1.0025</td>
<td>18.6%</td>
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<td>10.5%</td>
<td>1.0254</td>
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<td>1.0107</td>
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<td>1.0147</td>
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<td>$41.00</td>
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<td>9.8%</td>
<td>1.0193</td>
<td>9.9%</td>
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<td>-</td>
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<td>1.0267</td>
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<td>1.0274</td>
<td>13.1%</td>
<td>5.5%</td>
<td>0.0150</td>
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Note: EPS, DPS, BVPS, b, r, and other values are presented for illustrative purposes. The actual values and calculations may vary.
### BR+SV Growth Rate

<table>
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<tr>
<th>Company</th>
<th>Eq Ratio</th>
<th>Tot Cap</th>
<th>Com Eq</th>
<th>2016</th>
<th>Eq Ratio</th>
<th>Tot Cap</th>
<th>Com Eq</th>
<th>2021</th>
<th>Chg</th>
<th>Equity</th>
<th>High</th>
<th>Low</th>
<th>Avg.</th>
<th>M/B</th>
<th>2016</th>
<th>2021</th>
<th>Growth</th>
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<td>$3,648</td>
<td>48.0%</td>
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<td>236.00</td>
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<td>$21,280</td>
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<td>$85.00</td>
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<td>502.00</td>
<td>1.41%</td>
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<tr>
<td>PPL Corp.</td>
<td>35.7%</td>
<td>$27,707</td>
<td>$9,891</td>
<td>41.5%</td>
<td>$34,000</td>
<td>$14,110</td>
<td>7.4%</td>
<td>$50.00</td>
<td>$35.00</td>
<td>$42.50</td>
<td>2.208</td>
<td>679.73</td>
<td>730.00</td>
<td>1.44%</td>
<td></td>
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</tr>
<tr>
<td>Pub Sv Enterprise Grp.</td>
<td>54.7%</td>
<td>$24,025</td>
<td>$13,142</td>
<td>51.0%</td>
<td>$31,300</td>
<td>$15,963</td>
<td>4.0%</td>
<td>$60.00</td>
<td>$45.00</td>
<td>$52.50</td>
<td>1.680</td>
<td>504.87</td>
<td>506.00</td>
<td>0.04%</td>
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<td>SCANA Corp.</td>
<td>46.9%</td>
<td>$12,198</td>
<td>$5,721</td>
<td>47.0%</td>
<td>$15,900</td>
<td>$7,473</td>
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<td>$85.00</td>
<td>$60.00</td>
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<td>47.3%</td>
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<td>$11,807</td>
<td>40.0%</td>
<td>$31,900</td>
<td>$12,760</td>
<td>1.6%</td>
<td>$150.00</td>
<td>$110.00</td>
<td>$130.00</td>
<td>2.251</td>
<td>250.15</td>
<td>236.00</td>
<td>-1.16%</td>
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<tr>
<td>Southern Company</td>
<td>35.7%</td>
<td>$69,359</td>
<td>$24,761</td>
<td>36.0%</td>
<td>$83,300</td>
<td>$29,988</td>
<td>3.9%</td>
<td>$60.00</td>
<td>$45.00</td>
<td>$52.50</td>
<td>1.780</td>
<td>990.39</td>
<td>1020.00</td>
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<td>Vectren Corp.</td>
<td>52.7%</td>
<td>$3,358</td>
<td>$1,770</td>
<td>52.0%</td>
<td>$4,475</td>
<td>$2,327</td>
<td>5.6%</td>
<td>$65.00</td>
<td>$45.00</td>
<td>$55.00</td>
<td>2.033</td>
<td>82.90</td>
<td>86.00</td>
<td>0.74%</td>
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</tr>
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</table>

(a) The Value Line Investment Survey (Mar. 17, Apr. 28, & May 19, 2017).
(b) Computed using the formula $2(1+i-5Yr. Change in Equity))/(2+5 Yr. Change in Equity).
(c) Product of average year-end "i" for 2021 and Adjustment Factor.
(d) Product of change in common shares outstanding and M/B Ratio.
(e) Computed as 1 - B/M Ratio.
(f) Product of total capital and equity ratio.
(g) Five-year rate of change in common equity.
(h) Average of High and Low expected market prices divided by 2021 BVPS.
## UTILITY GROUP

