

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

In the Matter of:

**ELECTRONIC JOINT APPLICATION OF)
KENTUCKY UTILITIES COMPANY AND)
LOUISVILLE GAS AND ELECTRIC COMPANY)
FOR CERTIFICATES OF PUBLIC) CASE NO. 2022-00402
CONVENIENCE AND NECESSITY AND SITE)
COMPATIBILITY CERTIFICATES AND)
APPROVAL OF A DEMAND SIDE)
MANAGEMENT PLAN)**

**DIRECT TESTIMONY
AND EXHIBITS OF
LANE KOLLEN**

**ON BEHALF OF
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.**

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

JULY 2023

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DIRECT TESTIMONY OF LANE KOLLEN

I. QUALIFICATIONS AND SUMMARY

1
2

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

4 A. My name is Lane Kollen. My business address is J. Kennedy and Associates, Inc.
5 ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia
6 30075.

7

8 **Q. Please state your occupation and employer.**

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

11

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

13 A. I earned a Bachelor of Business Administration in Accounting degree and a Master
14 of Business Administration degree from the University of Toledo. I also earned a

1 Master of Arts degree in theology from Luther Rice University. I am a Certified
2 Public Accountant (“CPA”), with a practice license, a Certified Management
3 Accountant (“CMA”), and a Chartered Global Management Accountant
4 (“CGMA”). I am a member of numerous professional organizations, including the
5 American Institute of Certified Public Accountants, the Institute of Management
6 Accounting, and the Society of Depreciation Professionals.

7 I have been an active participant in the utility industry for more than forty
8 years, initially as an employee of an electric and natural gas utility, then as a
9 consultant assisting utilities in their resource planning and financial analyses, and
10 thereafter as a consultant assisting government agencies and large users of
11 electricity and natural gas utility services. I have testified as an expert witness on
12 ratemaking, accounting, finance, tax issues, and planning issues in proceedings
13 before regulatory commissions and courts at the federal and state levels on
14 hundreds of occasions, including numerous proceedings before the Kentucky
15 Public Service Commission (“Commission”) involving Kentucky Utilities
16 Company (“KU” or “Company”), Louisville Gas and Electric Company (“LG&E”
17 or “Company”), Kentucky Power Company (“KPC”), Duke Energy Kentucky, Inc.
18 (“DEK”), East Kentucky Power Company (“EKPC”), Big Rivers Electric
19 Corporation (“BREC”), Atmos Energy Corporation (“Atmos”), Columbia Gas of
20 Kentucky, Inc. (“Columbia Gas”), Kentucky-American Water Company (“KAW”),
21 and Water Service Corporation of Kentucky (“WSCK”).¹

¹ My qualifications and regulatory appearances are further detailed in my Exhibit__(LK-1).

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

2 A. I am testifying on behalf of Kentucky Industrial Utility Customers, Inc. (“KIUC”).
3 KIUC filed a Motion to Intervene in this proceeding on December 21, 2022. The
4 Motion to Intervene was granted on January 26, 2023. Members of KIUC who are
5 participating in this proceeding include: Air Liquide Industrial U.S. LP, Alliance
6 Coal, LLC,² Carbide Industries LLC Chemours Company, Corning Incorporated,
7 Dow Silicones Corporation, Ford Motor Company, Ingevity, North American
8 Stainless, and Toyota Motor Manufacturing, Kentucky, Inc.

9

10 **Q. Briefly describe the Companies’ proposed resource portfolio additions,**
11 **retirements of three coal-fired generating units, and other related requests.**

12 A. The Companies’ request for CPCNs includes two new 621 mW owned natural gas-
13 fired combined cycle (“NGCC”) generating units, one located at the LG&E Mill
14 Creek Generating Station (“Mill Creek NGCC” or “Mill Creek 5”) and one located
15 at the KU E.W. Brown Generating Station (“Brown NGCC” or “Brown 12”); two
16 new 120 mW owned solar generating units, one located in Mercer County (“Mercer
17 County Solar”) and one located in Marion County (“Marion County Solar”); and
18 one new 125 mW 4 hour owned battery energy storage system (“BESS”) located at
19 the E.W. Brown Generating Station (“Brown BESS”).

2 Alliance Coal, LLC (“Alliance”) is participating in this proceeding through its status as a member company of both KIUC and the Kentucky Coal Association (“KCA”). Alliance respectfully states that, to the extent the positions or views advocated by KIUC and KCA differ or conflict in any manner, Alliance supports and adopts the position of KCA.

1 The Companies seek a declaratory order that four new 138 mW, 280 mW,
2 104 mW, and 115 mW solar purchased power agreements (“PPAs”) named Grays
3 Branch, Nacke Pike, Song Sparrow, and Gage Solar, respectively, do not require
4 CPCN approval, and seek authorization to recover the purchased power expense
5 incurred pursuant to the PPAs through their Fuel Adjustment Clause (“FAC”)
6 riders.

7 In addition, the Companies seek authorization to retire three coal-fired
8 generating units, LG&E’s Mill Creek 2, KU’s Ghent 2, and KU’s Brown 3 pursuant
9 to the requirements of Senate Bill 4 (“SB 4”). Mill Creek 2 and Ghent 2 do not
10 have selective catalytic reduction (“SCR”) controls to limit NO_x emissions. These
11 two generating units will not be able to operate for the five ozone months each year,
12 including the summer peak load months, after the U.S. Environmental Protection
13 Agency (“EPA”) Good Neighbor Plan is implemented unless SCRs are installed.
14 Brown 3 already has an SCR and is fully compliant with EPA requirements at this
15 time, including the Good Neighbor Plan, but it is a less efficient generating unit and
16 will require significant maintenance expense and capital expenditures to continue
17 operating.

18 Further, the Companies seek approval of their proposed 2024-2030 Demand-
19 Side Management and Energy Efficiency Program Plan (“Proposed DSM-EE Program
20 Plan”) and related changes to the Companies’ Demand-Side Management Cost
21 Recovery Mechanism (“DSM Mechanism”) tariffs to be effective January 1, 2024.

