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Via Overnight Mail

July 23, 2012

Mr. Jeff Derouen, Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40602

RECEIVED

JUL 24 2012

PUBLIC SERVICE
COMMISSION

Re: Case No. 2012-00063

Dear Mr. Derouen:

Please find enclosed the original and ten (10) copies each of the DIRECT TESTIMONY AND EXHIBITS of LANE KOLLEN, and the PUBLIC VERSIONS of the DIRECT TESTIMONY AND EXHIBITS of PHILIP HAYET and STEPHEN J. BARON on behalf of KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC. for filing in the above-referenced docket. I also enclose a copy of the CONFIDENTIAL ATTACHMENTS to be filed under seal.

By copy of this letter, all parties listed on the Certificate of Service have been served. Please place these documents of file.

Very Truly Yours,



Michael L. Kurtz, Esq.

Kurt J. Boehm, Esq.

BOEHM, KURTZ & LOWRY


MLKkew

Attachment

cc: Certificate of Service
Quang Nyugen, Esq. (via e-mail)
Faith Burns, Esq. (via e-mail)
Larry Cook, Esq. (via e-mail)
Matt James, Esq. (via e-mail)
David C. Brown, Esq. (via e-mail)

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing was served by electronic mail (when available) and by mailing a true and correct copy by regular, U.S. Mail, unless other noted, this 23RD day of July, 2012 to the following



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(VIA OVERNIGHT MAIL)

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF BIG RIVERS)
ELECTRIC CORPORATION FOR)
APPROVAL OF ITS 2012 COMPLIANCE)
PLAN, FOR APPROVAL OF ITS)
AMENDED ENVIRONMENTAL COST) CASE NO. 2012-00063
RECOVERY SURCHARGE TARIFF,)
FOR CERTIFICATES OF PUBLIC)
CONVENIENCE AND NECESSITY, AND)
FOR AUTHORITY TO ESTABLISH A)
REGULATORY ACCOUNT)

RECEIVED

JUL 24 2012

PUBLIC SERVICE
COMMISSION

DIRECT TESTIMONY
AND EXHIBITS
OF
LANE KOLLEN

ON BEHALF OF THE
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA

July 2012

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

| | | |
|--|---|----------------------------|
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| ELECTRIC CORPORATION FOR |) | |
| APPROVAL OF ITS 2012 COMPLIANCE |) | |
| PLAN, FOR APPROVAL OF ITS |) | |
| AMENDED ENVIRONMENTAL COST |) | CASE NO. 2012-00063 |
| RECOVERY SURCHARGE TARIFF, |) | |
| FOR CERTIFICATES OF PUBLIC |) | |
| CONVENIENCE AND NECESSITY, AND |) | |
| FOR AUTHORITY TO ESTABLISH A |) | |
| REGULATORY ACCOUNT |) | |

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COMMONWEALTH OF KENTUCKY
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| CONVENIENCE AND NECESSITY, AND |) | |
| FOR AUTHORITY TO ESTABLISH A |) | |
| REGULATORY ACCOUNT |) | |

DIRECT TESTIMONY OF LANE KOLLEN

I. QUALIFICATIONS AND SUMMARY

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Q. Please state your name and business address.

A. My name is Lane Kollen. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. Please state your occupation and employer.

A. I am a utility rate and planning consultant holding the position of Vice President and Principal with the firm of Kennedy and Associates.

1 **Q. Please describe your education and professional experience.**

2 A. I earned a Bachelor of Business Administration in Accounting degree and a
3 Master of Business Administration degree from the University of Toledo. I also
4 earned a Master of Arts degree from Luther Rice University. I am a Certified
5 Public Accountant (“CPA”), with a practice license, and a Certified Management
6 Accountant (“CMA”).

7 I have been an active participant in the utility industry for more than thirty
8 years, as a consultant in the industry since 1983 and as an employee of The
9 Toledo Edison Company from 1976 to 1983. I have testified as an expert witness
10 on planning, ratemaking, accounting, finance, and tax issues in proceedings
11 before regulatory commissions and courts at the federal and state levels on more
12 than two hundred occasions, including proceedings before the Kentucky Public
13 Service Commission (“Commission”). I have testified in several Big Rivers
14 Electric Corporation (“BREC” or “Company”) proceedings before the
15 Commission. My qualifications and regulatory appearances are further detailed in
16 my Exhibit__(LK-1).

17

18 **Q. On whose behalf are you testifying?**

19 A. I am testifying on behalf of the Kentucky Industrial Utility Customers, Inc.
20 (“KIUC”), a group of large customers taking electric service on the Big Rivers
21 Electric Corporation system.

22

23 **Q. What is the purpose your testimony?**

1 A. The purpose of my testimony is to summarize the KIUC recommendations in
2 response to the Company's request for approval of its proposed 2012
3 environmental compliance plan ("ECP"), certificates of public convenience and
4 necessity, amended environmental cost recovery ("ECR") tariff, and for authority
5 to establish a regulatory asset for the costs related to this proceeding.

6

7 **Q. Please summarize your testimony.**

8 A. The Commission should reject the Company's proposed ECP projects 4
9 (replacement of Wilson scrubber) and 5 (addition of Green 2 SCR) included by
10 the Company in its "Build" case.¹ The Company has not met its burden of proof
11 that these projects are reasonable and cost-effective. To the contrary, the
12 Company initially failed to provide any quantitative support for its proposed ECP
13 and the alternatives and sensitivities it presented in summary form on a single
14 page exhibit.

15 Through an unnecessarily arduous and time-consuming process, KIUC
16 ultimately obtained the models used by the Company and its consultants.
17 Consequently, KIUC was able to review the Company's assumptions and data,
18 run the models used by ACES Power Marketing ("ACES") and Big Rivers, and
19 review the Company's analyses in a more detailed manner, as well as develop its

¹ KIUC does not oppose the Company's proposed ECP projects 6 (convert Reid 1 to natural gas), 7 (install recycle pump and new motors on ID fans at HMP&L 1 and 2), 8 (install activated carbon injection, dry sorbent injection and monitors at Coleman 1, 2, and 3), 9 (install activated carbon injection, dry sorbent injection and monitors at Wilson), 10 (install activated carbon injection, dry sorbent injection and monitors at Green 1 and 2), and 11 (install particulate monitors at HMP&L 1 and 2).

1 own analyses using the Company's models. KIUC witness Mr. Philip Hayet of
2 Hayet Power Systems Consulting describes this process in greater detail.

3 Based on our review, we conclude that the Company's quantitative
4 analyses are unreliable and do not support the Company's conclusion that the
5 Build case is the least cost alternative. In our review, we found that the
6 Company's quantitative analyses are replete with errors and unreasonable
7 assumptions and data. These problems significantly affect the net present value
8 of the Company's alternatives, the ranking of those alternatives, and mask the
9 catastrophic effects of the Smelter load loss sensitivities. I subsequently describe
10 the problems that we identified with the Company's financial model that it used to
11 quantify the net present value of its alternatives and sensitivities. Mr. Hayet
12 describes the problems that we identified with the Company's production cost
13 modeling, which include the following:

- 14 • Build Case. DB Wilson Emissions Removal Rate. DB Wilson's upgrade
15 will not be completed until 2016. ACES had the emissions reduction rate
16 change beginning January 2015.
- 17 • Build Case. The Build Case has the HMPL 1&2 environmental upgrade
18 project completed January 1, 2014. According to Exhibit Berry-2 page 1
19 of 2, it should be 2015.
- 20 • Build Case. VO&M at Green 2 is the same in the Build and Buy cases,
21 although it should be different once the Green 2 SCR is added in 2015.
22 Incremental O&M is indicated to be \$1.58 million beginning in 2015 due
23 to the addition of the SCR per Exhibit Berry-2 page 2 of 2.
- 24 • Build Case. HMPL 1&2 has the same VO&M in the Build and Buy
25 Cases. Exhibit Berry-2 indicates that the Build Case should be higher by
26 approximately \$800,000 per year.

- 1 • Buy Case. DB Wilson VO&M is higher in the Buy Case than the Build
2 Case. By 2026, it is as much as 13.6% higher than the Build Case.
- 3 • Buy Case. Coleman 1, 2 & 3. Even though compliance with CSAPR
4 won't begin until 2016, Big Rivers has begun to constrain the dispatch of
5 the Coleman units as early as 2013. It should be changed to begin in
6 2016.
- 7 • Buy Case. Coleman 1, 2 & 3. Given that the units will now be shut down
8 for multi-month periods of time to limit emissions, it may not be necessary
9 to schedule maintenance during a different period of time. The
10 maintenance should be changed to occur at the same time that the unit is
11 taken offline.
- 12 • Build and Buy Cases. No consideration of CO2 constraints or costs on
13 Big Rivers' generation, even though PACE Global market price forecasts
14 based on assumptions of CO2 constraints and costs. Assuming that CO2
15 requirements will dramatically increase market prices but not Big Rivers'
16 generation costs is a fundamental inconsistency that biased the study in
17 favor of the Build option.
- 18 • Build and Buy Cases. PACE Global market prices are excessive
19 compared to other projections developed by ACES and HIS Global. One
20 factor is that PACE Global market prices based on assumptions of CO2
21 constraints and costs.
- 22 • Build and Buy Cases. Coleman 2 having hundreds of startups per year. It
23 turned out that the database had two inputs reversed. The mean time to
24 repair input was switched and input as the average time to repair at the
25 Coleman 2 unit.
- 26 • Build and Buy Cases. HMPL 1&2 VO&M costs - The Costs that the
27 Company used in its financial analysis do not match what the Company
28 indicates should have been used in the production cost model.
- 29 • Build No Smelter Case. The Company input VO&M at Green 1 at a
30 significantly higher amount in the Build No Smelter Case than in the Buy
31 No Smelter Case.
- 32 • Buy No Smelter Case. HMPL 1&2 - The Buy No Smelter Case has higher
33 VO&M than all of the other cases.
- 34

1 Based on our review, we conclude that the Build and Buy cases are
2 approximately equivalent on a net present value basis when the various modeling
3 problems are corrected, even though the Buy case net present value is slightly less
4 than the Build case when the fixed maintenance expense is reduced.² In our
5 analyses, Mr. Hayet identified and corrected various production modeling errors
6 and replaced unreasonable assumptions and data, which he describes in his
7 testimony. Mr. Hayet presents the results of our analyses using the Company’s
8 “to-go” net present value construct, an analytical framework that considers only
9 variable expenses and revenues on a total Company basis and without specific
10 consideration of the effect on the member revenue requirements. I present the
11 results of our analyses using the “all-in” member revenue requirement construct,
12 an analytical framework that considers the effects of all variable and fixed
13 revenues and expenses in a comprehensive manner on the member revenue
14 requirements. In our analyses, we did not attempt to fix every problem that we
15 identified in the Company’s modeling or replace every unreasonable assumption
16 or all unreasonable data given the Company’s burden of proof and the procedural
17 time constraints of this proceeding.

18 We also conclude that the Commission should do everything possible to
19 retain the Smelter load, especially because the Smelter margins are greater than
20 those the Company can achieve through sales into MISO, at least in the near term.

² The Build case includes projects 4 and 5 and projects 6-11 as described in the Company’s Application. The Buy case does not include projects 4 and 5, but does include projects 6-11. KIUC does not oppose projects 6-11.

1 The Company’s Smelter load loss sensitivities are flawed and mask the
2 catastrophic effects on rural and large industrial customers if the Smelters
3 terminate their contracts. The Company’s analyses result in rate increases to the
4 rural and large industrial customers ranging from 68% to 84%. Alternatively, if
5 the rate increases are not approved, Big Rivers would face bankruptcy and
6 perhaps liquidation. In that event, Big Rivers likely would be required to sell its
7 assets and the member cooperatives would have to obtain a different supplier.

8 The following tables provide a summary of the net present value of the
9 “all-in” member revenue requirements comparing the Company’s results to the
10 KIUC results on the Build and Buy cases and the two Smelter load loss
11 sensitivities. Mr. Hayet presents the “to-go” results for all the KIUC studies,
12 including intermediate studies that he performed to assess the impact of correcting
13 various errors and changing various assumptions or data.

14

BIG RIVERS ELECTRIC CORPORATION ENVIRONMENTAL COMPLIANCE SCENARIOS
COMPARISON OF TOTAL CUSTOMER REVENUES, EXCLUDING MARKET SALES - NPV

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | Total |
|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|
| Big Rivers Build | 520.02 | 506.55 | 483.14 | 472.65 | 436.13 | 411.49 | 383.18 | 363.93 | 340.68 | 322.24 | 300.80 | 290.70 | 274.66 | 268.59 | 5,374.76 |
| Big Rivers Buy | 550.07 | 532.80 | 514.18 | 496.42 | 482.27 | 468.68 | 447.33 | 423.55 | 403.61 | 377.66 | 355.27 | 338.93 | 332.24 | 318.66 | 6,041.68 |
| Big Rivers Build Smelter Load Loss | 520.02 | 256.86 | 223.48 | 203.02 | 143.05 | 111.72 | 100.35 | 81.21 | 59.39 | 46.20 | 19.24 | 15.60 | 13.30 | 24.67 | 1,816.10 |
| Big Rivers Buy Smelter Load Loss | 526.98 | 282.69 | 262.82 | 256.54 | 186.67 | 175.42 | 166.25 | 132.60 | 125.66 | 119.07 | 75.01 | 72.17 | 69.14 | 65.63 | 2,516.86 |

15

16

BIG RIVERS ELECTRIC CORPORATION ENVIRONMENTAL COMPLIANCE SCENARIOS CORRECTED BY KIUC
COMPARISON OF TOTAL CUSTOMER REVENUES, EXCLUDING MARKET SALES - NPV

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | Total |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|
| KIUC Build | 529.29 | 512.01 | 493.69 | 487.50 | 461.08 | 434.42 | 411.33 | 389.68 | 368.34 | 347.82 | 330.47 | 315.49 | 301.82 | 286.06 | 5,669.00 |
| KIUC Buy | 530.16 | 509.79 | 491.07 | 481.12 | 460.59 | 441.04 | 420.64 | 397.85 | 375.65 | 355.64 | 336.76 | 321.12 | 307.38 | 292.99 | 5,721.80 |
| KIUC Build Smelter Load Loss | 518.12 | 256.06 | 245.93 | 246.07 | 255.36 | 230.77 | 222.25 | 210.13 | 199.54 | 184.72 | 171.90 | 163.37 | 160.21 | 147.28 | 3,211.69 |
| KIUC Buy Smelter Load Loss | 530.16 | 278.34 | 262.09 | 255.39 | 249.78 | 233.23 | 223.50 | 212.75 | 200.49 | 186.28 | 171.80 | 163.92 | 160.86 | 150.06 | 3,278.67 |

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Finally, given the approximate equivalence of the Build and Buy cases when corrected, we conclude that the Commission should reject the proposed ECP projects 4 and 5 based on *qualitative* factors that maximize the flexibility and minimize the risk to the Company, its customers, and its creditors. The following qualitative factors weigh against ECP projects 4 and 5 included in the Build case, but not in the Buy case, particularly given the flexibility to revisit projects 4 and 5 in the future, the need to minimize rate increases for as long as possible, and the need to retain the Smelter load:

- the relative inexperience of the Big Rivers management team in large scale construction projects,
- the greater risk to Big Rivers and the members of the Build alternative compared to the Buy alternative due to the magnitude of the capital expenditures,
- the uncertainty of timing, scope, and cost of the CSAPR compliance requirements, particularly given the pending stay of the CSAPR regulations,
- the potential for cost overruns under the Build alternative, given the preliminary nature of the engineering design and related cost estimates presented by the Company,
- the effect on member rates if there are Smelter load losses and the costs of the Build alternative are imposed on the remaining customers and load,
- the potential for significant additional environmental compliance costs due to other pending and potential environmental legislation and regulations, including the effects of the proposed Coal Combustion Residuals regulation, potential carbon legislation and/or regulations, and changes to the National Ambient Air Standards, among others,
- the ability of the Company to finance the Build case capital expenditures and the cost of that financing if it is available, and

- 1 • the flexibility that the Buy case affords the Commission to subsequently revisit
2 the Build alternative if the economics support such a decision in the future.³
3

4 In the next section of my testimony, I address various flaws in the
5 Company's modeling and assessment of the available options that impact the
6 viability, nominal revenue requirements and net present value economics of the
7 Company's scenarios, and the production costs and margins from sales to other
8 wholesale customers in lieu of the Smelters in the event that one or both of the
9 Smelters terminate their contracts.

10 I then address various qualitative factors that affect the Company's
11 analyses and the Company's failure to address these factors. Among these
12 qualitative factors are the Company's failure to consider increases in capital
13 expenditures compared to the preliminary estimates reflected in its three scenarios
14 and two sensitivities; the failure to include costs for additional environmental
15 requirements and compliance costs; and the availability and cost of financing
16 capital expenditures.

17
18 **II. THE COMPANY'S QUANTITATIVE ANALYSES ARE FUNDAMENTALLY**
19 **FLAWED AND UNRELIABLE**

³ The Company does not propose to include construction work in progress in "rate base" in the proposed ES tariff, according to Exhibit Wolfram – 2. The proposed tariff defines environmental rate base as electric plant in service less accumulated depreciation. The Company's qualitative analyses are consistent with the proposed ES tariff and capitalized interest during construction. There is no effect included in the revenue requirement of the capital expenditures until the assets are completed and placed in service. This proposal reduces the NPV of the Build and Build Smelter load loss sensitivity cases compared to the Buy cases because it defers any recovery related to the capital expenditures in the Build and Build Smelter load loss sensitivity cases until 2016, or year five of the 15 year analysis period.

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Description of Company’s Quantitative Analyses in Financial Model

Q. Please generally describe the Company’s quantitative analyses.

A. In general, the Company obtained market prices, coal prices, natural gas prices, and monthly allowance prices from PACE Global, which it, in turn, provided to ACES Power Marketing. The Company also provided other generating unit data to ACES. ACES performed all production cost modeling using the Ventyx Planning and Risk (“PaR”) model. The production cost model output was subjected to post-processing analyses and the results then were input into the Company’s financial model. The FM was used to develop the NPV results presented by Mr. Hite for the Base case, Build case, Partial Buy case, Build case Smelter load loss sensitivity, and the Buy case Smelter load loss sensitivity. Although not presented by the Company either in its Build, Partial Build, Buy cases, or as sensitivities, the Company subsequently obtained market prices from ACES and from IH Gobal for use in a Load Concentration Study performed in May 2012, nearly two months after it completed the analyses reflected in its filing in this proceeding. The ACES and IH Global market prices were significantly lower than the PACE Global market prices used by ACES and then used by Big Rivers in the alternatives and sensitivities it presented in this proceeding. The PACE market price forecast assumed CO2 emission costs, while the ACES market price forecast did not.

1 **Q. Are there problems with the Company's production cost modeling?**

2 A. Yes. These problems are addressed by Mr. Hayet. In addition, Mr. Hayet has re-
3 run the production cost model to correct modeling errors and unreasonable
4 assumptions and data. He presents the results of the corrected quantitative
5 analyses in his testimony on a "to-go" basis. I present the results of the corrected
6 quantitative analyses on an "all-in" basis.

7

8 **Q. Are there problems with the Company's quantitative analyses reflected in**
9 **the financial model?**

10 A. Yes. I first will describe how the Company uses the FM, then address the various
11 flaws in the Company's methodology, and then address the flaws in the
12 Company's Smelter load loss sensitivities.

13

14 **Q. Please describe the Company's Financial Model.**

15 A. The Company's FM is an Excel-based workbook with multiple interrelated
16 spreadsheets. The FM simulates the Company's accounting and ratemaking
17 processes over a projected 15 year period, from 2012 through 2026. The FM
18 includes the following interrelated spreadsheets:

- 19 • Trial Bal (trial balance by RUS account)
- 20
- 21 • Charts (computes financial and rate metrics)
- 22
- 23 • Risk (scales market power prices)
- 24
- 25 • NPV (computes net present value of "to-go" costs of compliance plan
- 26 alternatives)
- 27

- 1 • ECP (compliance plan alternative capex, expenses, ECR rate effect)
- 2
- 3 • Bud Adj (adjusts various budget items)
- 4
- 5 • Stmts RUS (develops financial statements in RUS format)
- 6
- 7 • Rates (develops rates, member and market revenues, solves for revenue
- 8 deficiencies and surplus to achieve 1.24 TIER)
- 9
- 10 • Rates – Cash (computes member rates on cash method)
- 11
- 12 • FAC, PPA, ES, SC (computes surcharge rates)
- 13
- 14 • Regulatory Charge (computes regulatory deferral and amortization
- 15 expense)
- 16
- 17 • Fuel (fuel purchases and expense by generating unit)
- 18
- 19 • PCM (production costs)
- 20
- 21 • Interest (computes interest on reserves)
- 22
- 23 • O&M (primarily fixed O&M and A&G by RUS account)
- 24
- 25 • Capex & Depr (non-environmental capex and depreciation)
- 26
- 27 • UW Transaction (unwind transaction)
- 28
- 29 • Debt (detail on debt issuances and interest expense)
- 30
- 31 • Pat. (patronage capital and dividends)
- 32

33 **Q. Please describe how the Company calculated the net present value of the**
34 **various compliance alternatives and sensitivities in the Financial Model.**

35 A. The Company calculated the net present value of the various compliance
36 alternatives and sensitivities in the financial model on the “NPV” spreadsheet. It
37 employed a “to-go” construct in which it used only the variable costs and
38 revenues that it determined were affected by the alternative, including the so-

1 called “fixed costs” of interest and principal repayments on debt issued for the
2 alternative. The “to-go” expenses and revenues were determined on a total
3 Company basis, not on a member revenue requirements basis, even though the
4 FM also computes the effects on an “all-in” member revenue requirement basis,
5 which it builds by computing base rates and surcharge rates by customer class.
6 The Company’s “to-go” construct assumed that there would be no other changes
7 in expenses or revenues. More specifically, the Company’s construct uses only
8 the following expenses/costs and revenues:

9 Production Costs

- 10 • fuel expense,
11 • variable environmental O&M expense,
12 • purchased power expense,
13 • emission allowance expense,
14 • off-system or market revenues (reflected as a negative
15 offset to the expenses)

16 Fixed Cost of Capital

- 17 • debt service (interest expense and principal maturities),
18 • debt issuance cost amortization expense,
19 • property tax expense,
20 • property insurance expense,
21 • labor expense

22 In general, the “to-go” production expenses and market revenues were
23 developed by ACES using the production cost model, subjected to “post-
24 processing analyses,” and then input by Big Rivers into its financial model,
25 primarily into the PCM spreadsheet in the financial model. The production
26 expenses and market revenues developed by ACES relied on market prices that
27 were developed by PACE Global at Big Rivers’ request. In general, the Company

1 directly modeled the incremental debt and related debt service and the other fixed
2 costs of capital within the FM itself. All of these amounts are reflected on an
3 annual nominal dollar basis in the NPV spreadsheet and then discounted in that
4 spreadsheet to 2012 net present value dollars. The discounting is performed on an
5 annual basis using the Company's weighted cost of debt grossed-up for the
6 contract TIER of 1.24 to an overall discount rate of 7.93%.

7
8 **The Company's Quantitative Analyses Are Replete with Errors**

9
10 **Q. Are there problems with the Company's NPV analyses that affect all of the**
11 **scenarios and sensitivities?**

12 A. Yes. There are multiple problems. First, the Company's NPV analyses fail to
13 reflect the effects on member revenue requirements on an "all-in" basis and
14 instead focus only on the net present value to the Company of the "to-go"
15 expenses and revenues of the alternatives. Although the Company's FM develops
16 the "all-in" member revenue requirements, the Company chose to use the "to-go"
17 metric. The "to-go" metric, in and of itself, does not disqualify the Company's
18 analyses, but it appears to have contributed to the other problems that I
19 subsequently address. It also is important to recognize that the Company's net
20 present value amounts using the "to-go" metric are not meaningful in absolute
21 dollars of revenue requirement due to the exclusion of other revenue requirement
22 components that are included in the "all-in" revenue requirement, but rather are
23 meaningful only for the purposes of ranking the various scenarios and quantifying

1 the differences between them.

2 Second, the Company's NPV analyses fail to include the TIER on the
3 interest expense, which understates the net present value of the debt service
4 expense included in the various alternatives. For ratemaking purposes, the
5 Company recovers not only the interest on its debt from customers through the
6 revenue requirement, but also recovers a margin that adds another 24% of the
7 interest to the revenue requirement. The Company's NPV analyses ignore the
8 TIER effect on the member revenue requirement. The failure to include the TIER
9 on the interest expense also is methodologically inconsistent with the Company's
10 use of a discount rate that is grossed-up for the TIER. This error has the greatest
11 effect in the Build case because it has the greatest interest expense among the
12 alternatives.

13 Third, the Company's NPV analyses assume that the debt service is
14 levelized over 30 years,⁴ a methodology that is similar to a lease or home
15 mortgage and assumes a uniform annual debt service. However, this
16 methodology is inconsistent with the ratemaking process, which assumes that the
17 Company's interest expense and the related member revenue requirement are the

⁴ Typically, a utility's debt service is at the maximum level when the assets that were financed enter commercial operation. As the asset is depreciated and the debt principal is repaid, the revenue requirement declines. Under a levelized approach, the debt service is converted into an annuity, similar to a lease or home mortgage, so that there are equal annual requirements. If the two data series were plotted against each other, the typical annual revenue requirement would decline annually from the first year through the last year of the asset's life and the related repayment of the debt principal. In contrast, the levelized annual revenue requirement would remain the same each year and would be less than the typical revenue requirement in the early years, then crossover and be more than the typical revenue requirement in the latter years.

1 greatest when construction of the assets is completed and then decline as the
2 assets are depreciated and the debt is reduced. The Company's methodology and
3 significantly reduces the expenses in the early years of the Company's 15 year
4 analysis period compared to the actual annual revenue requirement and recoveries
5 based on declining debt and the related interest expense over time. Although this
6 does not have a significant effect on the net present value over the 15 year
7 analysis period, it does affect the annual nominal and present value amounts.
8

9 **Q. Is there a problem with the Company's NPV analyses that affects only**
10 **certain of the scenarios and sensitivities?**

11 A. Yes. The Company failed to include the economic effects of the costs to remove
12 the existing scrubber at Wilson in conjunction with ECP project 4 in the Build
13 case, the Partial Build case, and the Build case Smelter load sensitivity. This
14 problem does not affect either the Buy case or the Buy case Smelter load loss
15 sensitivity because Project 4 is not included in those cases.

16 This error understates the net present value of the Build, Partial Build and
17 Build Smelter load loss sensitivity cases in comparison to the Buy and Buy
18 Smelter load loss sensitivity cases by ignoring the depreciation expense (or debt
19 principal repayments), interest expense, and the TIER margin on the removal
20 costs and the related debt financing. I am not able to estimate the effect of the
21 Company's error because the Company not only failed to include the cost of
22 removal, it also failed to estimate the cost itself, according to its response to
23 KIUC 2-22. The Company claims that the cost of removal isn't an issue because

1 it will be offset by salvage income. However, that claim appears to have been
2 developed after the fact and is without any support whatsoever. I have attached a
3 copy of the Company's response as my Exhibit ___(LK-2).

4
5 **Q. Are there other problems with the Company's NPV analyses that affect only**
6 **certain of the scenarios and sensitivities?**

7 A. Yes. The Company's NPV analyses fail to reflect any reduction in non-fuel
8 production operation and maintenance expense, other than changes in variable
9 environmental O&M expense, in the Partial Build or Buy cases or the Buy case
10 Smelter load loss sensitivity. In other words, even though the Company
11 constrains and substantially reduces the operation of the generating units in those
12 cases, it still assumes that it will incur the same non-environmental operation and
13 maintenance expense. In the real world, the Company would reduce its
14 maintenance expense to reflect reductions in maintenance requirements, and
15 possibly would reduce its operation expense, especially in the Buy case and the
16 Buy case Smelter load loss sensitivity, but it failed to reflect any reductions in
17 these expenses in its analyses in this proceeding.

18 The Company included the same fixed production maintenance expense in
19 all three cases and the two sensitivities as follows:

20

BIG RIVERS ELECTRIC CORPORATION
FIXED MAINTENANCE EXPENSE
(\$ Million)

| | |
|------|-------|
| 2012 | 49.89 |
| 2013 | 46.20 |
| 2014 | 56.83 |
| 2015 | 52.02 |
| 2016 | 53.78 |
| 2017 | 55.40 |
| 2018 | 57.06 |
| 2019 | 58.77 |
| 2020 | 60.53 |
| 2021 | 62.35 |
| 2022 | 64.22 |
| 2023 | 66.15 |
| 2024 | 68.13 |
| 2025 | 70.17 |
| 2026 | 72.28 |

1

2

If these fixed maintenance expenses alone were reduced by 25% in the Buy and the Buy Smelter load loss sensitivity cases to reflect reductions in maintenance requirements, then the net present value for those cases would be reduced by \$133 million, both on a “to-go” basis and on an “all-in” basis. Thus, a change in this assumption alone would improve the ranking of the Buy case and the related Smelter load loss sensitivity compared to the Build case and the related Smelter load loss sensitivity.

9

10 **The Company’s Smelter Load Loss Scenarios Are Erroneous and Misleading**

11

12 **Q. Are there also problems with the Company’s NPV analyses that affect only**
13 **the Smelter load loss sensitivities?**

1 A. Yes. The Company’s NPV analyses of the Build case and Buy case Smelter load
2 loss sensitivities are flawed. This is evident from even a cursory review of the
3 results of these analyses reported on Exhibit Hite-4 attached to Mr. Hite’s Direct
4 Testimony as summarized in the table below:

5

| BIG RIVERS ELECTRIC CORPORATION COMPARISON OF BIG RIVERS CASES (\$ MILLION) | | | | | | | | | | | | | | | Total | |
|---|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|---------|----------|
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | Total |
| Build Case | 301.93 | 285.91 | 277.08 | 265.34 | 258.98 | 234.16 | 220.82 | 202.97 | 195.61 | 181.68 | 173.31 | 158.82 | 158.14 | 146.15 | 149.48 | 3,210.39 |
| Partial Build Case | 301.93 | 285.28 | 281.85 | 271.50 | 267.63 | 247.94 | 240.12 | 220.07 | 214.04 | 200.73 | 191.88 | 177.15 | 176.78 | 164.60 | 168.87 | 3,410.36 |
| Buy Case | 317.24 | 315.37 | 303.91 | 293.87 | 288.84 | 290.07 | 281.29 | 270.92 | 255.51 | 250.18 | 226.09 | 216.80 | 204.72 | 209.28 | 196.70 | 3,920.79 |
| Build Smelter Load Loss | 301.93 | 286.15 | 31.80 | 12.62 | (10.68) | (58.57) | (79.18) | (79.68) | (87.20) | (99.00) | (102.92) | (121.44) | (117.84) | (114.40) | (95.61) | (334.06) |
| Buy Smelter Load Loss | 317.24 | 310.99 | 49.75 | 36.93 | 14.46 | (13.39) | (28.21) | (22.51) | (36.32) | (40.74) | (57.85) | (72.42) | (77.96) | (60.57) | (54.71) | 264.68 |

6

7

8 More specifically, the Company’s results for the Build case Smelter load
9 loss sensitivity show a cumulative net present value of *negative* \$334.10 million.
10 In other words, the “to-go” costs for this sensitivity actually will be income, not a
11 net cost, according to the Company’s analysis. If the Company’s results are
12 correct, then the costs of the Build case, the loss of the Smelter revenues, and the
13 increase in market revenues would result in “to-go” income. According to these
14 results, the loss of Smelter revenues and the replacement with market revenues
15 would convert the Build case from a “to-go” net present value *cost* of \$3,210
16 million to *income* of \$334 million, an improvement of \$3,544 million. The
17 Company would become primarily a merchant generator and would be subject to
18 the risk of market pricing for all generation that is not sold to rural and large
19 industrial customers.

1 Similarly, the Company's results for the Buy case Smelter load loss
2 sensitivity show a net present value of \$264.70 million, a fraction of the net
3 present value cost of the Build case itself, or an improvement of \$2,945 million.
4 As with the Build Smelter load loss sensitivity, the Company would become
5 primarily a merchant generator and its generation subject to market pricing.

6 Taken at face value, the Company's studies suggest that the Commission
7 should choose the Build case and everyone should hope and pray that the
8 Smelters reduce or terminate their operations. However, the computations both
9 ignore the fact that if the Smelter load is lost, there will be no more smelter
10 revenues. More specifically, the Company's NPV analyses incorrectly assume
11 that the Smelter revenues will continue (or be recovered in their entirety from the
12 remaining rural and large industrial customers through huge rate increases) while
13 the Company also sells the power into the market that no longer will be supplied
14 to the Smelters. This is a flaw in the Company's analyses because the Smelters
15 will not pay Big Rivers for power that they do not buy from Big Rivers. The
16 Company's NPV analyses also assume that the PACE market prices will be
17 reality and will increase to more than \$100 per mWh over the next 15 years. The
18 PACE very high market price forecast includes an assumption that CO2
19 restrictions will be imposed, yet Big Rivers inconsistently assumes that its
20 generation costs will not increase because of CO2 restrictions. Mr. Hayet
21 addresses this assumption compared to the ACES and IH Global market price
22 projections.

23 The following tables show the components of the Company's NPV

1 analyses for the Build case and the Smelter load loss sensitivity and then the Buy
2 case and the Smelter load loss sensitivity.