<table>
<thead>
<tr>
<th>Company</th>
<th>Div Yield</th>
<th>Proj Growth</th>
<th>Cost of Equity</th>
<th>Risk-Free Rate</th>
<th>Risk Premium</th>
<th>Beta</th>
<th>K_e</th>
<th>Market Cap</th>
<th>Size Adjustment</th>
<th>Size Adjusted K_e</th>
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<tbody>
<tr>
<td>1 Alliant Energy</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.70</td>
<td>9.3%</td>
<td>$9,071.9</td>
<td>0.89%</td>
<td>10.2%</td>
</tr>
<tr>
<td>2 Ameren Corp.</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.70</td>
<td>9.3%</td>
<td>$13,415.8</td>
<td>0.61%</td>
<td>9.9%</td>
</tr>
<tr>
<td>3 American Elec Pwr</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.65</td>
<td>8.9%</td>
<td>$33,588.9</td>
<td>-0.35%</td>
<td>8.5%</td>
</tr>
<tr>
<td>4 Avangrid, Inc.</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>n/a</td>
<td>n/a</td>
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<td>3.0%</td>
<td>9.0%</td>
<td>0.65</td>
<td>8.9%</td>
<td>$12,810.0</td>
<td>0.61%</td>
<td>9.5%</td>
</tr>
<tr>
<td>6 Dominion Energy</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.65</td>
<td>8.9%</td>
<td>$49,263.3</td>
<td>-0.35%</td>
<td>8.5%</td>
</tr>
<tr>
<td>7 DTE Energy Co.</td>
<td>2.4%</td>
<td>9.6%</td>
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<td>9.0%</td>
<td>0.65</td>
<td>8.9%</td>
<td>$18,896.6</td>
<td>0.61%</td>
<td>9.5%</td>
</tr>
<tr>
<td>8 Duke Energy Corp.</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.60</td>
<td>8.4%</td>
<td>$57,359.3</td>
<td>-0.35%</td>
<td>8.1%</td>
</tr>
<tr>
<td>9 Emera Inc.</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.60</td>
<td>8.4%</td>
<td>$6,874.7</td>
<td>0.89%</td>
<td>9.3%</td>
</tr>
<tr>
<td>10 Eversource Energy</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.65</td>
<td>8.9%</td>
<td>$19,089.2</td>
<td>0.61%</td>
<td>9.5%</td>
</tr>
<tr>
<td>11 Fortis Inc.</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.65</td>
<td>8.9%</td>
<td>$17,448.6</td>
<td>0.61%</td>
<td>9.5%</td>
</tr>
<tr>
<td>12 NextEra Energy, Inc.</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.65</td>
<td>8.9%</td>
<td>$64,087.9</td>
<td>-0.35%</td>
<td>8.5%</td>
</tr>
<tr>
<td>13 PPL Corp.</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.70</td>
<td>9.3%</td>
<td>$26,478.2</td>
<td>-0.35%</td>
<td>9.0%</td>
</tr>
<tr>
<td>14 Pub Sv Enterprise Grp.</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.65</td>
<td>8.9%</td>
<td>$22,114.0</td>
<td>0.61%</td>
<td>9.5%</td>
</tr>
<tr>
<td>15 SCANA Corp.</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.65</td>
<td>8.9%</td>
<td>$9,287.1</td>
<td>0.89%</td>
<td>9.7%</td>
</tr>
<tr>
<td>16 Sempra Energy</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.80</td>
<td>10.2%</td>
<td>$27,800.8</td>
<td>-0.35%</td>
<td>9.9%</td>
</tr>
<tr>
<td>17 Southern Company</td>
<td>2.4%</td>
<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.55</td>
<td>8.0%</td>
<td>$49,476.4</td>
<td>-0.35%</td>
<td>7.6%</td>
</tr>
<tr>
<td>18 Vectren Corp.</td>
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<td>9.6%</td>
<td>12.0%</td>
<td>3.0%</td>
<td>9.0%</td>
<td>0.75</td>
<td>9.8%</td>
<td>$4,907.0</td>
<td>0.98%</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

**Average (g)**: 9.0%

**Midpoint (h)**: 9.1%


(c) Average yield on 30-year Treasury bonds for the six-months ending May 2017 based on data from the Federal Reserve at http://www.fred.stlouisfed.org.