22 Finally, the Companies seek authorization to establish a regulatory asset for
23 the difference between AFUDC accrued at the Companies’ weighted average cost of

1 capital and AFUDC accrued using the methodology approved by the Federal Energy
2 Regulatory Commission (“FERC”) during the construction period of the two NGCCs,
3 Mercer County Solar, and Brown BESS.
4

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

6 A. The purpose of my testimony is to address specific aspects of the Companies’
7 proposed resource portfolio, including their request for CPCNs for Mill Creek 5,
8 Brown 12, Mercer County Solar, Marion County Solar, and Brown BESS; plans to
9 enter into four PPAs for solar resources; request to retire three coal-fired generating
10 units; and request to recover the purchased power expense incurred pursuant to the
11 proposed PPA solar resources through their FAC riders. In addition, I address the
12 Companies’ recovery of the costs of the retired generating units through their
13 Retired Asset Recovery (“RAR”) riders.
14

15 **Q. Provide a summary of your testimony.**

16 A. I recommend that the Commission authorize the Companies’ request for a CPCN
17 for Mill Creek 5. I do not oppose the Companies’ requests for CPCNs for Brown
18 12, Marion County solar, and Mercer County solar. I do not oppose the retirements
19 of Mill Creek 2 or Brown 3. I do not oppose the Companies’ request for
20 authorization of the proposed DSM-EE Program Plan and the related changes to the
21 Companies’ Demand-Side Management Cost Recovery Mechanism (“DSM
22 Mechanism”) tariffs. I do not oppose the Companies’ request for authorization to
23 establish a regulatory asset for the difference in the AFUDC using the FERC

1 methodology compared to the Companies' weighted average costs of capital.

2 I recommend that the Commission deny the Companies' request for
3 authorization to retire the 485 mW Ghent 2. Instead, I recommend that the
4 Commission direct the Companies to continue operating Ghent 2 either year-round
5 with the addition of an SCR or during the seven non-ozone months without the
6 addition of an SCR. The continued operation of Ghent 2 will maintain optionality
7 and enhance reliability at a relatively low cost. The 485 mW Ghent 2 can be a
8 valuable asset for the Companies and the Commonwealth because: 1) it can
9 accommodate load growth as the economy electrifies and it provides a cushion for
10 economic development; 2) excess energy can be sold off-system; 3) it can
11 potentially be a year-round or seven-month option for Kentucky Power Company
12 when the 780 mW Mitchell capacity is no longer available after 2028.

13 I recommend that the Commission reject the proposed PPA solar resources.
14 The Companies consider the PPA solar resources to be replacements for the three
15 retired coal-fired generating units. As replacements, they do not comply with the
16 requirements of SB 4 because they are not dispatchable, do not improve system
17 reliability and resilience and the pricing relies on federal tax incentives. If,
18 however, the Commission does not reject the PPA solar resources, then the
19 Commission should not authorize recovery of the purchased power expense
20 through the FAC. Instead recovery should be through a new rider or through base
21 rates.

22 I recommend that the Commission deny a CPCN for the BESS resource. It
23 is not economic even with the tax incentives available pursuant to the Inflation

1 Reduction Act (“IRA”).

2 I recommend that the Commission clarify/ensure that the Companies are
3 allowed to recover the remaining net book value of all retired generating units with
4 significant remaining net book value at the date of retirement through their
5 respective RAR riders, including Ghent 2, although I oppose authorization for the
6 retirement of Ghent 2 in this proceeding.

7

8 **II. PREFERRED PORTFOLIO RESOURCE ADDITIONS AND**
9 **RETIREMENTS**

10

11 **A. Industry Concerns Regarding Reliability Due To Retirements Of Coal-Fired**
12 **Generating Units**

13

14 **Q. Describe the concerns within the electric utility industry regarding reliability**
15 **due to the retirements of coal-fired generating units as context for the**
16 **Companies’ requests to retire three coal-fired generating units.**

17 A. Since the Companies filed their requests for CPCNs on December 15, 2022 based
18 on their plans to retire three large coal-fired generating units, several major events
19 have occurred. First, there is a growing awareness by federal policy makers, other
20 than the EPA, that the accelerated retirement of fossil generation is creating a
21 nation-wide reliability crisis. Second, state policy makers likewise are increasingly
22 concerned about the accelerated retirement of coal generation. Finally, EPA issued
23 proposed new CO2 rules that, if enacted, would further accelerate the retirement of
24 fossil generation.

25 On May 4, 2023, in testimony before the U.S. Senate Energy and Natural

1 Resources Committee, FERC Commissioner Mark Christie stated: “*The United*
2 *States is heading for a reliability crisis. I do not use the term ‘crisis’ for*
3 *melodrama, but because it is an accurate description of what we are facing. I think*
4 *anyone would regard an increasing threat of system-wide, extensive power outages*
5 *as a crisis. In summary, the core problem is this; Dispatchable generating*
6 *resources are retiring far too quickly and in quantities that threaten our ability to*
7 *keep the lights on. The problem generally is not the addition of intermittent*
8 *resources, primarily wind and solar, but the far too rapid subtraction of*
9 *dispatchable resources, especially coal and gas”.*

10 On June 1, 2023, in testimony before the same Senate Committee, the
11 President and CEO of the North American Electric Reliability Corporation
12 (“NERC”) stated: “*Bulk power system reliability is at an inflection point. NERC*
13 *assessments demonstrate that the electric grid is operating ever closer to the edge*
14 *where reliability is at risk—an edge characterized by the prospect of more frequent*
15 *and more serious disruptions that threaten human wellbeing and economic*
16 *productivity.”*

17 In the wake of blackouts on the KU system during Christmas 2022,
18 Kentucky enacted SB 4. This new law became effective on March 29, 2023. It
19 creates a rebuttable presumption against the retirement of fossil-fueled generation
20 unless the utility can demonstrate that it will “*replace*” the fossil generation with
21 generation that is: 1) dispatchable, 2) maintains or improves reliability and
22 resilience, and 3) maintains the minimum reserve capacity. Also, the retirement
23 must not harm ratepayers by causing the utility to incur incremental costs that could

1 be avoided by continuing to operate the fossil generation. Finally, the decision to
2 retire cannot be the result of federal incentives.

3 On May 23, 2023, the EPA issued proposed new CO2 rules for existing
4 fossil-fueled electric generating units. These proposed rules could require carbon
5 capture and sequestration (CCS) for coal generation and co-firing natural gas units
6 with hydrogen. If the proposed rules become law, then more fossil generation will
7 be forced to prematurely retire, with system reliability even more at risk.