3

BIG RIVERS ELECTRIC CORPORATION BUILD CASE

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | Total |
|------------------------------|---------|---------|---------|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------------|
| <u>Production Cost Model</u> | | | | | | | | | | | | | | | | |
| Fuel (Including Start-Up) | 266.47 | 285.35 | 298.78 | 309.40 | 321.62 | 337.02 | 340.29 | 364.03 | 366.26 | 373.15 | 378.75 | 394.72 | 396.10 | 418.69 | 409.91 | 5,260.56 |
| Variable Environmental O: | 28.96 | 32.62 | 38.56 | 39.60 | 53.37 | 56.65 | 58.07 | 62.50 | 64.10 | 65.82 | 68.07 | 70.41 | 73.05 | 77.30 | 76.67 | 865.77 |
| Purchased Power | 42.46 | 37.10 | 36.14 | 32.34 | 31.36 | 29.18 | 29.67 | 23.46 | 31.75 | 30.31 | 38.42 | 32.20 | 44.93 | 35.15 | 53.47 | 527.93 |
| Allowance Purchases | 0.03 | 0.48 | 0.79 | 0.93 | (0.43) | 1.49 | 0.02 | 2.30 | 0.35 | 2.71 | 0.87 | 3.47 | 0.63 | 3.27 | 0.10 | 17.01 |
| Off-System Sales | (35.99) | (49.40) | (58.81) | (62.32) | (75.79) | (103.01) | (100.63) | (127.66) | (123.95) | (132.62) | (136.09) | (154.88) | (141.34) | (162.06) | (126.90) | (1,591.46) |
| <u>Fixed Cost of Capital</u> | | | | | | | | | | | | | | | | |
| Debt Service | | 2.31 | 7.19 | 13.15 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 243.49 |
| Debt Issuance Cost | | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 1.72 |
| Property Tax | | 0.00 | 0.00 | 0.00 | 0.15 | 0.44 | 0.43 | 0.42 | 0.41 | 0.40 | 0.39 | 0.38 | 0.37 | 0.36 | 0.35 | 4.13 |
| Property Insurance | | 0.00 | 0.00 | 0.18 | 0.54 | 0.56 | 0.58 | 0.59 | 0.61 | 0.63 | 0.65 | 0.67 | 0.69 | 0.71 | 0.73 | 7.14 |
| Labor | | 0.00 | 0.00 | 0.20 | 0.40 | 0.42 | 0.43 | 0.44 | 0.45 | 0.47 | 0.48 | 0.50 | 0.51 | 0.53 | 0.54 | 5.36 |
| Revenue Requirement | 301.93 | 308.59 | 322.77 | 333.60 | 351.43 | 342.94 | 349.06 | 346.28 | 360.19 | 361.07 | 371.74 | 367.67 | 395.15 | 394.14 | 435.08 | 5,341.63 |
| PV of Revenue Requireme | 301.93 | 285.91 | 277.08 | 265.34 | 258.98 | 234.16 | 220.82 | 202.97 | 195.61 | 181.68 | 173.31 | 158.82 | 158.14 | 146.15 | 149.48 | 3,210.39 |

4

5

BIG RIVERS ELECTRIC CORPORATION BUILD SMELTER LOAD LOSS SENSITIVITY

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | Total |
|------------------------------|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------------|
| <u>Production Cost Model</u> | | | | | | | | | | | | | | | | |
| Fuel (Including Start-Up) | 266.47 | 285.35 | 283.98 | 301.20 | 316.14 | 335.01 | 339.14 | 362.13 | 365.42 | 371.72 | 377.27 | 392.12 | 394.50 | 415.47 | 406.74 | 5,212.66 |
| Variable Environmental O: | 28.96 | 32.62 | 35.96 | 38.04 | 52.16 | 56.34 | 57.92 | 62.25 | 64.08 | 65.71 | 67.98 | 70.19 | 73.03 | 77.18 | 76.54 | 858.97 |
| Purchased Power | 42.46 | 37.10 | 12.89 | 13.16 | 13.22 | 13.91 | 13.99 | 14.05 | 14.79 | 14.86 | 14.96 | 15.77 | 15.81 | 15.89 | 16.71 | 269.55 |
| Allowance Purchases | 0.03 | 0.48 | 0.50 | 0.76 | (1.37) | 1.38 | (0.99) | 2.17 | (0.73) | 2.53 | (0.39) | 3.15 | (0.83) | 2.77 | (1.62) | 7.86 |
| Off-System Sales | (35.99) | (49.40) | (303.86) | (351.00) | (415.54) | (513.63) | (556.42) | (597.76) | (625.36) | (672.79) | (701.83) | (783.63) | (798.22) | (841.10) | (797.95) | (8,044.48) |
| <u>Fixed Cost of Capital</u> | | | | | | | | | | | | | | | | |
| Debt Service | | 2.31 | 7.19 | 13.15 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 20.08 | 243.49 |
| Debt Issuance Cost | | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 1.72 |
| Property Tax | | 0.00 | 0.00 | 0.00 | 0.15 | 0.44 | 0.43 | 0.42 | 0.41 | 0.40 | 0.39 | 0.38 | 0.37 | 0.36 | 0.35 | 4.13 |
| Property Insurance | | 0.00 | 0.00 | 0.18 | 0.54 | 0.56 | 0.58 | 0.59 | 0.61 | 0.63 | 0.65 | 0.67 | 0.69 | 0.71 | 0.73 | 7.14 |
| Labor | | 0.25 | 0.25 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.75 |
| Revenue Requirement | 301.93 | 308.84 | 37.04 | 15.86 | (14.49) | (85.79) | (125.16) | (135.94) | (160.57) | (196.75) | (220.76) | (281.15) | (294.45) | (308.52) | (278.29) | (1,438.21) |
| PV of Revenue Requireme | 301.93 | 286.15 | 31.80 | 12.62 | (10.68) | (58.57) | (79.18) | (79.68) | (87.20) | (99.00) | (102.92) | (121.44) | (117.84) | (114.40) | (95.61) | (334.06) |

6

7

BIG RIVERS ELECTRIC CORPORATION BUY CASE

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | Total |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| <u>Production Cost Model</u> | | | | | | | | | | | | | | | | |
| Fuel (Including Start-Up) | 216 73 | 193 37 | 216 94 | 231 00 | 245 51 | 242 05 | 247 83 | 252 03 | 269 22 | 262 70 | 284 04 | 287 27 | 304 95 | 298 62 | 315 80 | 3,868.05 |
| Variable Environmental Costs | 23 24 | 22 67 | 27 34 | 30 39 | 41 12 | 42 05 | 42 91 | 44 60 | 48 09 | 48 02 | 52 22 | 52 71 | 57 41 | 57 38 | 59 92 | 650.09 |
| Purchased Power | 89 56 | 136 62 | 127 85 | 131 45 | 143 19 | 185 97 | 187 07 | 204 22 | 193 38 | 232 93 | 207 20 | 231 65 | 219 89 | 275 14 | 253 30 | 2,819.43 |
| Allowance Purchases | 0 00 | 0 00 | 0 00 | 0 00 | (0 87) | (0 96) | (0 99) | (0 14) | 0 50 | 0 16 | 0 76 | 0 66 | 0 97 | 0 39 | 1 39 | 1.88 |
| Off-System Sales | (12 28) | (12 35) | (19 10) | (26 06) | (41 67) | (49 06) | (36 98) | (43 32) | (45 53) | (51 47) | (64 13) | (75 26) | (76 60) | (72 07) | (62 81) | (688.68) |
| <u>Fixed Cost of Capital</u> | | | | | | | | | | | | | | | | |
| Debt Service | | 0 06 | 0 97 | 2 47 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 49.01 |
| Debt Issuance Cost | | 0 01 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0.34 |
| Property Tax | | 0 00 | 0 00 | 0 00 | 0 00 | 0 09 | 0 09 | 0 09 | 0 09 | 0 08 | 0 08 | 0 08 | 0 08 | 0 07 | 0 07 | 0.82 |
| Property Insurance | | 0 00 | 0 00 | 0 00 | 0 11 | 0 11 | 0 12 | 0 12 | 0 13 | 0 13 | 0 13 | 0 14 | 0 14 | 0 15 | 0 15 | 1.43 |
| Labor | | 0 00 | 0 00 | 0 20 | 0 40 | 0 42 | 0 43 | 0 44 | 0 45 | 0 47 | 0 48 | 0 50 | 0 51 | 0 53 | 0 54 | 5.36 |
| Revenue Requirement | 317 24 | 340 38 | 354 03 | 369 47 | 391 95 | 424 83 | 444 64 | 462 21 | 470 49 | 497 20 | 484 95 | 501 91 | 511 52 | 564 38 | 572 53 | 6,707.71 |
| PV of Revenue Requirement | 317 24 | 315 37 | 303 91 | 293 87 | 288 84 | 290 07 | 281 29 | 270 92 | 255 51 | 250 18 | 226 09 | 216 80 | 204 72 | 209 28 | 196 70 | 3,920.79 |

1
2

BIG RIVERS ELECTRIC CORPORATION BUY SMELTER LOAD LOSS SENSITIVITY

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | Total |
|------------------------------|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------------|
| <u>Production Cost Model</u> | | | | | | | | | | | | | | | | |
| Fuel (Including Start-Up) | 216 73 | 205 34 | 206 63 | 213 75 | 234 59 | 239 89 | 246 17 | 249 68 | 268 02 | 260 34 | 282 30 | 284 74 | 302 77 | 295 79 | 312 46 | 3,819.19 |
| Variable Environmental Costs | 23 24 | 23 40 | 24 51 | 27 27 | 38 98 | 41 66 | 42 70 | 44 25 | 47 94 | 47 76 | 52 02 | 52 46 | 57 23 | 57 29 | 59 70 | 640.41 |
| Purchased Power | 89 56 | 119 23 | 14 53 | 15 68 | 16 75 | 18 43 | 14 20 | 16 50 | 16 27 | 17 34 | 18 96 | 16 75 | 16 89 | 16 90 | 17 43 | 425.42 |
| Allowance Purchases | 0 00 | 0 00 | 0 00 | 0 00 | (2 44) | (2 67) | (2 70) | (1 93) | (1 47) | (1 96) | (1 40) | (1 70) | (1 69) | (2 44) | (1 55) | (21.94) |
| Off-System Sales | (12 28) | (12 37) | (188 72) | (212 95) | (272 94) | (321 72) | (349 76) | (351 73) | (402 46) | (409 30) | (480 82) | (524 77) | (574 90) | (535 80) | (552 21) | (5,202.73) |
| <u>Fixed Cost of Capital</u> | | | | | | | | | | | | | | | | |
| Debt Service | | 0 06 | 0 97 | 2 47 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 4 14 | 49.01 |
| Debt Issuance Cost | | 0 01 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0 03 | 0.34 |
| Property Tax | | 0 00 | 0 00 | 0 00 | 0 00 | 0 09 | 0 09 | 0 09 | 0 09 | 0 08 | 0 08 | 0 08 | 0 08 | 0 07 | 0 07 | 0.82 |
| Property Insurance | | 0 00 | 0 00 | 0 00 | 0 11 | 0 11 | 0 12 | 0 12 | 0 13 | 0 13 | 0 13 | 0 14 | 0 14 | 0 15 | 0 15 | 1.43 |
| Labor | | 0 00 | 0 00 | 0 20 | 0 40 | 0 42 | 0 43 | 0 44 | 0 45 | 0 47 | 0 48 | 0 50 | 0 51 | 0 53 | 0 54 | 5.36 |
| Revenue Requirement | 317 24 | 335 65 | 57 95 | 46 43 | 19 62 | (19 62) | (44 59) | (38 41) | (66 87) | (80 97) | (124 08) | (167 65) | (194 81) | (163 36) | (159 24) | (282.70) |
| PV of Revenue Requirement | 317 24 | 310 99 | 49 75 | 36 93 | 14 46 | (13 39) | (28 21) | (22 51) | (36 32) | (40 74) | (57 85) | (72 42) | (77 96) | (60 57) | (54 71) | 264.68 |

3
4

5 As I described previously, the Company’s NPV analyses assume no
6 changes in expenses or revenues other than those reflected in the “to-go”
7 amounts. However, this is an invalid assumption when the Smelter revenues are
8 lost in their entirety and replaced with market revenues. In the Company’s NPV
9 analyses, it includes the replacement market revenues, but, as the preceding tables
10 demonstrate, the Company did not increase the “to-go” expenses (or show the lost
11 Smelter revenues as expenses) for the lost Smelter revenues even though those
12 revenues no longer will exist under the two sensitivity cases.

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Q. In reality, what will be the effect on the “all-in” member revenue requirements from the Smelter load loss sensitivities?

A. In reality, the Smelter load loss would be catastrophic to the rural and large industrial customers and Big Rivers would be forced to seek immediate and drastic rate increases starting in 2014 and continuing through future years until market prices rise sufficiently to replace the margins that were lost on the Smelter sales. *More specifically, under the Build case in the event that the Smelters terminate their contracts, the Company itself estimates that the necessary rate increases for the rural and large industrial customer classes will average 69%. Under the Buy case in the event that the Smelters terminate their contracts, the Company estimates that the necessary rate increases for the rural and large industrial customers classes will average 84%.*

Despite increases of those magnitudes on rural and large industrial customers, the Company assumed that there would be no reductions in the rural or large industrial sales due to the drastic rate increases. That assumption is highly unlikely and the Company has performed no studies to support the assumption that there is no elasticity of demand, according to its responses to AG 1-22 and Staff 2-14. To the contrary, it is highly likely that there would be significant conservation by rural customers and reductions in large industrial usage, as well as possible plant closures and loss of jobs. If there is a substantial reduction in sales to these remaining rural and large industrial customers, the rate increases necessary to replace the lost Smelter margins easily could spiral upward and

1 exceed 100%. I have attached a copy of the Company’s responses to AG 1-22
2 and Staff 2-14 as my Exhibit___(LK-3).

3 The following table shows the annual “all-in” non-Smelter revenue
4 requirements for the rural and large industrial customer classes that I obtained
5 from the “Rates” spreadsheet of the FM for the Company’s two Smelter load loss
6 sensitivities:⁵

7

| BIG RIVERS ELECTRIC CORPORATION | | | | | | | | | | | | | | | |
|---|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| REVENUE BY CUSTOMER CLASS UNDER SMELTER LOAD LOSS SENSITIVITIES | | | | | | | | | | | | | | | |
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| Build Case Smelter Load Loss | | | | | | | | | | | | | | | |
| Rural Revenue | 105,378 | 110,320 | 187,25 | 173,78 | 168,92 | 154,07 | 129,51 | 125,60 | 109,41 | 85,68 | 71,38 | 29,55 | 25,30 | 22,81 | 50,67 |
| Large Industrial Revenue | 35,772 | 37,230 | 62,57 | 69,94 | 68,11 | 51,28 | 42,98 | 41,43 | 35,95 | 28,27 | 23,63 | 10,87 | 9,62 | 8,91 | 16,98 |
| Smelter Revenue | 376,163 | 380,758 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Market Revenue | 35,990 | 49,403 | 303,86 | 351,00 | 415,54 | 513,63 | 556,42 | 597,76 | 625,36 | 672,79 | 701,83 | 783,63 | 798,22 | 841,10 | 797,95 |
| Buy Case Smelter Load Loss | | | | | | | | | | | | | | | |
| Rural Revenue | 107,318 | 116,243 | 214,37 | 206,81 | 194,57 | 181,96 | 187,14 | 196,49 | 177,75 | 171,47 | 142,98 | 114,49 | 100,03 | 133,18 | 141,47 |
| Large Industrial Revenue | 36,487 | 39,405 | 72,36 | 76,50 | 75,91 | 66,89 | 61,99 | 64,50 | 57,94 | 55,40 | 46,12 | 37,04 | 32,45 | 41,93 | 43,92 |
| Smelter Revenue | 386,529 | 404,337 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| Market Revenue | 12,285 | 12,372 | 188,72 | 212,95 | 272,94 | 321,72 | 349,76 | 351,73 | 402,46 | 409,30 | 480,82 | 524,77 | 574,90 | 535,80 | 552,21 |

8

9

10 **Q. What conclusions should the Commission draw from the Smelter load loss**
11 **sensitivities?**

12 A. The most important conclusion is that the Commission should take all necessary
13 steps to ensure that the Smelters do not terminate their contracts. The loss of
14 Smelter load and revenues would be immediate and catastrophic to rural and large
15 industrial customers because the margins on the market sales will be insufficient

⁵ These comparisons are based on the Company’s versions of the Build case Smelter load loss and Buy case Smelter load loss sensitivities, which indicate greater impact under the Buy case compared to the Build case. However, the KIUC versions show that the impact is approximately the same under either the Build or Buy cases.

1 to replace the margins on the Smelter sales that will be lost. Despite Big Rivers’
2 rosy projections based on the PACE market price projections to the contrary, the
3 rural and large industrial members may never recover from the rate effects of
4 Smelter load losses if future market prices do not rise to the levels reflected in the
5 Company’s studies.

6

7 **Q. Have you prepared a table showing the “all-in” annual member revenue**
8 **requirements resulting from KIUC’s corrected Smelter load loss**
9 **sensitivities?**

10 A. Yes. The following table shows the “all-in” non-Smelter member revenue
11 requirements for each Smelter load loss sensitivity compared to the KIUC
12 corrected versions of the Build and Buy cases.

13

BIG RIVERS ELECTRIC CORPORATION ENVIRONMENTAL COMPLIANCE SCENARIOS CORRECTED BY KIUC
COMPARISON OF TOTAL CUSTOMER REVENUES, EXCLUDING MARKET SALES - NOMINAL AND NPV

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | Total |
|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | |
| KIUC Build | | | | | | | | | | | | | | | |
| Total Revenue | 590.20 | 624.96 | 653.39 | 693.45 | 713.19 | 729.05 | 756.14 | 763.43 | 776.41 | 780.37 | 800.51 | 799.21 | 825.22 | 839.09 | |
| Add: Revenue to Achieve 1.24 TIER | 12.05 | 6.80 | 3.35 | 8.38 | 11.78 | 10.81 | 13.32 | 18.04 | 17.52 | 22.01 | 25.11 | 33.92 | 43.16 | 49.78 | |
| Less: Market Revenue | 31.00 | 35.32 | 36.05 | 40.30 | 49.69 | 53.18 | 67.70 | 63.94 | 61.90 | 56.32 | 60.55 | 44.83 | 54.43 | 56.24 | |
| Total Customer Revenue | 571.26 | 596.44 | 620.70 | 661.53 | 675.28 | 686.69 | 701.76 | 717.54 | 732.04 | 746.05 | 765.07 | 788.30 | 813.95 | 832.63 | 9,909.23 |
| NPV Total Customer Revenue | 529.29 | 512.01 | 493.69 | 487.50 | 461.08 | 434.42 | 411.33 | 389.68 | 388.34 | 347.82 | 330.47 | 315.49 | 301.82 | 286.06 | 5,669.00 |
| KIUC Buy | | | | | | | | | | | | | | | |
| Total Revenue | 601.21 | 630.42 | 646.35 | 677.12 | 702.47 | 719.04 | 733.68 | 742.97 | 756.85 | 767.29 | 784.06 | 796.80 | 829.55 | 850.74 | |
| Add: Revenue to Achieve 1.24 TIER | 0.00 | 0.00 | 0.00 | 0.00 | 1.15 | 3.06 | 8.41 | 12.55 | 11.52 | 17.21 | 20.12 | 26.34 | 22.10 | 28.34 | |
| Less: Market Revenue | 29.01 | 36.57 | 28.94 | 24.26 | 29.05 | 24.95 | 24.45 | 22.93 | 21.81 | 21.66 | 24.56 | 20.76 | 22.70 | 26.29 | |
| Total Customer Revenue | 572.20 | 593.85 | 617.41 | 652.86 | 674.57 | 697.15 | 717.64 | 732.58 | 746.56 | 762.83 | 779.62 | 802.38 | 828.95 | 852.80 | 10,031.39 |
| NPV Total Customer Revenue | 530.16 | 509.79 | 491.07 | 481.12 | 460.59 | 441.04 | 420.64 | 397.85 | 375.65 | 355.64 | 336.76 | 321.12 | 307.38 | 292.99 | 5,721.80 |
| KIUC Build Smelter Load Loss | | | | | | | | | | | | | | | |
| Total Revenue | 590.20 | 506.04 | 539.61 | 586.63 | 515.64 | 544.76 | 567.07 | 485.01 | 491.35 | 464.98 | 386.73 | 355.46 | 387.98 | 433.59 | |
| Add: Revenue to Achieve 1.24 TIER | 12.05 | 44.66 | 35.28 | 37.51 | 153.18 | 142.38 | 149.89 | 225.54 | 229.26 | 228.54 | 330.24 | 336.86 | 356.27 | 350.85 | |
| Less: Market Revenue | 31.00 | 207.76 | 230.42 | 252.72 | 294.82 | 322.36 | 337.78 | 323.63 | 324.05 | 297.31 | 319.01 | 284.13 | 312.20 | 355.76 | |
| Total Customer Revenue | 559.21 | 298.28 | 309.20 | 333.90 | 374.00 | 364.78 | 379.18 | 386.93 | 396.55 | 396.22 | 397.96 | 408.19 | 432.06 | 428.67 | 5,465.12 |
| NPV Total Customer Revenue | 518.12 | 256.06 | 245.93 | 246.07 | 255.36 | 230.77 | 222.25 | 210.13 | 199.54 | 184.72 | 171.90 | 163.37 | 160.21 | 147.28 | 3,211.69 |
| KIUC Buy Smelter Load Loss | | | | | | | | | | | | | | | |
| Total Revenue | 601.21 | 515.17 | 497.04 | 517.02 | 464.23 | 487.04 | 485.27 | 444.17 | 430.97 | 449.03 | 375.03 | 373.27 | 379.71 | 435.28 | |
| Add: Revenue to Achieve 1.24 TIER | 19.49 | 18.99 | 17.95 | 19.29 | 94.97 | 92.76 | 100.27 | 150.41 | 152.34 | 148.91 | 228.43 | 234.79 | 253.80 | 252.11 | |
| Less: Market Revenue | 29.00 | 190.94 | 167.52 | 170.46 | 193.38 | 211.13 | 204.24 | 202.83 | 184.87 | 198.37 | 205.73 | 198.47 | 199.68 | 250.62 | |
| Total Customer Revenue | 572.20 | 324.24 | 329.52 | 346.56 | 365.83 | 368.67 | 381.31 | 391.75 | 398.44 | 399.57 | 397.73 | 409.59 | 433.82 | 436.77 | 5,555.98 |
| NPV Total Customer Revenue | 530.16 | 278.34 | 262.09 | 255.39 | 249.78 | 233.23 | 223.50 | 212.75 | 200.49 | 186.28 | 171.80 | 163.92 | 160.86 | 150.06 | 3,278.67 |

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III. QUALITATIVE FACTORS SUPPORT THE BUY CASE

The Commission should Maximize Flexibility and Minimize Risk

Q. Mr. Hayet addresses numerous qualitative factors that argue against the Build case and in favor of the Buy case. Do you have any additional comments?

A. Yes. The validity of the results of the quantitative analyses is driven largely by the assumptions used in the modeling process. There is greater certainty surrounding some of the assumptions, such as the physical operation of the power plants. There is greater *uncertainty* surrounding other assumptions, such as the market price of power, whether for purchases by Big Rivers or sales by Big Rivers, and the ability of the Company to finance, or the cost of the financing if it is able to finance. Changes in these assumptions can change the ability to implement and/or the ranking of the various alternatives.

Thus, in its review of the Company’s request, the Commission should carefully consider the effects of these assumptions and select the alternative that provides the most flexibility in light of constantly changing circumstances; that minimizes the risk to all customers, rural, large industrial, and Smelters; and that minimizes the risk to the Company and its creditors.

The Company’s Cost Estimates Are Preliminary and Subject to Overruns

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Q. In addition to the qualitative factors addressed by Mr. Hayet, should the Commission be concerned about cost overruns?

A. Yes. Aside from the Company’s modeling of the Build, Partial Build, and Build Smelter load loss sensitivity cases, the reality is that any cost overruns will affect member revenue requirements and rates and place additional pressure on the Company, its creditors, its rural and large industrial customers, and the Smelters.

The Company estimates that its direct construction costs will be \$286.14 million and that deferred financing costs will add another \$15 million for a total capital cost of \$301 million in the Build alternatives. However, these estimates are preliminary estimates and do not reflect detailed engineering estimates. Engineering and design have not been completed, according to the Company’s Application. Thus, there is a high likelihood of cost overruns and costs that the Company did not consider in its quantitative analyses. For example, the Company plans to act as the general contractor using a “minimal contracts approach,” which it describes in response to Staff 1-18. Yet the Company did not include any costs for these activities in any of the cases, arguing that they would be “relatively insignificant” and “covered by the contingency in the estimate,” also according to its response to Staff 1-18. I have attached a copy of the Company’s response to Staff 1-18 as my Exhibit__(LK-4). In addition, the Company has not yet completed testing or modeling of its ESP performance and may have to install ESP upgrades, according to its response to Staff 1-14. I have

1 attached a copy of the Company's response to Staff 1-14 as my Exhibit ___(LK-
2 5).

3 In addition, the Commission should note that none of the contracts have
4 yet been bid out by the Company and there may be sizeable differences between
5 the preliminary estimates and actual bids by contractors. The Company is
6 relatively inexperienced in such large scale construction projects in recent years
7 and it may be required to depend more heavily on its contractors for certain
8 activities than reflected in the cost estimates.

9 Further, the Company already substantially increased its cost estimates for
10 the Build case earlier this year before it filed its Application in this proceeding.
11 On January 19, 2012, the Company's management presented a listing of projects
12 and a cost estimate of \$213.5 million to comply with CSAPR and MATS
13 requirements to the Big Rivers Board of Directors, according to the Board
14 Minutes provided by the Company in response to KIUC 1-43. On February 21,
15 2012, the Company's management updated the cost estimate to \$283.5 million,
16 also according to the Board Minutes provide in response to KIUC 1-43. I have
17 attached a copy of the relevant portions of the Company's response to KIUC 1-43
18 as my Exhibit ___(LK-6).

19 In response to KIUC 2-21, the Company confirmed that it had increased
20 the cost estimate from January 19, 2012 to February 21, 2012 and that the primary
21 reason was that the "capital estimates in the January 2012 board presentation
22 represented high level order of magnitude estimates developed by Big Rivers
23 personnel to indicate the level of capital expenditures facing Big Rivers in

1 complying with CSAPR and MATS. The capital estimates in the February 2012
2 board presentation represent the results of the S&L study.” In other words, the
3 difference was due to a more refined cost estimate. That tends to be the nature of
4 cost estimates and the risk of additional significant cost estimates as the
5 engineering and design work progresses is real. I have attached a copy of the
6 Company’s response to KIUC 2-21 as my Exhibit ___(LK-7).

7 If the Commission authorizes the Company to proceed with ECP projects
8 4 and 5, then it will commit the Company, its creditors and all of its customers to
9 the completion of the projects, the financing of the projects, and the obligation to
10 pay through rates for the projects. Those commitments will remain in place even
11 if there are substantial cost overruns.

12 Thus, the Commission should recognize that there may be cost overruns in
13 the proposed ECP projects, with the most risk exposure on projects 4 and 5. The
14 Commission can avoid the uncertainty and risk exposure on projects 4 and 5 if
15 those projects are not authorized at this time.

16
17 **The Company’s Ability to Finance Is Uncertain**

18
19 **Q. Should the Commission be concerned about the Company’s ability to**
20 **finance?**

21 **A.** Yes. The Company’s ECP will require at least \$301 million in incremental
22 financing, assuming no cost overruns and no additional environmental
23 requirements. If there are cost overruns and additional environmental

1 requirements, the Company will require even more incremental financing.⁶ Of
2 the \$301 million in incremental financing, projects 4 and 5 comprise
3 approximately \$232 million. At the end of 2011, the Company had \$786 million
4 in debt outstanding. The \$301 million in incremental debt financing will increase
5 its debt outstanding by 38%, all else equal.

6 The Company's ability to finance the 2012 ECP projects is critical to the
7 implementation of the Build case and projects 4 and 5. If the Company cannot
8 finance these projects, along with all of its other financing requirements, then it
9 cannot undertake these projects and the Commission should not approve the
10 projects. Further, even if the Company is able to provide evidence that it will be
11 able to finance the projects, then the Commission must ensure that the cost to do
12 so will be reasonable.

13 The Company's financial health is tenuous and a continuing concern. It is
14 not certain that the Company will be able to finance the \$301 million, let alone
15 any cost overruns or additional environmental requirements. In addition,
16 incremental financing of this magnitude will reduce flexibility for the Company,
17 its creditors, and its customers. The Company's current credit ratings are BBB-

⁶ In a July 14, 2011 email concerning the costs of environmental compliance the Company estimated that compliance with the CCR would cost \$237 million and compliance with §316 a and b would cost \$55 million, according to the Company's response to Staff 2-17 in this proceeding. If these estimates are correct, the Company could face another nearly \$300 million in incremental financing. I have attached a copy of this response as my Exhibit___(LK-8). The Company more recently estimated that compliance with these two regulations would cost \$123 million, according to the Company's response to Staff 1-9. I have attached a copy of this response as my Exhibit___(LK-9).

1 from Standard and Poor's and Fitch and Baa1 from Moody's. These ratings are
2 reviewed annually in the September time frame and will be reviewed prior to
3 commencing construction, and thus, the financing, for projects 4 and 5.

4

5 **Q. Does the Company have a definitive plan to finance the capital and deferred**
6 **financing costs of the ECP projects?**

7 A. No. The Company does expect to issue debt to finance these costs, according to
8 Mr. Hite. [Hite Direct at 15]. However, it does not yet know what financing will
9 be available, the cost of any such debt, or its "execution strategy," according to
10 Mr. Hite. [*Id.*, 14-17].

11 The Company is "discussing" the potential for a term loan with the RUS,
12 "planning" meetings with institutional investors, and plans to discuss a potential
13 construction revolver with potential lenders. [*Id.*, 15-16]. The Company recently
14 filed a Second Updated response to KIUC 1-43 in which it disclosed that it is
15 attempting to negotiate a revolving credit agreement with CFC to provide
16 financing for the capital expenditures associated with the Company's 2012 ECP
17 projects.

18

19 **Q. When does the Company plan on filing a financing application with the**
20 **Commission?**

21 A. The Company does not plan on filing a financing application until early-August
22 2012, according to Mr. Hite. [*Id.*, 16]. It then plans to schedule rating agency
23 visits in September 2012 seeking an indicative investment grade rating of the

1 proposed debt issuances. [*Id.*].

2

3 **Q. How should the Commission address the uncertainty regarding the**
4 **Company's ability to finance the cost of the 2012 ECP projects?**

5 A. The best approach given the uncertainty regarding the Company's ability to
6 finance is to minimize the Company's capital expenditures and financing
7 requirements and to reject ECP projects 4 and 5. This approach maximizes
8 flexibility and minimizes the risk to the Company, its creditors, and its customers.

9

10 **Q. Does this complete your testimony?**

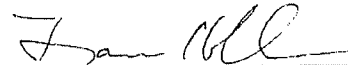
11 A. Yes.

AFFIDAVIT

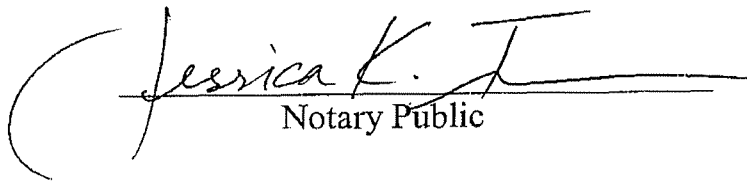
STATE OF GEORGIA)

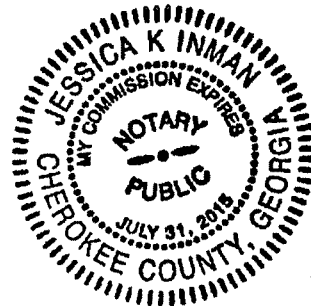
COUNTY OF FULTON)

LANE KOLLEN, being duly sworn, deposes and states: that the attached is his sworn testimony and that the statements contained are true and correct to the best of his knowledge, information and belief.


Lane Kollen

Sworn to and subscribed before me on this
23rd day of July 2012.


Notary Public



COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

| | | |
|--|---|----------------------------|
| APPLICATION OF BIG RIVERS |) | |
| ELECTRIC CORPORATION FOR |) | |
| APPROVAL OF ITS 2012 COMPLIANCE |) | |
| PLAN, FOR APPROVAL OF ITS |) | |
| AMENDED ENVIRONMENTAL COST |) | CASE NO. 2012-00063 |
| RECOVERY SURCHARGE TARIFF, |) | |
| FOR CERTIFICATES OF PUBLIC |) | |
| CONVENIENCE AND NECESSITY, AND |) | |
| FOR AUTHORITY TO ESTABLISH A |) | |
| REGULATORY ACCOUNT |) | |

| |
|---|
| <p>EXHIBITS</p> <p>OF</p> <p>LANE KOLLEN</p> |
|---|

ON BEHALF OF THE
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA

July 2012

EXHIBIT ____ (LK-1)

RESUME OF LANE KOLLEN, VICE PRESIDENT

EDUCATION

University of Toledo, BBA
Accounting

University of Toledo, MBA

Luther Rice University, MA

PROFESSIONAL CERTIFICATIONS

Certified Public Accountant (CPA)

Certified Management Accountant (CMA)

PROFESSIONAL AFFILIATIONS

American Institute of Certified Public Accountants

Georgia Society of Certified Public Accountants

Institute of Management Accountants

More than thirty years of utility industry experience in the financial, rate, tax, and planning areas. Specialization in revenue requirements analyses, taxes, evaluation of rate and financial impacts of traditional and nontraditional ratemaking, utility mergers/acquisition and diversification. Expertise in proprietary and nonproprietary software systems used by utilities for budgeting, rate case support and strategic and financial planning.

RESUME OF LANE KOLLEN, VICE PRESIDENT

EXPERIENCE**1986 to****Present:**

J. Kennedy and Associates, Inc.: Vice President and Principal. Responsible for utility stranded cost analysis, revenue requirements analysis, cash flow projections and solvency, financial and cash effects of traditional and nontraditional ratemaking, and research, speaking and writing on the effects of tax law changes. Testimony before Connecticut, Florida, Georgia, Indiana, Louisiana, Kentucky, Maine, Maryland, Minnesota, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Texas, West Virginia and Wisconsin state regulatory commissions and the Federal Energy Regulatory Commission.

1983 to**1986:**

Energy Management Associates: Lead Consultant.

Consulting in the areas of strategic and financial planning, traditional and nontraditional ratemaking, rate case support and testimony, diversification and generation expansion planning. Directed consulting and software development projects utilizing PROSCREEN II and ACUMEN proprietary software products. Utilized ACUMEN detailed corporate simulation system, PROSCREEN II strategic planning system and other custom developed software to support utility rate case filings including test year revenue requirements, rate base, operating income and pro-forma adjustments. Also utilized these software products for revenue simulation, budget preparation and cost-of-service analyses.

1976 to**1983:**

The Toledo Edison Company: Planning Supervisor.

Responsible for financial planning activities including generation expansion planning, capital and expense budgeting, evaluation of tax law changes, rate case strategy and support and computerized financial modeling using proprietary and nonproprietary software products. Directed the modeling and evaluation of planning alternatives including:

Rate phase-ins.

Construction project cancellations and write-offs.

Construction project delays.

Capacity swaps.

Financing alternatives.

Competitive pricing for off-system sales.

Sale/leasebacks.

RESUME OF LANE KOLLEN, VICE PRESIDENT

CLIENTS SERVED**Industrial Companies and Groups**

| | |
|---|--|
| Air Products and Chemicals, Inc. | Lehigh Valley Power Committee |
| Airco Industrial Gases | Maryland Industrial Group |
| Alcan Aluminum | Multiple Intervenors (New York) |
| Armco Advanced Materials Co. | National Southwire |
| Armco Steel | North Carolina Industrial |
| Bethlehem Steel | Energy Consumers |
| Connecticut Industrial Energy Consumers | Occidental Chemical Corporation |
| ELCON | Ohio Energy Group |
| Enron Gas Pipeline Company | Ohio Industrial Energy Consumers |
| Florida Industrial Power Users Group | Ohio Manufacturers Association |
| Gallatin Steel | Philadelphia Area Industrial Energy |
| General Electric Company | Users Group |
| GPU Industrial Intervenors | PSI Industrial Group |
| Indiana Industrial Group | Smith Cogeneration |
| Industrial Consumers for | Taconite Intervenors (Minnesota) |
| Fair Utility Rates - Indiana | West Penn Power Industrial Intervenors |
| Industrial Energy Consumers - Ohio | West Virginia Energy Users Group |
| Kentucky Industrial Utility Customers, Inc. | Westvaco Corporation |
| Kimberly-Clark Company | |

**Regulatory Commissions and
Government Agencies**

Cities in Texas-New Mexico Power Company's Service Territory
 Cities in AEP Texas Central Company's Service Territory
 Cities in AEP Texas North Company's Service Territory
 Georgia Public Service Commission Staff
 Kentucky Attorney General's Office, Division of Consumer Protection
 Louisiana Public Service Commission Staff
 Maine Office of Public Advocate
 New York State Energy Office
 Office of Public Utility Counsel (Texas)

RESUME OF LANE KOLLEN, VICE PRESIDENT

Utilities

Allegheny Power System
Atlantic City Electric Company
Carolina Power & Light Company
Cleveland Electric Illuminating Company
Delmarva Power & Light Company
Duquesne Light Company
General Public Utilities
Georgia Power Company
Middle South Services
Nevada Power Company
Niagara Mohawk Power Corporation

Otter Tail Power Company
Pacific Gas & Electric Company
Public Service Electric & Gas
Public Service of Oklahoma
Rochester Gas and Electric
Savannah Electric & Power Company
Seminole Electric Cooperative
Southern California Edison
Talquin Electric Cooperative
Tampa Electric
Texas Utilities
Toledo Edison Company

**Expert Testimony Appearances
of
Lane Kollen
as of February 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|-------------|-----------------------------------|----------------------------------|--|-------------------------------|---|
| 10/86 | U-17282 Interim | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Cash revenue requirements financial solvency. |
| 11/86 | U-17282 Interim Rebuttal | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Cash revenue requirements financial solvency. |
| 12/86 | 9613 | KY | Attorney General Div. of Consumer Protection | Big Rivers Electric Corp. | Revenue requirements accounting adjustments financial workout plan. |
| 1/87 | U-17282 Interim | LA 19th Judicial District Ct. | Louisiana Public Service Commission Staff | Gulf States Utilities | Cash revenue requirements, financial solvency. |
| 3/87 | General Order 236 | WV | West Virginia Energy Users' Group | Monongahela Power Co. | Tax Reform Act of 1986. |
| 4/87 | U-17282 Prudence | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Prudence of River Bend 1, economic analyses, cancellation studies. |
| 4/87 | M-100 Sub 113 | NC | North Carolina Industrial Energy Consumers | Duke Power Co. | Tax Reform Act of 1986. |
| 5/87 | 86-524-E-SC | WV | West Virginia Energy Users' Group | Monongahela Power Co. | Revenue requirements, Tax Reform Act of 1986. |
| 5/87 | U-17282 Case In Chief | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Revenue requirements, River Bend 1 phase-in plan, financial solvency. |
| 7/87 | U-17282 Case In Chief Surrebuttal | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Revenue requirements, River Bend 1 phase-in plan, financial solvency. |
| 7/87 | U-17282 Prudence Surrebuttal | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Prudence of River Bend 1, economic analyses, cancellation studies. |
| 7/87 | 86-524 E-SC Rebuttal | WV | West Virginia Energy Users' Group | Monongahela Power Co. | Revenue requirements, Tax Reform Act of 1986. |
| 8/87 | 9885 | KY | Attorney General Div. of Consumer Protection | Big Rivers Electric Corp. | Financial workout plan. |
| 8/87 | E-015/GR-87-223 | MN | Taconite Intervenors | Minnesota Power & Light Co. | Revenue requirements, O&M expense, Tax Reform Act of 1986. |
| 10/87 | 870220-EI | FL | Occidental Chemical Corp. | Florida Power Corp. | Revenue requirements, O&M expense, Tax Reform Act of 1986. |
| 11/87 | 87-07-01 | CT | Connecticut Industrial Energy Consumers | Connecticut Light & Power Co. | Tax Reform Act of 1986. |
| 1/88 | U-17282 | LA 19th Judicial District Ct. | Louisiana Public Service Commission | Gulf States Utilities | Revenue requirements, River Bend 1 phase-in plan, rate of return. |
| 2/88 | 9934 | KY | Kentucky Industrial Utility Customers | Louisville Gas & Electric Co. | Economics of Trimble County, completion. |
| 2/88 | 10064 | KY | Kentucky Industrial Utility Customers | Louisville Gas & Electric Co. | Revenue requirements, O&M expense, capital structure, excess deferred income taxes. |

**Expert Testimony Appearances
of
Lane Kollen
as of February 2012**

| Date | Case | Jurisdict. | Party | Utility | Subject |
|-------------|------------------------|----------------------------------|---|---|---|
| 5/88 | 10217 | KY | Alcan Aluminum National Southwire | Big Rivers Electric Corp. | Financial workout plan. |
| 5/88 | M-87017-1C001 | PA | GPU Industrial Intervenors | Metropolitan Edison Co. | Nonutility generator deferred cost recovery. |
| 5/88 | M-87017-2C005 | PA | GPU Industrial Intervenors | Pennsylvania Electric Co. | Nonutility generator deferred cost recovery. |
| 6/88 | U-17282 | LA 19th Judicial District Ct. | Louisiana Public Service Commission | Gulf States Utilities | Prudence of River Bend 1 economic analyses, cancellation studies, financial modeling. |
| 7/88 | M-87017-1C001 Rebuttal | PA | GPU Industrial Intervenors | Metropolitan Edison Co. | Nonutility generator deferred cost recovery, SFAS No. 92. |
| 7/88 | M-87017-2C005 Rebuttal | PA | GPU Industrial Intervenors | Pennsylvania Electric Co. | Nonutility generator deferred cost recovery, SFAS No. 92. |
| 9/88 | 88-05-25 | CT | Connecticut Industrial Energy Consumers | Connecticut Light & Power Co. | Excess deferred taxes, O&M expenses. |
| 9/88 | 10064 Rehearing | KY | Kentucky Industrial Utility Customers | Louisville Gas & Electric Co. | Premature retirements, interest expense. |
| 10/88 | 88-170-EL-AIR | OH | Ohio Industrial Energy Consumers | Cleveland Electric Illuminating Co. | Revenue requirements, phase-in, excess deferred taxes, O&M expenses, financial considerations, working capital. |
| 10/88 | 88-171-EL-AIR | OH | Ohio Industrial Energy Consumers | Toledo Edison Co. | Revenue requirements, phase-in, excess deferred taxes, O&M expenses, financial considerations, working capital. |
| 10/88 | 8800-355-EI | FL | Florida Industrial Power Users' Group | Florida Power & Light Co. | Tax Reform Act of 1986, tax expenses, O&M expenses, pension expense (SFAS No. 87). |
| 10/88 | 3780-U | GA | Georgia Public Service Commission Staff | Atlanta Gas Light Co. | Pension expense (SFAS No. 87). |
| 11/88 | U-17282 Remand | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Rate base exclusion plan (SFAS No. 71). |
| 12/88 | U-17970 | LA | Louisiana Public Service Commission Staff | AT&T Communications of South Central States | Pension expense (SFAS No. 87). |
| 12/88 | U-17949 Rebuttal | LA | Louisiana Public Service Commission Staff | South Central Bell | Compensated absences (SFAS No. 43), pension expense (SFAS No. 87), Part 32, income tax normalization. |
| 2/89 | U-17282 Phase II | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Revenue requirements, phase-in of River Bend 1, recovery of canceled plant |
| 6/89 | 881602-EU 890326-EU | FL | Talquin Electric Cooperative | Talquin/City of Tallahassee | Economic analyses, incremental cost-of-service, average customer rates. |
| 7/89 | U-17970 | LA | Louisiana Public Service Commission Staff | AT&T Communications of South Central States | Pension expense (SFAS No. 87), compensated absences (SFAS No. 43), Part 32. |
| 8/89 | 8555 | TX | Occidental Chemical Corp. | Houston Lighting & Power Co. | Cancellation cost recovery, tax expense, revenue requirements. |