(d) The Value Line Investment Survey (Mar. 17, Apr. 28, & May 19, 2017).

(e) www.valueLine.com (retrieved May 24, 2017).


(g) Excludes highlighted figures.

(h) Average of low and high values.
### Utility Group

<table>
<thead>
<tr>
<th>Company</th>
<th>Div Yield</th>
<th>Proj. Growth</th>
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<td>7.8%</td>
<td>n/a</td>
<td>n/a</td>
<td>$12,810.0</td>
<td>0.61%</td>
<td>9.9%</td>
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<td>9.3%</td>
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<td>0.61%</td>
<td>9.9%</td>
</tr>
<tr>
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<td>11.0%</td>
</tr>
</tbody>
</table>

**Average**  
**Midpoint (g)**

- **9.4%**  
- **9.5%**  
- **9.6%**  
- **9.7%**

(d) The Value Line Investment Survey (Mar. 17, Apr. 28, & May 19, 2017).
(g) Average of low and high values.
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(c) Average yield on 30-year Treasury bonds for the six-months ending May 2017 based on data from the Federal Reserve at http://www.fred.stlouisfed.org.
(e) The Value Line Investment Survey (Mar. 17, Apr. 28, & May 19, 2017).
(h) Average of low and high values.
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平均

- 10.0%
- 10.1%
- 10.3%

(e) The Value Line Investment Survey (Mar. 17, Apr. 28, & May 19, 2017).
(h) Average of low and high values.
CURRENT BOND YIELD

**Current Equity Risk Premium**
(a) Avg. Yield over Study Period 8.38%
(b) Average Utility Bond Yield 4.26%
   Change in Bond Yield -4.12%
(c) Risk Premium/Interest Rate Relationship -0.4301
   Adjustment to Average Risk Premium 1.77%

(a) Average Risk Premium over Study Period 3.67%
   **Adjusted Risk Premium** 5.44%

**Implied Cost of Equity**
(b) Baa Utility Bond Yield 4.60%
   Adjusted Equity Risk Premium 5.44%
   **Risk Premium Cost of Equity** 10.04%

(a) Exhibit AMM-9, page 3.
(b) Average bond yield on all utility bonds and Baa subset for the six-months ending May 2017 based on data from Moody's Investors Service at www.credittrends.com.
(c) Exhibit AMM-9, page 4.
### PROJECTED BOND YIELD

**Current Equity Risk Premium**
- (a) Avg. Yield over Study Period  
  8.38%
- (b) Average Utility Bond Yield 2018-2022  
  Change in Bond Yield  
  5.94%  
  -2.44%
- (c) Risk Premium/Interest Rate Relationship  
  Adjustment to Average Risk Premium  
  -0.4301  
  1.05%

- (a) Average Risk Premium over Study Period  
  Adjusted Risk Premium  
  3.67%  
  4.72%

**Implied Cost of Equity**
- (b) Baa Utility Bond Yield 2018-2022  
  Adjusted Equity Risk Premium  
  6.28%  
  4.72%

  Risk Premium Cost of Equity  
  11.00%

(a) Exhibit AMM-9, page 3.
(b) Yields on all utility bonds and Baa subset based on data from IHS Global Insight (Apr. 2017); Energy Information Administration, Annual Energy Outlook 2017 (Jan. 5, 2017); & Moody’s Investors Service at www.credittrends.com.
(c) Exhibit AMM-9, page 4.
### AUTHORIZED RETURNS

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(b) Moody's Investors Service.
**Regression Results**

### Summary Output

#### Regression Statistics

- Multiple R: 0.9309653
- R Square: 0.8666965
- Adjusted R Square: 0.8634452
- Standard Error: 0.0049620
- Observations: 43