8

9 **B. Overview Of Resource Retirements And Additions In Reference Portfolio And**
10 **Preferred Portfolio**

11

12 **Q. Describe the Companies' reference portfolio and the changes to the reference**
13 **portfolio reflected in the preferred portfolio.**

14 A. The Companies' reference portfolio is a least cost portfolio that reflects only the
15 retirements of Mill Creek 2, Ghent 2, and Brown 3 and the additions of Mill Creek
16 5 and Brown 12. The reference portfolio meets and exceeds the Companies'
17 planning reserve margin and Loss of Load Expectation ("LOLE") reliability
18 criteria.

19 The Companies' preferred portfolio reflects modifications to the reference
20 portfolio to add owned solar, PPA solar, and the Brown BESS. The preferred
21 portfolio is not the least cost portfolio, but reflects other policy goals described by
22 Companies witness Stuart Wilson in his Direct Testimony. The preferred portfolio
23 minimally improves the Companies' planning reserve margin and LOLE reliability
24 results compared to the reference portfolio.

1 **C. Ghent 2 Is A Reliable And Valuable Resource That Should Not Be Retired**
2 **Prematurely**
3

4 **Q. Describe the Ghent 2 generating unit.**

5 A. Ghent 2 is one of four coal-fired generating units located and presently operating
6 at the Ghent power plant. Ghent 2 has a maximum net summer capacity of 485
7 mW and a maximum net winter capacity of 486 mW.³ The present probable
8 retirement date for depreciation purposes is the end of 2034,⁴ although the
9 Companies could extend the service life to 2050 by making capital expenditures of
10 \$140 million in 2033 through 2037 and 2039.⁵

11 Ghent 2 historically has performed well operationally with an average heat
12 rate of 10,641 Btu/kWh over the last seven years,⁶ an average forced outage rate of
13 0.83% over the last five years,⁷ the lowest of all the coal-fired generating units
14 owned and operated by KU and LG&E, and an average capacity factor of 62.5%
15 over the last seven years.⁸

16 The recently finalized Good Neighbor Plan issued by the Environmental
17 Protection Agency (“EPA”) will require the addition of a \$126 million SCR to

³ Table 29 in the May 2023 revision of 2022 Resource Assessment (Revised Exhibit SAW-1) at 50 provided as Attachment 2 in response to JI-2-60(a). I have attached the narrative portion of this response as my Exhibit__(LK-2).

⁴ Table 30 in the May 2023 revision of 2022 Resource Assessment (Revised Exhibit SAW-1) at 51 provided as Attachment 2 in response to JI-2-60(a).

⁵ Table 31 in the May 2023 revision of 2022 Resource Assessment (Revised Exhibit SAW-1) at 52 provided as Attachment 2 in response to JI-2-60(a).

⁶ S&P Global. I have attached a copy of the data as my Exhibit__(LK-3).

⁷ Response to Staff 1-100 for forced outage rates of all coal-fired generating units owned and operated by KU and LG&E for the years 2018-2022. I averaged the five years. I have attached a copy of this response as my Exhibit__(LK-4).

⁸ S&P Global. See Exhibit __(LK-3).

1 Ghent 2 in order for it to continue operating on a year-round basis. In the absence
2 of an SCR, the Good Neighbor Plan will limit the operation of Ghent 2 to the seven
3 non-ozone months (October through April) starting in 2027 and KU will not be able
4 to operate the generating unit without sufficient NO_x allocations during the five
5 ozone months (May through September).

6

7 **Q. Describe the portfolio sensitivities performed by the Companies to add an SCR**
8 **to Ghent 2 and continue operating that generating unit year-round.**

9 A. The Companies performed several portfolio sensitivities under different fuel prices
10 and coal to gas (“CTG”) ratios, assuming in the first sensitivity that Ghent 2
11 continues operating until 2035 (no life extension), in the second that it continues to
12 operate until 2040, in the third that it continues to operate until 2045, and in the
13 fourth that it continues to operate indefinitely. Brown 12 is delayed to future dates
14 in each of these sensitivities.⁹

15 The results reflect an increase in the net present value compared to a
16 modified preferred portfolio without Brown 12, without the owned solar, and
17 without the Brown BESS. More specifically, the addition of an SCR to Ghent 2
18 and continued operation until 2035 results in an increase in the net present value
19 compared to this modified preferred portfolio of only \$77 million in the low gas
20 mid CTG, \$71 million in the mid gas mid CTG, and \$75 million in the high gas

⁹ May 2023 revision of 2022 Resource Assessment (Revised Exhibit SAW-1) at 52 provided as Attachment 2 in response to JI-2-60(a).

1 mid CTG sensitivities.¹⁰ These penalties are the equivalent of approximately \$7
2 million to \$8 million on an annual basis, or only 0.3% of the Companies' retail
3 revenues in 2022.

4

5 **Q. Describe the portfolio sensitivities performed by the Companies to continue**
6 **operating Ghent 2 without adding an SCR, but to limit operation of that**
7 **generating unit to the seven non-ozone months during the year.**

8 A. The Companies performed a series of sensitivities to stress test the preferred
9 portfolio, including several variations of a portfolio 4 in which it retired Mill Creek
10 2 and Brown 3, added Mill Creek 5, and operated Ghent 2 only during the non-
11 ozone months under different fuel prices and CTG ratios. Brown 12 is delayed to
12 a future date in this portfolio 4.¹¹

13 The results reflect an increase in the net present value compared to a
14 modified preferred portfolio, but without Brown 12, owned solar, and the Brown
15 BESS. More specifically, the continued operation of Ghent 2 during the non-ozone
16 months without the addition of an SCR results in an increase in the net present value
17 compared to this modified reference portfolio of only \$117 million in the low gas
18 mid CTG, \$126 million in the mid gas mid CTG, and \$218 million in the high gas
19 mid CTG sensitivities.¹² These penalties are the equivalent of approximately \$12

¹⁰ Table 9 in the May 2023 revision of 2022 Resource Assessment (Revised Exhibit SAW-1) at 26 provided as Attachment 2 in response to JI-2-60(a).

¹¹ May 2023 revision of 2022 Resource Assessment (Revised Exhibit SAW-1) at 26-33 provided as Attachment 2 in response to JI-2-60(a).

¹² Table 13 in the May 2023 revision of 2022 Resource Assessment (Revised Exhibit SAW-1) at 32 provided as Attachment 2 in response to JI-2-60(a).