**Expert Testimony Appearances
of
Lane Kollen
as of February 2012**

| Date | Case | Jurisdiction | Party | Utility | Subject |
|----------------|---|---|---|-------------------------------|--|
| 8/89 | 3840-U | GA | Georgia Public Service Commission Staff | Georgia Power Co. | Promotional practices, advertising, economic development. |
| 9/89 | U-17282 Phase II Detailed | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Revenue requirements, detailed investigation. |
| 10/89 | 8880 | TX | Enron Gas Pipeline | Texas-New Mexico Power Co. | Deferred accounting treatment, sale/leaseback. |
| 10/89 | 8928 | TX | Enron Gas Pipeline | Texas-New Mexico Power Co. | Revenue requirements, Imputed capital structure, cash working capital. |
| 10/89 | R-891364 | PA | Philadelphia Area Industrial Energy Users Group | Philadelphia Electric Co. | Revenue requirements. |
| 11/89 12/89 | R-891364 Surrebuttal (2 Filings) | PA | Philadelphia Area Industrial Energy Users Group | Philadelphia Electric Co. | Revenue requirements, sale/leaseback. |
| 1/90 | U-17282 Phase II Detailed Rebuttal | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Revenue requirements, detailed investigation. |
| 1/90 | U-17282 Phase III | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Phase-in of River Bend 1, deregulated asset plan. |
| 3/90 | 890319-EI | FL | Florida Industrial Power Users Group | Florida Power & Light Co. | O&M expenses, Tax Reform Act of 1986. |
| 4/90 | 890319-EI Rebuttal | FL | Florida Industrial Power Users Group | Florida Power & Light Co. | O&M expenses, Tax Reform Act of 1986. |
| 4/90 | U-17282 | LA 19 th Judicial District Ct. | Louisiana Public Service Commission | Gulf States Utilities | Fuel clause, gain on sale of utility assets. |
| 9/90 | 90-158 | KY | Kentucky Industrial Utility Customers | Louisville Gas & Electric Co. | Revenue requirements, post-test year additions, forecasted test year. |
| 12/90 | U-17282 Phase IV | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Revenue requirements. |
| 3/91 | 29327, et al. | NY | Multiple Intervenors | Niagara Mohawk Power Corp. | Incentive regulation. |
| 5/91 | 9945 | TX | Office of Public Utility Counsel of Texas | El Paso Electric Co. | Financial modeling, economic analyses, prudence of Palo Verde 3. |
| 9/91 | P-910511 P-910512 | PA | Allegheny Ludlum Corp., Armco Advanced Materials Co., The West Penn Power Industrial Users' Group | West Penn Power Co. | Recovery of CAAA costs, least cost financing. |
| 9/91 | 91-231-E-NC | WV | West Virginia Energy Users Group | Monongahela Power Co. | Recovery of CAAA costs, least cost financing. |
| 11/91 | U-17282 | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Asset impairment, deregulated asset plan, revenue requirements. |

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| 12/91 | 91-410-EL-AIR | OH | Air Products and Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers | Cincinnati Gas & Electric Co. | Revenue requirements, phase-in plan. |
| 12/91 | PJC Docket 10200 | TX | Office of Public Utility Counsel of Texas | Texas-New Mexico Power Co. | Financial integrity, strategic planning, declined business affiliations. |
| 5/92 | 910890-EI | FL | Occidental Chemical Corp. | Florida Power Corp. | Revenue requirements, O&M expense, pension expense, OPEB expense, fossil dismantling, nuclear decommissioning. |
| 8/92 | R-00922314 | PA | GPU Industrial Intervenors | Metropolitan Edison Co. | Incentive regulation, performance rewards, purchased power risk, OPEB expense. |
| 9/92 | 92-043 | KY | Kentucky Industrial Utility Consumers | Generic Proceeding | OPEB expense. |
| 9/92 | 920324-EI | FL | Florida Industrial Power Users' Group | Tampa Electric Co. | OPEB expense. |
| 9/92 | 39348 | IN | Indiana Industrial Group | Generic Proceeding | OPEB expense. |
| 9/92 | 910840-PU | FL | Florida Industrial Power Users' Group | Generic Proceeding | OPEB expense. |
| 9/92 | 39314 | IN | Industrial Consumers for Fair Utility Rates | Indiana Michigan Power Co. | OPEB expense. |
| 11/92 | U-19904 | LA | Louisiana Public Service Commission Staff | Gulf States Utilities /Entergy Corp. | Merger. |
| 11/92 | 8649 | MD | Westvaco Corp., Eastalco Aluminum Co. | Potomac Edison Co. | OPEB expense. |
| 11/92 | 92-1715-AU-COI | OH | Ohio Manufacturers Association | Generic Proceeding | OPEB expense. |
| 12/92 | R-00922378 | PA | Armco Advanced Materials Co., The WPP Industrial Intervenors | West Penn Power Co. | Incentive regulation, performance rewards, purchased power risk, OPEB expense. |
| 12/92 | U-19949 | LA | Louisiana Public Service Commission Staff | South Central Bell | Affiliate transactions, cost allocations, merger. |
| 12/92 | R-00922479 | PA | Philadelphia Area Industrial Energy Users' Group | Philadelphia Electric Co. | OPEB expense. |
| 1/93 | 8487 | MD | Maryland Industrial Group | Baltimore Gas & Electric Co., Bethlehem Steel Corp. | OPEB expense, deferred fuel, CWIP in rate base. |
| 1/93 | 39498 | IN | PSI Industrial Group | PSI Energy, Inc. | Refunds due to over-collection of taxes on Marble Hill cancellation. |
| 3/93 | 92-11-11 | CT | Connecticut Industrial Energy Consumers | Connecticut Light & Power Co | OPEB expense. |
| 3/93 | U-19904 (Surrebuttal) | LA | Louisiana Public Service Commission Staff | Gulf States Utilities /Entergy Corp | Merger. |

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| 3/93 | 93-01-EL-EFC | OH | Ohio Industrial Energy Consumers | Ohio Power Co. | Affiliate transactions, fuel. |
| 3/93 | EC92-21000 ER92-806-000 | FERC | Louisiana Public Service Commission Staff | Gulf States Utilities /Entergy Corp. | Merger. |
| 4/93 | 92-1464-EL-AIR | OH | Air Products Armco Steel Industrial Energy Consumers | Cincinnati Gas & Electric Co. | Revenue requirements, phase-in plan. |
| 4/93 | EC92-21000 ER92-806-000 (Rebuttal) | FERC | Louisiana Public Service Commission | Gulf States Utilities /Entergy Corp. | Merger. |
| 9/93 | 93-113 | KY | Kentucky Industrial Utility Customers | Kentucky Utilities | Fuel clause and coal contract refund. |
| 9/93 | 92-490, 92-490A, 90-360-C | KY | Kentucky Industrial Utility Customers and Kentucky Attorney General | Big Rivers Electric Corp. | Disallowances and restitution for excessive fuel costs, illegal and improper payments, recovery of mine closure costs. |
| 10/93 | U-17735 | LA | Louisiana Public Service Commission Staff | Cajun Electric Power Cooperative | Revenue requirements, debt restructuring agreement, River Bend cost recovery. |
| 1/94 | U-20647 | LA | Louisiana Public Service Commission Staff | Gulf States Utilities Co | Audit and investigation into fuel clause costs. |
| 4/94 | U-20647 (Surrebuttal) | LA | Louisiana Public Service Commission Staff | Gulf States Utilities Co. | Nuclear and fossil unit performance, fuel costs, fuel clause principles and guidelines. |
| 5/94 | U-20178 | LA | Louisiana Public Service Commission Staff | Louisiana Power & Light Co. | Planning and quantification issues of least cost integrated resource plan. |
| 9/94 | U-19904 Initial Post-Merger Earnings Review | LA | Louisiana Public Service Commission Staff | Gulf States Utilities Co. | River Bend phase-in plan, deregulated asset plan, capital structure, other revenue requirement issues. |
| 9/94 | U-17735 | LA | Louisiana Public Service Commission Staff | Cajun Electric Power Cooperative | G&T cooperative ratemaking policies, exclusion of River Bend, other revenue requirement issues. |
| 10/94 | 3905-U | GA | Georgia Public Service Commission Staff | Southern Bell Telephone Co. | Incentive rate plan, earnings review. |
| 10/94 | 5258-U | GA | Georgia Public Service Commission Staff | Southern Bell Telephone Co. | Alternative regulation, cost allocation. |
| 11/94 | U-19904 Initial Post-Merger Earnings Review (Rebuttal) | LA | Louisiana Public Service Commission Staff | Gulf States Utilities Co. | River Bend phase-in plan, deregulated asset plan, capital structure, other revenue requirement issues. |
| 11/94 | U-17735 (Rebuttal) | LA | Louisiana Public Service Commission Staff | Cajun Electric Power Cooperative | G&T cooperative ratemaking policy, exclusion of River Bend, other revenue requirement issues. |
| 4/95 | R-00943271 | PA | PP&L Industrial Customer Alliance | Pennsylvania Power & Light Co. | Revenue requirements. Fossil dismantling, nuclear decommissioning. |
| 6/95 | 3905-U Rebuttal | GA | Georgia Public Service Commission | Southern Bell Telephone Co. | Incentive regulation, affiliate transactions, revenue requirements, rate refund. |
| 6/95 | U-19904 (Direct) | LA | Louisiana Public Service Commission Staff | Gulf States Utilities Co. | Gas, coal, nuclear fuel costs, contract prudence, base/fuel realignment. |

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| 10/95 | 95-02614 | TN | Tennessee Office of the Attorney General Consumer Advocate | BellSouth Telecommunications, Inc. | Affiliate transactions. |
| 10/95 | U-21485 (Direct) | LA | Louisiana Public Service Commission Staff | Gulf States Utilities Co. | Nuclear O&M, River Bend phase-in plan, base/fuel realignment, NOL and AltMin asset deferred taxes, other revenue requirement issues. |
| 11/95 | U-19904 (Surrebuttal) | LA | Louisiana Public Service Commission Staff | Gulf States Utilities Co Division | Gas, coal, nuclear fuel costs, contract prudence, basefuel realignment. |
| 11/95 | U-21485 (Supplemental Direct) | LA | Louisiana Public Service Commission Staff | Gulf States Utilities Co. | Nuclear O&M, River Bend phase-in plan, base/fuel realignment, NOL and AltMin asset deferred taxes, other revenue requirement issues. |
| 12/95 | U-21485 (Surrebuttal) | | | | |
| 1/96 | 95-299-EL-AIR 95-300-EL-AIR | OH | Industrial Energy Consumers | The Toledo Edison Co., The Cleveland Electric Illuminating Co. | Competition, asset write-offs and revaluation, O&M expense, other revenue requirement issues. |
| 2/96 | PUC Docket 14965 | TX | Office of Public Utility Counsel | Central Power & Light | Nuclear decommissioning. |
| 5/96 | 95-485-LCS | NM | City of Las Cruces | El Paso Electric Co. | Stranded cost recovery, municipalization. |
| 7/96 | 8725 | MD | The Maryland Industrial Group and Redland Genstar, Inc. | Baltimore Gas & Electric Co., Potomac Electric Power Co., and Constellation Energy Corp. | Merger savings, tracking mechanism, earnings sharing plan, revenue requirement issues. |
| 9/96 11/96 | U-22092 U-22092 (Surrebuttal) | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | River Bend phase-in plan, base/fuel realignment, NOL and AltMin asset deferred taxes, other revenue requirement issues, allocation of regulated/nonregulated costs. |
| 10/96 | 96-327 | KY | Kentucky Industrial Utility Customers, Inc. | Big Rivers Electric Corp. | Environmental surcharge recoverable costs. |
| 2/97 | R-00973877 | PA | Philadelphia Area Industrial Energy Users Group | PECO Energy Co. | Stranded cost recovery, regulatory assets and liabilities, intangible transition charge, revenue requirements |
| 3/97 | 96-489 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Power Co. | Environmental surcharge recoverable costs, system agreements, allowance inventory, jurisdictional allocation. |
| 6/97 | TO-97-397 | MO | MCI Telecommunications Corp., Inc., MCImetro Access Transmission Services, Inc. | Southwestern Bell Telephone Co. | Price cap regulation, revenue requirements, rate of return. |
| 6/97 | R-00973953 | PA | Philadelphia Area Industrial Energy Users Group | PECO Energy Co. | Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning. |
| 7/97 | R-00973954 | PA | PP&L Industrial Customer Alliance | Pennsylvania Power & Light Co. | Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning. |

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| 7/97 | U-22092 | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Depreciation rates and methodologies, River Bend phase-in plan. |
| 8/97 | 97-300 | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas & Electric Co., Kentucky Utilities Co | Merger policy, cost savings, surcredit sharing mechanism, revenue requirements, rate of return. |
| 8/97 | R-00973954 (Surrebuttal) | PA | PP&L Industrial Customer Alliance | Pennsylvania Power & Light Co. | Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning. |
| 10/97 | 97-204 | KY | Alcan Aluminum Corp. Southwire Co. | Big Rivers Electric Corp. | Restructuring, revenue requirements, reasonableness. |
| 10/97 | R-974008 | PA | Metropolitan Edison Industrial Users Group | Metropolitan Edison Co. | Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning, revenue requirements. |
| 10/97 | R-974009 | PA | Penelec Industrial Customer Alliance | Pennsylvania Electric Co. | Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning, revenue requirements. |
| 11/97 | 97-204 (Rebuttal) | KY | Alcan Aluminum Corp. Southwire Co. | Big Rivers Electric Corp. | Restructuring, revenue requirements, reasonableness of rates, cost allocation. |
| 11/97 | U-22491 | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Allocation of regulated and nonregulated costs, other revenue requirement issues. |
| 11/97 | R-00973953 (Surrebuttal) | PA | Philadelphia Area Industrial Energy Users Group | PECO Energy Co. | Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning. |
| 11/97 | R-973981 | PA | West Penn Power Industrial Intervenors | West Penn Power Co. | Restructuring, deregulation, stranded costs, regulatory assets, liabilities, fossil decommissioning, revenue requirements, securitization. |
| 11/97 | R-974104 | PA | Duquesne Industrial Intervenors | Duquesne Light Co. | Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning, revenue requirements, securitization. |
| 12/97 | R-973981 (Surrebuttal) | PA | West Penn Power Industrial Intervenors | West Penn Power Co. | Restructuring, deregulation, stranded costs, regulatory assets, liabilities, fossil decommissioning, revenue requirements. |
| 12/97 | R-974104 (Surrebuttal) | PA | Duquesne Industrial Intervenors | Duquesne Light Co. | Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning, revenue requirements, securitization. |
| 1/98 | U-22491 (Surrebuttal) | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Allocation of regulated and nonregulated costs, other revenue requirement issues. |
| 2/98 | 8774 | MD | Westvaco | Potomac Edison Co. | Merger of Duquesne, AE, customer safeguards, savings sharing. |
| 3/98 | U-22092 (Allocated Stranded Cost Issues) | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Restructuring, stranded costs, regulatory assets, securitization, regulatory mitigation. |

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| 3/98 | 8390-U | GA | Georgia Natural Gas Group, Georgia Textile Manufacturers Assoc. | Atlanta Gas Light Co. | Restructuring, unbundling, stranded costs, incentive regulation, revenue requirements |
| 3/98 | U-22092 (Allocated Stranded Cost Issues) (Surrebuttal) | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Restructuring, stranded costs, regulatory assets, securitization, regulatory mitigation. |
| 10/98 | 97-596 | ME | Maine Office of the Public Advocate | Bangor Hydro-Electric Co. | Restructuring, unbundling, stranded costs, T&D revenue requirements. |
| 10/98 | 9355-U | GA | Georgia Public Service Commission Adversary Staff | Georgia Power Co. | Affiliate transactions. |
| 10/98 | U-17735 | LA | Louisiana Public Service Commission Staff | Cajun Electric Power Cooperative | G&T cooperative ratemaking policy, other revenue requirement issues. |
| 11/98 | U-23327 | LA | Louisiana Public Service Commission Staff | SWEPSCO, CSW and AEP | Merger policy, savings sharing mechanism, affiliate transaction conditions |
| 12/98 | U-23358 (Direct) | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Allocation of regulated and nonregulated costs, tax issues, and other revenue requirement issues. |
| 12/98 | 98-577 | ME | Maine Office of Public Advocate | Maine Public Service Co. | Restructuring, unbundling, stranded cost, T&D revenue requirements. |
| 1/99 | 98-10-07 | CT | Connecticut Industrial Energy Consumers | United Illuminating Co. | Stranded costs, investment tax credits, accumulated deferred income taxes, excess deferred income taxes. |
| 3/99 | U-23358 (Surrebuttal) | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Allocation of regulated and nonregulated costs, tax issues, and other revenue requirement issues. |
| 3/99 | 98-474 | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas and Electric Co. | Revenue requirements, alternative forms of regulation. |
| 3/99 | 98-426 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Utilities Co. | Revenue requirements, alternative forms of regulation. |
| 3/99 | 99-082 | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas and Electric Co. | Revenue requirements. |
| 3/99 | 99-083 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Utilities Co. | Revenue requirements. |
| 4/99 | U-23358 (Supplemental Surrebuttal) | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Allocation of regulated and nonregulated costs, tax issues, and other revenue requirement issues. |
| 4/99 | 99-03-04 | CT | Connecticut Industrial Energy Consumers | United Illuminating Co. | Regulatory assets and liabilities, stranded costs, recovery mechanisms. |
| 4/99 | 99-02-05 | Ct | Connecticut Industrial Utility Customers | Connecticut Light and Power Co. | Regulatory assets and liabilities, stranded costs, recovery mechanisms. |
| 5/99 | 98-426 99-082 (Additional Direct) | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas and Electric Co. | Revenue requirements. |

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| 5/99 | 98-474 99-083 (Additional Direct) | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Utilities Co. | Revenue requirements. |
| 5/99 | 98-426 98-474 (Response to Amended Applications) | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas and Electric Co., Kentucky Utilities Co. | Alternative regulation. |
| 6/99 | 97-596 | ME | Maine Office of Public Advocate | Bangor Hydro-Electric Co. | Request for accounting order regarding electric industry restructuring costs |
| 6/99 | U-23358 | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Affiliate transactions, cost allocations. |
| 7/99 | 99-03-35 | CT | Connecticut Industrial Energy Consumers | United Illuminating Co. | Stranded costs, regulatory assets, tax effects of asset divestiture. |
| 7/99 | U-23327 | LA | Louisiana Public Service Commission Staff | Southwestern Electric Power Co., Central and South West Corp, American Electric Power Co. | Merger Settlement and Stipulation. |
| 7/99 | 97-596 Surrebuttal | ME | Maine Office of Public Advocate | Bangor Hydro-Electric Co. | Restructuring, unbundling, stranded cost, T&D revenue requirements. |
| 7/99 | 98-0452-E-GI | WV | West Virginia Energy Users Group | Monongahela Power, Potomac Edison, Appalachian Power, Wheeling Power | Regulatory assets and liabilities. |
| 8/99 | 98-577 Surrebuttal | ME | Maine Office of Public Advocate | Maine Public Service Co. | Restructuring, unbundling, stranded costs, T&D revenue requirements. |
| 8/99 | 98-426 99-082 Rebuttal | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas and Electric Co. | Revenue requirements. |
| 8/99 | 98-474 98-083 Rebuttal | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Utilities Co. | Revenue requirements. |
| 8/99 | 98-0452-E-GI Rebuttal | WV | West Virginia Energy Users Group | Monongahela Power, Potomac Edison, Appalachian Power, Wheeling Power | Regulatory assets and liabilities. |
| 10/99 | U-24182 Direct | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Allocation of regulated and nonregulated costs, affiliate transactions, tax issues, and other revenue requirement issues. |
| 11/99 | PUC Docket 21527 | TX | The Dallas-Fort Worth Hospital Council and Coalition of Independent Colleges and Universities | TXU Electric | Restructuring, stranded costs, taxes, securitization. |

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| 11/99 | U-23358 Surrebuttal Affiliate Transactions Review | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Service company affiliate transaction costs. |
| 01/00 | U-24182 Surrebuttal | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Allocation of regulated and nonregulated costs, affiliate transactions, tax issues, and other revenue requirement issues. |
| 04/00 | 99-1212-EL-ETP 99-1213-EL-ATA 99-1214-EL-AAM | OH | Greater Cleveland Growth Association | First Energy (Cleveland Electric Illuminating, Toledo Edison) | Historical review, stranded costs, regulatory assets, liabilities. |
| 05/00 | 2000-107 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Power Co. | ECR surcharge roll-in to base rates. |
| 05/00 | U-24182 Supplemental Direct | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Affiliate expense proforma adjustments. |
| 05/00 | A-110550F0147 | PA | Philadelphia Area Industrial Energy Users Group | PECO Energy | Merger between PECO and Unicom. |
| 05/00 | 99-1658-EL-ETP | OH | AK Steel Corp. | Cincinnati Gas & Electric Co. | Regulatory transition costs, including regulatory assets and liabilities, SFAS 109, ADIT, EDIT, ITC. |
| 07/00 | PUC Docket 22344 | TX | The Dallas-Fort Worth Hospital Council and The Coalition of Independent Colleges and Universities | Statewide Generic Proceeding | Escalation of O&M expenses for unbundled T&D revenue requirements in projected test year. |
| 07/00 | U-21453 | LA | Louisiana Public Service Commission | SWEPCO | Stranded costs, regulatory assets and liabilities. |
| 08/00 | U-24064 | LA | Louisiana Public Service Commission Staff | CLECO | Affiliate transaction pricing ratemaking principles, subsidization of nonregulated affiliates, ratemaking adjustments. |
| 10/00 | SOAH Docket 473-00-1015 PUC Docket 22350 | TX | The Dallas-Fort Worth Hospital Council and The Coalition of Independent Colleges and Universities | TXU Electric Co. | Restructuring, T&D revenue requirements, mitigation, regulatory assets and liabilities. |
| 10/00 | R-00974104 Affidavit | PA | Duquesne Industrial Intervenors | Duquesne Light Co. | Final accounting for stranded costs, including treatment of auction proceeds, taxes, capital costs, switchback costs, and excess pension funding. |
| 11/00 | P-00001837 R-00974008 P-00001838 R-00974009 | PA | Metropolitan Edison Industrial Users Group Penelec Industrial Customer Alliance | Metropolitan Edison Co., Pennsylvania Electric Co. | Final accounting for stranded costs, including treatment of auction proceeds, taxes, regulatory assets and liabilities, transaction costs. |
| 12/00 | U-21453, U-20925, U-22092 (Subdocket C) Surrebuttal | LA | Louisiana Public Service Commission Staff | SWEPCO | Stranded costs, regulatory assets. |

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| 01/01 | U-24993 Direct | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc | Allocation of regulated and nonregulated costs, tax issues, and other revenue requirement issues. |
| 01/01 | U-21453, U-20925, U-22092 (Subdocket B) Surrebuttal | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Industry restructuring, business separation plan, organization structure, hold harmless conditions, financing. |
| 01/01 | Case No. 2000-386 | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas & Electric Co. | Recovery of environmental costs, surcharge mechanism. |
| 01/01 | Case No. 2000-439 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Utilities Co. | Recovery of environmental costs, surcharge mechanism. |
| 02/01 | A-110300F0095 A-110400F0040 | PA | Met-Ed Industrial Users Group, Penelec Industrial Customer Alliance | GPU, Inc. FirstEnergy Corp. | Merger, savings, reliability. |
| 03/01 | P-00001860 P-00001861 | PA | Met-Ed Industrial Users Group, Penelec Industrial Customer Alliance | Metropolitan Edison Co., Pennsylvania Electric Co. | Recovery of costs due to provider of last resort obligation. |
| 04/01 | U-21453, U-20925, U-22092 (Subdocket B) Settlement Term Sheet | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc | Business separation plan. settlement agreement on overall plan structure. |
| 04/01 | U-21453, U-20925, U-22092 (Subdocket B) Contested Issues | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Business separation plan: agreements, hold harmless conditions, separations methodology. |
| 05/01 | U-21453, U-20925, U-22092 (Subdocket B) Contested Issues Transmission and Distribution Rebuttal | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Business separation plan: agreements, hold harmless conditions, separations methodology |
| 07/01 | U-21453, U-20925, U-22092 (Subdocket B) Transmission and Distribution Term Sheet | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Business separation plan: settlement agreement on T&D issues, agreements necessary to implement T&D separations, hold harmless conditions, separations methodology |
| 10/01 | 14000-U | GA | Georgia Public Service Commission Adversary Staff | Georgia Power Company | Revenue requirements, Rate Plan, fuel clause recovery. |
| 11/01 | 14311-U Direct Panel with Bolin Killings | GA | Georgia Public Service Commission Adversary Staff | Atlanta Gas Light Co | Revenue requirements, revenue forecast, O&M expense, depreciation, plant additions, cash working capital. |

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| 11/01 | U-25687 Direct | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc | Revenue requirements, capital structure, allocation of regulated and nonregulated costs, River Bend uprate. |
| 02/02 | PUC Docket 25230 | TX | The Dallas-Fort Worth Hospital Council and the Coalition of Independent Colleges and Universities | TXU Electric | Stipulation. Regulatory assets, securitization financing. |
| 02/02 | U-25687 Surrebuttal | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Revenue requirements, corporate franchise tax, conversion to LLC, River Bend uprate. |
| 03/02 | 14311-U Rebuttal Panel with Bolin Killings | GA | Georgia Public Service Commission Adversary Staff | Atlanta Gas Light Co. | Revenue requirements, earnings sharing plan, service quality standards. |
| 03/02 | 14311-U Rebuttal Panel with Michelle L. Thebert | GA | Georgia Public Service Commission Adversary Staff | Atlanta Gas Light Co. | Revenue requirements, revenue forecast, O&M expense, depreciation, plant additions, cash working capital. |
| 03/02 | 001148-EI | FL | South Florida Hospital and Healthcare Assoc. | Florida Power & Light Co. | Revenue requirements. Nuclear life extension, storm damage accruals and reserve, capital structure, O&M expense. |
| 04/02 | U-25687 (Suppl. Surrebuttal) | LA | Louisiana Public Service Commission | Entergy Gulf States, Inc. | Revenue requirements, corporate franchise tax, conversion to LLC, River Bend uprate. |
| 04/02 | U-21453, U-20925 U-22092 (Subdocket C) | LA | Louisiana Public Service Commission | SWEPCO | Business separation plan, T&D Term Sheet, separations methodologies, hold harmless conditions. |
| 08/02 | EL01-88-000 | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | System Agreement, production cost equalization, tariffs. |
| 08/02 | U-25888 | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. and Entergy Louisiana, Inc. | System Agreement, production cost disparities, prudence. |
| 09/02 | 2002-00224 2002-00225 | KY | Kentucky Industrial Utilities Customers, Inc. | Kentucky Utilities Co., Louisville Gas & Electric Co. | Line losses and fuel clause recovery associated with off-system sales. |
| 11/02 | 2002-00146 2002-00147 | KY | Kentucky Industrial Utilities Customers, Inc. | Kentucky Utilities Co., Louisville Gas & Electric Co. | Environmental compliance costs and surcharge recovery. |
| 01/03 | 2002-00169 | KY | Kentucky Industrial Utilities Customers, Inc. | Kentucky Power Co. | Environmental compliance costs and surcharge recovery. |
| 04/03 | 2002-00429 2002-00430 | KY | Kentucky Industrial Utilities Customers, Inc. | Kentucky Utilities Co., Louisville Gas & Electric Co. | Extension of merger surcredit, flaws in Companies' studies. |
| 04/03 | U-26527 | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Revenue requirements, corporate franchise tax, conversion to LLC, capital structure, post-test year adjustments. |

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| 06/03 | EL01-88-000 Rebuttal | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | System Agreement, production cost equalization, tariffs. |
| 06/03 | 2003-00068 | KY | Kentucky Industrial Utility Customers | Kentucky Utilities Co. | Environmental cost recovery, correction of base rate error. |
| 11/03 | ER03-753-000 | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Unit power purchases and sale cost-based tariff pursuant to System Agreement. |
| 11/03 | ER03-583-000, ER03-583-001, ER03-583-002 ER03-681-000, ER03-681-001 ER03-682-000, ER03-682-001, ER03-682-002 ER03-744-000, ER03-744-001 (Consolidated) | FERC | Louisiana Public Service Commission | Entergy Services, Inc., the Entergy Operating Companies, EWO Marketing, L.P., and Entergy Power, Inc. | Unit power purchases and sale agreements, contractual provisions, projected costs, levelized rates, and formula rates. |
| 12/03 | U-26527 Surrebuttal | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Revenue requirements, corporate franchise tax, conversion to LLC, capital structure, post-test year adjustments. |
| 12/03 | 2003-0334 2003-0335 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Utilities Co., Louisville Gas & Electric Co. | Earnings Sharing Mechanism. |
| 12/03 | U-27136 | LA | Louisiana Public Service Commission Staff | Entergy Louisiana, Inc. | Purchased power contracts between affiliates, terms and conditions. |
| 03/04 | U-26527 Supplemental Surrebuttal | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Revenue requirements, corporate franchise tax, conversion to LLC, capital structure, post-test year adjustments. |
| 03/04 | 2003-00433 | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas & Electric Co. | Revenue requirements, depreciation rates, O&M expense, deferrals and amortization, earnings sharing mechanism, merger surcredit, VDT surcredit. |
| 03/04 | 2003-00434 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Utilities Co. | Revenue requirements, depreciation rates, O&M expense, deferrals and amortization, earnings sharing mechanism, merger surcredit, VDT surcredit. |
| 03/04 | SOAH Docket 473-04-2459 PUC Docket 29206 | TX | Cities Served by Texas- New Mexico Power Co. | Texas-New Mexico Power Co. | Stranded costs true-up, including valuation issues, ITC, ADIT, excess earnings. |
| 05/04 | 04-169-EL-UNC | OH | Ohio Energy Group, Inc. | Columbus Southern Power Co. & Ohio Power Co. | Rate stabilization plan, deferrals, T&D rate increases, earnings. |

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| 06/04 | SOAH Docket 473-04-4555 PUC Docket 29526 | TX | Houston Council for Health and Education | CenterPoint Energy Houston Electric | Stranded costs true-up, including valuation issues, ITC, EDIT, excess mitigation credits, capacity auction true-up revenues, interest. |
| 08/04 | SOAH Docket 473-04-4555 PUC Docket 29526 (Suppl Direct) | TX | Houston Council for Health and Education | CenterPoint Energy Houston Electric | Interest on stranded cost pursuant to Texas Supreme Court remand. |
| 09/04 | U-23327 Subdocket B | LA | Louisiana Public Service Commission Staff | SWEPCO | Fuel and purchased power expenses recoverable through fuel adjustment clause, trading activities, compliance with terms of various LPSC Orders. |
| 10/04 | U-23327 Subdocket A | LA | Louisiana Public Service Commission Staff | SWEPCO | Revenue requirements. |
| 12/04 | Case Nos. 2004-00321, 2004-00372 | KY | Gallatin Steel Co. | East Kentucky Power Cooperative, Inc., Big Sandy Recc, et al. | Environmental cost recovery, qualified costs, TIER requirements, cost allocation. |
| 01/05 | 30485 | TX | Houston Council for Health and Education | CenterPoint Energy Houston Electric, LLC | Stranded cost true-up including regulatory Central Co. assets and liabilities, ITC, EDIT, capacity auction, proceeds, excess mitigation credits, retrospective and prospective ADIT. |
| 02/05 | 18638-U | GA | Georgia Public Service Commission Adversary Staff | Atlanta Gas Light Co. | Revenue requirements. |
| 02/05 | 18638-U Panel with Tony Wackerly | GA | Georgia Public Service Commission Adversary Staff | Atlanta Gas Light Co. | Comprehensive rate plan, pipeline replacement program surcharge, performance based rate plan. |
| 02/05 | 18638-U Panel with Michelle Thebert | GA | Georgia Public Service Commission Adversary Staff | Atlanta Gas Light Co. | Energy conservation, economic development, and tariff issues. |
| 03/05 | Case Nos. 2004-00426, 2004-00421 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Utilities Co., Louisville Gas & Electric | Environmental cost recovery, Jobs Creation Act of 2004 and §199 deduction, excess common equity ratio, deferral and amortization of nonrecurring O&M expense. |
| 06/05 | 2005-00068 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Power Co. | Environmental cost recovery, Jobs Creation Act of 2004 and §199 deduction, margins on allowances used for AEP system sales. |
| 06/05 | 050045-EI | FL | South Florida Hospital and Healthcare Assoc. | Florida Power & Light Co. | Storm damage expense and reserve, RTO costs, O&M expense projections, return on equity performance incentive, capital structure, selective second phase post-test year rate increase. |
| 08/05 | 31056 | TX | Alliance for Valley Healthcare | AEP Texas Central Co. | Stranded cost true-up including regulatory assets and liabilities, ITC, EDIT, capacity auction, proceeds, excess mitigation credits, retrospective and prospective ADIT. |
| 09/05 | 20298-U | GA | Georgia Public Service Commission Adversary Staff | Atmos Energy Corp. | Revenue requirements, roll-in of surcharges, cost recovery through surcharge, reporting requirements. |

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| 09/05 | 20298-U Panel with Victoria Taylor | GA | Georgia Public Service Commission Adversary Staff | Almos Energy Corp. | Affiliate transactions, cost allocations, capitalization, cost of debt |
| 10/05 | 04-42 | DE | Delaware Public Service Commission Staff | Artesian Water Co. | Allocation of tax net operating losses between regulated and unregulated. |
| 11/05 | 2005-00351 2005-00352 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Utilities Co., Louisville Gas & Electric | Workforce Separation Program cost recovery and shared savings through VDT surcredit. |
| 01/06 | 2005-00341 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Power Co. | System Sales Clause Rider, Environmental Cost Recovery Rider, Net Congestion Rider, Storm damage, vegetation management program, depreciation, off-system sales, maintenance normalization, pension and OPEB. |
| 03/06 | PUC Docket 31994 | TX | Cities | Texas-New Mexico Power Co. | Stranded cost recovery through competition transition or change. |
| 05/06 | 31994 Supplemental | TX | Cities | Texas-New Mexico Power Co. | Retrospective ADFIT, prospective ADFIT. |
| 03/06 | U-21453, U-20925, U-22092 | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Jurisdictional separation plan. |
| 03/06 | NOPR Reg 104385-OR | IRS | Alliance for Valley Health Care and Houston Council for Health Education | AEP Texas Central Company and CenterPoint Energy Houston Electric | Proposed Regulations affecting flow- through to ratepayers of excess deferred income taxes and investment tax credits on generation plant that is sold or deregulated. |
| 04/06 | U-25116 | LA | Louisiana Public Service Commission Staff | Entergy Louisiana, Inc. | 2002-2004 Audit of Fuel Adjustment Clause Filings. Affiliate transactions. |
| 07/06 | R-00061366, Et. al. | PA | Met-Ed Ind. Users Group Pennsylvania Ind. Customer Alliance | Metropolitan Edison Co., Pennsylvania Electric Co. | Recovery of NUG-related stranded costs, government mandated programs costs, storm damage costs. |
| 07/06 | U-23327 | LA | Louisiana Public Service Commission Staff | Southwestern Electric Power Co. | Revenue requirements, formula rate plan, banking proposal. |
| 08/06 | U-21453, U-20925, U-22092 (Subdocket J) | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Jurisdictional separation plan. |
| 11/06 | 05CVH03-3375 Franklin County Court Affidavit | OH | Various Taxing Authorities (Non-Utility Proceeding) | State of Ohio Department of Revenue | Accounting for nuclear fuel assemblies as manufactured equipment and capitalized plant. |
| 12/06 | U-23327 Subdocket A Reply Testimony | LA | Louisiana Public Service Commission Staff | Southwestern Electric Power Co. | Revenue requirements, formula rate plan, banking proposal. |
| 03/07 | U-29764 | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc., Entergy Louisiana, LLC | Jurisdictional allocation of Entergy System Agreement equalization remedy receipts. |
| 03/07 | PUC Docket 33309 | TX | Cities | AEP Texas Central Co. | Revenue requirements, including functionalization of transmission and distribution costs. |