#### ANOVA

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<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Significance F</th>
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<tbody>
<tr>
<td>Regression</td>
<td>1</td>
<td>0.0065634</td>
<td>0.0065634</td>
<td>266.56874</td>
<td>0.00000</td>
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<td>Residual</td>
<td>41</td>
<td>0.0010095</td>
<td>0.0000246</td>
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<tr>
<td>Total</td>
<td>42</td>
<td>0.0075728</td>
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</tbody>
</table>

#### Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Coefficients</th>
<th>Standard Error</th>
<th>t Stat</th>
<th>P-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
<th>Lower 95.0%</th>
<th>Upper 95.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.0727120</td>
<td>0.0023339</td>
<td>31.1548328</td>
<td>0.0000000</td>
<td>0.0679986</td>
<td>0.0774254</td>
<td>0.0679986</td>
<td>0.0774254</td>
</tr>
<tr>
<td>X Variable 1</td>
<td>-0.4301415</td>
<td>0.0263455</td>
<td>-16.3269329</td>
<td>0.0000000</td>
<td>-0.4833474</td>
<td>-0.3769357</td>
<td>-0.4833474</td>
<td>-0.3769357</td>
</tr>
</tbody>
</table>

The regression equation is:

\[ y = -0.4301x + 0.0727 \]

\[ R^2 = 0.8667 \]
## UTILITY GROUP

<table>
<thead>
<tr>
<th>Company</th>
<th>Expected Return on Common Equity</th>
<th>Adjustment Factor</th>
<th>Adjusted Return on Common Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alliant Energy</td>
<td>13.0%</td>
<td>1.0100</td>
<td>13.1%</td>
</tr>
<tr>
<td>Ameren Corp.</td>
<td>10.0%</td>
<td>1.0190</td>
<td>10.2%</td>
</tr>
<tr>
<td>American Elec Pwr</td>
<td>11.0%</td>
<td>1.0202</td>
<td>11.2%</td>
</tr>
<tr>
<td>Avangrid, Inc.</td>
<td>5.0%</td>
<td>1.0060</td>
<td>5.0%</td>
</tr>
<tr>
<td>CMS Energy Corp.</td>
<td>13.5%</td>
<td>1.0356</td>
<td>14.0%</td>
</tr>
<tr>
<td>Dominion Energy</td>
<td>19.0%</td>
<td>1.0025</td>
<td>19.0%</td>
</tr>
<tr>
<td>DTE Energy Co.</td>
<td>10.5%</td>
<td>1.0254</td>
<td>10.8%</td>
</tr>
<tr>
<td>Duke Energy Corp.</td>
<td>8.5%</td>
<td>1.0107</td>
<td>8.6%</td>
</tr>
<tr>
<td>Emera Inc.</td>
<td>14.5%</td>
<td>1.0147</td>
<td>14.7%</td>
</tr>
<tr>
<td>Eversource Energy</td>
<td>10.0%</td>
<td>1.0193</td>
<td>10.2%</td>
</tr>
<tr>
<td>Fortis Inc.</td>
<td>8.0%</td>
<td>1.0243</td>
<td>8.2%</td>
</tr>
<tr>
<td>NextEra Energy, Inc.</td>
<td>13.0%</td>
<td>1.0339</td>
<td>13.4%</td>
</tr>
<tr>
<td>PPL Corp.</td>
<td>13.5%</td>
<td>1.0355</td>
<td>14.0%</td>
</tr>
<tr>
<td>Pub Sv Enterprise Grp.</td>
<td>11.0%</td>
<td>1.0194</td>
<td>11.2%</td>
</tr>
<tr>
<td>SCANA Corp.</td>
<td>10.0%</td>
<td>1.0267</td>
<td>10.3%</td>
</tr>
<tr>
<td>Sempra Energy</td>
<td>13.5%</td>
<td>1.0078</td>
<td>13.6%</td>
</tr>
<tr>
<td>Southern Company</td>
<td>12.0%</td>
<td>1.0191</td>
<td>12.2%</td>
</tr>
<tr>
<td>Vectren Corp.</td>
<td>12.5%</td>
<td>1.0274</td>
<td>12.8%</td>
</tr>
</tbody>
</table>