1 million to \$22 million on an annual basis, or only 0.4% to 0.8% of the Companies'
2 retail revenues in 2022.

3

4 **Q. Could the Companies continue to operate Ghent 2 during the non-ozone**
5 **months and still preserve the option to add an SCR at a later date?**

6 A. Yes. The Companies could operate Ghent 2 during the non-ozone months and
7 subsequently add an SCR for year-round operation. Under the Good Neighbor
8 Plan, if Ghent 2 does not operate during two consecutive ozone seasons, it will lose
9 its status as a Group 3 unit. However, the Companies could run Ghent 2 for a few
10 hours during the ozone season (until 2030) and avoid the issue altogether.

11 Even if the Companies decide not to operate Ghent 2 during a few ozone
12 seasons and then decide to operate it year-round, the Companies believe that they
13 could add an SCR at a later date and still comply with the requirements of the Good
14 Neighbor Plan. In this circumstance, the return to ozone season operation would
15 be subject to the new unit set asides. In a worst-case situation where the Companies
16 trigger a New Source Review after two years of not operating during the ozone
17 season, the Companies would have until the end of 2025 to fully evaluate their
18 options and determine whether to add an SCR to Ghent 2 at that time.

19

20 **Q. What is your recommendation regarding the proposed retirement of Ghent 2?**

21 A. I recommend that the Commission deny the Companies' request for authorization
22 to retire Ghent 2 in 2028 and instead authorize a CPCN to add an SCR to that
23 generating unit. Alternatively, I recommend that the Commission direct the

1 Companies to continue operating Ghent 2 during the seven non-ozone months and
2 continue to evaluate the addition of an SCR.

3 In addition, the Companies should engage in discussions with Kentucky
4 Power Company, and report to the Commission semi-annually on the status of its
5 review and the potential sale of the generating unit itself or the capacity and energy
6 pursuant to a bilateral contract, such as a Unit Power Agreement (“UPA”).
7 Operating year-round at a 65% capacity factor, Ghent 2 would provide
8 approximately half of Kentucky Power’s native load energy requirements.

9 This recommendation provides significant optionality over the next several
10 years. First, it allows the Companies to continue operating the Ghent 2 generating
11 unit for a relatively minimal net present value annual penalty compared to the
12 version of the modified preferred case that it used for this sensitivity. That is true
13 regardless of whether the Commission authorizes a CPCN to add an SCR to Ghent
14 2 or directs the Companies to continue operating the generating unit, but only
15 during the seven non-ozone months. The latter alternative still maintains the option
16 of adding an SCR at a later date simply by operating Ghent 2 a few hours during
17 the ozone season, at least until 2030.

18 Second, the continued operation of Ghent 2 avoids triggering the SB 4
19 requirements for that generating unit.

20 Third, the net present value penalty is less than the penalty for the Brown
21 BESS, meaning that the Companies can continue operating Ghent 2, an actual
22 generating unit that historically has performed well operationally, rather than
23 acquiring a BESS that is uneconomic and that will operate only intermittently.

1 Fourth, the continued operation of Ghent 2 provides greater more reliability
2 protection in the event of an OVEC early termination than the BESS or the
3 dispatchable DSM programs.

4 Fifth, the \$126 million cost of the SCR is about the same as the \$113 million
5 BESS.

6 Given the reliability crisis facing the country because of the too rapid
7 retirement of fossil generation, Ghent 2 can be a valuable asset for the Companies
8 and the Commonwealth. To the extent that the 485 mW Ghent 2 provides more
9 capacity than the minimum needed in the short run: 1) it can accommodate load
10 growth as the economy electrifies and it provides a cushion for economic
11 development; 2) excess energy can be sold off-system (the Companies' modeling
12 does not include off-system sales); and 3) can potentially be a viable year-round or
13 seven month option for Kentucky Power Company after 2028 when the 780 mW
14 Mitchell capacity is no longer available (even though Kentucky Power Company
15 still will own Mitchell if Wheeling Power Company or Appalachian Power
16 Company do not acquire it).

17

18 **D. Brown BESS Is Not Necessary or Economic; CPCN Should Be Denied; Capital**
19 **Expenditures Are Better Invested In Addition Of SCR To Ghent 2**

20

21 **Q. Is the proposed BESS necessary for reliability purposes?**

22 A. No. The proposed BESS is not necessary for reliability, although it does slightly
23 enhance reliability, all else equal. It is not necessary to meet the Companies'
24 planning reserve margin or their LOLE objectives.

1 The Brown BESS provides only minimal improvements in reliability at a
2 high cost. More specifically, adding dispatchable DSM to the Mill Creek 5, Brown
3 12, owned solar, and PPA solar portfolio provides a greater improvement in LOLE
4 reliability and at a lower cost than adding the Brown BESS. Adding the Brown
5 BESS to the same portfolio with the dispatchable DSM improves the LOLE from
6 0.04 to 0.03 in the summer, 0.40 to 0.25 in the winter, but at an additional capacity
7 cost of \$17 million per year.¹³

8 The Companies concluded in the May 2023 version of the 2022 Resource
9 Assessment that “Adding Brown BESS further enhances reliability, but its primary
10 value is in providing operational experience for integrating future renewable
11 generation. Table 20 and Table 21 show that Brown BESS adds reliability in
12 portfolios with and without solar. But based on its cost, it is not the most cost-
13 effective means of enhancing reliability as modeled.”¹⁴

14 In addition, the BESS has a limited capability to provide capacity for only
15 four hours until it hits its discharge threshold and requires recharging.

16

17 **Q. Is the proposed Brown BESS economic?**

18 A. No. The Companies’ analyses indicate that it has a net present value harm to
19 customers ranging from \$95 million to \$130 million for the high and low gas
20 sensitivities, respectively, under the typical CTG ratios and ranging from \$78

¹³ Table 21 in the May 2023 revision of 2022 Resource Assessment (Revised Exhibit SAW-1) provided as Attachment 2 to Response to JI-2-60(a) at 38.

¹⁴ May 2023 revision of 2022 Resource Assessment (Revised Exhibit SAW-1) provided as Attachment 2 to Response to JI-2-60(a) at 38.