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| 03/07 | PUC Docket 33310 | TX | Cities | AEP Texas North Co. | Revenue requirements, including functionalization of transmission and distribution costs. |
| 03/07 | 2006-00472 | KY | Kentucky Industrial Utility Customers, Inc. | East Kentucky Power Cooperative | Interim rate increase, RUS loan covenants, credit facility requirements, financial condition. |
| 03/07 | U-29157 | LA | Louisiana Public Service Commission Staff | Cleco Power, LLC | Permanent (Phase II) storm damage cost recovery. |
| 04/07 | U-29764 Supplemental and Rebuttal | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc., Entergy Louisiana, LLC | Jurisdictional allocation of Entergy System Agreement equalization remedy receipts. |
| 04/07 | ER07-682-000 Affidavit | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Allocation of intangible and general plant and A&G expenses to production and state income tax effects on equalization remedy receipts. |
| 04/07 | ER07-684-000 Affidavit | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Fuel hedging costs and compliance with FERC USOA. |
| 05/07 | ER07-682-000 Affidavit | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Allocation of intangible and general plant and A&G expenses to production and account 924 effects on MSS-3 equalization remedy payments and receipts. |
| 06/07 | U-29764 | LA | Louisiana Public Service Commission Staff | Entergy Louisiana, LLC, Entergy Gulf States, Inc. | Show cause for violating LPSC Order on fuel hedging costs. |
| 07/07 | 2006-00472 | KY | Kentucky Industrial Utility Customers, Inc. | East Kentucky Power Cooperative | Revenue requirements, post-test year adjustments, TIER, surcharge revenues and costs, financial need. |
| 07/07 | ER07-956-000 Affidavit | FERC | Louisiana Public Service Commission | Entergy Services, Inc. | Storm damage costs related to Hurricanes Katrina and Rita and effects of MSS-3 equalization payments and receipts. |
| 10/07 | 05-UR-103 Direct | WI | Wisconsin Industrial Energy Group | Wisconsin Electric Power Company, Wisconsin Gas, LLC | Revenue requirements, carrying charges on CWIP, amortization and return on regulatory assets, working capital, incentive compensation, use of rate base in lieu of capitalization, quantification and use of Point Beach sale proceeds. |
| 10/07 | 05-UR-103 Surrebuttal | WI | Wisconsin Industrial Energy Group | Wisconsin Electric Power Company, Wisconsin Gas, LLC | Revenue requirements, carrying charges on CWIP, amortization and return on regulatory assets, working capital, incentive compensation, use of rate base in lieu of capitalization, quantification and use of Point Beach sale proceeds. |
| 10/07 | 25060-U Direct | GA | Georgia Public Service Commission Public Interest Adversary Staff | Georgia Power Company | Affiliate costs, incentive compensation, consolidated income taxes, §199 deduction. |
| 11/07 | 06-0033-E-CN Direct | WV | West Virginia Energy Users Group | Appalachian Power Company | IGCC surcharge during construction period and post-in-service date. |

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| 11/07 | ER07-682-000 Direct | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Functionalization and allocation of intangible and general plant and A&G expenses. |
| 01/08 | ER07-682-000 Cross-Answering | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Functionalization and allocation of intangible and general plant and A&G expenses. |
| 01/08 | 07-551-EL-AIR Direct | OH | Ohio Energy Group, Inc. | Ohio Edison Company, Cleveland Electric Illuminating Company, Toledo Edison Company | Revenue requirements. |
| 02/08 | ER07-956-000 Direct | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Functionalization of expenses in account 923; storm damage expense and accounts 924, 228.1, 182.3, 254 and 407.3; tax NOL carrybacks in accounts 165 and 236; ADIT; nuclear service lives and effect on depreciation and decommissioning. |
| 03/08 | ER07-956-000 Cross-Answering | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Functionalization of expenses in account 923; storm damage expense and accounts 924, 228.1, 182.3, 254 and 407.3; tax NOL carrybacks in accounts 165 and 236; ADIT; nuclear service lives and effect on depreciation and decommissioning. |
| 04/08 | 2007-00562, 2007-00563 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Utilities Co., Louisville Gas and Electric Co. | Merger surcredit. |
| 04/08 | 26837 Direct Panel with Thomas K. Bond, Cynthia Johnson, and Michelle Thebert | GA | Georgia Public Service Commission Staff | SCANA Energy Marketing, Inc. | Rule Nisi complaint. |
| 05/08 | 26837 Rebuttal Panel with Thomas K. Bond, Cynthia Johnson, and Michelle Thebert | GA | Georgia Public Service Commission Staff | SCANA Energy Marketing, Inc. | Rule Nisi complaint. |
| 05/08 | 26837 Supplemental Rebuttal Panel with Thomas K. Bond, Cynthia Johnson, and Michelle Thebert | GA | Georgia Public Service Commission Staff | SCANA Energy Marketing, Inc. | Rule Nisi complaint. |

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| 06/08 | 2008-00115 | KY | Kentucky Industrial Utility Customers, Inc. | East Kentucky Power Cooperative, Inc. | Environmental surcharge recoveries, including costs recovered in existing rates, TIER. |
| 07/08 | 27163 Direct | GA | Georgia Public Service Commission Public Interest Advocacy Staff | Atmos Energy Corp. | Revenue requirements, including projected test year rate base and expenses. |
| 07/08 | 27163 Panel with Victoria Taylor | GA | Georgia Public Service Commission Public Interest Advocacy Staff | Atmos Energy Corp. | Affiliate transactions and division cost allocations, capital structure, cost of debt. |
| 08/08 | 6680-CE-170 Direct | WI | Wisconsin Industrial Energy Group, Inc. | Wisconsin Power and Light Company | Nelson Dewey 3 or Colombia 3 fixed financial parameters. |
| 08/08 | 6680-UR-116 Direct | WI | Wisconsin Industrial Energy Group, Inc. | Wisconsin Power and Light Company | CWIP in rate base, labor expenses, pension expense, financing, capital structure, decoupling. |
| 08/08 | 6680-UR-116 Rebuttal | WI | Wisconsin Industrial Energy Group, Inc. | Wisconsin Power and Light Company | Capital structure. |
| 08/08 | 6690-UR-119 Direct | WI | Wisconsin Industrial Energy Group, Inc. | Wisconsin Public Service Corp. | Prudence of Weston 3 outage, incentive compensation, Crane Creek Wind Farm incremental revenue requirement, capital structure. |
| 09/08 | 6690-UR-119 Surrebuttal | WI | Wisconsin Industrial Energy Group, Inc. | Wisconsin Public Service Corp. | Prudence of Weston 3 outage, Section 199 deduction. |
| 09/08 | 08-935-EL-SSO, 08-918-EL-SSO | OH | Ohio Energy Group, Inc. | First Energy | Standard service offer rates pursuant to electric security plan, significantly excessive earnings test. |
| 10/08 | 08-917-EL-SSO | OH | Ohio Energy Group, Inc. | AEP | Standard service offer rates pursuant to electric security plan, significantly excessive earnings test. |
| 10/08 | 2007-564, 2007-565, 2008-251 2008-252 | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas and Electric Co., Kentucky Utilities Company | Revenue forecast, affiliate costs, depreciation expenses, federal and state income tax expense, capitalization, cost of debt. |
| 11/08 | EL08-51 | FERC | Louisiana Public Service Commission | Entergy Services, Inc. | Spindletop gas storage facilities, regulatory asset and bandwidth remedy. |
| 11/08 | 35717 | TX | Cities Served by Oncor Delivery Company | Oncor Delivery Company | Recovery of old meter costs, asset ADFIT, cash working capital, recovery of prior year restructuring costs, levelized recovery of storm damage costs, prospective storm damage accrual, consolidated tax savings adjustment. |
| 12/08 | 27800 | GA | Georgia Public Service Commission | Georgia Power Company | AFUDC versus CWIP in rate base, mirror CWIP, certification cost, use of short term debt and trust preferred financing, CWIP recovery, regulatory incentive. |
| 01/09 | ER08-1056 | FERC | Louisiana Public Service Commission | Entergy Services, Inc. | Entergy System Agreement bandwidth remedy calculations, including depreciation expense, ADIT, capital structure. |
| 01/09 | ER08-1056 Supplemental Direct | FERC | Louisiana Public Service Commission | Entergy Services, Inc. | Blytheville leased turbines; accumulated depreciation. |

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| 02/09 | EL08-51 Rebuttal | FERC | Louisiana Public Service Commission | Entergy Services, Inc. | Spindletop gas storage facilities regulatory asset and bandwidth remedy. |
| 02/09 | 2008-00409 Direct | KY | Kentucky Industrial Utility Customers, Inc. | East Kentucky Power Cooperative, Inc. | Revenue requirements. |
| 03/09 | ER08-1056 Answering | FERC | Louisiana Public Service Commission | Entergy Services, Inc. | Entergy System Agreement bandwidth remedy calculations, including depreciation expense, ADIT, capital structure. |
| 03/09 | U-21453, U-20925 U-22092 (Subdocket J) | LA | Louisiana Public Service Commission Staff | Entergy Gulf States Louisiana, LLC | Violation of EGSI separation order, ETI and EGSL separation accounting, Spindletop regulatory asset. |
| 04/09 | U-21453, U-20925 U-22092 (Subdocket J) Rebuttal | LA | Louisiana Public Service Commission Staff | Entergy Gulf States Louisiana, LLC | Violation of EGSI separation order, ETI and EGSL separation accounting, Spindletop regulatory asset. |
| 04/09 | 2009-00040 Direct-Interim (Oral) | KY | Kentucky Industrial Utility Customers, Inc. | Big Rivers Electric Corp. | Emergency interim rate increase; cash requirements. |
| 04/09 | PUC Docket 36530 | TX | State Office of Administrative Hearings | Oncor Electric Delivery Company, LLC | Rate case expenses. |
| 05/09 | ER08-1056 Rebuttal | FERC | Louisiana Public Service Commission | Entergy Services, Inc. | Entergy System Agreement bandwidth remedy calculations, including depreciation expense, ADIT, capital structure. |
| 06/09 | 2009-00040 Direct- Permanent | KY | Kentucky Industrial Utility Customers, Inc. | Big Rivers Electric Corp. | Revenue requirements, TIER, cash flow. |
| 07/09 | 080677-EI | FL | South Florida Hospital and Healthcare Association | Florida Power & Light Company | Multiple test years, GBRA rider, forecast assumptions, revenue requirement, O&M expense, depreciation expense, Economic Stimulus Bill, capital structure. |
| 08/09 | U-21453, U-20925, U-22092 (Subdocket J) Supplemental Rebuttal | LA | Louisiana Public Service Commission | Entergy Gulf States Louisiana, LLC | Violation of EGSI separation order, ETI and EGSL separation accounting, Spindletop regulatory asset. |
| 08/09 | 8516 and 29950 | GA | Georgia Public Service Commission Staff | Atlanta Gas Light Company | Modification of PRP surcharge to include infrastructure costs. |
| 09/09 | 05-UR-104 Direct and Surrebuttal | WI | Wisconsin Industrial Energy Group | Wisconsin Electric Power Company | Revenue requirements, incentive compensation, depreciation, deferral mitigation, capital structure, cost of debt. |
| 09/09 | 09AL-299E | CO | CF&I Steel, Rocky Mountain Steel Mills LP, Climax Molybdenum Company | Public Service Company of Colorado | Forecasted test year, historic test year, proforma adjustments for major plant additions, tax depreciation. |

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| 09/09 | 6680-UR-117 Direct and Surrebuttal | WI | Wisconsin Industrial Energy Group | Wisconsin Power and Light Company | Revenue requirements, CWIP in rate base, deferral mitigation, payroll, capacity shutdowns, regulatory assets, rate of return. |
| 10/09 | 09A-415E | CO | Cripple Creek & Victor Gold Mining Company, et al. | Black Hills/CO Electric Utility Company | Cost prudence, cost sharing mechanism. |
| 10/09 | EL09-50 Direct | LA | Louisiana Public Service Commission | Entergy Services, Inc. | Waterford 3 sale/leaseback accumulated deferred income taxes, Entergy System Agreement bandwidth remedy calculations. |
| 10/09 | 2009-00329 | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas and Electric Company, Kentucky Utilities Company | Trimble County 2 depreciation rates. |
| 12/09 | PUE-2009-00030 | VA | Old Dominion Committee for Fair Utility Rates | Appalachian Power Company | Return on equity incentive. |
| 12/09 | ER09-1224 Direct | FERC | Louisiana Public Service Commission | Entergy Services, Inc. | Hypothetical versus actual costs, out of period costs, Spindletop deferred capital costs, Waterford 3 sale/leaseback ADIT. |
| 01/10 | ER09-1224 Cross-Answering | FERC | Louisiana Public Service Commission | Entergy Services, Inc. | Hypothetical versus actual costs, out of period costs, Spindletop deferred capital costs, Waterford 3 sale/leaseback ADIT. |
| 01/10 | EL09-50 Rebuttal | LA | Louisiana Public Service Commission | Entergy Services, Inc. | Waterford 3 sale/leaseback accumulated deferred income taxes, Entergy System Agreement bandwidth remedy calculations. |
| 02/10 | ER09-1224 Final | FERC | Louisiana Public Service Commission | Entergy Services, Inc. | Hypothetical versus actual costs, out of period costs, Spindletop deferred capital costs, Waterford 3 sale/leaseback ADIT. |
| 02/10 | 30442 Wackerly-Kollen Panel | GA | Georgia Public Service Commission Staff | Atmos Energy Corporation | Revenue requirement issues. |
| 02/10 | 30442 McBride-Kollen Panel | GA | Georgia Public Service Commission Staff | Atmos Energy Corporation | Affiliate/division transactions, cost allocation, capital structure. |
| 02/10 | 2009-00353 | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas and Electric Company, Kentucky Utilities Company | Ratemaking recovery of wind power purchased power agreements. |
| 03/10 | 2009-00545 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Power Company | Ratemaking recovery of wind power purchased power agreement. |
| 03/10 | E015/GR-09-1151 | MN | Large Power Interveners | Minnesota Power | Revenue requirement issues, cost overruns on environmental retrofit project. |
| 03/10 | EL10-55 | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Depreciation expense and effects on System Agreement tariffs. |

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| 04/10 | 2009-00459 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Power Company | Revenue requirement issues. |
| 04/10 | 2009-00458, 2009-00459 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Utilities Company, Louisville Gas and Electric Company | Revenue requirement issues. |
| 08/10 | 31647 | GA | Georgia Public Service Commission Staff | Atlanta Gas Light Company | Revenue requirement and synergy savings issues |
| 08/10 | 31647 Wackerly-Kollen Panel | GA | Georgia Public Service Commission Staff | Atlanta Gas Light Company | Affiliate transaction and Customer First program issues. |
| 08/10 | 2010-00204 | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas and Electric Company, Kentucky Utilities Company | PPL acquisition of E.ON U.S. (LG&E and KU) conditions, acquisition savings, sharing deferral mechanism. |
| 09/10 | 38339 Direct and Cross-Rebuttal | TX | Gulf Coast Coalition of Cities | CenterPoint Energy Houston Electric | Revenue requirement issues, including consolidated tax savings adjustment, incentive compensation FIN 48; AMS surcharge including roll-in to base rates; rate case expenses. |
| 09/10 | EL10-55 | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Depreciation rates and expense input effects on System Agreement tariffs. |
| 09/10 | 2010-00167 | KY | Gallatin Steel | East Kentucky Power Cooperative, Inc. | Revenue requirements. |
| 09/10 | U-23327 Subdocket E Direct | LA | Louisiana Public Service Commission | SWEPSCO | Fuel audit: SO2 allowance expense, variable O&M expense, off-system sales margin sharing. |
| 11/10 | U-23327 Rebuttal | LA | Louisiana Public Service Commission | SWEPSCO | Fuel audit: SO2 allowance expense, variable O&M expense, off-system sales margin sharing. |
| 09/10 | U-31351 | LA | Louisiana Public Service Commission Staff | SWEPSCO and Valley Electric Membership Cooperative | Sale of Valley assets to SWEPSCO and dissolution of Valley. |
| 10/10 | 10-1261-EL-UNC | OH | Ohio OCC, Ohio Manufacturers Association, Ohio Energy Group, Ohio Hospital Association, Appalachian Peace and Justice Network | Columbus Southern Power Company | Significantly excessive earnings test. |
| 10/10 | 10-0713-E-PC | WV | West Virginia Energy Users Group | Monongahela Power Company, the Potomac Edison Power Company | Merger of First Energy and Allegheny Energy. |
| 10/10 | U-23327 Subdocket F Direct | LA | Louisiana Public Service Commission Staff | SWEPSCO | AFUDC adjustments in Formula Rate Plan. |

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| 11/10 | EL10-55 Rebuttal | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Depreciation rates and expense input effects on System Agreement tariffs. |
| 12/10 | ER10-1350 Direct | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Waterford 3 lease amortization, ADIT, and fuel inventory effects on System Agreement tariffs. |
| 01/11 | ER10-1350 Cross-Answering | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Waterford 3 lease amortization, ADIT, and fuel inventory effects on System Agreement tariffs. |
| 03/11 | ER10-2001 Direct | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and Entergy Arkansas, Inc. | EAI depreciation rates. |
| 04/11 | Cross-Answering | | | | |
| 04/11 | U-23327 Subdocket E | LA | Louisiana Public Service Commission Staff | SWEPCO | Settlement, including resolution of SO2 allowance expense, variable O&M expense, and tiered sharing of off-system sales margins. |
| 04/11 | 38306 Direct | TX | Cities Served by Texas- New Mexico Power Company | Texas-New Mexico Power Company | AMS deployment plan, AMS Surcharge, rate case expenses. |
| 05/11 | Supplemental Direct | | | | |
| 05/11 | 11-0274-E-GI | WV | West Virginia Energy Users Group | Appalachian Power Company and Wheeling Power Company | Deferral recovery phase-in, construction surcharge. |
| 05/11 | 2011-00036 | KY | Kentucky Industrial Utility Customers, Inc. | Big Rivers Electric Corp. | Revenue requirements. |
| 06/11 | 29849 | GA | Georgia Public Service Commission Staff | Georgia Power Company | Accounting issues related to Vogtle risk-sharing mechanism. |
| 07/11 | ER11-2161 Direct and Answering | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and Entergy Texas, Inc. | ETI depreciation rates; accounting issues. |
| 07/11 | PUE-2011-00027 | VA | Virginia Committee for Fair Utility Rates | Virginia Electric and Power Company | Return on equity performance incentive. |
| 07/11 | 11-346-EL-SSO 11-348-EL-SSO 11-349-EL-AAM 11-350-EL-AAM | OH | Ohio Energy Group | AEP-OH | Equity Stabilization Incentive Plan; actual earned returns; ADIT offsets in riders |
| 08/11 | ER-11-2161 Cross-Answering | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and Entergy Texas, Inc. | ETI depreciation rates; accounting issues |
| 08/11 | U-23327 Subdocket F Rebuttal | LA | Louisiana Public Service Commission Staff | SWEPCO | Depreciation rates and service lives; AFUDC adjustments. |
| 08/11 | 05-UR-105 | WI | Wisconsin Industrial Energy Group | WE Energies, Inc. | Suspended amortization expenses; revenue requirements. |

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| 08/11 | ER11-2161 Cross-Answering | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and Entergy Texas, Inc. | ETI depreciation rates; accounting issues. |
| 09/11 | PUC Docket 39504 | TX | Gulf Coast Coalition of Cities | CenterPoint Energy Houston Electric | Investment tax credit, excess deferred income taxes; normalization |
| 09/11 | 2011-00161 2011-00162 | KY | Kentucky Industrial Utility Consumers, Inc. | Louisville Gas & Electric Company, Kentucky Utilities Company | Environmental requirements and financing. |
| 10/11 | 11-4571-EL-UNC 11-4572-EL-UNC | OH | Ohio Energy Group | Columbus Southern Power Company, Ohio Power Company | Significantly excessive earnings. |
| 10/11 | 4220-UR-117 Direct | WI | Wisconsin Industrial Energy Group | Northern States Power-Wisconsin | Nuclear O&M depreciation. |
| 11/11 | 4220-UR-117 Surrebuttal | WI | Wisconsin Industrial Energy Group | Northern States Power-Wisconsin | Nuclear O&M depreciation. |
| 11/11 | PUC Docket 39722 | TX | Cities Served by AEP Texas Central Company | AEP Texas Central Company | Investment tax credit, excess deferred income taxes; normalization. |
| 02/12 | PUC Docket 40020 | TX | Cities Served by Oncor | Lone Star Transmission, LLC | Temporary rates. |

EXHIBIT ____ (LK-2)

BIG RIVERS ELECTRIC CORPORATION

**APPLICATION OF BIG RIVERS ELECTRIC CORPORATION
FOR APPROVAL OF ITS 2012 ENVIRONMENTAL COMPLIANCE PLAN,
FOR APPROVAL OF ITS AMENDED ENVIRONMENTAL COST
RECOVERY SURCHARGE TARIFF, FOR CERTIFICATES OF PUBLIC
CONVENIENCE AND NECESSITY, AND FOR AUTHORITY TO
ESTABLISH A REGULATORY ACCOUNT
CASE NO. 2012-00063**

**Response to the Kentucky Industrial Utility Customers'
Second Request for Information
Dated June 22, 2012**

July 6, 2012

- 1 Item 22) *Refer to the Company's response to AG 1-67.*
2
3 *a. Please describe how the Company will reflect the*
4 *retirement of the Wilson scrubber in the ECR. Address*
5 *each of the following components:*
6 *i. gross plant,*
7 *ii. accumulated depreciation,*
8 *iii. net salvage, and*
9 *iv. changes in operating costs.*
10 *b. Does the Company's estimate of capital expenditures for*
11 *the Wilson scrubber include any costs to remove the*
12 *existing scrubber? If not, then where are the removal*
13 *costs reflected in the Company's financial models used to*
14 *evaluate the various scenarios?*
15 *c. Please provide the Company's estimate of costs to remove*
16 *the existing scrubber.*
17 *d. Please describe how the Company plans to track the costs*
18 *to remove the existing scrubber to ensure that the costs are*
19 *not included in the ECR?*
20 *e. Please describe how the Company plans to recover the net*
21 *book value and the costs to remove the existing scrubber.*
22

BIG RIVERS ELECTRIC CORPORATION

**APPLICATION OF BIG RIVERS ELECTRIC CORPORATION
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July 6, 2012

1 **Response)**

- 2 a. The Company will reflect the retirement of the Wilson scrubber
3 in the ECR as follows:
- 4 i. Only to the extent that the partial retirement of the
5 existing Wilson scrubber causes the (gross) plant-in-
6 service balance for non-ECP long-life environmental
7 assets (Accounts 312 A-K) to fall below the October 31,
8 2010 (test-year-end for PSC Case No. 2011-00036) level,
9 then gross plant will reduce depreciation expense
10 recovered under the ECR. Depreciation expense
11 recovered through the ECR will be decreased by a
12 depreciation adjustment calculated by applying the
13 "Accounts 312 A-K" depreciation rate to the lower of: (x)
14 the reduction in non-ECP plant-in-service below the
15 October 31, 2010 level (resulting from the partial
16 retirement of the existing Wilson scrubber); or (y) the
17 gross plant balance of the existing Wilson scrubber assets
18 being retired included in the October 31, 2010 plant-in-
19 service balance. This approach ensures that the amount
20 of depreciation expense recovered from ratepayers
21 through base rates does not exceed the Commission-
22 approved amount.

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July 6, 2012

- 1 ii. Accumulated depreciation reoved upon partial retirement
2 of the existing Wilson scrubber will have no effect on the
3 ECR.
4 iii. Net salvage upon partial retirement of the existing
5 Wilson scrubber will have no effect on the ECR.
6 iv. The ECR will only include actual variable operating costs
7 associated with the new scrubber.
8 b. The estimated capital expenditures included in the financial
9 model do not include removal costs or salvage value. The
10 assumption for modeling purposes is that any cost of removal
11 would be offset by salvage value. In addition, the design of the
12 new Wilson scrubber included in the ECP will allow the partial
13 retirement of the existing Wilson scrubber to occur without
14 requiring removal. Other than cash flow, including removal
15 costs or salvage value would have no other effect on the financial
16 model because these expenditures would simply be included in
17 the loss on retirement and recorded in the accumulated
18 depreciation reserve account.
19 c. Big Rivers does not have an estimate of removal costs or salvage
20 value for the partial retirement of the existing Wilson scrubber.
21 d. In the event that the partial retirement of the existing Wilson
22 scrubber is removed along with the installation of the new

BIG RIVERS ELECTRIC CORPORATION

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1 Wilson scrubber, Big Rivers would track removal cost and
2 salvage value for that portion of the construction project under
3 separate tasks (subaccounts). If a capital asset is removed when
4 retired, then amounts accumulated under the removal task and
5 the salvage value task are included in the calculation of gain or
6 loss on retirement of the asset and ultimately recorded in the
7 accumulated depreciation reserve account. Accordingly, net
8 salvage, whether positive or negative, will not affect the ECR.

9 e. Big Rivers continues to retire assets that are not fully
10 depreciated, and the partial retirement of the existing Wilson
11 scrubber will be no exception. The loss from these retirements
12 builds in the accumulated depreciation reserve account and in
13 theory will affect Big Rivers' depreciation rates in its next
14 depreciation study. Higher depreciation rates due to a history of
15 retiring capital assets at a loss will be the means by which Big
16 Rivers eventually recovers the cost of the partial retirement of
17 the existing Wilson scrubber.

18
19
20 **Witness) Mark A. Hite**

**Case No. 2012-00063
Response to KIUC 2-22
Witness: Mark A. Hite
Page 4 of 4**

EXHIBIT ____ (LK-3)

BIG RIVERS ELECTRIC CORPORATION

**APPLICATION OF BIG RIVERS ELECTRIC CORPORATION
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CASE NO. 2012-00063**

**Response to the Office of the Attorney General's
Initial Request for Information
Dated May 21, 2012**

June 1, 2012

1 **Item 22)** *Provide any economically feasibility tests undertaken by the*
2 *company with regard to the ability of the end-user to pay his/her/its bill*
3 *and thus the ability of same to continue to take the projected amount of*
4 *load and not decrease usage thus affecting the overall demand on the*
5 *system.*

6

7 **Response)** Big Rivers did not calculate any potential erosion in usage by end use
8 consumers that might result from the increase in rates stemming from the rate
9 changes in the requested environmental cost recovery mechanism in this
10 proceeding. Price elasticity analyses are not ordinarily undertaken by Applicants
11 in cases where the proposed rate increases are of the magnitude contemplated in
12 this case.

13

14

15 **Witness)** John Wolfram

16

BIG RIVERS ELECTRIC CORPORATION

**APPLICATION OF BIG RIVERS ELECTRIC CORPORATION
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**Response to Commission Staff's
Second Request for Information
Dated June 22, 2012**

July 6, 2012

1 **Item 14) *Refer to Big Rivers' response to Item 22 of the Attorney***
2 ***General's Initial Data Request ("AG's First Request"). Big Rivers***
3 ***responded "[p]rice elasticity analyses are not ordinarily undertaken by***
4 ***Applicants in cases where the proposed rate increases are of the***
5 ***magnitude contemplated in this case." Provide a discussion of what level***
6 ***of proposed rate increases would prompt Big Rivers to perform price***
7 ***elasticity analyses.***

8
9 **Response) Big Rivers has not performed a study or analysis to determine at**
10 **what point price elasticity becomes an issue.**

11

12

13 **Witness) John Wolfram**

14

EXHIBIT ____ (LK-4)

BIG RIVERS ELECTRIC CORPORATION

**APPLICATION OF BIG RIVERS ELECTRIC CORPORATION
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**Response to Commission Staff's
Initial Request for Information
Dated May 21, 2012**

June 1, 2012

1 **Item 18)** *Refer to page 1-4 of the Exhibit DePriest – 2.*

2

3 *a. Describe the “minimal-contracts approach to project*
4 *execution” used in the development of the environmental*
5 *compliance study.*

6 *b. How much would the inclusion of owner’s cost add to the*
7 *estimated cost?*

8

9 **Response)**

10 a. “Minimal-contracts approach to project execution” refers to the
11 process control of engineering, procurement and construction.
12 Under an “EPC (engineer-procure-construct) contract” approach,
13 an Owner enters into a single contract with one company, who is
14 responsible for performing all engineering tasks, purchasing all
15 equipment and material, and performing all construction and
16 startup tasks. This approach is subject to large mark-ups in
17 equipment purchases from OEMs (original equipment
18 manufacturers), thereby increasing overall project costs. Under
19 a “minimal contracts approach,” the Owner enters into contracts
20 with each of the major equipment suppliers, an engineering
21 designer, and a construction contractor. This strategy allows
22 the Owner to perform major engineering design earlier in the

BIG RIVERS ELECTRIC CORPORATION

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June 1, 2012

1 overall process, provides the ability to purchase major
2 equipment directly and eliminate mark-up costs, and provides a
3 firm basis for the construction contract, thereby resulting in the
4 lowest overall cost to the Owner.
5 b. Owner's costs were not specifically included in the Sargent and
6 Lundy cost estimate. However, they are anticipated to be
7 relatively insignificant and are covered by the contingency in the
8 estimate.

9
10
11
12

Witness) William DePriest

EXHIBIT ____ (LK-5)

BIG RIVERS ELECTRIC CORPORATION

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**Response to Commission Staff's
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Dated May 21, 2012**

June 1, 2012

1 **Item 14)** *Refer to page 16 of the DePriest Testimony, lines 16-25.*

2

3 *a. Did Sargent & Lundy consider the replacement of the*
4 *electro-static precipitators ("ESP") with a fabric filter?*

5 *b. Does Big Rivers have a strategy if the ESP performance is*
6 *inadequate?*

7

8 **Response)**

9 a. Yes.

10 b. Big Rivers anticipates performing precipitator testing or
11 modeling its ESP's performance in 2013. Should this testing or
12 modeling indicate potential issues not foreseen in the study
13 results, then Big Rivers will consider the ESP upgrades
14 mentioned in the DePriest testimony.

15

16

17 **Witnesses) a.** William DePriest

18 b. Robert W. Berry

19

EXHIBIT ____ (LK-6)

BIG RIVERS ELECTRIC CORPORATION

**APPLICATION OF BIG RIVERS ELECTRIC CORPORATION
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**Response to the Kentucky Industrial Utility Customers'
Initial Request for Information
Dated May 21, 2012**

June 1, 2012

1 **Item 43)** *Please provide a copy of all minutes from the Company's*
2 *Board of Directors meetings since January 2010 through the most recent*
3 *month available. This is a continuing request and the response should be*
4 *supplemented as each additional month is available.*

5

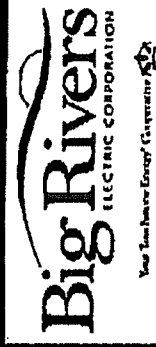
6 **Response)** Big Rivers objects to this request on the grounds that it is overly
7 broad and seeks information that is irrelevant to this proceeding. Without
8 waiving this objection, Big Rivers provides the attached minutes, presentations,
9 and attachments from Big Rivers' Board of Directors meetings from January 2010
10 through May 2012 on the CDs accompanying these responses. Information not
11 relevant to this proceeding has been redacted from the minutes.

12

13

14 **Witness)** Robert W. Berry

15



Environmental Compliance Update

Eric Robeson
January 19, 2012



Recommendations from Sargent & Lundy Study

- Replace FGD at Wilson
- Install SCR at one Green unit
- Upgrade fans at HMPL and install additional FGD recycle pumps
- Install low NOx burners at HMPL and Wilson
- Convert Reid to natural gas



CSAPR Update

- On December 30, the DC Court of Appeals issued a stay regarding CSAPR
- Compliance has been suspended pending resolution of this action
- Probable outcome will be a one year delay in implementation
- Until this is resolved, all utilities must continue to comply with CAIR, which was the air regulation prior to CSAPR
- Big Rivers should be in CAIR compliance with minimal NOx allowance purchases for 2012



MATS Mercury and Air Toxics Standard

- Regulations issued in December
- Emissions rates limits instead of total emissions (allowances)
- 2015 compliance date with 1 year extension likely
- Activated Carbon Injection required at all plants
- Precipitator upgrades with dry sorbent injection possible at all plants
- Subject to litigation as well

CSAPR & MATS Cost Update - Capital

| CSAPR CAPITAL EXPENSE ESTIMATES (\$ Millions) | | | | | |
|---|-------------|-------------|-------------|-------------|--------------|
| Project | '12 | '13 | '14 | '15 | Total |
| Wilson FGD | 5 | 30 | 50 | 15 | 100 |
| Green SCR | .5 | 50 | 20 | - | 75 |
| HMPL Fan Upgrades | 2 | 6 | - | - | 8 |
| Reid Conversion | 2 | - | - | - | 2 |
| Total | 14 | 86 | 70 | 15 | 185 |
| MATS CAPITAL EXPENSE ESTIMATES (\$ Millions) | | | | | |
| Activated Carbon Injection and Particulate Monitors | | | | | |
| Station | '12 | '13 | '14 | '15 | Total |
| Coleman | - | - | 3.5 | 10.0 | 13.5 |
| Wilson | - | - | 1.0 | 4.0 | 5.0 |
| Green | - | - | 1.0 | 8.0 | 9.0 |
| HMPL | - | - | - | 1.0 | 1.0 |
| Total | - | - | 5.5 | 23.0 | 28.5 |
| Overall - CSAPR & MATS CAPITAL EXPENSE (\$ Millions) | | | | | |
| Assumes no additional particulate compliance measures required. | | | | | |
| Total | 14.0 | 86.0 | 75.5 | 38.0 | 213.5 |

CSAPR & MATS Cost Update – O&M

| CSAPR O&M EXPENSE | | |
|---|--------------|------------------------|
| Project | \$(Millions) | Comment |
| Wilson FGD | 0.70 | |
| Green SCR | 1.50 | additional 4 personnel |
| HMPL Fan Upgrades | 0.75 | |
| Reid Conversion | - | |
| Total | 2.95 | |
| MATS O&M EXPENSE | | |
| Activated: Carbon Injection and Particulate Monitors | | |
| Station | \$(Millions) | Comment |
| Coleman | 2.55 | |
| Wilson | 2.20 | |
| Green | 2.40 | |
| HMPL | 0.08 | |
| Total | 7.23 | |
| OVERALL CSAPR & MATS O&M EXPENSE | | |
| Assume no additional particulate compliance measures required | | |
| Total | 10.18 | \$(Millions) |



Alternatives

- Reduce generation and buy purchased power
- Install SNCR at Coleman and Green Units and replace burners at Coleman
 - Estimated cost of \$28M
- Convert Green Units to Natural Gas
 - Estimated \$25M each vs \$75M SCR each
 - MWH cost goes from \$30 to \$50
 - Complies with future HAPS/MACT and CCR regulations
- Buy NOx Allowances instead of SCR
 - Market needs to develop
 - Cannot exceed 18% variability limit of allowances



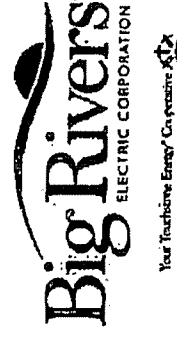
Time Line

- April 2012 File Environmental Compliance Plan, CPCN and Revised Environmental Surcharge
- Release A/E to develop RFP's
- October 2012 PSC Approval
- Notice to proceed to vendors
- January 2013 Vendor procurement begins
- July 2013 Construction begins
- January 2015 Wilson FGD in service

Environmental Compliance Update

Eric Robeson

February 21, 2012



Changes since last update

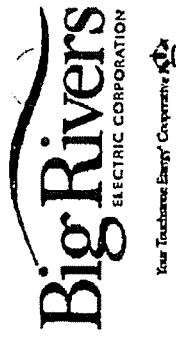
- Bob Berry assumed project lead
- S&L report issued
- Increased cap ex for Wilson FGD
- Finalized MATS recommendations
- Evaluated NOx allowance option vs Green SCR
- Gave presentation to HMPL and Smelter Coordinating Committee

Big Rivers
ELECTRIC CORPORATION

Your True Blue Energy Company 

Internal Team Activities

- Weekly meetings/teleconferences
 - Gantt Chart
 - Financial Evaluation
 - Testimony
 - Environmental Compliance Plan (ECP), Certificate of Public Convenience and Necessity (CPCN) , and Environmental Surcharge (ES) filings



CSAPR Cap Ex and Cash Flow

| | 2012 | 2013 | 2014 | 2015 | 2016 | Total |
|--------------|-------------|--------------|---------------|--------------|-------------|---------------|
| Wilson FGD | 1.80 | 27.60 | 55.00 | 47.60 | 7.00 | 139.00 |
| Green SCR | 1.00 | 20.00 | 44.00 | 16.00 | | 81.00 |
| HMPL FGD | 0.30 | 2.20 | 3.10 | 0.70 | | 6.30 |
| Reid Conv | 0.05 | 1.15 | | | | 1.20 |
| Total | 3.15 | 50.95 | 102.10 | 64.30 | 7.00 | 227.50 |

All figures in millions



MATS Cap Ex and Cash Flow

| | 2012 | 2013 | 2014 | 2015 | 2016 | Total |
|---------|------|------|-------|-------|------|-------|
| Wilson | | 1.20 | 4.80 | 5.24 | | 11.24 |
| Coleman | | 1.20 | 14.40 | 12.84 | | 28.44 |
| Green | | 1.20 | 8.00 | 9.28 | | 18.48 |
| HMPL | | | | 0.48 | | 0.48 |
| Total | | 3.60 | 27.20 | 27.84 | | 58.64 |

All figures in millions

Annual O&M Expenses

| | 2013 | 2014 | 2015 | 2016 |
|-------|------|------|------|-------|
| CSAPR | | 0.76 | 2.23 | 2.92 |
| MIATS | | | | 9.07 |
| Total | | 0.76 | 2.23 | 11.99 |

All figures in millions

Projected Rate Impacts by Year

| | |
|------|------|
| 2012 | 0.7% |
| 2013 | 3.4% |
| 2014 | 2.5% |
| 2015 | 2.6% |
| 2016 | 6.9% |



Future Environmental Issues


- NAAQS Update
 - Reduce SO₂ and NO_x allowances by 20%
 - Second SCR at Green Station
 - \$81 M around 2018
- Coal Combustion Residuals
 - Reduce ash ponds
 - SSC: Submerged Scraper Conveyors at all plants
 - \$94 M by 2018
- 316b
 - Install rotating fish screens at Coleman and Sebree
 - \$6 M around 2016

Next Steps

- Financial Modeling Complete February 21
- Notice of Filing to PSC March 3
- Draft Testimony Complete March 3
- CPCN Document Complete March 3
- Final Recommendations to BOD March 16
- Meeting with RUS March 20
- Final Review of Testimony and Exhibits March 23
- File ECP/CPCN/ES April 2





Your Touchstone Energy® Cooperative 

Big Rivers Environmental Surcharge (ES) Rate Formula

February 21, 2012

The ES Rate Formula...