**Average (d)**  11.8%

**Midpoint (d,e)**  11.5%

(a) The Value Line Investment Survey (Mar. 17, Apr. 28, & May 19, 2017).
(b) Adjustment to convert year-end return to an average rate of return from Exhibit AMM-6.
(c) (a) x (b).
(d) Excludes highlighted values.
(e) Average of low and high values.
## DIVIDEND YIELD

<table>
<thead>
<tr>
<th>Company</th>
<th>Industry Group</th>
<th>Price</th>
<th>Dividends</th>
<th>Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT&amp;T Inc.</td>
<td>Telecommunications</td>
<td>$39.09</td>
<td>$1.97</td>
<td>5.0%</td>
</tr>
<tr>
<td>Church &amp; Dwight</td>
<td>Household Products</td>
<td>$50.04</td>
<td>$0.76</td>
<td>1.5%</td>
</tr>
<tr>
<td>Coca-Cola</td>
<td>Beverage</td>
<td>$43.34</td>
<td>$1.50</td>
<td>3.5%</td>
</tr>
<tr>
<td>General Mills</td>
<td>Food Processing</td>
<td>$57.06</td>
<td>$1.94</td>
<td>3.4%</td>
</tr>
<tr>
<td>Hormel Foods</td>
<td>Food Processing</td>
<td>$34.58</td>
<td>$0.69</td>
<td>2.0%</td>
</tr>
<tr>
<td>Kellogg</td>
<td>Food Processing</td>
<td>$71.38</td>
<td>$2.10</td>
<td>2.9%</td>
</tr>
<tr>
<td>Kimberly-Clark</td>
<td>Household Products</td>
<td>$129.84</td>
<td>$3.88</td>
<td>3.0%</td>
</tr>
<tr>
<td>Lilly (Eli)</td>
<td>Drug Industry</td>
<td>$81.76</td>
<td>$2.08</td>
<td>2.5%</td>
</tr>
<tr>
<td>Procter &amp; Gamble</td>
<td>Household Products</td>
<td>$87.84</td>
<td>$2.76</td>
<td>3.1%</td>
</tr>
<tr>
<td>Public Storage</td>
<td>REIT</td>
<td>$217.15</td>
<td>$1.39</td>
<td>0.6%</td>
</tr>
<tr>
<td>Smucker (J.M.)</td>
<td>Food Processing</td>
<td>$126.45</td>
<td>$3.00</td>
<td>2.4%</td>
</tr>
<tr>
<td>Sysco Corp.</td>
<td>Wholesale Food</td>
<td>$53.34</td>
<td>$1.36</td>
<td>2.5%</td>
</tr>
<tr>
<td>Verizon Communications</td>
<td>Telecommunications</td>
<td>$46.91</td>
<td>$2.31</td>
<td>4.9%</td>
</tr>
<tr>
<td>Wal-Mart Stores</td>
<td>Retail Store</td>
<td>$46.91</td>
<td>$2.04</td>
<td>4.3%</td>
</tr>
<tr>
<td>Waste Management</td>
<td>Environmental</td>
<td>$72.59</td>
<td>$1.70</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

**Average**

2.9%

(a) Average of closing prices for 30 trading days ended May 19, 2017.

(b) The Value Line Investment Survey, Summary & Index (May 19, 2017).
## GROWTH RATES