1 million to \$130 million for the high gas atypical low CTG and low gas atypical high
2 CTG sensitivities, respectively.¹⁵

3
4 **Q. What is the all-in cost of the Brown BESS energy?**

5 A. It is extraordinarily high. In 2026, the all-in cost of the Brown BESS energy ranges
6 from \$3,819/mWh for the low gas mid CTG to \$5,876/mWh for the high gas mid
7 CTG sensitivities. It should be noted that the Brown BESS does not generate
8 electricity; rather, it must be charged by other sources of generation and has a round
9 trip efficiency of only 87%.¹⁶

10
11 **Q. How does the construction cost of the Brown BESS compare to the
12 construction cost of adding an SCR to the Ghent 2 generating unit?**

13 A. The costs are nearly the same, \$126 million for the addition of an SCR to Ghent 2
14 and \$113 million for the Brown BESS after offsets to the construction costs for
15 federal tax incentives. The Companies estimate the construction cost of the BESS
16 at \$270 million. The construction cost is offset in part by federal investment tax
17 credit (“ITC”), although the ITC requires a reduction in the tax basis used for tax
18 depreciation.¹⁷

¹⁵ Table 22 in the May 2023 revision of 2022 Resource Assessment (Revised Exhibit SAW-1) provided as Attachment 2 in response to JI-2-60(a) at 39.

¹⁶ Response to KIUC 1-7. I have attached a copy of this response as my Exhibit__(LK-5).

¹⁷ Response to Staff 1-47. This response resulted in revisions to Tables 17, 18, 20, 21, and 22 in the May 2023 revision of 2022 Resource Assessment attached as Exhibit SAW-1 to Mr. Wilson’s Direct Testimony. I have attached a copy of the narrative portion of this response as my Exhibit__(LK-6).

1 Although the costs are nearly the same, adding the SCR to Ghent 2 allows
2 the Companies to continue operating an existing and well performing generating
3 unit. In contrast, the acquisition of the Brown BESS only provides the Companies
4 with an expensive reliability backstop with a limited duration due to the four hour
5 discharge period.

6

7 **Q. What is your recommendation?**

8 A. I recommend that the Commission deny the Companies' request for a CPCN for
9 the Brown BESS. The Companies acknowledge that it is uneconomic even with
10 the ITC tax incentive. It provides only minimal improvement in reliability at an
11 extraordinarily high cost. The better alternative is to invest a comparable amount
12 in the addition of an SCR to Ghent 2, an actual generating unit that provides reliable
13 and economic generation.

14

15 **E. Proposed PPA Solar Resources Do Not Comply With The Requirements of**
16 **Senate Bill 4 And Should Be Rejected**

17

18 **Q. Provide a summary of the requirements in SB 4 applicable to the retirements**
19 **of generating units and the replacement generating resources.**

20 A. SB 4 requires Commission authorization to retire a coal-fired generating unit. SB
21 4 also includes a rebuttable presumption against such retirements unless the
22 Companies demonstrate that replacement generating capacity for the retiring unit
23 meets the following requirements: 1) it is dispatchable, 2) it will maintain or improve
24 system reliability and resilience, 3) it will maintain sufficient reserve capacity. The

1 Companies also must demonstrate that the unit retirement meets the following
2 requirements: 1) it will not harm utility ratepayers, 2) it does not result from federal
3 financial incentives or benefits, and 3) it will result in cost savings for customers after
4 accounting for all known direct and indirect costs of the retirement.¹⁸

5

6 **Q. Do the Companies view the PPA solar resources as replacements for the**
7 **retired generating units?**

8 A. Yes. In the Companies' May 2023 version of the 2022 Resource Assessment,
9 included as Exhibit SAW-1 attached to the Direct Testimony of Mr. Stuart Wilson,
10 the Companies repeatedly refer to "*retiring*" Mill Creek 2, Ghent 2, and Brown 3
11 and "*replacing them*" with new owned resources *and* the proposed 637 mW of PPA
12 solar resources.

13

14 **Q. Do the PPA solar resources comply with the requirements of SB 4?**

15 A. No. The PPA solar resources fail to meet at least three of the specific requirements
16 set forth in SB 4, assuming that Mill Creek 2, Ghent 2, and Brown 3 are retired as
17 reflected in the Companies' reference and preferred portfolios. First, the PPA solar
18 resources are not dispatchable, a fact that the Companies readily acknowledge.¹⁹
19 Second, they do not improve system reliability and resiliency compared to the

¹⁸ Application in Case 2023-00122 at 4-8.

¹⁹ Response to AG-KIUC 1-8(a). I have attached a copy of the narrative portion of the response to AG-KIUC 1-8 as my Exhibit__(LK-7).

1 retiring units. Third, the pricing pursuant to the contracts relies on federal tax
2 incentives or benefits.²⁰

3

4 **Q. What is your recommendation with respect to the proposed 637 mW of PPA**
5 **solar resources?**

6 A. I recommend that they be rejected. They do not comply with the requirements of
7 SB 4, assuming that Mill Creek 2, Ghent 2, and Brown 3 are retired. If Ghent 2 is
8 not retired, then some of the PPA solar may not replace the retired coal-fired
9 generating units and may not be subject to the requirements of SB 4 depending on
10 whether the Commission approves CPCNs for Mill Creek 5, Brown 12, and/or
11 owned solar.

12

13 **F. If The Commission Authorizes The PPA Solar Resources, Then The**
14 **Purchased Power Expense Should Not Be Recovered Through The FAC**

15

16 **Q. Are PPA purchased power expenses recoverable through the FAC?**

17 A. No. The FAC allows recovery of fuel expenses from burning coal and natural gas
18 to generate energy and allows the recovery of *economic* purchased power expenses,
19 subject to certain limitations. However, the FAC does not allow recovery of take
20 or pay PPA purchased power expenses. PPA purchased power expenses may be
21 recovered through base revenues or through a separate rider approved for that

²⁰ Response to Staff 1-69. I have attached a copy of the narrative portion of this response as my Exhibit__(LK-8).

1 purpose.²¹ PPA purchased power expenses result from fixed solar investment costs
2 incurred by the developer even though the PPA charges are volumetric. Fixed costs
3 typically are recovered on a demand basis, not on a kWh basis.

4

5 **Q. In the event that the Commission authorizes the PPA solar additions, is a**
6 **separate PPA rider an appropriate recovery mechanism?**

7 A. Yes, subject to a methodology that recognizes both the capacity and energy
8 characteristics of PPA solar resources, regardless of the fact that the capacity is
9 priced on a per mWh basis.