- Environmental Compliance Plan (ECP) Monthly Costs, $E(m)$, equals Return on Investment (ROI), plus Pollution Control Operating Expenses (OE) minus net proceeds from By-Product and Emission Allowance Sales (BAS), plus any (Over)/Under Recovery from the prior period
- $E(m) = ROI + OE - BAS + (Over)/Under Recovery$
- ES Factor = jurisdictional compliance costs divided by Member and Smelter kWh, kW or Adjusted Revenue

Options for ES Cost Allocation

Management Recommendation

- Total Adjusted Revenue = Rural revenue plus Surcredit, Large Industrial revenue plus Surcredit, and Smelter revenue less Smelter contractual premiums (premiums = 25 cents/MWh; Tier Adjustment Charge and Surcharge)

Other Options

- kWh = Rural kWh, Large Industrial kWh, and Smelter Base Monthly Energy kWh
- kWh/kW "Combo" = Variable cost on kWh basis as per above. Fixed cost allocated entirely to Members and Smelters – billing demand kW for Rural and LI, and Base Fixed Demand kW for Smelters
- Total kW and Net Adjusted Revenue (Net Adjusted Revenue = Total Adjusted Revenue less Fuel and Non-FAC (PPA) based allocations are inappropriate due to significant variable cost and off-system sales


2012 ECP

- Includes Fixed O&M and Capital Costs
 1. Cost of capital components are a) interest, b) a 1.24 TIER thereon, c) depreciation, d) property taxes, and e) property insurance
 2. Is continued allocation of all ES costs on a kWh basis appropriate (as all costs are no longer variable)?

Allocation by kWh?

- Appropriate when the a majority of costs are variable
- 100% of existing plan costs are variable (approx. \$43.3 million in 2016)
- 2012 ECP costs are currently estimated to be 68% fixed and 32% variable (\$27.1 million fixed; \$12.8 million variable) in 2016
- Together, it's estimated that approximately 33% of all ES costs are fixed and 67% are variable
- To the extent costs are fixed, lower load factor consumers benefit with a kWh cost allocation




Your Touchstone Energy® Cooperative 

Calculation of 2012 ECP Cost

| | CSAPR | MATS | Total |
|------------------------------------|--------------------|-------------------|--------------------|
| <u>Capital</u> | | | |
| Wilson | 139,000,000 | 11,240,000 | 150,240,000 |
| HMPL (Net of City) | 3,850,000 | 280,000 | 4,130,000 |
| Reid | 1,200,000 | | 1,200,000 |
| Green | 81,000,000 | 18,480,000 | 99,480,000 |
| Coleman | | 28,440,000 | 28,440,000 |
| | <u>225,050,000</u> | <u>58,440,000</u> | <u>283,490,000</u> |
| Cost of Capital | 9.42% | 9.42% | 9.42% |
| Capital Cost | 21,199,710 | 5,505,048 | 26,704,758 |
| O&M Cost | 3,220,000 | 10,010,000 | 13,230,000 |
| Total Annual 2012 ECP Cost in 2016 | <u>24,419,710</u> | <u>15,515,048</u> | <u>39,934,758</u> |



Your Touchstone Energy® Cooperative 

Additional Revenue Requirement Under ES Allocation Alternatives

| | Total Adj. Revenue | kWh | kWh / kW Combo |
|------------------|--------------------|------|----------------|
| Rural | 6.6% | 5.5% | 6.6% |
| Large Industrial | 6.6% | 6.6% | 7.4% |
| Smelter | 5.5% | 5.9% | 5.8% |
| Off-System | 6.1% | 6.1% | 4.2% |

Note: This slide depicts the estimated percent rate increase from each rate class resulting from CASPR and MATS. To the extent the off-system increment isn't realized, the non-smelter and smelter rate classes would be required to make up the shortfall.

Management Recommendation

- Total Adjusted Revenue... Rural revenue plus Surcredit, Large Industrial revenue plus Surcredit, and Smelter revenue less Smelter contractual premiums (premiums = 25 cents/MWh, Tier Adjustment Charge and Surcharge)

EXHIBIT ____ (LK-7)

BIG RIVERS ELECTRIC CORPORATION

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CASE NO. 2012-00063**

**Response to the Kentucky Industrial Utility Customers'
Second Request for Information
Dated June 22, 2012**

July 6, 2012

1 **Item 21) Refer to the Company's response to AG 1-46 and the attached**
2 **copy of the January 19, 2012 and February 21, 2012 presentations to the**
3 **Board.**

- 4
- 5 **a. Please confirm that the January presentation indicated**
6 **that capital expenditures to comply with CSAPR and**
7 **MATS would total \$213.5 million and the February**
8 **presentation increased the expenditures to \$283.5 million.**
- 9 **b. Please provide a detailed explanation why the capital**
10 **expenditures reflected in the February BOD presentation,**
11 **and the Application in this proceeding, are significantly**
12 **more than the January 19, 2012 estimate presented to the**
13 **Board. Provide a copy of all quantitative comparisons,**
14 **electronically, that explain the significant increase in**
15 **capital expenditures during the 4 week period between the**
16 **January and February BOD meetings.**

17

18 **Response)**

- 19 **a. Confirmed.**
- 20 **b. The capital estimates in the January 2012 board presentation**
21 **represented high level order of magnitude estimates developed**
22 **by Big Rivers personnel to indicate the level of capital**

BIG RIVERS ELECTRIC CORPORATION

**APPLICATION OF BIG RIVERS ELECTRIC CORPORATION
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CASE NO. 2012-00063**

**Response to the Kentucky Industrial Utility Customers'
Second Request for Information
Dated June 22, 2012**

July 6, 2012

1 expenditures facing Big Rivers in complying with CSAPR and
2 MATS. The capital estimates in the February 2012 board
3 presentation represent the results of the S&L study.

4 The differences are described in the table that follows.
5

| Project | Jan (\$M) | Feb (\$M) | Comment on February Estimate |
|-----------------|----------------------|----------------------|--|
| Wilson FGD | 100.00 | 139.00 | Included fan and control upgrades and further analysis of SESS budgetary pricing |
| Green SCR | 75.00 | 81.00 | Refined cost from S&L |
| HMPL FGD | 8.00 | 3.85 | Net of HMPL share |
| Reid Conversion | 2.00 | 1.20 | Refined cost from S&L |
| Coleman MATS | 13.50 | 28.44 | Added DSI systems |
| Wilson MATS | 5.00 | 11.24 | Added DSI systems |
| Green MATS | 9.00 | 18.48 | Added DSI systems |
| HMPL MATS | 1.00 | 0.28 | Net of HMPL share |

6
7
8 **Witness)** Robert W. Berry
9

EXHIBIT ____ (LK-8)

BIG RIVERS ELECTRIC CORPORATION

**APPLICATION OF BIG RIVERS ELECTRIC CORPORATION
FOR APPROVAL OF ITS 2012 ENVIRONMENTAL COMPLIANCE PLAN,
FOR APPROVAL OF ITS AMENDED ENVIRONMENTAL COST
RECOVERY SURCHARGE TARIFF, FOR CERTIFICATES OF PUBLIC
CONVENIENCE AND NECESSITY, AND FOR AUTHORITY TO
ESTABLISH A REGULATORY ACCOUNT
CASE NO. 2012-00063**

**Response to Commission Staff's
Second Request for Information
Dated June 22, 2012**

July 6, 2012

1 **Item 17) Refer to Big Rivers' response to KIUC's First Request, Item 36,**
2 **and the July 14, 2011 email concerning EPA Proposed Regulations. Big**
3 **Rivers' proposed 2012 Environmental Compliance Plan estimates capital**
4 **expenditures of \$286.14 million. Provide a detailed line item explanation**
5 **for the differences between the capital expenditure estimates for the 2012**
6 **Environmental Compliance Plan and the capital expenditure estimates**
7 **contained in the July 14, 2011 email.**

8
9 **Response) The July 14, 2011 e-mail was based on an October 28, 2010**
10 **presentation to the Public Service Commission. It included a high level estimate**
11 **from Big Rivers' internal staff for compliance with the existing potential EPA**
12 **regulations CATR, HAPS MACT, CCR and §316a & b. At the time of these**
13 **estimates the proposed regulations were not in their final form.**

14 **The estimates in Big Rivers' 2012 Environmental Compliance Plan**
15 **were based on the CSAPR and MATS regulations that had been issued in final**
16 **version, and did not include any costs for future regulations. In addition, the cost**
17 **estimates contained in the instant filing were prepared by an experienced**
18 **engineering firm with significant expertise in developing capital cost estimates.**

19 **Detailed line-item explanations for the differences are shown in the**
20 **table on the following page.**

21
22

BIG RIVERS ELECTRIC CORPORATION

**APPLICATION OF BIG RIVERS ELECTRIC CORPORATION
FOR APPROVAL OF ITS 2012 ENVIRONMENTAL COMPLIANCE PLAN,
FOR APPROVAL OF ITS AMENDED ENVIRONMENTAL COST
RECOVERY SURCHARGE TARIFF, FOR CERTIFICATES OF PUBLIC
CONVENIENCE AND NECESSITY, AND FOR AUTHORITY TO
ESTABLISH A REGULATORY ACCOUNT
CASE NO. 2012-00063**

**Response to Commission Staff's
Second Request for Information
Dated June 22, 2012**

July 6, 2012

1

| Explanation of Differences (All Dollars in Millions) | | | |
|---|--|-------------------------------------|--|
| | Big Rivers ECP Filing | July 14, 2011 E-mail | Explanation |
| CATR | | \$138.0 | \$30M to convert Green 1 and 2 to natural gas; \$108M to add SCR at Green 1 and 2; No FGD retrofit at Wilson |
| CSAPR | \$225.0 | | |
| HAPS/ MACT | | \$410.0 | \$338M-\$846M range (\$200 - \$500/kW); Includes baghouses on all units; Includes precipitator upgrades at all units |
| MATS | \$58.0 | | |
| CCR | 0.0 | \$237.0 | Landfill \$152M; Dry bottom ash \$55M; Dry fly ash \$30M |
| §316a & b | 0.0 | \$55.0 | Cooling tower at Coleman |
| GHG | 0.0 | 0.0 | |
| Total | \$283.0 | \$840.0 | |

2

3

4

Witness) Robert W. Berry

5

Case No. 2012-00063
Response to PSC 2-17
Witness: Robert W. Berry
Page 2 of 2

EXHIBIT ____ (LK-9)

BIG RIVERS ELECTRIC CORPORATION

**APPLICATION OF BIG RIVERS ELECTRIC CORPORATION
FOR APPROVAL OF ITS 2012 ENVIRONMENTAL COMPLIANCE PLAN,
FOR APPROVAL OF ITS AMENDED ENVIRONMENTAL COST
RECOVERY SURCHARGE TARIFF, FOR CERTIFICATES OF PUBLIC
CONVENIENCE AND NECESSITY, AND FOR AUTHORITY TO
ESTABLISH A REGULATORY ACCOUNT
CASE NO. 2012-00063**

**Response to Commission Staff's
Initial Request for Information
Dated May 21, 2012**

June 1, 2012

1 **Item 9)** *Refer to page 28 of the Berry Testimony at lines 19-20 in which*
2 *it is noted that although the Sargent & Lundy study included*
3 *consideration of the U.S. Environmental Protection Agency's ("EPA")*
4 *proposed regulation concerning coal combustion residuals and the EPA's*
5 *rules relating to impingement mortality and entrainment under Section*
6 *316(b) of the Clean Water Act, Big Rivers did not include the potential*
7 *costs of compliance with these rules in analyzing the cost effectiveness of*
8 *the alternatives considered for inclusion in its 2012 Plan.*

9

- 10 **a.** *What impact would compliance with these potential*
11 *regulations have on the operations of the affected plants?*
12 **b.** *How would compliance with these regulations affect the*
13 *economic feasibility of Big Rivers' 2012 Plan?*

14

15 **Response)**

- 16 **a.** Neither the Coal Combustion Residuals ("CCR") regulation nor
17 the Section 316(b) rule is final, and EPA has requested
18 comment on regulatory alternatives it is considering. The
19 alternatives being considered under each rule are significantly
20 different, so determining compliance costs would be speculative
21 at this time. Big Rivers has accordingly not determined what

BIG RIVERS ELECTRIC CORPORATION

**APPLICATION OF BIG RIVERS ELECTRIC CORPORATION
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RECOVERY SURCHARGE TARIFF, FOR CERTIFICATES OF PUBLIC
CONVENIENCE AND NECESSITY, AND FOR AUTHORITY TO
ESTABLISH A REGULATORY ACCOUNT
CASE NO. 2012-00063**

**Response to Commission Staff's
Initial Request for Information
Dated May 21, 2012**

June 1, 2012

1 effect these potential regulations would have on the operations
2 of the affected plants.
3 b. As shown in Tables 6-6 and 6-7 of DePriest Exhibit-2, S&L
4 projected that compliance with these two regulations may cost
5 Big Rivers \$122.74 million in capital, \$1.12 million annually in
6 incremental fixed O&M, and approximately \$2.50/ton in
7 variable O&M depending on available landfill options. However,
8 due to the uncertainty of what the final rules may require, Big
9 Rivers did not include these costs in its financial models. Big
10 Rivers will continue to monitor these pending regulations and
11 will fully incorporate the requirements into its compliance
12 planning when the certainty around such requirements
13 increases.

14
15 **Witness)** Robert W. Berry
16

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF BIG RIVERS)
ELECTRIC CORPORATION FOR)
APPROVAL OF ITS 2012 COMPLIANCE)
PLAN, FOR APPROVAL OF ITS)
AMENDED ENVIRONMENTAL COST) CASE NO. 2012-00063
RECOVERY SURCHARGE TARIFF,)
FOR CERTIFICATES OF PUBLIC)
CONVENIENCE AND NECESSITY, AND)
FOR AUTHORITY TO ESTABLISH A)
REGULATORY ACCOUNT)

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JUL 24 2012

PUBLIC SERVICE
COMMISSION

PUBLIC VERSION

DIRECT TESTIMONY

AND EXHIBITS

OF

PHILIP HAYET

ON BEHALF OF THE
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

HAYET POWER SYSTEMS CONSULTING
ATLANTA, GEORGIA

July 23, 2012

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

| | | |
|--|---|----------------------------|
| APPLICATION OF BIG RIVERS |) | |
| ELECTRIC CORPORATION FOR |) | |
| APPROVAL OF ITS 2012 COMPLIANCE |) | |
| PLAN, FOR APPROVAL OF ITS |) | |
| AMENDED ENVIRONMENTAL COST |) | CASE NO. 2012-00063 |
| RECOVERY SURCHARGE TARIFF, |) | |
| FOR CERTIFICATES OF PUBLIC |) | |
| CONVENIENCE AND NECESSITY, AND |) | |
| FOR AUTHORITY TO ESTABLISH A |) | |
| REGULATORY ACCOUNT |) | |

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COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

| | | |
|--|---|----------------------------|
| APPLICATION OF BIG RIVERS |) | |
| ELECTRIC CORPORATION FOR |) | |
| APPROVAL OF ITS 2012 COMPLIANCE |) | |
| PLAN, FOR APPROVAL OF ITS |) | |
| AMENDED ENVIRONMENTAL COST |) | CASE NO. 2012-00063 |
| RECOVERY SURCHARGE TARIFF, |) | |
| FOR CERTIFICATES OF PUBLIC |) | |
| CONVENIENCE AND NECESSITY, AND |) | |
| FOR AUTHORITY TO ESTABLISH A |) | |
| REGULATORY ACCOUNT |) | |

DIRECT TESTIMONY OF PHILIP HAYET

QUALIFICATIONS AND SUMMARY

1

2 **Q. Please state your name and business address.**

3 **A.** My name is Philip Hayet, and my business address is Hayet Power Systems
4 Consulting ("HPSC"), 215 Huntcliff Terrace, Atlanta, Georgia, 30350.

5

6 **Q. What is your occupation and your business title?**

7 **A.** I am an Electrical Engineer, and I am President of HPSC.

8

9 **Q. What consulting services does HPSC provide?**

10 **A.** HPSC provides consulting services related to electric utility system planning,

1 resource analysis, production cost modeling, and utility industry policy issues.
2 Clients have included state regulatory agencies, industrial electricity consumers,
3 consulting firms, and merchant generators located both inside and outside the United
4 States.

5
6 **Q. Please summarize your education and qualifications.**

7 A. I graduated from Purdue University in 1979 with a B.S. degree in Electrical
8 Engineering, and from the Georgia Institute of Technology in 1980 with an M.S.
9 degree in Electrical Engineering, with a specialization in Power Systems.

10
11 **Q. Please describe your professional experience.**

12 A. I have over thirty years of experience in the electric utility industry, in which I
13 have worked in the areas of generation resource planning, economic analysis, and
14 rate analysis. I began my career working for Energy Management Associates
15 ("EMA" now known as Ventyx), an Atlanta based utility consulting firm, in
16 which I supported Ventyx's PROMOD IV™ ("PROMOD") production cost
17 software clients.¹ PROMOD is a detailed production cost modeling tool that is
18 widely used by utilities throughout the United States to perform electric utility
19 operations and planning studies. In addition to providing client support and
20 production cost modeling training for Ventyx's utility clients, I also performed

¹ I will refer to this Company as Ventyx, which is also the supplier of Big Rivers' current production costing model, known as the Planning and Risk Model ("PaR"). The PaR model is one of a number of tools incorporated within Ventyx's Energy Portfolio Management ("EPM") suite of modeling tools.

1 numerous consulting assignments using the PROMOD production cost modeling
2 software.

3
4 In 1991 I moved to Ventyx's SRATEGIST Department where I managed a Client
5 Service Support Team. SRATEGIST is a resource planning tool used to evaluate
6 alternative resource options to derive a utility's optimal long-term resource plan.
7 While part of this department, I worked on numerous consulting assignments such
8 as avoided cost analyses, demand-side management studies, and Integrated
9 Resource Planning ("IRP") studies for utilities across the U.S and abroad.

10
11 In 1996 I began my own consulting firm, HPSC, in which I continue to work on
12 projects involving generation resource planning, economic analysis, and rate
13 analysis. During my career, I have had extensive experience working with
14 production cost modeling tools, including PROMOD, Strategist, Cumulus, GRID,
15 EGEAS, MAINPLAN, PROSYM, and PaR. Additional background, including a
16 list of my specific regulatory appearances can be found in Exhibit Hayet-1.

17
18 **Q. Have you previously testified before the Kentucky Public Service Commission**
19 **("Commission" or "PSC")?**

20 A. No. Although I have made numerous appearances before other state regulatory
21 commissions and before the Federal Energy Regulatory Commission, this is my first
22 appearance before this Commission. Most, if not all, of these projects and testimony
23 involved production resource issues.

1

2 **Q. On whose behalf are you testifying in this proceeding?**

3 A. I am testifying on behalf of the Kentucky Industrial Utility Customers, Inc.
4 ("KIUC").

5

6 **Q. Please summarize your testimony.**

7 A. My testimony reviews Big Rivers Electric Corporation's ("Big Rivers" or "The
8 Company") request for approval of a new environmental compliance plan and
9 certificates of public convenience and necessity ("CPCNs") that would allow it
10 to be able to construct a set of environmental upgrade projects, which are
11 included in Big Rivers 2012 Environmental Compliance Plan ("ECP"). My
12 testimony primarily addresses the economic evaluation that Big Rivers conducted,
13 which is included in Mr. Hite's testimony and summarized in Exhibit Hite-4. I
14 discuss the production cost analyses that Big Rivers and its consultants
15 performed, and the alternative analyses that I conducted, which used the same
16 modeling tool Big Rivers relied on, and began with data that Big Rivers and its
17 consultants used in their studies. My testimony also discusses some of the
18 problems that I discovered in conducting my work based on the various disputes
19 that arose between KIUC and Big Rivers over access to their modeling data,
20 errors that I found in instructions supplied, and errors in the data that Big Rivers
21 used to conduct its analyses.

22

23 **Q. Please summarize your conclusions and recommendations?**

1 A. My conclusions and recommendations are as follows:

2 1. The Company's economic evaluations fail to justify its proposed ECP, and the
3 Company should not be granted CPCNs for projects other than those related to
4 meeting the MATS requirements.

5 2. Based on both a quantitative evaluation and qualitative factors, I conclude that
6 the Company's Buy Case, which requires approximately \$200 million less in
7 capital expenditures, is the most prudent course of action for the Company at
8 this time, in order for it to meet environmental regulations. After correcting
9 for numerous modeling errors, on a net present value basis the Buy Case and
10 the Build Case are basically a wash. Given the fact that there is no clear
11 economic advantage between the Buy and Build cases, I conclude that the
12 Buy Case is superior and less risky given the possibility of additional
13 undiscovered errors in Big Rivers' analysis, uncertainty surrounding the
14 Smelter load, the preliminary nature of Big Rivers' cost estimates in the Build
15 case, the fact that additional environmental regulations (requiring additional
16 unidentified costs) are likely to be imposed on Big Rivers' coal generation,
17 and the inherent risk of Big Rivers becoming a merchant generator in the
18 MISO market. An additional appeal of the Buy Case is that it would not
19 preclude Big Rivers from performing the proposed large environmental
20 upgrade projects in the future, when the picture becomes clearer regarding
21 some of the uncertainties.²

22 3. The Company's economic evaluation, based on its production cost modeling
23 approach is flawed, sub-optimal, and contains numerous modeling errors. I
24 have corrected many of the modeling issues in my analysis. One of the most
25 significant modeling concern was Big Rivers use of a very high PACE market
26 energy forecast that included CO2 costs, combined with the inconsistent
27 assumption that Big Rivers itself would incur no CO2 costs. This inconsistent
28 assumption biased the study results in favor of the Build Case.

29 4. While the Company went to elaborate steps to conduct its study, it should
30 have expended more effort documenting the study methodology in its
31 testimony. Five witnesses filed testimony on behalf of the Company, and only
32 the Company's Vice President of Accounting and Interim Chief Financial
33 Officer, Mr. Mark Hite, described the study, and only from a high level

² Given Big Rivers dependence on coal, KIUC would not oppose, further consideration of the Reid Steam Unit gas conversion project. Additionally, given the small cost of the environmental upgrades, KIUC would not oppose further consideration of the upgrade projects at HMP&L Units 1 & 2.

1 perspective.

2

3 **COMPANY'S 2012 ECP REQUEST**

3

4 **Q. Please describe Big Rivers's 2012 ECP proposal.**

5 A. Big Rivers currently has an existing environmental compliance plan that had been
6 designed to control various emissions including SO₂ and NO_x, which had
7 previously been approved in 2008. Given the recent series of environmental
8 regulations finalized by the EPA, including the Cross-State Air Pollution Rule
9 ("CSAPR") that was supposed to begin January 1, 2012, and the Mercury Air
10 Toxics Standard ("MATS"), which requires compliance beginning in April 2015,
11 Big Rivers has proposed a plan to meet the new environmental regulations.³ Big
12 Rivers and its consultants have conducted a study of its options to comply with
13 these regulations, which led to the development of the 2012 ECP. A summary of
14 Big Rivers' proposed environmental upgrade projects can be found in Exhibit
15 Berry-2 attached to Company witness Robert Berry's testimony.

16

17 **Q. What studies did Big Rivers conduct to develop its ECP?**

18 A. Big Rivers began by reviewing the environmental regulations currently in effect,
19 and new regulations that have been proposed, the levels of emissions that its
20 generating fleet currently produces, and the amount of emissions reductions and
21 possible emissions reductions that might have to be achieved. The 2012 ECP was

³ Due to a court order in the 11th circuit court, CSAPR is currently stayed on appeal. However, Big Rivers has assumed that the order will eventually be lifted and utilities will have to comply with the rules.

1 developed based on a study performed for Big Rivers by Sargent and Lundy, LLC
2 (“S&L”), who evaluated different technology alternatives that would allow Big
3 Rivers to meet the new and proposed EPA regulations, including CSAPR and
4 MATS. Many technology types were screened in the analysis besides the ones
5 that were ultimately selected.

6
7 **Q. Were other regulations such as EPA's proposed §316(b) of the Clean Water
8 Act ("316b") and Coal Combustion Residuals ("CCR") considered?**

9 A. Yes, S&L evaluated those regulations and made recommendations, however, Big
10 Rivers' 2012 ECP did not include any specific actions to address those proposed
11 regulations, as Big Rivers plans to continue monitoring those rules and address
12 them in the future. According to Mr. Shaw's testimony, possible compliance
13 alternatives for the 316(b) rules include water modifications to the existing intake
14 structures at some of its units. Possible compliance alternatives for the CCR
15 regulations include converting existing ponds to dry bottom ash systems using
16 submerged scraper conveyors ("SSCs"). Big Rivers' economic analysis did not
17 assume any costs for either of these two proposed EPA rules. To the extent that
18 either proposed rule makes generating from its coal units more expensive, then
19 the cost of the Build Case compared to the Buy Case would increase.

20
21 **Q. Please summarize some of the important findings of the S&L study.**

22 A. Some of the conclusions of the study are:

- 23
- Big Rivers can meet CSAPR on a system-wide basis, but will have to make

1 unit specific modifications to meet MATS, and all of the Company's coal units
2 will require some upgrades to comply with MATS.

- 3 • A set of eight projects are proposed in the ECP. Four to satisfy CSAPR at a
4 cost of \$227.50, and four to satisfy MATS at a cost of \$58.64 million. These
5 include projects at the Henderson Municipal Power & Light ("HMP&L")
6 Station Two coal-fired units owned by the City of Henderson (estimates above
7 include HMP&L's costs).
- 8 • One of two large CSAPR projects includes a Scrubber replacement at DB
9 Wilson that would increase its SO₂ removal efficiency from 91% to 99%.
10 Big Rivers expects this project to be completed by 2016 at a cost of \$139
11 million, and would require an annual incremental increase in O&M costs
12 starting at \$760,000 per year. As Mr. Kollen testifies, the cost of removing
13 the existing Wilson scrubber is not included in the \$139 million cost estimate.
- 14 • A second large CSAPR project is an SCR addition at Green Unit 2, which is
15 expected to cost \$81 million, and planned for completion in 2015.
16 Incremental O&M expenses are estimated to start at \$1.6 million.
- 17 • Two smaller CSAPR projects are to convert Reid Unit 1 to fire on natural gas
18 at a cost of \$1.2 million and to be completed January 1, 2014; and another
19 project that includes various plant improvements at HMP&L Units 1 and 2 to
20 reduce SO₂ emissions. The HMP&L projects are estimated to cost \$6.30
21 million and are scheduled for completion January 1, 2015. Incremental O&M
22 costs are estimated to start at a cost of \$0.475 thousand dollars.
- 23 • Four MATS projects are planned at the Coleman, Wilson, Green, and

1 HMP&L plants to control emissions of Mercury and other emissions. The
2 cost of those projects is \$58.64 million and they are scheduled for completion
3 January 1, 2016. Incremental O&M costs are estimated at approximately \$10
4 million starting in 2016.

5

6 **Q. Were all of the options that S&L recommended accepted by Big Rivers?**

7 A. No. S&L recommended that advanced low NOx burners be installed at Coleman
8 Units 1, 2 and 3. However, Big Rivers decided to avoid the capital expense of
9 those projects, and recognized that since CSAPR is a cap-and-trade program, it
10 would have the option to purchase additional allowances if necessary to comply
11 with the CSAPR requirements. Also, as mentioned above, S&L identified
12 upgrades to meet other regulations such as additional water and combustion
13 residual regulations; however, Big Rivers intends to continue monitoring EPA
14 activity as those regulations are developed.

15

16 **Q. Does Big Rivers 2012 ECP indicate that it will meet the compliance deadlines
17 in MATS and CSAPR?**

18 A. Strictly speaking no; though there are strategies Big Rivers has identified that will
19 allow it to be in compliance with the regulations. The stricter Phase 2 compliance
20 requirements of CSAPR begin in 2014, and MATS requirements begin in 2015.
21 Big Rivers' compliance plan indicates that many projects won't be complete until
22 2016. Big Rivers' analysis is that since the CSAPR rule has been stayed by the
23 DC Circuit Court of Appeals, if it is reinstated as written, there will likely be at

1 least a one year compliance delay until 2015. Given that projects such as the
2 Wilson Scrubber are not planned to come online until 2016, Big Rivers states its
3 compliance strategy will either be to rely on banked allowances, purchase
4 allowances, or curtailments of generation at its units.

5

6 **Q. Did S&L's economic evaluation consider the option of reducing generation**
7 **and purchasing incremental needs from the market instead of performing**
8 **environmental upgrades?**

9 A. No. While the S&L study discusses the possibility of complying with CSAPR by
10 reducing generation and purchasing incremental power from the market, it did not
11 quantify the economic impacts of this option. Such a study would require a
12 production cost modeling evaluation that would include simulating Big Rivers'
13 loads and resources, and the opportunity to purchase power from the MISO
14 market. After the S&L study was complete, and a set of environmental upgrades
15 were identified for meeting the new EPA rules (except for the proposed water and
16 combustion residual regulations) Big Rivers (with the assistance of additional
17 consultants) then proceeded to conduct a production cost/economic evaluation.

BIG RIVERS PRODUCTION COST/ECONOMIC EVALUATION

18

19 **Q. Please describe the cases that were analyzed as part of the production cost**
20 **modeling.**

21 A. Big Rivers identified three cases it decided to evaluate: the Build Case, the Partial
22 Build Case, and the Buy Case. The Build Case includes the eight projects

1 discussed above, four that satisfy MATS and four that satisfy CSAPR
2 requirements. The Partial Build Case was designed to meet CSAPR requirements
3 by including all projects except for the Green 2 SCR project. The Buy Case only
4 included the four projects that satisfy the MATS requirements, and constraints
5 were imposed to limit unit generation and to replace that generation with
6 incremental purchases from the market. Two sensitivity cases also were
7 performed to determine if the Build case still was more economic than the Buy
8 case if the Smelter load were lost.

9
10 **Q. What was the responsibility of the consultants Big Rivers retained?**

11 A. Along with Big Rivers, three consultants played a role in the production
12 cost/economic evaluation; two that played a primary role, and one that played a
13 more limited secondary role. The three consultants were PACE Global
14 ("PACE"), ACES Power Marketing ("ACES"), and IHS. PACE conducted
15 modeling analyses to derive reference case forecasts for energy market prices,
16 monthly coal prices, monthly natural gas prices, and monthly allowances prices.
17 ACES performed the production cost modeling analyses that incorporated the data
18 PACE supplied, and other data assumptions that Big Rivers provided, including
19 generating unit characteristics and load forecasts. ACES also provided a forecast
20 of wholesale energy prices. IHS' limited role was to provide an additional
21 projection of market energy prices. Big Rivers entered the production cost results
22 into its corporate financial model and performed a net present value revenue
23 requirement analysis.

1

2 **Q. How was the MISO System represented in the analysis?**

3 A. Big Rivers chose to model the MISO System using a simplified approach that
4 avoided the need to represent all of the loads and resources of all the generation
5 and load owning entities in MISO. Instead, the production cost evaluation
6 represented the MISO energy market, which covers parts of 13 states, and
7 includes over 100,000 MW of generating unit capacity, using a single market
8 price profile. This profile contained hourly market prices assumed at the closest
9 trading hub to the Big Rivers System. Every hour between January 1, 2012 and
10 December 31, 2026 was included in the \$/MWH profile. Purchases and sales are
11 derived based on an hourly comparison of the system incremental cost to the cost
12 of the hourly market price forecast. If the market price is less than the cost to
13 generate in that hour, then purchases are made, and if the market price is greater
14 than the cost to generate in that hour, then sales are made.

15

16 This is not an uncommon approach to conducting a production cost study, as it
17 significantly reduces the amount of input assumptions needed to conduct the
18 study. Certainly there are some limitations that should be recognized in a study
19 such as this, including the fact that it does not capture transmission modeling
20 impacts, and it does not include a commitment and dispatch process that
21 optimizes operating reserves across the entire MISO System.

22

23 **Q. How was the MISO market price profile developed?**

1 A. PACE performed a large scale production cost dispatch simulation using a model
2 named AuroraXMP ("Aurora"), which is owned and licensed by EPIS, Inc.
3 PACE's model included all of the loads and resources of the MISO System, and
4 developed hourly market price projections at the hub closest to Big Rivers. PACE
5 performed a stochastic analysis simulating a large number of cases and developed
6 individual market price forecasts for each case simulated. While numerous
7 market price forecasts were developed, Pace was able to derive a reference case
8 forecast, which it refers to as being "...representative of the mean outcome of its
9 distribution".⁴ The reference case forecast was supplied to ACES for purposes of
10 conducting the production cost analysis. In a similar manner, PACE developed
11 numerous projections of natural gas prices, emissions prices, and coal prices
12 which were all manipulated to develop reference price forecasts.

13
14 Importantly, the PACE market price forecast assumed that restrictions on CO2
15 emissions would be required during the study period. This assumption regarding
16 CO2 emissions had the effect of greatly increasing the PACE market price
17 forecast and making the Buy Case more expensive. The Build Case did not
18 assume any added costs for complying with future CO2 emission limits.

19
20 **Q. Did ACES develop any of the market price forecasts that were used in the**
21 **studies presented by the Company in Mr. Hite's testimony?**

⁴ See Big Rivers' confidential and non-confidential response to KIUC 2-28.

1 A. No. Only PACE global assumptions were used in the study that was conducted to
2 support Big Rivers application in this proceeding. However, some discovery
3 responses discuss a market energy price forecast that ACES developed and used
4 in sensitivity studies that were discussed in a report dated nearly two months after
5 testimony was filed in this proceeding. As it turns out, the ACES market price
6 forecast is considerably lower than the PACE forecast.

7

8 **Q. What was the purpose of IHS's limited role of supplying what turned out to**
9 **be a third market energy price forecast developed during this study?**

10 A. According to Big River, it was "...obtained in an attempt to be as accurate and
11 thorough as possible". (Big Rivers Response to KIUC 2-24) Exhibit Hayet-2 is a
12 confidential exhibit taken from a data response Big Rivers supplied (KIUC 1-17)
13 that shows that there is close correlation between the lower ACES and IHS
14 forecasts, and an extreme divergence between those and the much higher PACE
15 forecast (which included costs associated with CO2 emission restrictions) that
16 was used to produce results that were reported in testimony. In light of what the
17 comparison shows, it is not clear how Big Rivers relied on the accuracy that it
18 derived by obtaining the IHS forecast, as it never used any results based on either
19 the ACES or IHS market price forecasts to support its recommendation that it be
20 granted CPCNs for the proposed environmental projects. Had it done that, it
21 would have shown how sensitive the economic results are to the choice of the
22 market price forecast. Later in my testimony, I will present that comparison.

23

1 **Q. Please summarize the steps performed to conduct Big Rivers' production**
2 **cost/economic analysis.**

3 A. The following steps were performed:

4 1) Big Rivers supplied generating unit characteristics, load forecasts, and
5 other economic assumptions to ACES and PACE.

6 2) PACE developed numerous market energy price, natural gas price, coal
7 price, and emissions allowances forecasts, and derived from those single
8 reference price forecasts that ACES used in its production cost modeling
9 (Ventyx Planning and Risk Model - PaR).

10 3) The Build Case included changes such as SO₂ and NO_X removal rates
11 and VO&M costs as a result of applying environmental upgrades to
12 specific generating units.

13 4) In the Buy Cases, Big Rivers took certain units out of service for certain
14 months, mostly during shoulder months to restrict production of
15 emissions.

16 5) Emissions price adders were incorporated in the dispatch price of
17 generating units, but were ignored from the production cost results
18 produced by the model. Big Rivers computed emissions allowances in a
19 spreadsheet in a later step.

20 6) 15 year production cost runs were performed, and ACES transferred
21 production cost results (fuel costs, startup costs, VO&M costs, purchase
22 power costs, sale revenues, emissions, as well as other output variables
23 such as unit generation) to Big Rivers who loaded the results into its
24 Corporate Financial Model ("CFM"). Purchases and sales of emissions
25 allowances, including banking of allowances, were factored into the
26 analysis in the CFM.

27 7) The CFM included the fixed costs of the environmental upgrade projects
28 that were relevant to each case, and developed total company revenue
29 requirements. Present value revenue requirements were computed using
30 a 7.93% discount rate, and the cases were compared to determine which
31 was the most cost-effective.

32

PROCESS FOLLOWED TO ANALYZE BIG RIVERS' RESULTS

33

34 **Q. What process did you follow to evaluate Big Rivers study and results?**

35 A. The approach I typically follow for generation planning studies such as this is to

1 review the utility's modeling methodology, assumptions, and results. Oftentimes
2 for the production cost work that I perform, I either request the utility to work
3 with me to make runs, or I request the utility to supply the same exact database
4 they used, and I obtain the same production cost model from the model vendor.
5 In this case, we first notified the Company of our intent to pursue one of these two
6 paths in a letter to the Company on May 11, 2012. Though we had several
7 communications with the Company regarding this matter, by May 31, 2012, we
8 received clear messages from the Company that they would refuse to provide the
9 exact database we requested, and that they would not allow us to work together
10 with ACES to run our cases on their computer.

11

12 **Q. How was this matter resolved?**

13 A. On June 6, 2012, KIUC, the Sierra Club, and the Attorney General filed a joint
14 motion to compel, and on June 8, 2012, the Company filed a response. Basically,
15 the Company stated that it believed that an intervener should be able to take the
16 data the Company supplied in spreadsheet format and be able to retrace the
17 Company's steps and recreate the database. KIUC believed that would be overly
18 burdensome and would not necessarily be guaranteed to lead to the same results
19 that the Company had produced. Furthermore, in all my years of working in the
20 production cost modeling area, both on my own at my own company and prior to
21 that at Ventyx, I have never experienced a utility refusing to supply the exact
22 database that they had developed. This was unprecedented in my experience.
23 However, in the Company's response to the motion to compel, they laid out a path

1 forward to resolve the matter, but in doing so it became clear what the heart of the
2 matter really was.

3

4 **Q. What do you believe that was?**

5 A. Apparently Big Rivers' consultant embedded the data used to conduct the Big
6 Rivers' study in a larger database containing other clients' data, which was
7 confidential. To strip out the data was not a trivial matter, and Big Rivers and
8 ACES believed that if they had to turn over the database, it would be best for
9 Ventyx to strip it apart, and an agreement was struck for Big Rivers to hire
10 Ventyx to do that. In future regulatory proceedings concerning studies such as
11 these, I recommend that Big Rivers always develop databases in such a way that
12 they can be turned over to the Commission and interveners upon request and with
13 appropriate confidentiality agreements.