<table>
<thead>
<tr>
<th>Company</th>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT&amp;T Inc.</td>
<td>5.50%</td>
<td>7.90%</td>
<td>4.40%</td>
</tr>
<tr>
<td>Church &amp; Dwight</td>
<td>7.50%</td>
<td>8.24%</td>
<td>9.20%</td>
</tr>
<tr>
<td>Coca-Cola</td>
<td>4.50%</td>
<td>4.83%</td>
<td>6.20%</td>
</tr>
<tr>
<td>General Mills</td>
<td>5.00%</td>
<td>6.21%</td>
<td>7.40%</td>
</tr>
<tr>
<td>Hormel Foods</td>
<td>10.50%</td>
<td>9.88%</td>
<td>9.30%</td>
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<tr>
<td>Kellogg</td>
<td>6.50%</td>
<td>5.67%</td>
<td>6.00%</td>
</tr>
<tr>
<td>Kimberly-Clark</td>
<td>12.00%</td>
<td>6.07%</td>
<td>6.90%</td>
</tr>
<tr>
<td>Lilly (Eli)</td>
<td>11.00%</td>
<td>12.33%</td>
<td>11.90%</td>
</tr>
<tr>
<td>Procter &amp; Gamble</td>
<td>7.50%</td>
<td>5.97%</td>
<td>7.90%</td>
</tr>
<tr>
<td>Public Storage</td>
<td>n/a</td>
<td>11.10%</td>
<td>5.00%</td>
</tr>
<tr>
<td>Smucker (J.M.)</td>
<td>7.00%</td>
<td>4.91%</td>
<td>6.20%</td>
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<tr>
<td>Sysco Corp.</td>
<td>11.50%</td>
<td>12.16%</td>
<td>8.20%</td>
</tr>
<tr>
<td>Verizon Communications</td>
<td>3.00%</td>
<td>2.46%</td>
<td>9.00%</td>
</tr>
<tr>
<td>Wal-Mart Stores</td>
<td>4.00%</td>
<td>5.50%</td>
<td>6.10%</td>
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<tr>
<td>Waste Management</td>
<td>7.00%</td>
<td>10.41%</td>
<td>9.50%</td>
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</tbody>
</table>

(a) The Value Line Investment Survey (Mar. 17, Mar. 24, Apr. 7, Apr. 21, Apr. 28, & May 26, 2017).
(c) www.zacks.com (retrieved May 25, 2017).
### DCF COST OF EQUITY ESTIMATES

<table>
<thead>
<tr>
<th>Company</th>
<th>V Line</th>
<th>IBES</th>
<th>Zacks</th>
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<tbody>
<tr>
<td>AT&amp;T Inc.</td>
<td>10.5%</td>
<td>12.9%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Church &amp; Dwight</td>
<td>9.0%</td>
<td>9.8%</td>
<td>10.7%</td>
</tr>
<tr>
<td>Coca-Cola</td>
<td>8.0%</td>
<td>8.3%</td>
<td>9.7%</td>
</tr>
<tr>
<td>General Mills</td>
<td>8.4%</td>
<td>9.6%</td>
<td>10.8%</td>
</tr>
<tr>
<td>Hormel Foods</td>
<td>12.5%</td>
<td>11.9%</td>
<td>11.3%</td>
</tr>
<tr>
<td>Kellogg</td>
<td>9.4%</td>
<td>8.6%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Kimberly-Clark</td>
<td>15.0%</td>
<td>9.1%</td>
<td>9.9%</td>
</tr>
<tr>
<td>Lilly (Eli)</td>
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<td>14.9%</td>
<td>14.4%</td>
</tr>
<tr>
<td>Procter &amp; Gamble</td>
<td>10.6%</td>
<td>9.1%</td>
<td>11.0%</td>
</tr>
<tr>
<td>Public Storage</td>
<td>n/a</td>
<td>11.7%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Smucker (J.M.)</td>
<td>9.4%</td>
<td>7.3%</td>
<td>8.6%</td>
</tr>
<tr>
<td>Sysco Corp.</td>
<td>14.0%</td>
<td>14.7%</td>
<td>10.7%</td>
</tr>
<tr>
<td>Verizon Communications</td>
<td>7.9%</td>
<td>7.4%</td>
<td>13.9%</td>
</tr>
<tr>
<td>Wal-Mart Stores</td>
<td>8.3%</td>
<td>9.8%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Waste Management</td>
<td>9.3%</td>
<td>12.8%</td>
<td>11.8%</td>
</tr>
</tbody>
</table>

| Average (b)          | 10.4%  | 10.5%| 10.8% |
| Midpoint (c)         | 11.5%  | 11.1%| 11.5% |

(a) Sum of dividend yield (Exhibit AMM-11, p. 1) and respective growth rate (Exhibit AMM-11, p. 2).
(b) Excludes highlighted figures.
(c) Average of low and high values.