10

11 **Q. Has the Commission previously adopted a methodology that would be**
12 **appropriate for a separate PPA rider?**

13 A. Yes. In the Companies' Environmental Surcharge ("ES") riders and RAR riders,
14 the Commission adopted a Group 1/Group 2 cost recovery methodology.

15 In this methodology, Group 1 consists solely of the residential class and
16 Group 2 consists of all other classes (non-residential classes). The cost first is
17 allocated between Group 1 and Group 2 on a total retail revenue basis. The revenue
18 requirement for Group 1 is divided by total retail revenues for Group 1 to develop
19 the monthly percentage factor, which then is applied to total retail revenues. The

21 807 KAR 5(3)(c) states: "The net energy cost of energy purchases, exclusive of capacity or demand charges irrespective of the designation assigned to the transaction, *if the energy is purchased on an economic dispatch basis.*"

1 revenue requirement for Group 2 is divided by non-fuel revenues for Group 2 to
2 develop the monthly percentage factor, which then is applied to non-fuel revenues.

3

4 **Q. What is your recommendation for recovery of purchased power expense if the**
5 **PPA solar additions are authorized by the Commission?**

6 A. I recommend that the Commission authorize separate PPA riders for each Company
7 and that it adopt the Group 1/Group 2 methodology to recover the purchased power
8 expense.

9 A rider form of recovery is appropriate for these expenses, which are
10 significant and dependent upon the generation due to the pricing terms of the PPA
11 contracts. In the alternative, the purchased power expense should be recovered
12 through base revenues.

13

14 **III. THE COMMISSION SHOULD CLARIFY THE RECOVERY OF**
15 **RETIRED PLANT COSTS THROUGH THE COMPANIES' RAR RIDERS.**
16

17 **Q. Describe the Companies' RAR riders.**

18 A. The Companies each have an RAR rider that allows them to recover retired plant
19 costs on a levelized basis over ten years, net of the "revenue collected through base
20 rates."²²

21

²² The Companies' RAR rider tariffs.

1 **Q. Did the Commission Orders approving the RAR Riders only address the**
2 **recovery of retired plant costs for specific generating units?**

3 A. Yes. The Commission Orders in Cases 2020-00349 and 2020-00350 only
4 addressed the recovery of Mill Creek 1, Mill Creek 2, and Brown 3 retirement costs
5 through the RAR riders, but did not address the recovery of the Ghent 2 retirement
6 costs through the RAR riders.²³ The Companies assert that “[w]ith regards to Ghent
7 Unit 2, the specific rate recovery methodology for the associated retirement costs
8 has not been established at this time.”²⁴

9

10 **Q. Do the Companies agree that the specific rate recovery methodology for Ghent**
11 **2 retirement costs could be determined in this proceeding?**

12 A. Yes. The Companies agreed that “the specific rate recovery methodology for Ghent
13 Unit 2 retirement costs could be determined as part of this proceeding subject to the
14 Commission’s approval. Separate filings with the Commission are necessary for
15 the inclusion of specific costs associated with each generating unit retirement asset
16 to be recovered through Rider RAR.”

17

18 **Q. If Ghent 2 is retired, should its retirement costs be recovered through the**
19 **RAR?**

²³ Response to AG 2-15. I have attached a copy of the narrative portion of this response as my Exhibit (LK-9).

²⁴ *Id.*

1 A. Yes. However, I recommend that Ghent 2 not be retired at this time because it can
2 be a valuable asset for the Companies and the Commonwealth.

3

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

5 A. Yes.

AFFIDAVIT

STATE OF GEORGIA)


COUNTY OF FULTON)

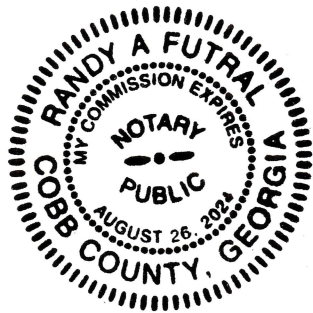
LANE KOLLEN, being duly sworn, deposes and states: that the attached is his sworn testimony and that the statements contained are true and correct to the best of his knowledge, information and belief.



Lane Kollen

Sworn to and subscribed before me on this
14th day of July 2023.



Notary Public

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

In the Matter of:

**ELECTRONIC JOINT APPLICATION OF)
KENTUCKY UTILITIES COMPANY AND)
LOUISVILLE GAS AND ELECTRIC COMPANY)
FOR CERTIFICATES OF PUBLIC) CASE NO. 2022-00402
CONVENIENCE AND NECESSITY AND SITE)
COMPATIBILITY CERTIFICATES AND)
APPROVAL OF A DEMAND SIDE)
MANAGEMENT PLAN)**

**EXHIBITS
OF
LANE KOLLEN**

**ON BEHALF OF
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.**

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

JULY 2023

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)

Chartered Global Management Accountant (CGMA)

PROFESSIONAL AFFILIATIONS

American Institute of Certified Public Accountants

Georgia Society of Certified Public Accountants

Institute of Management Accountants

Society of Depreciation Professionals

Mr. Kollen has more than forty years of utility industry experience in the financial, rate, tax, and planning areas. He specializes in revenue requirements analyses, taxes, evaluation of rate and financial impacts of traditional and nontraditional ratemaking, utility mergers/acquisition and diversification. Mr. Kollen has 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
CF&I Steel, L.P.	Occidental Chemical Corporation
Climax Molybdenum Company	Ohio Energy Group
Connecticut Industrial Energy Consumers	Ohio Industrial Energy Consumers
ELCON	Ohio Manufacturers Association
Enron Gas Pipeline Company	Philadelphia Area Industrial Energy
Florida Industrial Power Users Group	Users Group
Gallatin Steel	PSI Industrial Group
General Electric Company	Smith Cogeneration
GPU Industrial Intervenors	Taconite Intervenors (Minnesota)
Indiana Industrial Group	West Penn Power Industrial Intervenors
Industrial Consumers for	West Virginia Energy Users Group
Fair Utility Rates - Indiana	Westvaco Corporation
Industrial Energy Consumers - Ohio	
Kentucky Industrial Utility Customers, Inc.	
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
City of Austin
Georgia Public Service Commission Staff
Florida Office of Public Counsel
Indiana Office of Utility Consumer Counsel
Kentucky Office of Attorney General
Louisiana Public Service Commission
Louisiana Public Service Commission Staff
Maine Office of Public Advocate
New York City
New York State Energy Office
South Carolina Office of Regulatory Staff
Texas Office of Public Utility Counsel
Utah Office of Consumer Services

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 July 2023**

Date	Case	Jurisdiction	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	Louisville Gas &	Revenue requirements, O&M expense, capital

**Expert Testimony Appearances
of
Lane Kollen
As of July 2023**

Date	Case	Jurisdict.	Party	Utility	Subject
			Customers	Electric Co.	structure, excess deferred income taxes.
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.