14

15 **Q. Did you encounter any other difficulties in acquiring the database?**

16 A. Yes, there have been a multitude of problems. In the interest of brevity I will list
17 them in bullet form:

- 18 • Big Rivers refused to have either ACES or Ventyx validate that identical
19 results could be produced. As a result half of the cases would not run, and I
20 had to work closely with Ventyx to fix them;
- 21 • Run definitions, which are required to make PaR runs were not kept by
22 ACES. This led to problems in identifying how to recreate cases;
- 23 • Results are close but still may not be identical for all of the cases;

- 1 • Some files that Big Rivers supplied were corrupt and had to be re-supplied;
- 2 • Instructions have been misleading. In some cases instructions about the files
- 3 that were needed to recreate runs were wrong.
- 4 • Spreadsheets were delivered with references to other spreadsheets, but the
- 5 other spreadsheets were not supplied and had to be requested.
- 6 • Files that could have been used to verify what data had been used, and to
- 7 validate results were not kept by ACES.

8

9 **Q. How have these problems impacted your ability to conduct your analysis?**

10 A. There is no question that dealing with all of these issues along the way has been a
11 significant distraction, and I am sure that there may have been other analyses and
12 runs that I would have performed if time permitted. Be that as it may, I have in
13 fact conducted the cases that I was interested in and I am presenting those in this
14 testimony.

15

16 **Q. Have you identified any issues with data assumptions that ACES used in its**
17 **study that you do not agree with?**

18 A. Yes, in general I believe that the Company has overstated the cost of the Buy
19 Case. According to Mr. Berry's testimony at page 32, Big Rivers will not be able
20 to complete its two large CSAPR projects until 2016. Furthermore, Mr. Berry
21 states that "If the new compliance requirements are put into effect in 2015 as
22 currently written and Big Rivers does not have sufficient quantities of allowances
23 banked, it will either purchase allowances or curtail generation to achieve

1 compliance until all of the projects are completed." What the Company does that
2 is unreasonable is to begin implementing changes and incurring costs in the Buy
3 Case in early 2012. For example, in the Buy Case, the Company shuts down the
4 DB Wilson unit in March 2012 for three months for the first time. However, in
5 the Build Case, the DB Wilson unit does not have a change to its emissions
6 removal rate until several years later. This results in overstating the costs of
7 operating the System in the Buy Case for several years. I changed this input in
8 the Buy Case to begin shutting down the DB Wilson unit in 2016 to be consistent
9 with the Build Case.

10

11 **Q. What other modeling corrections did you make?**

12 A. I will list the rest of the modeling corrections I made in bullet form.

- 13 • Buy Case. DB Wilson VO&M is higher in the Buy Case than the Build Case. By
14 2026, it is as much as 13.6% higher than the Build Case. I set the values in the
15 Buy Case equal to the Build Case. This still understates the costs in the Build
16 Case to some extent. (See Incremental VO&M costs on Page 2 of 2 in Exhibit
17 Berry-2).
- 18 • Build Case. DB Wilson Emissions Removal Rate. DB Wilson's upgrade will not
19 be completed until 2016. ACES had the emissions reduction rate change
20 beginning January 2015. I reset this to begin January 2016.
- 21 • Build No Smelter Case. The Company input VO&M at Green 1 at a significantly
22 higher amount in the Build No Smelter Case than in the Buy No Smelter Case. I
23 corrected this.
- 24 • Build Case. VO&M at Green 2 is the same in the Build and Buy cases, although
25 it should be different once the Green 2 SCR is added in 2015. Incremental O&M
26 is indicated to be \$1.58 million beginning in 2015 due to the addition of the SCR
27 per Exhibit Berry-2 page 2 of 2. I added this change to the Build Case.

- 1 • HMPL 1&2 has the same VO&M in the Build and Buy Cases. Exhibit Berry-2
2 indicates that the Build Case should be higher by approx \$800,000 per year. I did
3 not have time to make this correction, but had it been made it would have
4 increased the cost of the Build Case.
- 5 • HMPL 1&2. The Buy No Smelter Case has higher VO&M than all of the other
6 cases, which does not make sense. I changed this to be consistent with the other
7 cases.
- 8 • Build Case. The Build Case has the environmental upgrade project completed
9 January 1, 2014. According to Exhibit Berry-2 page 1 of 2, it should be 2015. I
10 made this correction to the Build Cases.
- 11 • HMPL 1&2 VO&M costs. The Costs that the Company used in its financial
12 analysis do not match what the Company indicates should have been used in the
13 production cost model. The Company should explain this.
- 14 • Coleman 1, 2 & 3. Even though compliance with CSAPR won't begin until 2016,
15 Big Rivers has begun to constrain the dispatch of the Coleman units as early as
16 2013. I changed this to begin in 2016.
- 17 • Coleman 1, 2 & 3. Given that the units will now be shut down for multi-month
18 periods of time to limit emissions, it may not be necessary to schedule
19 maintenance during a different period of time. I changed the maintenance to
20 occur at the same time that the unit is taken offline.
- 21 • For purposes of my runs, I selected to use a specific Monte Carlo feature known
22 as the Convergent Monte Carlo method. Because I selected this option, I noticed
23 inconsistencies in the results including Coleman 2 having hundreds of startups per
24 year. It turned out that the database had two inputs reversed. The mean time to
25 repair input was switched and input as the average time to repair at the Coleman 2
26 unit. I corrected this error and the results appeared to be reasonable.
- 27 • PACE market price forecast is too high to use as a reference case. A comparison
28 of the market price forecasts provided by IHS and ACES to the PACE Global
29 forecast indicates that the PACE Global forecast (which assumes significant CO2
30 compliance costs during the study period) is an outlier and should not be relied as
31 a reference case forecast. I have used the ACES forecast, which is essentially the
32 same as the IHS forecast, as the basis for my market price forecast.
- 33 • Using the ACES forecast corrects for another flaw in the study. ACES has
34 developed its market price forecast without consideration of CO2 costs being

1 imposed, while PACE considered CO2 costs. To run a production cost model in
 2 the Build Case without imposing CO2 costs constraints, but including in that
 3 model a market price forecast that does include CO2 costs is completely
 4 inconsistent and biased in favor of the Build Case. An assumption that market
 5 prices will be very high in part because of the inclusion of CO2 costs has two
 6 basic modeling effects: it makes buying market power less attractive and it makes
 7 selling power as a merchant generator more attractive. But a CO2 requirement
 8 would make generating from Big Rivers' coal units much more expensive, and
 9 that was not considered. Either consideration of CO2 costs should be removed
 10 from the process of developing the market price forecast, or CO2 costs should be
 11 included in the production cost modeling step along with the market price forecast
 12 that included consideration of CO2 costs. By using the ACES market price
 13 forecast, I have essentially removed CO2 costs from the market price forecast,
 14 which leads to consistency in the production cost modeling step.

KIUC Alternative Analysis

15

16 **Q. Have you corrected the data assumptions you discussed above?**

17 A. Yes, the following table contains KIUC's results with all of the data
 18 improvements discussed, and with revised market prices based on the ACES
 19 market price forecast.

Cases with ACES Market Prices and KIUC Changes
Net Present Value Revenue Requirement
 Millions of Dollars

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | Diff |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------------|
| Build | 304 | 289 | 283 | 276 | 275 | 258 | 244 | 231 | 221 | 210 | 199 | 189 | 183 | 174 | 165 | 3,500 |
| Buy | 307 | 289 | 277 | 273 | 274 | 262 | 254 | 243 | 230 | 219 | 206 | 197 | 188 | 180 | 172 | 3,570 71 |
| Build No Sm | 304 | 289 | 66 | 63 | 60 | 54 | 40 | 42 | 42 | 41 | 36 | 31 | 30 | 33 | 27 | 1,157 |
| Buy No Sm | 307 | 289 | 62 | 63 | 59 | 51 | 45 | 46 | 46 | 44 | 38 | 32 | 31 | 34 | 30 | 1,178 21 |

20

21

22 These results can be compared to the Company's results for these same cases
 23 presented in Exhibit Hite-4.

Comparison of Total 15 Year NPV Revenue Requirements

| | Company Results (Millions of \$) | | KIUC Changes and ACES Prices (Millions of \$) | |
|-------------------------|-------------------------------------|---------|--|------|
| Buy | 3,921 | | 3,570 | |
| Build | 3,210 | | 3,500 | |
| | 711 | 22.1% | 70 | 2.0% |
| Buy No Smelter | 265 | | 1,178 | |
| Build No Smelter | -334 | | 1,157 | |
| | 599 | -179.3% | 21 | 1.8% |

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7 **Q. How do you interpret these results?**

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A. These results indicate that the Build and Buy scenarios are very close in cost, however, it is necessary to consider other factors, as well as whether there are any other costs that have not been properly accounted for in the study. These results do not present a complete picture of the risks the Company faces by committing to this construction program. The proposed projects represent a sizable construction program for Big Rivers, and it would not be unreasonable to expect there could be cost overruns during construction. Second, these environmental costs do not include the costs of compliance with other regulations including 316(b) water regulations and the Coal Combustion Residual regulations. Furthermore, these results do not include all of the incremental VO&M costs indicated that are included on page 2 of Exhibit Berry-2. If all of these costs were

1 factored in, it is likely that the Buy Case would have a cost advantage over the
2 Build Case.

3

4 **Q. Do you believe there are any other means by which the Company could have**
5 **reduced the cost of the Buy Case?**

6 A. Yes, as I have explained previously, Big Rivers controlled emissions in the Buy
7 Case, by selecting certain months to remove units from service. In doing that, it
8 limited the production cost model's ability to dispatch units economically, while
9 at the same time meeting emissions limits. A few other ways could have been
10 evaluated, which the Company never discussed having done, in order to derive a
11 more optimal dispatch result in the Buy Case. For example, annual emission
12 limits could have been entered and the model could have tried to optimize the
13 dispatch to find a more economic result while still meeting the emissions limits.
14 Another approach would have been to increase the price of the emissions cost,
15 entered as part of the dispatch price, until the emissions were reduced below the
16 emissions constraint. In addition, based on the method that Company did use,
17 which was to shut down certain units for certain periods of time, it is also possible
18 that different combinations of units could have been selected than those the
19 Company selected, that would have resulted in production costs that were lower
20 than those the Company produced. For example, the Company consistently took
21 the Coleman and Wilson units out of service in the Buy Case, but possibly the
22 Green units should have been tested to see if taking those units out of service
23 would have led to a more economic result. Given more time, I could have

1 performed the additional modeling analyses, and I believe the Buy Case results
2 would have been lower than those the Company produced, making the Buy Case
3 an even better option to pursue.

4

5 **Q. Please discuss the Company's position that its results indicate that the Build**
6 **Scenario is more cost effective even with a loss of the entire smelter load?**

7 A. The comparison table above indicates that the Big Rivers System would be
8 slightly better off under the Build Case even if the Company were to lose the
9 smelter load. To lose nearly 70% of the Company's load and still be comfortable
10 spending nearly \$300 million on environmental upgrade capital costs does not
11 seem reasonable. It is one matter to spend this amount of capital knowing that
12 there is a long term load to supply, however, it is quite another if in fact the
13 Company were to lose the smelter load. Furthermore, losing the smelter load, and
14 investing nearly \$300 million in its generating units effectively means that Big
15 Rivers would become a merchant generator that would have only coal-fired
16 energy available for sale. All future environmental upgrade costs, would have to
17 be passed on to the MISO market, if in fact the market would even accept paying
18 those costs. Also, as discussed previously, Big Rivers assumes that it would be
19 selling excess generation into a very high priced market that includes CO2 costs,
20 but inconsistently assumes that it would incur no increased costs of its own
21 because of the very same CO2 restrictions.

22

23 **Q. Wouldn't it be even riskier for Big Rivers to become a merchant generator?**

1 A. Yes, especially in the MISO market. Unlike PJM, MISO is only beginning to
2 implement an organized market for capacity, and given that many of MISO's
3 members are regulated entities, many Companies will opt out of the capacity
4 market, which will make excess generation inherently less valuable than in PJM.

5
6 **Q. Have other companies encountered difficulties surviving as merchant
7 generators?**

8 A. Yes, the following is a table of merchant generators that have all gone bankrupt
9 since 2000, which is all the more reason to be concerned about Big Rivers
10 becoming a merchant generator.

| Generator | Year of Bankruptcy |
|--------------------|--------------------|
| Enron | 2001 |
| Mirant | 2003 |
| NRG | 2003 |
| Calpine | 2005 |
| Dynegy | July 2012 |
| AES Eastern Energy | January 2012 |

11

12 **Q. Please summarize your conclusions regarding Big Rivers request to construct
13 the proposed environmental upgrades.**

14 A. I believe that some environmental upgrades are necessary and should be
15 implemented including the four MATS projects. However, I believe that the two
16 large CSAPR projects, including the new Scrubber at Wilson and the SCR at
17 Green 2 should be avoided at the present time since there is no clear economic
18 advantage between the Build and the Buy cases. I also believe that the Build Case
19 is riskier because, as I have discussed above, there are likely additional costs in

1 that case that have not been accounted for. Furthermore, Big Rivers would
2 effectively become a merchant generator in the event that there is a loss of
3 Smelter load, which is inherently a risky proposition. An additional appeal of the
4 Buy Case is that it would not preclude Big Rivers from performing the proposed
5 large environmental upgrade projects in the future, when the picture becomes
6 clearer regarding the uncertainties that I have identified. Another scenario that
7 the Company may want to consider would be for Big Rivers to perform the two
8 smaller upgrade projects, which would provide for some reduction in emissions,
9 and further control emissions in the same manner as in the Buy Case. This would
10 be considered a modification of the Company's Buy Case, though the Company
11 has not provided any analysis of this case, which it could do at a future point in
12 time. This case would involve a fairly small amount of risk as it would only
13 involve a cost of \$7.5 million according to Exhibit Berry-2.

14

15 **Q. Does this complete your testimony?**

16 A. Yes.

AFFIDAVIT

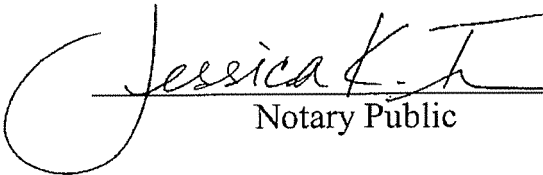
STATE OF GEORGIA)

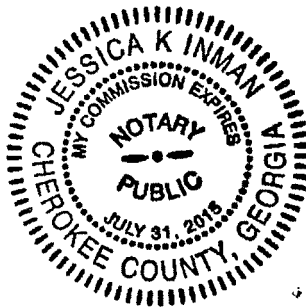
COUNTY OF FULTON)

PHILIP HAYET, being duly sworn, deposes and states: that the attached is his sworn testimony and that the statements contained are true and correct to the best of his knowledge, information and belief.


Philip Hayet

Sworn to and subscribed before me on this
23rd day of July 2012.


Notary Public



COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

| | | |
|--|---|----------------------------|
| APPLICATION OF BIG RIVERS |) | |
| ELECTRIC CORPORATION FOR |) | |
| APPROVAL OF ITS 2012 COMPLIANCE |) | |
| PLAN, FOR APPROVAL OF ITS |) | |
| AMENDED ENVIRONMENTAL COST |) | CASE NO. 2012-00063 |
| RECOVERY SURCHARGE TARIFF, |) | |
| FOR CERTIFICATES OF PUBLIC |) | |
| CONVENIENCE AND NECESSITY, AND |) | |
| FOR AUTHORITY TO ESTABLISH A |) | |
| REGULATORY ACCOUNT |) | |

| |
|--|
| <p>EXHIBITS</p> <p>OF</p> <p>PHILIP HAYET</p> |
|--|

ON BEHALF OF THE
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

HAYET POWER SYSTEMS CONSULTING
ATLANTA, GEORGIA

July 2012

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

| | | |
|--|---|----------------------------|
| APPLICATION OF BIG RIVERS |) | |
| ELECTRIC CORPORATION FOR |) | |
| APPROVAL OF ITS 2012 COMPLIANCE |) | |
| PLAN, FOR APPROVAL OF ITS |) | |
| AMENDED ENVIRONMENTAL COST |) | CASE NO. 2012-00063 |
| RECOVERY SURCHARGE TARIFF, |) | |
| FOR CERTIFICATES OF PUBLIC |) | |
| CONVENIENCE AND NECESSITY, AND |) | |
| FOR AUTHORITY TO ESTABLISH A |) | |
| REGULATORY ACCOUNT |) | |

| |
|---|
| <p>EXHIBIT HAYET-1</p> <p>OF</p> <p>PHILIP HAYET</p> |
|---|

ON BEHALF OF THE
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

HAYET POWER SYSTEMS CONSULTING
ATLANTA, GEORGIA

July 2012

RESUME OF PHILIP HAYET

EDUCATION/CERTIFICATION

M.S., Electrical Engineering, Georgia Institute of Technology, 1980
B.S., Electrical Engineering, Purdue University, 1979
Cooperative Education Certificate, Purdue University, 1979
Registered as a Professional Engineer in the State of Georgia, 1987
Member National Professional Engineering Society

EXPERIENCE

Mr. Hayet has provided consulting services to Public Utility Commissions, State Energy Offices, Consumer Advocate Offices, Electric Utilities, Global Power Developers, and Industrial Companies for over thirty years. Mr. Hayet's expertise covers a number of areas including utility system planning and operations, market price forecasting, Integrated Resource Planning, renewable resource evaluation, transmission planning, demand-side analysis, and economic analysis. In 1995, Mr. Hayet began his own utility consulting firm, Hayet Power Systems Consulting ("HPSC"), and has worked for customers in the United States, and internationally in Australia, Japan, Singapore, Malaysia, the United Kingdom, and Vietnam. In addition to continuing to work for HPSC, in 2000, Mr. Hayet began working part time for the consulting firm of J. Kennedy & Associates, Inc. to provide support for projects requiring utility resource planning analysis and software modeling expertise.

Prior to 1995, Mr. Hayet worked for fifteen years at Energy Management Associates, now Ventyx, where he provided consulting services and client service support for the widely used utility system planning software models, PROMOD IV and STRATEGIST. Clients included various electric utilities, governmental agencies, and private industry. Mr. Hayet helped to design some of the features that exist within the PROMOD IV and STRATEGIST systems, such as the competitive market modeling features in STRATEGIST.

Mr. Hayet has conducted numerous consulting studies in the areas of Renewable Resource Evaluation, Renewable Portfolio Standards Evaluation, Green Pricing Tariff Development, Electric Market Price Forecasting, Generating Unit Cost/Benefit Analysis, Integrated Resource Planning, Demand-Side Management, Load Forecasting, Rate Case Analysis and Regulatory Support. A list of recent projects is included below.

SPECIFIC EXPERIENCE

Projects Since 2000 - Hayet Power Systems Consulting, Atlanta, GA – President

- Submitted Direct Testimony May 2012 at the Georgia Public Service Commission concerning Georgia Power's Sixth Semi-Annual Vogtle Construction Monitoring Report (Docket 29849).
- Submitted Direct Testimony May 2012 at the Georgia Public Service Commission concerning Georgia Power's Fuel Cost Recovery Filing (FCR-23 - Docket 35277).
- Submitted Direct Testimony November 2011 at the Georgia Public Service Commission concerning Georgia Power's request to decertify two aging coal units, to acquire PPA

RESUME OF PHILIP HAYET

- resources, and to have approved its IRP Update, on behalf of the Georgia Public Service Commission Staff (Docket 34218).
- Submitted Direct Testimony November 2011 at the Georgia Public Service Commission concerning Georgia Power's request to certify the reacquisition of wholesale block capacity, on behalf of the Georgia Public Service Commission Staff (Docket 26550).
 - Submitted an Initial and Rebuttal Expert Report (April and June 2011, respectively) on behalf of the Department of Justice in US District Court, Civil Action No. 2:10-cv-13101-BAF-RSW.
 - Filed Direct Testimony June 2011 at the Georgia Public Service Commission concerning Georgia Power's Fourth Semi-Annual Vogtle Construction Monitoring Report Period Ending December 31, 2011 (Docket 29849-U).
 - Filed Direct testimony April 2011 at the Georgia Public Service Commission concerning Georgia Power's Fuel Cost Recovery Filing (FCR-22) (Docket 33302).
 - Filed Direct testimony December 2010 at the Georgia Public Service Commission concerning Georgia Power's Third Semi-Annual Vogtle Construction Monitoring Report Period Ended June 30, 2010 (Docket 29849-U).
 - Filed Direct testimony June 2010 at the Georgia Public Service Commission concerning Georgia Power's Second Semi-Annual Vogtle Construction Monitoring Report Period Ended December 31, 2009 (Docket 29849-U).
 - Filed Direct testimony January 2010 at the Georgia Public Service Commission concerning Georgia Power's Fuel Cost Recovery Filing (FCR-21) (Docket 28945).
 - Filed Direct testimony October 2009 at the Georgia Public Service Commission concerning Georgia Power's First Semi-Annual Vogtle Construction Monitoring Report Period Ended June 30, 2009 (Docket 29849-U).
 - Filed Direct and Sur-rebuttal testimony in September and October 2009, respectively at the Utah Public Service Commission concerning PacifiCorp's 2009 Rate Case with regard to net power costs (Docket 09-035-23).
 - Assisted the Utah Office of Consumer Services to evaluate PacifiCorp's 2008 IRP (Docket 09-2035-01).
 - Assisting the Georgia Public Service Commission Staff to investigate the acquisition of additional coal and combustion turbine capacity currently wholesale capacity (Docket 26550).
 - Testified on Georgia Public Service Commission Staff concerning Georgia Power's Certification request for the Vogtle 3 and 4 Nuclear units (Docket 27800).
 - Testified on behalf of the Utah Committee of Consumer Services concerning PacifiCorp's 2008 request to acquire the Chehalis Combined Cycle Power Plant based on a waiver of the RFP solicitation process (Docket 08-035-35).
 - Submitted testimony on behalf of the Utah Committee of Consumer Services concerning PacifiCorp's 2007 Rate Case with regard to net power costs (Docket 07-035-93).

RESUME OF PHILIP HAYET

- Testified in April 2008 in front of the Georgia Public Service Commission regarding Georgia Power's November 2006 Fuel Cost Recovery filing (Docket 26794-U).
- Assisted the Georgia Public Service Commission Staff to evaluate Georgia Power's 2007 IRP filings (Docket 24505-U).
- Conducted an investigation of the Southern Company interchange accounting and fuel accounting practices on behalf of the Georgia Public Service Commission (Docket 21162-U).
- Testified in January 2007 in front of the Georgia Public Service Commission regarding Georgia Power's November 2006 Fuel Cost Recovery filing (Docket 23540-U).
- Assisted the Utah Committee of Consumer Services to evaluate PacifiCorp's 2007 IRP.
- Provided regulatory support to the Utah Committee of Consumer Services concerning PacifiCorp's 2006 Rate Case with regard to net power costs (Docket 06-35-01).
- Testified in May 2006 in front of the Georgia Public Service Commission regarding Georgia Power and Savannah Electric's March 2006 Fuel Cost Recovery filing (Docket 22403-U).
- Assisted the Utah Committee of Consumer Services by evaluating PacifiCorp's 2005 IRP and assisted in writing comments that were filed with the Commission.
- Assisted the Utah Committee of Consumer Services by participating in a collaborative process to develop an avoided cost tariff for large QFs.

Projects Since 2000 - J. Kennedy and Associates, Inc. Atlanta, GA – Director of Consulting

- Filed Direct Testimony (March 2012) regarding Entergy's change of control filing to move to the Midwest ISO in LPSC Docket 32148.
- Filed Direct Testimony (September 2011) in support of a settlement agreement at the Louisiana Public Service Commission regarding the reasonableness of Cleco's CCPN to upgrade its Madison 3 coal unit to accommodate biomass fuel in accordance with the LPSC's Renewable Energy Pilot in Docket U-31792.
- Filed Direct (January 2011) and Cross-Answering (February 2011) Testimony at FERC regarding the reasonableness of Entergy's 2009 production costs that were used to develop bandwidth payments in Docket ER09-1350.
- Testified at FERC regarding an LPSC complaint that Entergy violated provisions of its System Agreement related to individual operating company sales in FERC Docket EL09-61.
- Testified at FERC regarding the reasonableness of Entergy's 2008 production costs that were used to develop bandwidth payments in Docket ER08-1224.
- Filed testimony at the Public Utilities Commission of the State of Colorado, in October 2009 concerning Black Hills/Colorado's CPCN application to construct two LMS 100 natural gas combustion turbine units. Docket No. 09A-415E
- Testified in front of the Minnesota Public Service Commission, September 2009 concerning Minnesota Power's Request for Approval to Purchase Square Butte's 500 kV DC transmission

RESUME OF PHILIP HAYET

line, and to restructure a coal based power purchase agreement. MPUC Docket No. E015/PA-09-526

- Testified in front of FERC, July 2009, concerning the Louisiana Public Service Commission's complaint regarding Entergy's 2007 rough production cost equalization compliance filing in the System Agreement Case in FERC Docket No. ER08-1056.
- Worked with the Louisiana Public Service Commission in a collaborative effort to implement a Green Pricing Tariff for Entergy Gulf States Louisiana, Entergy Louisiana, CLECO, and SWEPCO. Coordination is required between the utility, power developers, other customers, and Commission Staff. (Docket No. R-28271)
- Assisted the Louisiana Public Service Commission Staff with a rulemaking to design Integrated Resource Planning ("IRP") rules. (Docket No. R-30021)
- Assisted the Louisiana Public Service Commission Staff with a rulemaking for the opportunity to implement a Renewable Portfolio Standard in Louisiana. (Docket No. R-28271 Sub-Docket B)
- Filed Testimony at FERC in Jan 2009, concerning the 2007 System Agreement Rough Production Cost Equalization production cost equalization compliance filing in the System Agreement Case in FERC Docket No. ER08-1056.
- Testified in front of the Wisconsin Public Service Commission in 2008 regarding WPL's certification proceeding concerning the Nelson Dewey CFB coal-fired generating unit. (6680-CE-170).
- Testified at FERC in July 2008, concerning the Louisiana Public Service Commission's complaint regarding Entergy's 2006 rough production cost equalization compliance filing in the System Agreement Case in FERC Docket No. ER07-956.
- Testified in front of the Wisconsin Public Service Commission in 2008 regarding WEPCO's request to implement environmental upgrades at its Oak Creek Power Plant in Docket 6630-CE-299..
- Assisting the Louisiana Public Service Commission Staff with the review and evaluation of Cleco Power's 2008 Short Term RFP and its 2010 Long-Term RFP.
- Provided regulatory support on behalf of the Louisiana Public Service Commission Staff concerning jurisdictional separation of Entergy Gulf States in Docket No. U-21453.
- Provided regulatory support on behalf of the Louisiana Public Service Commission Staff concerning the potential benefit of Transmission upgrades in Docket No. U-25116.
- Provided regulatory support on behalf of the Louisiana Public Service Commission concerning a FERC complaint regarding power purchase contracts in FERC Docket No. ER03-753-000.
- Provided regulatory support on behalf of the Louisiana Public Service Commission Staff in a retail proceeding evaluating the benefits of possibly retiring some of Entergy's gas-fired units. Docket No. U-27136 (Subdocket A).

RESUME OF PHILIP HAYET

- In 2002 – 2003, provided regulatory support on behalf of the Louisiana Public Service Commission's FERC complaint regarding cost allocation issues between the Entergy Operating Companies in the FERC Docket No. EL01-88-000.
- In 2002 – 2003, provided regulatory support on behalf of the Louisiana Public Service Commission Staff in a retail proceeding concerning Entergy's billing practices. Docket No. U-25888
- In 2000 – 2001, provided regulatory support on behalf of the Louisiana Public Service Commission's intervention in Entergy's proposed System Agreement modifications in the FERC Docket No. ER00-2854-000.

Other Projects Conducted Since 1996

- Provided assistance in 2004 to the Utah Committee of Consumer Services to analyze a series of power purchase agreements and special contracts between PacifiCorp and several of its industrial customers.
- Assisted the Georgia Public Service Commission Staff to evaluate Georgia Power and Savannah Electric's 2004 IRP filings. Also, testified in front of the Georgia Public Service Commission in that proceeding.
- Provided regulatory support to the Utah Committee of Consumer Services regarding PacifiCorp's 2003 Utah General Rate Case Docket # 03-2035-02.
- Worked on behalf of the Oregon Public Utility Commission to Audit PacifiCorp's Net Power Costs per a Settlement Agreement accepted by the Public Utility Commission of Oregon in its Order No. 01-787. Audit report in Docket No. UE-116 filed July 2003.
- Worked on behalf of the Utah Committee of Consumer Services to provide guidance and assist in the analysis of PacifiCorp's 2002 Integrated Resource Plan.
- Worked on behalf of the Utah Committee of Consumer Services to help analyze PacifiCorp's restructuring proposals.
- Testified in front of the Utah Public Service Commission in regards to PacifiCorp's Utah General Rate Case Docket # 010-035-010
- Submitted an expert report in August 2002 in the United States District Court for the Middle District of North Carolina in the Civil Action No. 1:00 CV 1262, United States v. Duke Energy Corporation. The case concerned compliance with the 1977 Clean Air Act and the report concerned generation resource planning and production cost modeling issues.
- Provided general rate case assistance in other hearings in Oregon, Washington and Wyoming
- Modeled the Singapore Power Electricity System and analyzed the benefits of dispatching a new oil-fired unit within the system.
- Modeled the Australian National Energy Market to develop market based energy price forecasts on behalf of an Independent Power Producer in Australia

RESUME OF PHILIP HAYET

- Analyzed the benefit of purchasing existing gas-fired steam turbine units within the Australian market
- Developed market price forecasts for South Australia as part of the evaluation of a new gas fired combined cycle unit
- Modeled the Vietnam Electricity System as part of a project to develop Least Cost Expansion plans for Vietnam
- Assisted in the evaluation of a large gas-fired combined cycle plant in Vietnam
- Assisted in the development of Market Price Forecasts in several regions of the US. These forecasts were used as the basis for stranded cost estimates, which were filed in testimony in a number of jurisdictions across the country.
- Helped to analyze the rate structure and develop an electricity price forecast for the Metropolitan Atlanta Rapid Transit Authority (MARTA) in Atlanta, Georgia
- Testified regarding the reasonableness of PacifiCorp's determination of Net Power Cost as part of a rate case proceeding in Utah
- Provided rate case support opposing PacifiCorp's rate increases in both Oregon and Washington State. Performed alternative power cost modeling using software simulations
- Critiqued the IRP filings of 5 utilities in South Carolina on behalf of the South Carolina State Energy Office
- Conducted research regarding ISO Tariffs and Operations for the PJM Power Pool, the California ISO, and the Midwest ISO on behalf of a Japanese Research.
- Performed research on numerous electric utility issues for 3 Japanese research organizations. This was primarily related to deregulation issues in the US in anticipation of deregulation being introduced in Japan.

1991 to **EDS Utilities Division, Atlanta, GA**
1996: **Lead Consultant, PROSCREEN (Now STRATEGIST) Department**

- Managed a client services software team that supported approximately 75 users of the STRATEGIST electric utility strategic planning software.
- Participated in the development of STRATEGIST's competitive market modeling features and the Network Economy Interchange Module
- Provided client management direction and support, and developed new consulting business opportunities.
- Performed system planning consulting studies including integrated resource planning, DSM analysis, marketing profitability studies, optimal reserve margin analyses, etc.
- Based on experience with PROMOD IV, converted numerous PROMOD IV databases to STRATEGIST, and performed benchmark analyses of the two models.

RESUME OF PHILIP HAYET

1988 to 1991: **Energy Management Associates (EMA), Atlanta, GA**
Manager, Production Analysis Department

- Served as Project Manager of a database modeling effort to create an integrated utility operations and generation planning database. Database items were automatically fed into PROMOD IV.
- Supervised and directed a staff of five software developers working with a 4GL database programming language.
- Interfaced with clients to determine system software specifications, and provide ongoing client training and support

1980 to 1988: **Energy Management Associates (EMA), Atlanta, GA**
Senior Consultant, PROMOD IV Department

- Provided client service support to EMA's base of over 70 electric utility customers using the PROMOD IV probabilistic production cost simulation software.
- Provided consulting services in a number of areas including generation resource planning, regulatory support, and benchmarking.

PUBLICATIONS

Authored "The Developing Vietnamese Power System", which will appear in an upcoming addition of Power Value Magazine

Co-Authored "The European Electricity Market", which appeared in the June 2000 edition of Hart's Energy Markets

Authored "Singapore's Developing Power Market", which appeared in the July/August 1999 edition of Power Value Magazine

Co-authored "The New Energy Services Industry – Part 1", which appeared in the January/February 1999 edition of Power Value Magazine.

Co-authored and Presented "Evaluation of a Large Number of Demand-Side Measures in the IRP Process: Florida Power Corporation's Experience", Presented at the 3rd International Energy and DSM Conference, Vancouver British Columbia, November 1994

RESUME OF PHILIP HAYET

Co-authored “Impact of DSM Program on Delmarva’s Integrated Resource Plan”, Published in the 4th International Energy and DSM Conference Proceedings, held in Berlin, Germany, 1995

RESUME OF PHILIP HAYET

TESTIMONY AND EXPERT WITNESS APPEARANCES

Filed Direct testimony May 2012 at the Georgia Public Service Commission concerning Georgia Power's Sixth Semi-Annual Vogtle Construction Monitoring Report (Docket 29849-U).

Filed Direct Testimony (May 2012) at the Georgia Public Service Commission concerning Georgia Power's Fuel Cost Recovery Filing (FCR-23 - Docket 35277).

Filed Direct Testimony (March 2012) regarding Entergy's change of control filing to move to the Midwest ISO in LPSC Docket 32148.

Submitted Direct testimony November 2011 at the Georgia Public Service Commission concerning Georgia Power's request to decertify two aging coal units, to acquire PPA resources, and to have approved its IRP Update, on behalf of the Georgia Public Service Commission Staff (Docket 34218).

Submitted Direct testimony November 2011 at the Georgia Public Service Commission concerning Georgia Power's request to certify the reacquisition of wholesale block capacity, on behalf of the Georgia Public Service Commission Staff (Docket 26550).

Filed Direct Testimony (September 2011) in support of a settlement agreement at the Louisiana Public Service Commission regarding the reasonableness of Cleco's CCPN to upgrade its Madison 3 coal unit to accommodate biomass fuel in accordance with the LPSC's Renewable Energy Pilot in Docket U-31792.

Submitted an Initial and Rebuttal Expert Report (April and June 2011, respectively), on behalf of the Department of Justice in US District Court, Civil Action No. 2:10-cv-13101-BAF-RSW.

Filed Direct testimony June 2011 at the Georgia Public Service Commission concerning Georgia Power's Fourth Semi-Annual Vogtle Construction Monitoring Report Period Ending December 31, 2011 (Docket 29849-U).

Filed Direct testimony April 2011 at the Georgia Public Service Commission concerning Georgia Power's Fuel Cost Recovery Filing (FCR-22) (Docket 33302).

Filed direct testimony (January 2011) and Cross Answering Testimony (February 2011) at FERC regarding the reasonableness of Entergy's 2009 production costs that were used to develop bandwidth payments in Docket ER09-1350.

Filed direct testimony December 2010 at the Georgia Public Service Commission concerning Georgia Power's Third Semi-Annual Vogtle Construction Monitoring Report Period Ended June 30, 2010 (Docket 29849-U)

Filed direct testimony June 2010 at the Georgia Public Service Commission concerning Georgia Power's Second Semi-Annual Vogtle Construction Monitoring Report Period Ended December 31, 2009 (Docket 29849-U)

RESUME OF PHILIP HAYET

Testified at FERC in 2010 regarding an LPSC complaint that Entergy violated provisions of its System Agreement related to individual operating company sales in FERC Docket EL09-61.

Filed direct testimony January 2010 at the Georgia Public Service Commission concerning Georgia Power's Fuel Cost Recovery Filing in Docket No. 28945.

Filed testimony at FERC December 2009 regarding the reasonableness of Entergy's 2008 production costs that were used to develop bandwidth payments in Docket ER08-1224.

Filed Direct testimony December 2009 at the Georgia Public Service Commission concerning Georgia Power's First Semi-Annual Vogtle Construction Monitoring Report Period Ended June 30, 2009 (Docket 29849-U)

Filed Direct and Surrebuttal testimony in September and October 2009, respectively at the Utah Public Service Commission concerning PacifiCorp's 2009 Rate Case with regard to net power costs (Docket 09-035-23)

Filed testimony at the Public Utilities Commission of the State of Colorado, in October 2009 concerning Black Hills/Colorado's CPCN application to construct two LMS 100 natural gas combustion turbine units. Docket No. 09A-415E

Testified in front of the Minnesota Public Service Commission, September 2009 concerning Minnesota Power's Request for Approval to Purchase Square Butte's 500 kV DC transmission line, and to restructure a coal based power purchase agreement. MPUC Docket No. E015/PA-09-526

Filed testimony on behalf of the LPSC Staff in July 2009, concerning SWEPCO and CLECO's application to acquire the Oxbow Mine to supply the Dolet Hills Power Station in LPSC Docket No. U-30975.

Testified at FERC in July 2009, concerning the Louisiana Public Service Commission's complaint regarding Entergy's 2007 rough production cost equalization compliance filing in the System Agreement Case in FERC Docket No. ER08-1056.

Filed Testimony December 2008 at the Georgia Public Service Commission concerning Georgia Power's Certification request for the Vogtle 3 and 4 Nuclear units (Docket 27800)

Filed Testimony November 2008 at the West Virginia Public Service Commission concerning their fuel cost recovery filing (Docket 08-15-11-E-61)

Testified in front of the Wisconsin Public Service Commission in September 2008 regarding WPL's certification proceeding concerning the Nelson Dewey CFB coal-fired generating unit. (6680-CE-170).

RESUME OF PHILIP HAYET

Testified at FERC in July 2008, concerning the Louisiana Public Service Commission's complaint regarding Entergy's 2006 rough production cost equalization compliance filing in the System Agreement Case in FERC Docket No. ER07-956.

Testified in front of the Wisconsin Public Service Commission in 2008 regarding WEPCO's request to implement environmental upgrades at its Oak Creek Power Plant in Docket 6630-CE-299.