**Expert Testimony Appearances
of
Lane Kollen
As of July 2023**

Date	Case	Jurisdct.	Party	Utility	Subject
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.
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.

**Expert Testimony Appearances
of
Lane Kollen
As of July 2023**

Date	Case	Jurisdct.	Party	Utility	Subject
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.
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	PUC 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	8469	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.

**Expert Testimony Appearances
of
Lane Kollen
As of July 2023**

Date	Case	Jurisdct.	Party	Utility	Subject
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.
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.
4/94	U-20647 (Supplemental Surrebuttal)	LA	Louisiana Public Service Commission Staff	Gulf States Utilities Co.	Audit and investigation into fuel clause costs.
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.

**Expert Testimony Appearances
of
Lane Kollen
As of July 2023**

Date	Case	Jurisdict.	Party	Utility	Subject
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 (Surrebuttal)	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.
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, base/fuel 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.

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Date	Case	Jurisdict.	Party	Utility	Subject
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.
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.

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Date	Case	Jurisdict.	Party	Utility	Subject
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 Intervenor	West Penn Power Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, fossil decommissioning, revenue requirements, securitization.
11/97	R-974104	PA	Duquesne Industrial Intervenor	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 Intervenor	West Penn Power Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, fossil decommissioning, revenue requirements.
12/97	R-974104 (Surrebuttal)	PA	Duquesne Industrial Intervenor	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.
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.
3/98	U-22491 (Supplemental Surrebuttal)	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Allocation of regulated and nonregulated costs, other revenue requirement issues.
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 Rebuttal	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	G&T cooperative ratemaking policy, other revenue requirement issues.

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11/98	U-23327	LA	Louisiana Public Service Commission Staff	SWEPCO, 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.
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.
7/99	U-23358	LA	Louisiana Public Service Commission Staff	Entergy Gulf States, Inc.	Affiliate transactions, cost allocations.

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Date	Case	Jurisdict.	Party	Utility	Subject
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.
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.

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Date	Case	Jurisdct.	Party	Utility	Subject
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 Intervenor	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.
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.

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Date	Case	Jurisdict.	Party	Utility	Subject
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.
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.

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Date	Case	Jurisdct.	Party	Utility	Subject
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.
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.

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Date	Case	Jurisdct.	Party	Utility	Subject
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, leveled 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.
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.

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Date	Case	Jurisdct.	Party	Utility	Subject
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.
09/05	20298-U	GA	Georgia Public Service	Atmos Energy Corp.	Affiliate transactions, cost allocations, capitalization,

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Date	Case	Jurisdct.	Party	Utility	Subject
	Panel with Victoria Taylor		Commission Adversary Staff		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 (Subdocket B)	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 program 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.

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Date	Case	Jurisdic.	Party	Utility	Subject
03/07	PUC Docket 33309	TX	Cities	AEP Texas Central Co.	Revenue requirements, including functionalization of transmission and distribution costs.
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 Supplemental 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.

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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.
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, storm damage expense and reserves, tax NOL carrybacks in accounts, ADIT, nuclear service lives and effects 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, storm damage expense and reserves, tax NOL carrybacks in accounts, ADIT, nuclear service lives and effects 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 Bond, Johnson, Thebert, Kollen Panel	GA	Georgia Public Service Commission Staff	SCANA Energy Marketing, Inc.	Rule Nisi complaint.
05/08	26837 Rebuttal Bond, Johnson, Thebert, Kollen Panel	GA	Georgia Public Service Commission Staff	SCANA Energy Marketing, Inc.	Rule Nisi complaint.
05/08	26837 Suppl Rebuttal Bond, Johnson, Thebert, Kollen Panel	GA	Georgia Public Service Commission Staff	SCANA Energy Marketing, Inc.	Rule Nisi complaint.
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.

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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 Taylor, Kollen Panel	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	2007-00564, 2007-00565, 2008-00251 2008-00252	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co., Kentucky Utilities Company	Revenue forecast, affiliate costs, ELG v ASL depreciation procedures, 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 (Sub J) Direct	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	Rebuttal				
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 Answer	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 Answer	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	FERC	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 Supplemental Rebuttal	FERC	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., Attorney General	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.

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04/10	2009-00459	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Revenue requirement issues.
04/10	2009-00548, 2009-00549	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., Entergy Operating Cos	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	SWEPCO	Fuel audit: S02 allowance expense, variable O&M expense, off-system sales margin sharing.
11/10	U-23327 Rebuttal	LA	Louisiana Public Service Commission	SWEPCO	Fuel audit: S02 allowance expense, variable O&M expense, off-system sales margin sharing.
09/10	U-31351	LA	Louisiana Public Service Commission Staff	SWEPCO and Valley Electric Membership Cooperative	Sale of Valley assets to SWEPCO 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, Potomac Edison Power Company	Merger of First Energy and Allegheny Energy.