Filed direct testimony April 2008 at the Georgia Public Service Commission concerning Georgia Power's Fuel Cost Recovery Filing in Docket No. 26794 (FCR-20).

Testified in October 2007 in front of the Louisiana Public Service Commission regarding Cleco Power's 2008 Short Term RFP in Docket No. U-30334.

Testified in June 2007 in front of the Georgia Public Service Commission regarding Georgia Power's 2007 Integrated Resource Planning Study. Testified on behalf of the Georgia Public Service Commission Staff. in Docket No. 24505-U.

Filed testimony in Apr 2007 regarding the reasonableness of PacifiCorp's determination of Utah jurisdictional Net Power Costs in PacifiCorp's General Rate Case Docket 07-035-93.

Testified in January 2007 in front of the Georgia Public Service Commission concerning Georgia Power's November 2006 fuel Cost Recovery Filing in Docket No. 23540-U.

Testified in November 2006 in front of the Louisiana Public Service Commission concerning transmission issues associated with the audit of Entergy Louisiana's Fuel Adjustment Clause Filings (Docket U-25116).

Filed Testimony in August 2006 in front of the Louisiana Public Service Commission concerning jurisdictional separation of Entergy Gulf States in Docket No. U-21453

Testified in May 2006 in front of the Georgia Public Service Commission regarding Georgia Power and Savannah Electric's March 2006 Fuel Cost Recovery filing (Docket 22403-U).

Testified in Apr 2006 in front of the Utah Public Service Commission regarding PacifiCorp Certification request to expand the Blundell Geothermal Power Station (Docket -05-035-54). Related to Mid-American Energy Holding's Acquisition of PacifiCorp.

Filed Testimony in July 2005 regarding PacifiCorp's Avoided Cost proceeding (03-035-14).

Filed Testimony in December 2005 regarding the reasonableness of PacifiCorp's determination of Utah jurisdictional Net Power Costs in PacifiCorp's General Rate Case (Docket 04-035-42).

RESUME OF PHILIP HAYET

Testified in March 2005 in front of the Utah Public Service Commission regarding whether the Stipulation that had previously been agreed to concerning PacifiCorp's Schedule 38 avoided cost tariff was still valid for the remaining unsubscribed capacity available under the Stipulation's cap.

Testified in November 2004 in front of the Utah Public Service Commission regarding an industrial customer's request for both a special economic development tariff and a large QF tariff. Testimony was provided on behalf of the Utah Committee of Consumer Services in Docket No. 03-035-19 (Special Contract) and No. 03-035-38 (QF proceeding).

Testified in August 2004 in front of FERC on behalf of the Louisiana Public Service Commission concerning a complaint that had been filed against Entergy concerning a series of affiliate power purchase agreements FERC Docket ER03-583-000.

Testified in June 2004 in front of the Georgia Public Service Commission regarding Georgia Power and Savannah Electric's 2004 Integrated Resource Planning Studies. Testimony was provided on behalf of the Georgia Public Service Commission Staff. Georgia Docket Nos. 17687 and 17688.

Testified in May 2004 in front of the Utah Public Service Commission concerning the development of a large QF avoided cost methodology. Testimony was provided on behalf of the Utah Committee of Consumer Services in Docket 03-035-14.

Testified in July 2003 in front of FERC in support of the Louisiana Public Service Commission's complaint regarding cost allocation issues amongst the Entergy Operating Companies in the FERC Docket Number EL01-88-000.

Submitted an expert report in August 2002 in the United States District Court for the Middle District of North Carolina in the Civil Action No. 1:00 CV 1262, United States v. Duke Energy Corporation.

Testified in July 2002 on behalf of the Utah committee for consumer services regarding a special contract for an industrial consumer in support of a settlement agreement in a PacifiCorp Utah proceeding in Docket Number 02-035-02.

Provided testimony in the Fall of 2001 in front of FERC on behalf of the Louisiana Public Service Commission's intervention in Entergy's proposed System Agreement modifications in the FERC Docket No. ER00-2854-000.

Testified in July 2001 regarding the reasonableness of PacifiCorp's determination of Utah jurisdictional Net Power Costs in PacifiCorp's General Rate Case Docket 01-035-01

Testified in September 1998 regarding the reasonableness of PacifiCorp's determination of Utah jurisdictional Net Power Costs as part of a Settlement Proceeding in Pacificorp's rate case Docket Number 97-035-01.

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

| | | |
|--|---|----------------------------|
| APPLICATION OF BIG RIVERS |) | |
| ELECTRIC CORPORATION FOR |) | |
| APPROVAL OF ITS 2012 COMPLIANCE |) | |
| PLAN, FOR APPROVAL OF ITS |) | |
| AMENDED ENVIRONMENTAL COST |) | CASE NO. 2012-00063 |
| RECOVERY SURCHARGE TARIFF, |) | |
| FOR CERTIFICATES OF PUBLIC |) | |
| CONVENIENCE AND NECESSITY, AND |) | |
| FOR AUTHORITY TO ESTABLISH A |) | |
| REGULATORY ACCOUNT |) | |

EXHIBIT HAYET-2
OF
PHILIP HAYET

ON BEHALF OF THE
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

HAYET POWER SYSTEMS CONSULTING
ATLANTA, GEORGIA

July 2012

CONFIDENTIAL
FILED UNDER SEAL

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

IN THE MATTER OF:

APPLICATION OF BIG RIVERS ELECTRIC)
CORPORATION FOR APPROVAL OF ITS)
2012 ENVIRONMENTAL COMPLIANCE)
PLAN, FOR APPROVAL OF ITS AMENDED)
ENVIRONMENTAL COST RECOVERY)
SURCHARGE TARIFF, FOR CERTIFICATES)
OF PUBLIC CONVENIENCE AND)
NECESSITY, AND FOR AUTHORITY TO)
ESTABLISH A REGULATORY ACCOUNT)

CASE NO. 2012-00063

RECEIVED

JUL 24 2012

PUBLIC SERVICE
COMMISSION

PUBLIC

DIRECT TESTIMONY

AND EXHIBITS

OF

STEPHEN J. BARON

ON BEHALF OF THE

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA

July 2012

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

IN THE MATTER OF:

APPLICATION OF BIG RIVERS ELECTRIC)
CORPORATION FOR APPROVAL OF ITS)
2012 ENVIRONMENTAL COMPLIANCE)
PLAN, FOR APPROVAL OF ITS AMENDED)
ENVIRONMENTAL COST RECOVERY) CASE NO. 2012-00063
SURCHARGE TARIFF, FOR CERTIFICATES)
OF PUBLIC CONVENIENCE AND)
NECESSITY, AND FOR AUTHORITY TO)
ESTABLISH A REGULATORY ACCOUNT)

DIRECT TESTIMONY OF STEPHEN J. BARON

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I. QUALIFICATIONS AND SUMMARY

Q. Please state your name and business address.

A. My name is Stephen J. Baron. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. What is your occupation and by whom are you employed?

A. I am the President and a Principal of Kennedy and Associates, a firm of utility rate, planning, and economic consultants in Atlanta, Georgia.

1 **Q. Please describe briefly the nature of the consulting services provided by**
2 **Kennedy and Associates.**

3 A. Kennedy and Associates provides consulting services in the electric and gas utility
4 industries. Our clients include state agencies and industrial electricity consumers.
5 The firm provides expertise in system planning, load forecasting, financial analysis,
6 cost-of-service, and rate design. Current clients include the Georgia and Louisiana
7 Public Service Commissions, and industrial consumer groups throughout the United
8 States.

9
10 **Q. Please state your educational background and experience.**

11 A. I graduated from the University of Florida in 1972 with a B.A. degree with high
12 honors in Political Science and significant coursework in Mathematics and
13 Computer Science. In 1974, I received a Master of Arts Degree in Economics, also
14 from the University of Florida.

15
16 I have more than thirty years of experience in the electric utility industry in the areas
17 of cost and rate analysis, forecasting, planning, and economic analysis.

18
19 I have presented testimony as an expert witness in Arizona, Arkansas, Colorado,
20 Connecticut, Florida, Georgia, Indiana, Kentucky, Louisiana, Maine, Michigan,
21 Minnesota, Maryland, Missouri, New Jersey, New Mexico, New York, North
22 Carolina, Ohio, Pennsylvania, Texas, Utah, Virginia, West Virginia, Wisconsin,

1 Wyoming, the Federal Energy Regulatory Commission and in United States
2 Bankruptcy Court.

3
4 A complete copy of my resume and my testimony appearances is contained in Baron
5 Exhibit__ (SJB-1).

6

7 **Q. Have you previously presented testimony before the Kentucky Public Service**
8 **Commission?**

9 A. Yes. I have testified before the Kentucky Public Service Commission in eighteen
10 cases over the past thirty years, including Big Rivers Electric Corporation (“Big
11 Rivers” or “the Company”).

12

13 **Q. On whose behalf are you testifying in this proceeding?**

14 A. I am testifying on behalf of Kentucky Industrial Utility Customers, Inc. (“KIUC”), a
15 group of large industrial and Smelter customers of Big Rivers Electric Corporation,
16 (“Big Rivers” or the “Company”). These customers are Alcan Primary Products
17 Corporation, Century Aluminum of Kentucky, General Partnership, Domtar Paper
18 Co., LLC and Kimberly-Clark Corporation.

19

20 **Q. What is the purpose of your testimony?**

21 A. I am responding to the Company’s proposed Environmental Cost Recovery (“ECR”)
22 surcharge rate design methodology that results in a uniform percentage charge for

1 each rate schedule and individual customer, based on “total adjusted revenues.” The
2 Company’s proposed rate recovery methodology (discussed in the testimony of Big
3 Rivers’ witness John Wolfram), assigns environmental costs to Rural, Large
4 Industrial and Smelter rate classes on the basis of total revenues (adjusted to remove
5 surcharges and credits), including fuel (FAC and fuel in base rates) expenses. While
6 the Big Rivers’ allocation methodology is an improvement over the current kWh
7 allocation methodology, the inclusion of fuel (FAC and fuel in base rates) in the
8 “allocator” is not appropriate since environmental expenditures are unrelated to the
9 market cost of coal and natural gas. As I will discuss, KIUC recommends that the
10 Environmental Surcharge (“ES”) tariff reflect a non-fuel base revenue allocator,
11 consistent with the methodology approved by the Commission for Louisville Gas
12 and Electric Company (“LGE”) and Kentucky Utilities Company (“KU”).
13 However, in recognition of the impact of the KIUC proposal on Rural customers,
14 KIUC recommends that the non-fuel base revenue allocator only be in effect until
15 the depletion of the Member Rate Stability Mechanism (“MRSM”) and the Rural
16 Economic Reserve (“RER”) funds. Upon depletion of the mitigation of the
17 environmental surcharge for Rural customers, KIUC recommends that the ES tariff
18 revert to the “total adjusted revenue” allocation methodology proposed by Big
19 Rivers in this case.

20
21 **Q. Would you please summarize your testimony?**

22 **A. Yes. I recommend and conclude the following:**

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- The Commission should modify Big Rivers’ proposed ECR rate recovery mechanism (Tariff ES) such that environmental revenue requirements are allocated first to off-system and the combined retail rate classes on the basis of Big Rivers’ proposed total adjusted revenue allocation methodology and then among the three Big Rivers’ retail rate classes (Rural, Large Industrial, Smelter) on the basis of non-fuel base revenues.
- In recognition of the impact of KIUC’s proposed non-fuel base revenue allocation method on Rural customers after the depletion of the Member Rate Stability Mechanism and Rural Economic Reserve balances, KIUC proposes that upon the depletion of these mitigation sources, the ES Tariff allocation methodology revert to Big Rivers’ proposed total adjusted revenue methodology.
- Based on KIUC’s proposal, Rural customers will not experience any bill impact from a non-fuel base revenue allocation during the period in which the MRSM and RER provide mitigation and will pay the same ES charges as proposed by Big Rivers’ upon the depletion of the MRSM and RER balances. KIUC estimates that the MRSM and RER balances will be depleted in 2017, versus 2018 under Big Rivers’ proposed allocation of environmental costs.
- KIUC’s proposed environmental cost allocation methodology should be adopted by the Commission regardless of whether the Commission approves the “Build Case,” the “Partial Build Case”, the “Buy Case” or any other compliance plan approved in this case.

1 **II. KIUC PROPOSED ENVIRONMENTAL COST ALLOCATION**

2 **METHODOLGY**

3
4 **Q. Would you please briefly discuss Big Rivers’ proposed environmental cost**
5 **allocation proposal in this case?**

6 A. Big Rivers’ is proposing to modify its ES tariff to incorporate a “total adjusted
7 revenue” allocation among off-system sales and each of the three retail rate classes
8 (Rural, Large Industrial and Smelters). Total adjusted revenue includes base
9 revenues, fuel clause revenues, and Non-FAC PPA revenues, but does not include
10 special Smelter premiums and surcharges (e.g., TIER Adjustment Charge). This
11 methodology is in contrast to the current “per-kWh” allocation and is being
12 proposed (based on witness John Wolfram’s testimony) because of the significant
13 capital costs that will comprise the 2012 Plan revenue requirements.¹

14
15 **Q. Do you support the Company’s proposal on cost allocation?**

16 A. Only in part. The Big Rivers’ proposal is an improvement over the current kWh
17 based environmental cost allocation methodology, because it correctly excludes
18 special Smelter contractual premiums from the total revenue allocation
19 methodology. However, given the cost composition of the 2012 Plan (fixed and
20 variable costs), Big Rivers’ proposed allocation methodology inappropriately

¹ See Wolfram Direct Testimony at page 14.

1 allocates fixed and variable environmental costs on rate schedule revenues that
2 include fuel (FAC and fuel in base rates) that are unrelated to these environmental
3 costs. In particular, high load factor Smelter and Large Industrial customers will be
4 assigned millions of dollars of environmental costs based, in part, on the level of fuel
5 prices.

6
7 Big Rivers' proposed allocation factor includes each rate class's base fuel revenues,
8 FAC revenues and Non-FAC PPA revenues. These fuel and FAC revenues are
9 determined by both the level of fuel prices and market energy prices, as well as a
10 class's mWh energy use. Effectively, base fuel revenues and FAC revenues
11 revenues can be thought of as a fuel price weighted mWh allocator; the higher the
12 level of fuel prices (i.e., natural gas prices, coal prices), the larger the mWh energy
13 weighting will be in the Big Rivers' allocator.

14
15 **Q. Has the Commission approved a non-fuel base revenue allocation methodology**
16 **for other Kentucky utilities?**

17 A. Yes. The Commission approved an Environmental Cost Recovery mechanism that
18 allocates environmental revenue requirements among non-residential rate classes
19 using a non-fuel base revenue allocator for both Louisville Gas and Electric
20 Company and Kentucky Utilities (Case Numbers 2011-00161, 2011-00162).

21

1 **Q. You indicated that you supported Big Rivers’ proposed allocation**
2 **methodology, but only in part. Would you please explain your qualified**
3 **support, given your general objection to a total revenue allocation method?**

4 A. While I will recommend that the ES tariff incorporate a non-fuel base revenue
5 allocation methodology for the reasons previously discussed, I recognize that this
6 will result in a higher allocation of environmental costs to Rural customers once the
7 Member Rate Stability Mechanism and Rural Economic Reserve funds are depleted.
8 As such, KIUC proposes that the non-fuel base revenue ES allocation method revert
9 to Big Rivers’ proposed total adjusted revenue methodology after the depletion of
10 the MRSM and RER funds. In this manner, Rural customers will not experience any
11 increased cost associated with the KIUC proposed allocation method after the
12 MRSM and RER funds are fully depleted because, at that point, the ES cost
13 allocation will revert to Big Rivers’ proposal in this case.

14

15 **Q. Will the MRSM and RER funds be depleted earlier under the KIUC proposal**
16 **than under Big Rivers’ proposed ES cost allocation?**

17 A. Yes. Due to the higher ES cost allocation to the Rural rate class, these mitigation
18 funds will be depleted approximately 1 year earlier under the KIUC proposal than
19 under the Big Rivers’ cost allocation proposal. Using Big Rivers’ “Build Case”
20 financial forecast model, the KIUC cost allocation methodology would deplete the
21 MRSM and RER funds in 2017, versus 2018 under the Company’s cost allocation
22 methodology. Thus, Rural customers would only experience a bill impact under the

1 KIUC proposal for some portions of 2017 and 2018. Prior to the depletion of the
2 MRSM and RER funds sometime in 2017, there would be no impact on Rural
3 customers; after 2018, there would also be no impact on Rural customers (compared
4 to the Big Rivers' proposal).

5

6 **Q. Have you developed an analysis that estimates the impact of the KIUC**
7 **proposed environmental cost allocation methodology?**

8 A. Yes. Baron Exhibit __ (SJB-2) provides an estimate for the year 2016 of the allocated
9 environmental costs using a non-fuel base revenue allocation methodology. This is
10 the first full year of environmental revenue requirements under the Company's
11 proposed "Build Case" 2012 plan. It should be noted that this exhibit relies on
12 projections that Big Rivers' has classified as Confidential in this case and thus
13 should be considered "Confidential" as well.

14

15 **Q. Would you please explain your cost allocation analysis?**

16 A. Yes. The first step in the analysis is to develop non-fuel base revenues for the year
17 2016. In its response to KIUC 1-50, Big Rivers provided a breakdown of the
18 components of its "total adjusted revenues" by rate class. Using this data, I removed
19 1) FAC revenues and 2) Fuel revenues in Base Rates from Big Rivers' 2016 Rural,
20 Large Industrial and Smelter rate class "total adjusted revenues."

21

22 **Q. Did you also remove these fuel revenues from "market" revenues?**

1 A. No. KIUC is proposing a two-step cost allocation proposal that first (Step 1)
2 allocates environmental costs between off-system (“market”) and retail jurisdictions
3 on the same basis as proposed by Big Rivers, which is “total adjusted revenues.” In
4 Step 2, the remaining environmental costs are allocated to Big Rivers’ three retail
5 rate classes on the basis of non-fuel base revenues.

6
7 For the year 2016, Big Rivers’ total adjusted revenue allocator assigned 23.99% of
8 the total system environmental costs to the Rural class, 8.03% to the Large Industrial
9 class and 55.81% to the Smelters. Based on the information provided in response to
10 KUC 1-50, the corresponding allocation factors using a non-fuel base revenue
11 allocation method assigns 28.21% of the total system environmental costs to the
12 Rural class, 8.29% to the Large Industrial class and 51.32% to the Smelters. As I
13 indicated, the allocation to the off-system class is the same under the KIUC method
14 as proposed by Big Rivers. Exhibit__(SJB-2) provides a comparison of Big
15 Rivers’ proposed allocation to the KIUC proposed non-fuel base revenue allocation
16 for each rate class using the Company’s estimated 2016 environmental revenue
17 requirements. Baron Exhibit__(SJB-3) presents the percentage impact of the ES
18 cost allocation for 2016 on total rate class revenues. As one would expect, removing
19 fuel revenues from the ES allocation results in a lower assignment to the high load
20 factor Smelter rate class. However, as I discussed previously, the Rural class is not
21 affected by KIUC’s allocation proposal (relative to the Big Rivers’ proposal) until
22 2017 due to the mitigation provided by the MRSM and RER funds. Upon the

1 depletion of these balances, the allocation of ES costs would revert to Big Rivers'
2 proposed methodology, leaving the Rural class at the same rate level as proposed by
3 the Company.
4

5 **Q. Are there important economic development issues impacted by the Company's**
6 **proposed ECR rate recovery method?**

7 A. Yes. As I showed in my Exhibit __ (SJB-3), Big Rivers' is requesting an ES increase
8 of 11.4% in 2016 under its "Build Case" proposal. This increase would be in
9 addition to any other revenue increases associated with fuel, purchased power or
10 other costs related to generation and transmission. While the KIUC proposal would
11 only reduce this large increase on the Smelters by 1%, it will mitigate the impact of
12 Big Rivers' proposed environmental expenditures. Big Rivers' proposed ES
13 surcharge recovery mechanism that recovers its proposed very large environmental
14 revenue requirement, in part, based on a customer's fuel charges is particularly
15 detrimental to high load factor Smelter and large industrial manufacturing
16 customers. Big Rivers' methodology contributes to a reduction in the cost-
17 effectiveness of high load factor Kentucky manufacturing facilities, relative to
18 national and international competitors. These manufacturing facilities provide
19 substantial employment in Kentucky. Higher electric rates impact the relative
20 competitiveness of these customers – if Kentucky manufacturing costs rise relative
21 to manufacturing costs in other states or internationally, Kentucky manufacturing is
22 placed at a competitive disadvantage. Many of Kentucky's largest employers are

1 energy-intensive and located in Kentucky in large part because of low electric rates.
2 KIUC's proposal will help improve the competitiveness of the Kentucky economy.

3

4 **Q. KIUC is recommending that the Commission reject Big Rivers' proposed**
5 **"Build Case" 2012 environmental compliance plan in this case and adopt a**
6 **"Buy Case" plan. In the event that the Commission adopts KIUC's**
7 **recommendation to implement the "Buy Case" compliance plan, do you**
8 **continue to recommend that the Commission also adopt your cost allocation**
9 **proposal?**

10 A. Yes. KIUC's proposed environmental cost allocation methodology should be
11 adopted by the Commission in the event that the Commission approves the KIUC
12 recommended "Buy Case" environmental compliance plan, Big Rivers'
13 recommended "Build Case" plan or any other compliance plan approved in this
14 case. For the reasons that I have discussed, a non-fuel base revenue cost allocation
15 methodology is reasonable and will have only a small impact on Rural customers for
16 a portion of the years 2017 and 2018, after the depletion of the MRSM and RER
17 funds.

18

19 **Q. Does that complete your testimony?**

20 A. Yes.

AFFIDAVIT

STATE OF GEORGIA)

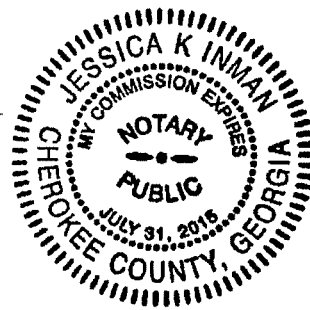
COUNTY OF FULTON)

STEPHEN J. BARON, being duly sworn, deposes and states: that the attached is his sworn testimony and that the statements contained are true and correct to the best of his knowledge, information and belief.

Stephen J. Baron
Stephen J. Baron

Sworn to and subscribed before me on this
23rd day of July 2012.

Jessica K Inman
Notary Public



COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

IN THE MATTER OF:

**APPLICATION OF BIG RIVERS ELECTRIC)
CORPORATION FOR APPROVAL OF ITS)
2012 ENVIRONMENTAL COMPLIANCE)
PLAN, FOR APPROVAL OF ITS AMENDED)
ENVIRONMENTAL COST RECOVERY)
SURCHARGE TARIFF, FOR CERTIFICATES)
OF PUBLIC CONVENIENCE AND)
NECESSITY, AND FOR AUTHORITY TO)
ESTABLISH A REGULATORY ACCOUNT)**

CASE NO. 2012-00063

EXHIBITS

OF

STEPHEN J. BARON

ON BEHALF OF THE

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

**J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

July 2012

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

IN THE MATTER OF:

**APPLICATION OF BIG RIVERS ELECTRIC)
CORPORATION FOR APPROVAL OF ITS)
2012 ENVIRONMENTAL COMPLIANCE)
PLAN, FOR APPROVAL OF ITS AMENDED)
ENVIRONMENTAL COST RECOVERY)
SURCHARGE TARIFF, FOR CERTIFICATES)
OF PUBLIC CONVENIENCE AND)
NECESSITY, AND FOR AUTHORITY TO)
ESTABLISH A REGULATORY ACCOUNT)**

CASE NO. 2012-00063

EXHIBIT __ (SJB-1)

OF

STEPHEN J. BARON

ON BEHALF OF THE

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

**J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

July 2012

Professional Qualifications

Of

Stephen J. Baron

Mr. Baron graduated from the University of Florida in 1972 with a B.A. degree with high honors in Political Science and significant coursework in Mathematics and Computer Science. In 1974, he received a Master of Arts Degree in Economics, also from the University of Florida. His areas of specialization were econometrics, statistics, and public utility economics. His thesis concerned the development of an econometric model to forecast electricity sales in the State of Florida, for which he received a grant from the Public Utility Research Center of the University of Florida. In addition, he has advanced study and coursework in time series analysis and dynamic model building.

Mr. Baron has more than thirty years of experience in the electric utility industry in the areas of cost and rate analysis, forecasting, planning, and economic analysis.

Following the completion of my graduate work in economics, he joined the staff of the Florida Public Service Commission in August of 1974 as a Rate Economist. His responsibilities included the analysis of rate cases for electric, telephone, and gas utilities, as well as the preparation of cross-examination material and the preparation of staff recommendations.

In December 1975, he joined the Utility Rate Consulting Division of Ebasco Services, Inc.

J. KENNEDY AND ASSOCIATES, INC.

as an Associate Consultant. In the seven years he worked for Ebasco, he received successive promotions, ultimately to the position of Vice President of Energy Management Services of Ebasco Business Consulting Company. His responsibilities included the management of a staff of consultants engaged in providing services in the areas of econometric modeling, load and energy forecasting, production cost modeling, planning, cost-of-service analysis, cogeneration, and load management.

He joined the public accounting firm of Coopers & Lybrand in 1982 as a Manager of the Atlanta Office of the Utility Regulatory and Advisory Services Group. In this capacity he was responsible for the operation and management of the Atlanta office. His duties included the technical and administrative supervision of the staff, budgeting, recruiting, and marketing as well as project management on client engagements. At Coopers & Lybrand, he specialized in utility cost analysis, forecasting, load analysis, economic analysis, and planning.

In January 1984, he joined the consulting firm of Kennedy and Associates as a Vice President and Principal. Mr. Baron became President of the firm in January 1991.

During the course of his career, he has provided consulting services to more than thirty utility, industrial, and Public Service Commission clients, including three international utility clients.

J. KENNEDY AND ASSOCIATES, INC.

He has presented numerous papers and published an article entitled "How to Rate Load Management Programs" in the March 1979 edition of "Electrical World." His article on "Standby Electric Rates" was published in the November 8, 1984 issue of "Public Utilities Fortnightly." In February of 1984, he completed a detailed analysis entitled "Load Data Transfer Techniques" on behalf of the Electric Power Research Institute, which published the study.

Mr. Baron has presented testimony as an expert witness in Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Maryland, Missouri, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania, Texas, Utah, Virginia, West Virginia, Wisconsin, Wyoming, the Federal Energy Regulatory Commission and in United States Bankruptcy Court. A list of his specific regulatory appearances follows.

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|-------------|-------------|---------------------|--|--------------------------------|---|
| 4/81 | 203(B) | KY | Louisville Gas & Electric Co. | Louisville Gas & Electric Co. | Cost-of-service. |
| 4/81 | ER-81-42 | MO | Kansas City Power & Light Co. | Kansas City Power & Light Co. | Forecasting. |
| 6/81 | U-1933 | AZ | Arizona Corporation Commission | Tucson Electric Co. | Forecasting planning |
| 2/84 | 8924 | KY | Airco Carbide | Louisville Gas & Electric Co. | Revenue requirements, cost-of-service, forecasting, weather normalization. |
| 3/84 | 84-038-U | AR | Arkansas Electric Energy Consumers | Arkansas Power & Light Co. | Excess capacity, cost-of-service, rate design. |
| 5/84 | 830470-EI | FL | Florida Industrial Power Users' Group | Florida Power Corp. | Allocation of fixed costs, load and capacity balance, and reserve margin. Diversification of utility. |
| 10/84 | 84-199-U | AR | Arkansas Electric Energy Consumers | Arkansas Power and Light Co. | Cost allocation and rate design. |
| 11/84 | R-842651 | PA | Lehigh Valley Power Committee | Pennsylvania Power & Light Co. | Interruptible rates, excess capacity, and phase-in. |
| 1/85 | 85-65 | ME | Airco Industrial Gases | Central Maine Power Co. | Interruptible rate design. |
| 2/85 | I-840381 | PA | Philadelphia Area Industrial Energy Users' Group | Philadelphia Electric Co. | Load and energy forecast. |
| 3/85 | 9243 | KY | Alcan Aluminum Corp., et al. | Louisville Gas & Electric Co. | Economics of completing fossil generating unit |
| 3/85 | 3498-U | GA | Attorney General | Georgia Power Co. | Load and energy forecasting, generation planning economics |
| 3/85 | R-842632 | PA | West Penn Power Industrial Intervenors | West Penn Power Co. | Generation planning economics, prudence of a pumped storage hydro unit |
| 5/85 | 84-249 | AR | Arkansas Electric Energy Consumers | Arkansas Power & Light Co. | Cost-of-service, rate design return multipliers. |
| 5/85 | | City of Santa Clara | Chamber of Commerce | Santa Clara Municipal | Cost-of-service, rate design. |

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|-------------|-------------------|------------------|---|-------------------------------------|---|
| 6/85 | 84-768- E-42T | WV | West Virginia Industrial Intervenors | Monongahela Power Co | Generation planning economics, prudence of a pumped storage hydro unit. |
| 6/85 | E-7 Sub 391 | NC | Carolina Industrials (CIGFUR III) | Duke Power Co. | Cost-of-service, rate design, interruptible rate design. |
| 7/85 | 29046 | NY | Industrial Energy Users Association | Orange and Rockland Utilities | Cost-of-service, rate design. |
| 10/85 | 85-043-U | AR | Arkansas Gas Consumers | Arkla, Inc. | Regulatory policy, gas cost-of- service, rate design. |
| 10/85 | 85-63 | ME | Airco Industrial Gases | Central Maine Power Co | Feasibility of interruptible rates, avoided cost. |
| 2/85 | ER- 8507698 | NJ | Air Products and Chemicals | Jersey Central Power & Light Co. | Rate design. |
| 3/85 | R-850220 | PA | West Penn Power Industrial Intervenors | West Penn Power Co | Optimal reserve, prudence, off-system sales guarantee plan. |
| 2/86 | R-850220 | PA | West Penn Power Industrial Intervenors | West Penn Power Co. | Optimal reserve margins, prudence, off-system sales guarantee plan |
| 3/86 | 85-299U | AR | Arkansas Electric Energy Consumers | Arkansas Power & Light Co. | Cost-of-service, rate design, revenue distribution |
| 3/86 | 85-726- EL-AIR | OH | Industrial Electric Consumers Group | Ohio Power Co. | Cost-of-service, rate design, interruptible rates |
| 5/86 | 86-081- E-GI | WV | West Virginia Energy Users Group | Monongahela Power Co. | Generation planning economics, prudence of a pumped storage hydro unit. |
| 8/86 | E-7 Sub 408 | NC | Carolina Industrial Energy Consumers | Duke Power Co. | Cost-of-service, rate design, interruptible rates. |
| 10/86 | U-17378 | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Excess capacity, economic analysis of purchased power. |
| 12/86 | 38063 | IN | Industrial Energy Consumers | Indiana & Michigan Power Co | Interruptible rates |

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdic. | Party | Utility | Subject |
|-------------|------------------------------|---|---|-------------------------------------|--|
| 3/87 | EL-86-53-001 EL-86-57-001 | Federal Energy Regulatory Commission (FERC) | Louisiana Public Service Commission Staff | Gulf States Utilities, Southern Co. | Cost/benefit analysis of unit power sales contract. |
| 4/87 | U-17282 | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Load forecasting and imprudence damages, River Bend Nuclear unit |
| 5/87 | 87-023-E-C | WV | Airco Industrial Gases | Monongahela Power Co. | Interruptible rates |
| 5/87 | 87-072-E-G1 | WV | West Virginia Energy Users' Group | Monongahela Power Co. | Analyze Mon Power's fuel filing and examine the reasonableness of MP's claims. |
| 5/87 | 86-524-E-SC | WV | West Virginia Energy Users' Group | Monongahela Power Co. | Economic dispatching of pumped storage hydro unit. |
| 5/87 | 9781 | KY | Kentucky Industrial Energy Consumers | Louisville Gas & Electric Co. | Analysis of impact of 1986 Tax Reform Act. |
| 6/87 | 3673-U | GA | Georgia Public Service Commission | Georgia Power Co. | Economic prudence, evaluation of Vogtle nuclear unit - load forecasting, planning. |
| 6/87 | U-17282 | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Phase-in plan for River Bend Nuclear unit. |
| 7/87 | 85-10-22 | CT | Connecticut Industrial Energy Consumers | Connecticut Light & Power Co. | Methodology for refunding rate moderation fund |
| 8/87 | 3673-U | GA | Georgia Public Service Commission | Georgia Power Co. | Test year sales and revenue forecast |
| 9/87 | R-850220 | PA | West Penn Power Industrial Intervenors | West Penn Power Co. | Excess capacity, reliability of generating system. |
| 10/87 | R-870651 | PA | Duquesne Industrial Intervenors | Duquesne Light Co. | Interruptible rate, cost-of-service, revenue allocation, rate design. |
| 10/87 | 1-860025 | PA | Pennsylvania Industrial Intervenors | | Proposed rules for cogeneration, avoided cost, rate recovery. |
| 10/87 | E-015/ | MN | Taconite | Minnesota Power | Excess capacity, power and |

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|-------------|---|------------------------------|--|--|--|
| | GR-87-223 | | Intervenors | & Light Co | cost-of-service, rate design. |
| 10/87 | 8702-EI | FL | Occidental Chemical Corp | Florida Power Corp | Revenue forecasting, weather normalization. |
| 12/87 | 87-07-01 | CT | Connecticut Industrial Energy Consumers | Connecticut Light Power Co. | Excess capacity, nuclear plant phase-in. |
| 3/88 | 10064 | KY | Kentucky Industrial Energy Consumers | Louisville Gas & Electric Co. | Revenue forecast, weather normalization rate treatment of cancelled plant. |
| 3/88 | 87-183-TF | AR | Arkansas Electric Consumers | Arkansas Power & Light Co. | Standby/backup electric rates |
| 5/88 | 870171C001 | PA | GPU Industrial Intervenors | Metropolitan Edison Co. | Cogeneration deferral mechanism, modification of energy cost recovery (ECR). |
| 6/88 | 870172C005 | PA | GPU Industrial Intervenors | Pennsylvania Electric Co. | Cogeneration deferral mechanism, modification of energy cost recovery (ECR). |
| 7/88 | 88-171-EL-AIR 88-170-EL-AIR Interim Rate Case | OH | Industrial Energy Consumers | Cleveland Electric/ Toledo Edison | Financial analysis/need for interim rate relief. |
| 7/88 | Appeal of PSC | 19th Judicial Docket U-17282 | Louisiana Public Service Commission Court of Louisiana | Gulf States Utilities | Load forecasting, imprudence damages. |
| 11/88 | R-880989 | PA | United States Steel | Carnegie Gas | Gas cost-of-service, rate design. |
| 11/88 | 88-171-EL-AIR 88-170-EL-AIR | OH | Industrial Energy Consumers | Cleveland Electric/ Toledo Edison. General Rate Case. | Weather normalization of peak loads, excess capacity, regulatory policy. |
| 3/89 | 870216/283 284/286 | PA | Armco Advanced Materials Corp., Allegheny Ludlum Corp. | West Penn Power Co. | Calculated avoided capacity, recovery of capacity payments. |
| 8/89 | 8555 | TX | Occidental Chemical Corp. | Houston Lighting & Power Co | Cost-of-service, rate design |

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|-------------|-------------------|------------------|--|----------------------------------|--|
| 8/89 | 3840-U | GA | Georgia Public Service Commission | Georgia Power Co. | Revenue forecasting, weather normalization |
| 9/89 | 2087 | NM | Attorney General of New Mexico | Public Service Co. of New Mexico | Prudence - Palo Verde Nuclear Units 1, 2 and 3, load forecasting. |
| 10/89 | 2262 | NM | New Mexico Industrial Energy Consumers | Public Service Co. of New Mexico | Fuel adjustment clause, off-system sales, cost-of-service, rate design, marginal cost |
| 11/89 | 38728 | IN | Industrial Consumers for Fair Utility Rates | Indiana Michigan Power Co. | Excess capacity, capacity equalization, jurisdictional cost allocation, rate design, interruptible rates |
| 1/90 | U-17282 | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Jurisdictional cost allocation, O&M expense analysis. |
| 5/90 | 890366 | PA | GPU Industrial Intervenors | Metropolitan Edison Co. | Non-utility generator cost recovery. |
| 6/90 | R-901609 | PA | Armco Advanced Materials Corp., Allegheny Ludlum Corp. | West Penn Power Co. | Allocation of QF demand charges in the fuel cost, cost-of-service, rate design. |
| 9/90 | 8278 | MD | Maryland Industrial Group | Baltimore Gas & Electric Co. | Cost-of-service, rate design, revenue allocation. |
| 12/90 | U-9346 Rebuttal | MI | Association of Businesses Advocating Tariff Equity | Consumers Power Co. | Demand-side management, environmental externalities. |
| 12/90 | U-17282 Phase IV | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Revenue requirements, jurisdictional allocation. |
| 12/90 | 90-205 | ME | Airco Industrial Gases | Central Maine Power Co. | Investigation into interruptible service and rates. |
| 1/91 | 90-12-03 Interim | CT | Connecticut Industrial Energy Consumers | Connecticut Light & Power Co. | Interim rate relief, financial analysis, class revenue allocation. |
| 5/91 | 90-12-03 Phase II | CT | Connecticut Industrial Energy Consumers | Connecticut Light & Power Co. | Revenue requirements, cost-of-service, rate design, demand-side management |

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|---|------------------------|------------------|---|--|--|
| 8/91 | E-7, SUB SUB 487 | NC | North Carolina Industrial Energy Consumers | Duke Power Co. | Revenue requirements, cost allocation, rate design, demand- side management. |
| 8/91 | 8341 Phase I | MD | Westvaco Corp. | Potomac Edison Co. | Cost allocation, rate design, 1990 Clean Air Act Amendments. |
| 8/91 | 91-372 EL-UNC | OH | Armco Steel Co., L.P. | Cincinnati Gas & Electric Co. | Economic analysis of cogeneration, avoid cost rate. |
| 9/91 | P-910511 P-910512 | PA | Allegheny Ludlum Corp., Armco Advanced Materials Co., The West Penn Power Industrial Users' Group | West Penn Power Co. | Economic analysis of proposed CWIP Rider for 1990 Clean Air Act Amendments expenditures. |
| 9/91 | 91-231 -E-NC | WV | West Virginia Energy Users' Group | Monongahela Power Co. | Economic analysis of proposed CWIP Rider for 1990 Clean Air Act Amendments expenditures. |
| 10/91 | 8341 - Phase II | MD | Westvaco Corp. | Potomac Edison Co. | Economic analysis of proposed CWIP Rider for 1990 Clean Air Act Amendments expenditures. |
| 10/91 | U-17282 | LA | Louisiana Public Service Commission Staff | Gulf States Utilities | Results of comprehensive management audit |
| Note: No testimony was prefiled on this. | | | | | |
| 11/91 | U-17949 Subdocket A | LA | Louisiana Public Service Commission Staff | South Central Bell Telephone Co. and proposed merger with Southern Bell Telephone Co. | Analysis of South Central Bell's restructuring and |
| 12/91 | 91-410- EL-AIR | OH | Armco Steel Co., Air Products & Chemicals, Inc. | Cincinnati Gas & Electric Co. | Rate design, interruptible rates. |
| 12/91 | P-880286 | PA | Armco Advanced Materials Corp., Allegheny Ludlum Corp. | West Penn Power Co. | Evaluation of appropriate avoided capacity costs - QF projects. |
| 1/92 | C-913424 | PA | Duquesne Interruptible Complainants | Duquesne Light Co. | Industrial interruptible rate. |
| 6/92 | 92-02-19 | CT | Connecticut Industrial Energy Consumers | Yankee Gas Co. | Rate design. |

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdict. | Party | Utility | Subject |
|-------------|------------------------------------|--------------------------------------|---|--|---|
| 8/92 | 2437 | NM | New Mexico Industrial Intervenors | Public Service Co. of New Mexico | Cost-of-service |
| 8/92 | R-00922314 | PA | GPU Industrial Intervenors | Metropolitan Edison Co. | Cost-of-service, rate design, energy cost rate |
| 9/92 | 39314 | ID | Industrial Consumers for Fair Utility Rates | Indiana Michigan Power Co. | Cost-of-service, rate design, energy cost rate, rate treatment. |
| 10/92 | M-00920312 C-007 | PA | The GPU Industrial Intervenors | Pennsylvania Electric Co. | Cost-of-service, rate design, energy cost rate, rate treatment |
| 12/92 | U-17949 | LA | Louisiana Public Service Commission Staff | South Central Bell Co. | Management audit. |
| 12/92 | R-00922378 | PA | Armco Advanced Materials Co The WPP Industrial Intervenors | West Penn Power Co. | Cost-of-service, rate design, energy cost rate, SO ₂ allowance rate treatment. |
| 1/93 | 8487 | MD | The Maryland Industrial Group | Baltimore Gas & Electric Co. | Electric cost-of-service and rate design, gas rate design (flexible rates). |
| 2/93 | E002/GR-92-1185 | MN | North Star Steel Co Praxair, Inc. | Northern States Power Co. | Interruptible rates |
| 4/93 | EC92 21000 ER92-806-000 (Rebuttal) | Federal Energy Regulatory Commission | Louisiana Public Service Commission Staff | Gulf States Utilities/Entergy agreement. | Merger of GSU into Entergy System, impact on system |
| 7/93 | 93-0114-E-C | WV | Airco Gases | Monongahela Power Co. | Interruptible rates. |
| 8/93 | 930759-EG | FL | Florida Industrial Power Users' Group | Generic - Electric Utilities | Cost recovery and allocation of DSM costs. |
| 9/93 | M-009 30406 | PA | Lehigh Valley Power Committee | Pennsylvania Power & Light Co. | Ratemaking treatment of off-system sales revenues. |
| 11/93 | 346 | KY | Kentucky Industrial Utility Customers | Generic - Gas Utilities | Allocation of gas pipeline transition costs - FERC Order 636. |
| 12/93 | U-17735 | LA | Louisiana Public Service Commission Staff | Cajun Electric Power Cooperative | Nuclear plant prudence, forecasting, excess capacity |

J. KENNEDY AND ASSOCIATES, INC.

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdic. | Party | Utility | Subject |
|-------------|---------------------------------------|--------------------------------------|--|--|--|
| 4/94 | E-015/ GR-94-001 | MN | Large Power Intervenors | Minnesota Power Co. | Cost allocation, rate design, rate phase-in plan. |
| 5/94 | U-20178 | LA | Louisiana Public Service Commission | Louisiana Power & Light Co. | Analysis of least cost integrated resource plan and demand-side management program. |
| 7/94 | R-00942986 | PA | Armco, Inc.; West Penn Power Industrial Intervenors | West Penn Power Co. | Cost-of-service, allocation of rate increase, rate design, emission allowance sales, and operations and maintenance expense. |
| 7/94 | 94-0035- E-42T | WV | West Virginia Energy Users Group | Monongahela Power Co. | Cost-of-service, allocation of rate increase, and rate design. |
| 8/94 | EC94 13-000 | Federal Energy Regulatory Commission | Louisiana Public Service Commission | Gulf States Utilities/Entergy | Analysis of extended reserve shutdown units and violation of system agreement by Entergy |
| 9/94 | R-00943 081 R-00943 081C0001 | PA | Lehigh Valley Power Committee | Pennsylvania Public Utility Commission | Analysis of interruptible rate terms and conditions, availability. |
| 9/94 | U-17735 | LA | Louisiana Public Service Commission | Cajun Electric Power Cooperative | Evaluation of appropriate avoided cost rate. |
| 9/94 | U-19904 | LA | Louisiana Public Service Commission | Gulf States Utilities | Revenue requirements |
| 10/94 | 5258-U | GA | Georgia Public Service Commission | Southern Bell Telephone & Telegraph Co. | Proposals to address competition in telecommunication markets. |
| 11/94 | EC94-7-000 ER94-898-000 | FERC | Louisiana Public Service Commission | El Paso Electric and Central and Southwest | Merger economics, transmission equalization hold harmless proposals. |
| 2/95 | 941-430EG | CO | CF&I Steel, L.P. | Public Service Company of Colorado | Interruptible rates, cost-of-service. |
| 4/95 | R-00943271 | PA | PP&L Industrial Customer Alliance | Pennsylvania Power & Light Co. | Cost-of-service, allocation of rate increase, rate design, interruptible rates. |
| 6/95 | C-00913424 C-00946104 | PA | Duquesne Interruptible Complainants | Duquesne Light Co | Interruptible rates. |

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|-------------|------------------------------------|--|---|--|---|
| 8/95 | ER95-112 -000 | FERC | Louisiana Public Service Commission | Entergy Services, Inc. | Open Access Transmission Tariffs - Wholesale. |
| 10/95 | U-21485 | LA | Louisiana Public Service Commission | Gulf States Utilities Company | Nuclear decommissioning, revenue requirements, capital structure. |
| 10/95 | ER95-1042 -000 | FERC | Louisiana Public Service Commission | System Energy Resources, Inc. | Nuclear decommissioning, revenue requirements |
| 10/95 | U-21485 | LA | Louisiana Public Service Commission | Gulf States Utilities Co. | Nuclear decommissioning and cost of debt capital, capital structure. |
| 11/95 | I-940032 | PA | Industrial Energy Consumers of Pennsylvania | State-wide - all utilities | Retail competition issues. |
| 7/96 | U-21496 | LA | Louisiana Public Service Commission | Central Louisiana Electric Co. | Revenue requirement analysis. |
| 7/96 | 8725 | MD | Maryland Industrial Group | Baltimore Gas & Elec. Co., Potomac Elec. Power Co., Constellation Energy Co. | Ratemaking issues associated with a Merger. |
| 8/96 | U-17735 | LA | Louisiana Public Service Commission | Cajun Electric Power Cooperative | Revenue requirements. |
| 9/96 | U-22092 | LA | Louisiana Public Service Commission | Entergy Gulf States, Inc. | Decommissioning, weather normalization, capital structure. |
| 2/97 | R-973877 | PA | Philadelphia Area Industrial Energy Users Group | PECO Energy Co. | Competitive restructuring policy issues, stranded cost, transition charges |
| 6/97 | Civil Action No. 94-11474 | US Bank- ruptcy Court Middle District of Louisiana | Louisiana Public Service Commission | Cajun Electric Power Cooperative | Confirmation of reorganization plan; analysis of rate paths produced by competing plans |
| 6/97 | R-973953 | PA | Philadelphia Area Industrial Energy Users Group | PECO Energy Co. | Retail competition issues, rate unbundling, stranded cost analysis. |
| 6/97 | 8738 | MD | Maryland Industrial Group | Generic | Retail competition issues |

**Expert Testimony Appearances
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Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|---|-------------|------------------|---|--|--|
| 7/97 | R-973954 | PA | PP&L Industrial Customer Alliance | Pennsylvania Power & Light Co. | Retail competition issues, rate unbundling, stranded cost analysis. |
| 10/97 | 97-204 | KY | Alcan Aluminum Corp. Southwire Co | Big River Electric Corp. | Analysis of cost of service issues - Big Rivers Restructuring Plan |
| 10/97 | R-974008 | PA | Metropolitan Edison Industrial Users | Metropolitan Edison Co. | Retail competition issues, rate unbundling, stranded cost analysis. |
| 10/97 | R-974009 | PA | Pennsylvania Electric Industrial Customer | Pennsylvania Electric Co. | Retail competition issues, rate unbundling, stranded cost analysis. |
| 11/97 | U-22491 | LA | Louisiana Public Service Commission | Entergy Gulf States, Inc. | Decommissioning, weather normalization, capital structure. |
| 11/97 | P-971265 | PA | Philadelphia Area Industrial Energy Users Group | Enron Energy Services Power, Inc./ PECO Energy | Analysis of Retail Restructuring Proposal. |
| 12/97 | R-973981 | PA | West Penn Power Industrial Intervenors | West Penn Power Co. | Retail competition issues, rate unbundling, stranded cost analysis. |
| 12/97 | R-974104 | PA | Duquesne Industrial Intervenors | Duquesne Light Co. | Retail competition issues, rate unbundling, stranded cost analysis. |
| 3/98 (Allocated Stranded Cost Issues) | U-22092 | LA | Louisiana Public Service Commission | Gulf States Utilities Co. | Retail competition, stranded cost quantification. |
| 3/98 | U-22092 | | Louisiana Public Service Commission | Gulf States Utilities, Inc. | Stranded cost quantification, restructuring issues. |
| 9/98 | U-17735 | | Louisiana Public Service Commission | Cajun Electric Power Cooperative, Inc. | Revenue requirements analysis, weather normalization. |
| 12/98 | 8794 | MD | Maryland Industrial Group and Millennium Inorganic Chemicals Inc. | Baltimore Gas and Electric Co. | Electric utility restructuring, stranded cost recovery, rate unbundling. |
| 12/98 | U-23358 | LA | Louisiana Public Service Commission | Entergy Gulf States, Inc. | Nuclear decommissioning, weather normalization, Entergy System Agreement |
| 5/99 (Cross- 40-000 Answering Testimony) | EC-98- | FERC | Louisiana Public Service Commission | American Electric Power Co. & Central South West Corp. | Merger issues related to market power mitigation proposals. |

J. KENNEDY AND ASSOCIATES, INC.

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdic. | Party | Utility | Subject |
|---------------------------------|--|-----------------------------|--|---|--|
| 5/99 (Response Testimony) | 98-426 | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas & Electric Co | Performance based regulation, settlement proposal issues, cross-subsidies between electric gas services |
| 6/99 | 98-0452 | WV | West Virginia Energy Users Group | Appalachian Power, Monongahela Power, & Potomac Edison Companies | Electric utility restructuring, stranded cost recovery, rate unbundling. |
| 7/99 | 99-03-35 | CT | Connecticut Industrial Energy Consumers | United Illuminating Company | Electric utility restructuring, stranded cost recovery, rate unbundling. |
| 7/99 | Adversary Proceeding No. 98-1065 | U.S. Bankruptcy Court | Louisiana Public Service Commission | Cajun Electric Power Cooperative | Motion to dissolve preliminary injunction |
| 7/99 | 99-03-06 | CT | Connecticut Industrial Energy Consumers | Connecticut Light & Power Co | Electric utility restructuring, stranded cost recovery, rate unbundling. |
| 10/99 | U-24182 | LA | Louisiana Public Service Commission | Entergy Gulf States, Inc | Nuclear decommissioning, weather normalization, Entergy System Agreement |
| 12/99 | U-17735 | LA | Louisiana Public Service Commission | Cajun Electric Power Cooperative, Inc | Ananlysi of Proposed Contract Rates, Market Rates |
| 03/00 | U-17735 | LA | Louisiana Public Service Commission | Cajun Electric Power Cooperative, Inc | Evaluation of Cooperative Power Contract Elections |
| 03/00 | 99-1658- EL-ETP | OH | AK Steel Corporation | Cincinnati Gas & Electric Co. | Electric utility restructuring, stranded cost recovery, rate Unbundling. |

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|-------------|---|------------------|---|--|---|
| 08/00 | 98-0452 E-GI | WVA | West Virginia Energy Users Group | Appalachian Power Co. American Electric Co. | Electric utility restructuring rate unbundling. |
| 08/00 | 00-1050 E-T 00-1051-E-T | WVA | West Virginia Energy Users Group | Mon Power Co. Potomac Edison Co. | Electric utility restructuring rate unbundling. |
| 10/00 | SOAH 473- 00-1020 PUC 2234 | TX | The Dallas-Fort Worth Hospital Council and The Coalition of Independent Colleges And Universities | TXU, Inc | Electric utility restructuring rate unbundling |
| 12/00 | U-24993 | LA | Louisiana Public Service Commission | Entergy Gulf States, Inc. | Nuclear decommissioning, revenue requirements. |
| 12/00 | EL00-66- 000 & ER00-2854 EL95-33-002 | LA | Louisiana Public Service Commission | Entergy Services Inc. | Inter-Company System Agreement: Modifications for retail competition, interruptible load. |
| 04/01 | U-21453, U-20925, U-22092 (Subdocket B) Addressing Contested Issues | LA | Louisiana Public Service Commission | Entergy Gulf States, Inc. | Jurisdictional Business Separation - Texas Restructuring Plan |
| 10/01 | 14000-U | GA | Georgia Public Service Commission Adversary Staff | Georgia Power Co. | Test year revenue forecast. |
| 11/01 | U-25687 | LA | Louisiana Public Service Commission | Entergy Gulf States, Inc. | Nuclear decommissioning requirements transmission revenues. |
| 11/01 | U-25965 | LA | Louisiana Public Service Commission | Generic | Independent Transmission Company ("Transco"). RTO rate design. |
| 03/02 | 001148-EI | FL | South Florida Hospital and Healthcare Assoc. | Florida Power & Light Company | Retail cost of service, rate design, resource planning and demand side management. |
| 06/02 | U-25965 | LA | Louisiana Public Service Commission | Entergy Gulf States Entergy Louisiana | RTO Issues |
| 07/02 | U-21453 | LA | Louisiana Public Service Commission | SWEPSCO, AEP | Jurisdictional Business Sep. - Texas Restructuring Plan. |

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|-------------|--|------------------|---|--|--|
| 08/02 | U-25888 | LA | Louisiana Public Service Commission | Entergy Louisiana, Inc. Entergy Gulf States, Inc. | Modifications to the Inter-Company System Agreement, Production Cost Equalization. |
| 08/02 | EL01-88-000 | FERC | Louisiana Public Service Commission | Entergy Services Inc and the Entergy Operating Companies | Modifications to the Inter-Company System Agreement, Production Cost Equalization. |
| 11/02 | 02S-315EG | CO | CF&I Steel & Climax Molybdenum Co. | Public Service Co. of Colorado | Fuel Adjustment Clause |
| 01/03 | U-17735 | LA | Louisiana Public Service Commission | Louisiana Coops | Contract Issues |
| 02/03 | 02S-594E | CO | Cripple Creek and Victor Gold Mining Co. | Aquila, Inc. | Revenue requirements, purchased power. |
| 04/03 | U-26527 | LA | Louisiana Public Service Commission | Entergy Gulf States, Inc. | Weather normalization, power purchase expenses, System Agreement expenses. |
| 11/03 | ER03-753-000 | FERC | Louisiana Public Service Commission Staff | Entergy Services, Inc. and the Entergy Operating Companies | Proposed modifications to System Agreement Tariff MSS-4. |
| 11/03 | ER03-583-000 ER03-583-001 ER03-583-002 ER03-681-000, ER03-681-001 ER03-682-000, ER03-682-001 ER03-682-002 | FERC | Louisiana Public Service Commission | Entergy Services, Inc., the Entergy Operating Companies, EWO Marketing, L.P, and Entergy Power, Inc. | Evaluation of Wholesale Purchased Power Contracts. |
| 12/03 | U-27136 | LA | Louisiana Public Service Commission | Entergy Louisiana, Inc. | Evaluation of Wholesale Purchased Power Contracts. |
| 01/04 | E-01345-03-0437 | AZ | Kroger Company | Arizona Public Service Co | Revenue allocation rate design |
| 02/04 | 00032071 | PA | Duquesne Industrial Intervenors | Duquesne Light Company | Provider of last resort issues. |
| 03/04 | 03A-436E | CO | CF&I Steel, LP and Climax Molybedenum | Public Service Company of Colorado | Purchased Power Adjustment Clause |

J. KENNEDY AND ASSOCIATES, INC.

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|-------------|--|------------------|--|--|---|
| 04/04 | 2003-00433 2003-00434 | KY | Kentucky Industrial Utility Customers, Inc | Louisville Gas & Electric Co. Kentucky Utilities Co | Cost of Service Rate Design |
| 0-6/04 | 03S-539E | CO | Cripple Creek, Victor Gold Mining Co., Goodrich Corp., Holcim (U.S.), Inc., and The Trane Co | Aquila, Inc. | Cost of Service, Rate Design Interruptible Rates |
| 06/04 | R-00049255 | PA | PP&L Industrial Customer Alliance PPLICIA | PPL Electric Utilities Corp. | Cost of service, rate design, tariff issues and transmission service charge. |
| 10/04 | 04S-164E | CO | CF&I Steel Company, Climax Mines | Public Service Company of Colorado | Cost of service, rate design, Interruptible Rates. |
| 03/05 | Case No. 2004-00426 Case No. 2004-00421 | KY | Kentucky Industrial Utility Customers, Inc | Kentucky Utilities Louisville Gas & Electric Co. | Environmental cost recovery. |
| 06/05 | 050045-EI | FL | South Florida Hospital and Healthcare Assoc. | Florida Power & Light Company | Retail cost of service, rate design |
| 07/05 | U-28155 | LA | Louisiana Public Service Commission Staff | Entergy Louisiana, Inc. Entergy Gulf States, Inc | Independent Coordinator of Transmission – Cost/Benefit |
| 09/05 | Case Nos. 05-0402-E-CN 05-0750-E-PC | WVA | West Virginia Energy Users Group | Mon Power Co. Potomac Edison Co | Environmental cost recovery, Securitization, Financing Order |
| 01/06 | 2005-00341 | KY | Kentucky Industrial Utility Customers, Inc | Kentucky Power Company | Cost of service, rate design, transmission expenses. Congestion Cost Recovery Mechanism |
| 03/06 | U-22092 | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Separation of EGS1 into Texas and Louisiana Companies. |
| 04/06 | U-25116 | LA | Louisiana Public Service Commission Staff | Entergy Louisiana, Inc. | Transmission Prudence Investigation |
| 06/06 | R-00061346 C0001-0005 | PA | Duquesne Industrial Intervenors & IECPA | Duquesne Light Co. | Cost of Service, Rate Design, Transmission Service Charge, Tariff Issues |
| 06/06 | R-00061366 R-00061367 P-00062213 P-00062214 | | Met-Ed Industrial Energy Users Group and Penelec Industrial Customer Alliance | Metropolitan Edison Co. Pennsylvania Electric Co. | Generation Rate Cap, Transmission Service Charge, Cost of Service, Rate Design, Tariff Issues |
| 07/06 | U-22092 Sub-J | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. | Separation of EGS1 into Texas and Louisiana Companies. |

J. KENNEDY AND ASSOCIATES, INC.

Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012

| Date | Case | Jurisdct. | Party | Utility | Subject |
|-------|--|-----------|---|---|---|
| 07/06 | Case No. 2006-00130 Case No. 2006-00129 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Utilities Louisville Gas & Electric Co. | Environmental cost recovery. |
| 08/06 | Case No. PUE-2006-00065 | VA | Old Dominion Committee For Fair Utility Rates | Appalachian Power Co. | Cost Allocation, Allocation of Rev Incr, Off-System Sales margin rate treatment |
| 09/06 | E-01345A-05-0816 | AZ | Kroger Company | Arizona Public Service Co. | Revenue allocation, cost of service, rate design. |
| 11/06 | Doc. No. 97-01-15RE02 | CT | Connecticut Industrial Energy Consumers | Connecticut Light & Power United Illuminating | Rate unbundling issues |
| 01/07 | Case No. 06-0960-E-42T | WV | West Virginia Energy Users Group | Mon Power Co. Potomac Edison Co. | Retail Cost of Service Revenue apportionment |
| 03/07 | U-29764 | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. Entergy Louisiana, LLC | Implementation of FERC Decision Jurisdictional & Rate Class Allocation |
| 05/07 | Case No. 07-63-EL-UNC | OH | Ohio Energy Group | Ohio Power, Columbus Southern Power | Environmental Surcharge Rate Design |
| 05/07 | R-00049255 Remand | PA | PP&L Industrial Customer Alliance PPLICIA | PPL Electric Utilities Corp. | Cost of service, rate design, tariff issues and transmission service charge. |
| 06/07 | R-00072155 | PA | PP&L Industrial Customer Alliance PPLICIA | PPL Electric Utilities Corp. | Cost of service, rate design, tariff issues |
| 07/07 | Doc. No. 07F-037E | CO | Gateway Canyons LLC | Grand Valley Power Coop. | Distribution Line Cost Allocation |
| 09/07 | Doc. No. 05-UR-103 | WI | Wisconsin Industrial Energy Group, Inc | Wisconsin Electric Power Co | Cost of Service, rate design, tariff Issues, Interruptible rates |
| 11/07 | ER07-682-000 | FERC | Louisiana Public Service Commission Staff | Entergy Services, Inc. and the Entergy Operating Companies | Proposed modifications to System Agreement Schedule MSS-3. Cost functionalization issues. |
| 1/08 | Doc. No. 20000-277-ER-07 | WY | Cimarex Energy Company | Rocky Mountain Power (PacifiCorp) | Vintage Pricing, Marginal Cost Pricing Projected Test Year |
| 1/08 | Case No. 07-551 | OH | Ohio Energy Group | Ohio Edison, Toledo Edison Cleveland Electric Illuminating | Class Cost of Service, Rate Restructuring, Apportionment of Revenue Increase to Rate Schedules |
| 2/08 | ER07-956 | FERC | Louisiana Public Service Commission Staff | Entergy Services, Inc. and the Entergy Operating Companies | Entergy's Compliance Filing System Agreement Bandwidth Calculations. |
| 2/08 | Doc No. P-00072342 | PA | West Penn Power Industrial Intervenors | West Penn Power Co. | Default Service Plan issues. |

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdic. | Party | Utility | Subject |
|-------------|---|------------------|---|---|--|
| 3/08 | Doc No. E-01933A-05-0650 | AZ | Kroger Company | Tucson Electric Power Co. | Cost of Service, Rate Design |
| 05/08 | 08-0278 E-GI | WV | West Virginia Energy Users Group | Appalachian Power Co. American Electric Power Co. | Expanded Net Energy Cost "ENEC" Analysis |
| 6/08 | Case No. 08-124-EL-ATA | OH | Ohio Energy Group | Ohio Edison, Toledo Edison Cleveland Electric Illuminating | Recovery of Deferred Fuel Cost |
| 7/08 | Docket No. 07-035-93 | UT | Kroger Company | Rocky Mountain Power Co. | Cost of Service, Rate Design |
| 08/08 | Doc. No. 6680-UR-116 | WI | Wisconsin Industrial Energy Group, Inc. | Wisconsin Power and Light Co. | Cost of Service, rate design, tariff Issues, Interruptible rates |
| 09/08 | Doc. No. 6690-UR-119 | WI | Wisconsin Industrial Energy Group, Inc. | Wisconsin Public Service Co. | Cost of Service, rate design, tariff Issues, Interruptible rates |
| 09/08 | Case No. 08-936-EL-SSO | OH | Ohio Energy Group | Ohio Edison, Toledo Edison Cleveland Electric Illuminating | Provider of Last Resort Competitive Solicitation |
| 09/08 | Case No. 08-935-EL-SSO | OH | Ohio Energy Group | Ohio Edison, Toledo Edison Cleveland Electric Illuminating | Provider of Last Resort Rate Plan |
| 09/08 | Case No. 08-917-EL-SSO 08-918-EL-SSO | OH | Ohio Energy Group | Ohio Power Company Columbus Southern Power Co. | Provider of Last Resort Rate Plan |
| 10/08 | 2008-00251 2008-00252 | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas & Electric Co. Kentucky Utilities Co. | Cost of Service, Rate Design |
| 11/08 | 08-1511 E-GI | WV | West Virginia Energy Users Group | Mon Power Co. Potomac Edison Co. | Expanded Net Energy Cost "ENEC" Analysis. |
| 11/08 | M-2008-2036188, M-2008-2036197 | PA | Met-Ed Industrial Energy Users Group and Penelec Industrial Customer Alliance | Metropolitan Edison Co Pennsylvania Electric Co. | Transmission Service Charge |
| 01/09 | ER08-1056 | FERC | Louisiana Public Service Commission | Entergy Services, Inc and the Entergy Operating Companies | Entergy's Compliance Filing System Agreement Bandwidth Calculations. |
| 01/09 | E-01345A-08-0172 | AZ | Kroger Company | Arizona Public Service Co | Cost of Service, Rate Design |
| 02/09 | 2008-00409 | KY | Kentucky Industrial Utility Customers, Inc. | East Kentucky Power Cooperative, Inc. | Cost of Service, Rate Design |

J. KENNEDY AND ASSOCIATES, INC.

**Expert Testimony Appearances
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Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|-------------|-------------------------|------------------|---|--|--|
| 5/09 | PUE-2009-00018 | VA | VA Committee For Fair Utility Rates | Dominion Virginia Power Company | Transmission Cost Recovery Rider |
| 5/09 | 09-0177-E-GI | WV | West Virginia Energy Users Group | Appalachian Power Company | Expanded Net Energy Cost "ENEC" Analysis |
| 6/09 | PUE-2009-00016 | VA | VA Committee For Fair Utility Rates | Dominion Virginia Power Company | Fuel Cost Recovery Rider |
| 6/09 | PUE-2009-00038 | VA | Old Dominion Committee For Fair Utility Rates | Appalachian Power Company | Fuel Cost Recovery Rider |
| 7/09 | 080677-EI | FL | South Florida Hospital and Healthcare Assoc. | Florida Power & Light Company | Retail cost of service, rate design |
| 8/09 | U-20925 (RRF 2004) | LA | Louisiana Public Service Commission Staff | Entergy Louisiana LLC | Interruptible Rate Refund Settlement |
| 9/09 | 09AL-299E | CO | CF&I Steel Company Climax Molybdenum | Public Service Company of Colorado | Energy Cost Rate issues |
| 9/09 | Doc. No. 05-UR-104 | WI | Wisconsin Industrial Energy Group, Inc. | Wisconsin Electric Power Co. | Cost of Service, rate design, tariff Issues, Interruptible rates |
| 9/09 | Doc. No. 6680-UR-117 | WI | Wisconsin Industrial Energy Group, Inc. | Wisconsin Power and Light Co | Cost of Service, rate design, tariff Issues, Interruptible rates. |
| 10/09 | Docket No. 09-035-23 | UT | Kroger Company | Rocky Mountain Power Co. | Cost of Service, Allocation of Rev Increase |
| 10/09 | 09AL-299E | CO | CF&I Steel Company Climax Molybdenum | Public Service Company of Colorado | Cost of Service, Rate Design |
| 11/09 | PUE-2009-00019 | VA | VA Committee For Fair Utility Rates | Dominion Virginia Power Company | Cost of Service, Rate Design |
| 11/09 | 09-1485 E-P | WV | West Virginia Energy Users Group | Mon Power Co Potomac Edison Co | Expanded Net Energy Cost "ENEC" Analysis. |
| 12/09 | Case No. 09-906-EL-SSO | OH | Ohio Energy Group | Ohio Edison, Toledo Edison Cleveland Electric Illuminating | Provider of Last Resort Rate Plan |
| 12/09 | ER09-1224 | FERC | Louisiana Public Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | Entergy's Compliance Filing System Agreement Bandwidth Calculations. |
| 12/09 | Case No. PUE-2009-00030 | VA | Old Dominion Committee For Fair Utility Rates | Appalachian Power Co | Cost Allocation, Allocation of Rev Increase, Rate Design |

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|-------------|--------------------------|------------------|---|---|--|
| 2/10 | Docket No. 09-035-23 | UT | Kroger Company | Rocky Mountain Power Co | Rate Design |
| 3/10 | Case No. 09-1352-E-42T | WV | West Virginia Energy Users Group | Mon Power Co Potomac Edison Co | Retail Cost of Service Revenue apportionment |
| 3/10 | E015/ GR-09-1151 | MN | Large Power Intervenors | Minnesota Power Co. | Cost of Service, rate design |
| 4/10 | EL09-61 | FERC | Louisiana Public Service Service Commission | Entergy Services, Inc. and the Entergy Operating Companies | System Agreement Issues Related to off-system sales |
| 4/10 | 2009-00459 | KY | Kentucky Industrial Utility Customers, Inc. | Kentucky Power Company | Cost of service, rate design, transmission expenses |
| 4/10 | 2009-00548 2009-00549 | KY | Kentucky Industrial Utility Customers, Inc. | Louisville Gas & Electric Co. Kentucky Utilities Co. | Cost of Service, Rate Design |
| 7/10 | R-2010-2161575 | PA | Philadelphia Area Industrial Energy Users Group | PECO Energy Company | Cost of Service, Rate Design |
| 09/10 | 2010-00167 | KY | Kentucky Industrial Utility Customers, Inc. | East Kentucky Power Cooperative, Inc. | Cost of Service, Rate Design |
| 09/10 | 10M-245E | CO | CF&I Steel Company Climax Molybdenum | Public Service Company of Colorado | Economic Impact of Clean Air Act |
| 11/10 | 10-0699-E-42T | WV | West Virginia Energy Users Group | Appalachian Power Company | Cost of Service, Rate Design, Transmission Rider |
| 11/10 | Doc. No. 4220-UR-116 | WI | Wisconsin Industrial Energy Group, Inc. | Northern States Power Co. Wisconsin | Cost of Service, rate design |
| 12/10 | 10A-554EG | CO | CF&I Steel Company Climax Molybdenum | Public Service Company | Demand Side Management Issues |
| 12/10 | 10-2586-EL-SSO | OH | Ohio Energy Group | Duke Energy Ohio | Provider of Last Resort Rate Plan Electric Security Plan |
| 3/11 | 20000-384-ER-10 | WY | Wyoming Industrial Energy Consumers | Rocky Mountain Power Wyoming | Electric Cost of Service, Revenue Apportionment, Rate Design |
| 5/11 | 2011-00036 | KY | Kentucky Industrial Utility Customers, Inc. | Big Rivers Electric Corporation | Cost of Service, Rate Design |
| 6/11 | Docket No. 10-035-124 | UT | Kroger Company | Rocky Mountain Power Co. | Class Cost of Service |
| 6/11 | PUE-2011-00045 | VA | VA Committee For Fair Utility Rates | Dominion Virginia Power Company | Fuel Cost Recovery Rider |

J. KENNEDY AND ASSOCIATES, INC.

**Expert Testimony Appearances
of
Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdct. | Party | Utility | Subject |
|-------------|--|------------------|---|---|--|
| 07/11 | U-29764 | LA | Louisiana Public Service Commission Staff | Entergy Gulf States, Inc. Entergy Louisiana, LLC | Entergy System Agreement - Successor Agreement, Revisions, RTO Day 2 Market Issues |
| 07/11 | Case Nos. 11-346-EL-SSO 11-348-EL-SSO | OH | Ohio Energy Group | Ohio Power Company Columbus Southern Power Co. | Electric Security Rate Plan, Provider of Last Resort Issues |
| 08/11 | PUE-2011-00034 | VA | Old Dominion Committee For Fair Utility Rates | Appalachian Power Co | Cost Allocation, Rate Recovery of RPS Costs |
| 09/11 | 2011-00161 2011-00162 | KY | Kentucky Industrial Utility | Louisville Gas & Electric Co. Kentucky Utilities Company | Environmental Cost Recovery |
| 09/11 | Case Nos. 11-346-EL-SSO 11-348-EL-SSO | OH | Ohio Energy Group | Ohio Power Company Columbus Southern Power Co. | Electric Security Rate Plan, Stipulation Support Testimony |
| 10/11 | 11-0452 E-P-T | WV | West Virginia Energy Users Group | Mon Power Co. Potomac Edison Co. | Energy Efficiency/Demand Reduction Cost Recovery |
| 11/11 | 11-1272 E-P | WV | West Virginia Energy Users Group | Mon Power Co. Potomac Edison Co. | Expanded Net Energy Cost "ENEC" Analysis |
| 11/11 | E-01345A-11-0224 | AZ | Kroger Company | Arizona Public Service Co. | Decoupling |
| 12/11 | E-01345A-11-0224 | AZ | Kroger Company | Arizona Public Service Co. | Cost of Service, Rate Design |
| 3/12 | Case No. 2011-00401 | KY | Kentucky Industrial Utility Consumers | Kentucky Power Company | Environmental Cost Recovery |
| 4/12 | 2011-00036 Rehearing Case | KY | Kentucky Industrial Utility Customers, Inc. | Big Rivers Electric Corporation | Cost of Service, Rate Design |
| 5/12 | 2011-346 2011-348 | OH | Ohio Energy Group | Ohio Power Company | Electric Security Rate Plan Interruptible Rate Issues |
| 6/12 | PUE-2012-00051 | VA | Old Dominion Committee For Fair Utility Rates | Appalachian Power Company | Fuel Cost Recovery Rider |
| 6/12 | 12-00012 12-00026 | TN | Eastman Chemical Co. Air Products and Chemicals, Inc. | Kingsport Power Company | Demand Response Programs |
| 6/12 | Docket No. 11-035-200 | UT | Kroger Company | Rocky Mountain Power Co | Class Cost of Service |
| 6/12 | 12-0275-E-GI-EE | WV | West Virginia Energy Users Group | Appalachian Power Company | Energy Efficiency Rider |

J. KENNEDY AND ASSOCIATES, INC.

**Expert Testimony Appearances
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Stephen J. Baron
As of July 2012**

| Date | Case | Jurisdic. | Party | Utility | Subject |
|-------------|-----------------|------------------|---|----------------------------------|--|
| 6/12 | 12-0399- E-P | WV | West Virginia Energy Users Group | Appalachian Power Company | Expanded Net Energy Cost ("ENEC") |
| 7/12 | 120015-EI | FL | South Florida Hospital and Healthcare Assoc. | Florida Power & Light Company | Retail cost of service, rate design |

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

IN THE MATTER OF:

**APPLICATION OF BIG RIVERS ELECTRIC)
CORPORATION FOR APPROVAL OF ITS)
2012 ENVIRONMENTAL COMPLIANCE)
PLAN, FOR APPROVAL OF ITS AMENDED)
ENVIRONMENTAL COST RECOVERY)
SURCHARGE TARIFF, FOR CERTIFICATES)
OF PUBLIC CONVENIENCE AND)
NECESSITY, AND FOR AUTHORITY TO)
ESTABLISH A REGULATORY ACCOUNT)**

CASE NO. 2012-00063

EXHIBIT __ (SJB-2)

OF

STEPHEN J. BARON

ON BEHALF OF THE

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

**J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

July 2012

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KIUC Proposed 2016 Environmental Cost Allocation Using Non-Fuel Base Revenues

| | 2016 | BREC As-Filed Total Adj. Rev Allocator | Non-Fuel Allocator (Retail) | Retail/ Off/System Allocator | Proposed KIUC Allocator | Difference |
|---|------|--|-----------------------------------|------------------------------------|-------------------------------|------------|
| <u>Environmental Compliance Cost</u> | | | | | | |
| Total Environmental Compliance Cost | | | | | | |
| <u>Total Adjusted Revenue</u> | | | | | | |
| Rural | | | | | | |
| Large Industrial | | | | | | |
| Smelter | | | | | | |
| Total Retail | | | | | | |
| Off-System | | | | | | |
| Total | | | | | | |
| <u>ES Revenue Requirement</u> | | | | | | |
| Rural | | | | | | |
| Large Industrial | | | | | | |
| Smelter | | | | | | |
| Off-System | | | | | | |
| Total | | | | | | |

Source:
Responses to KIUC 1.54, KIUC 1.50

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

IN THE MATTER OF:

**APPLICATION OF BIG RIVERS ELECTRIC)
CORPORATION FOR APPROVAL OF ITS)
2012 ENVIRONMENTAL COMPLIANCE)
PLAN, FOR APPROVAL OF ITS AMENDED)
ENVIRONMENTAL COST RECOVERY)
SURCHARGE TARIFF, FOR CERTIFICATES)
OF PUBLIC CONVENIENCE AND)
NECESSITY, AND FOR AUTHORITY TO)
ESTABLISH A REGULATORY ACCOUNT)**

CASE NO. 2012-00063

EXHIBIT __ (SJB-3)

OF

STEPHEN J. BARON

ON BEHALF OF THE

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

**J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

July 2012

**KIUC Proposed 2016 Environmental Cost Allocation Using Non-Fuel Base Revenues
Member Bill Impact**

| | 2016 Base Case Revenues <u>(w/o ES, RER, TIER)</u> | Big Rivers' Proposed <u>ES Revenue Allocation</u> | Percent <u>of Bill</u> | KIUC Proposed <u>ES Revenue Allocation</u> | Percent <u>of Bill</u> | Difference | Difference <u>w/MRSM, RER</u> |
|------------------|---|--|---------------------------|---|---------------------------|------------|----------------------------------|
| Rural | | | | | | | |
| Large Industrial | | | | | | | |
| Smelter | | | | | | | |
| Total Retail | | | | | | | |
| Off-System | | | | | | | |