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10/10	U-23327 Subdocket F Direct	LA	Louisiana Public Service Commission Staff	SWEPCO	AFUDC adjustments in Formula Rate Plan.
11/10	EL10-55 Rebuttal	FERC	Louisiana Public Service Commission	Entergy Services, Inc., Entergy Operating Cos	Depreciation rates and expense input effects on System Agreement tariffs.
12/10	ER10-1350 Direct	FERC	Louisiana Public Service Commission	Entergy Services, Inc. Entergy Operating Cos	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., Entergy Operating Cos	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., Entergy Arkansas, Inc.	EAI depreciation rates.
04/11	Cross-Answering				
04/11	U-23327 Subdocket E	LA	Louisiana Public Service Commission Staff	SWEPCO	Settlement, incl resolution of SO2 allowance expense, var O&M expense, sharing of OSS 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	Suppl Direct				
05/11	11-0274-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Company, 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	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.
03/12	11AL-947E Answer	CO	Climax Molybdenum Company and CF&I Steel, L.P. d/b/a Evraz Rocky Mountain Steel	Public Service Company of Colorado	Revenue requirements, including historic test year, future test year, CACJA CWIP, contra-AFUDC.
03/12	2011-00401	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Big Sandy 2 environmental retrofits and environmental surcharge recovery.
4/12	2011-00036 Direct Rehearing Supplemental Rebuttal Rehearing	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corp.	Rate case expenses, depreciation rates and expense.
04/12	10-2929-EL-UNC	OH	Ohio Energy Group	AEP Ohio Power	State compensation mechanism, CRES capacity charges, Equity Stabilization Mechanism
05/12	11-346-EL-SSO 11-348-EL-SSO	OH	Ohio Energy Group	AEP Ohio Power	State compensation mechanism, Equity Stabilization Mechanism, Retail Stability Rider.
05/12	11-4393-EL-RDR	OH	Ohio Energy Group	Duke Energy Ohio, Inc.	Incentives for over-compliance on EE/PDR mandates.

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06/12	40020	TX	Cities Served by Oncor	Lone Star Transmission, LLC	Revenue requirements, including ADIT, bonus depreciation and NOL, working capital, self insurance, depreciation rates, federal income tax expense.
07/12	120015-EI	FL	South Florida Hospital and Healthcare Association	Florida Power & Light Company	Revenue requirements, including vegetation management, nuclear outage expense, cash working capital, CWIP in rate base.
07/12	2012-00063	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corp.	Environmental retrofits, including environmental surcharge recovery.
09/12	05-UR-106	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Company	Section 1603 grants, new solar facility, payroll expenses, cost of debt.
10/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Company, Kentucky Utilities Company	Revenue requirements, including off-system sales, outage maintenance, storm damage, injuries and damages, depreciation rates and expense.
10/12	120015-EI Direct	FL	South Florida Hospital and Healthcare Association	Florida Power & Light Company	Settlement issues.
11/12	120015-EI Rebuttal	FL	South Florida Hospital and Healthcare Association	Florida Power & Light Company	Settlement issues.
10/12	40604	TX	Steering Committee of Cities Served by Oncor	Cross Texas Transmission, LLC	Policy and procedural issues, revenue requirements, including AFUDC, ADIT – bonus depreciation & NOL, incentive compensation, staffing, self-insurance, net salvage, depreciation rates and expense, income tax expense.
11/12	40627 Direct	TX	City of Austin d/b/a Austin Energy	City of Austin d/b/a Austin Energy	Rate case expenses.
12/12	40443	TX	Cities Served by SWEPCO	Southwestern Electric Power Company	Revenue requirements, including depreciation rates and service lives, O&M expenses, consolidated tax savings, CWIP in rate base, Turk plant costs.
12/12	U-29764	LA	Louisiana Public Service Commission Staff	Entergy Gulf States Louisiana, LLC and Entergy Louisiana, LLC	Termination of purchased power contracts between EGSL and ETI, Spindletop regulatory asset.
01/13	ER12-1384 Rebuttal	FERC	Louisiana Public Service Commission	Entergy Gulf States Louisiana, LLC and Entergy Louisiana, LLC	Little Gypsy 3 cancellation costs.
02/13	40627 Rebuttal	TX	City of Austin d/b/a Austin Energy	City of Austin d/b/a Austin Energy	Rate case expenses.
03/13	12-426-EL-SSO	OH	The Ohio Energy Group	The Dayton Power and Light Company	Capacity charges under state compensation mechanism, Service Stability Rider, Switching Tracker.

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04/13	12-2400-EL-UNC	OH	The Ohio Energy Group	Duke Energy Ohio, Inc.	Capacity charges under state compensation mechanism, deferrals, rider to recover deferrals.
04/13	2012-00578	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Resource plan, including acquisition of interest in Mitchell plant.
05/13	2012-00535	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corporation	Revenue requirements, excess capacity, restructuring.
06/13	12-3254-EL-UNC	OH	The Ohio Energy Group, Inc., Office of the Ohio Consumers' Counsel	Ohio Power Company	Energy auctions under CBP, including reserve prices.
07/13	2013-00144	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Biomass renewable energy purchase agreement.
07/13	2013-00221	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corporation	Agreements to provide Century Hawesville Smelter market access.
10/13	2013-00199	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corporation	Revenue requirements, excess capacity, restructuring.
12/13	2013-00413	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corporation	Agreements to provide Century Sebree Smelter market access.
01/14	ER10-1350 Direct and Answering	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Waterford 3 lease accounting and treatment in annual bandwidth filings.
02/14	U-32981	LA	Louisiana Public Service Commission	Entergy Louisiana, LLC	Montauk renewable energy PPA.
04/14	ER13-432 Direct	FERC	Louisiana Public Service Commission	Entergy Gulf States Louisiana, LLC and Entergy Louisiana, LLC	Union Pacific Settlement benefits and damages.
05/14	PUE-2013-00132	VA	HP Hood LLC	Shenandoah Valley Electric Cooperative	Market based rate; load control tariffs.
07/14	PUE-2014-00033	VA	Virginia Committee for Fair Utility Rates	Virginia Electric and Power Company	Fuel and purchased power hedge accounting, change in FAC Definitional Framework.
08/14	ER13-432 Rebuttal	FERC	Louisiana Public Service Commission	Entergy Gulf States Louisiana, LLC and Entergy Louisiana, LLC	Union Pacific Settlement benefits and damages.
08/14	2014-00134	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corporation	Requirements power sales agreements with Nebraska entities.
09/14	E-015/CN-12-1163 Direct	MN	Large Power Intervenors	Minnesota Power	Great Northern Transmission Line; cost cap; AFUDC v. current recovery; rider v. base recovery; class cost allocation.
10/14	2014-00225	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Allocation of fuel costs to off-system sales.

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10/14	ER13-1508	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Entergy service agreements and tariffs for affiliate power purchases and sales; return on equity.
10/14	14-0702-E-42T 14-0701-E-D	WV	West Virginia Energy Users Group	First Energy-Monongahela Power, Potomac Edison	Consolidated tax savings; payroll; pension, OPEB, amortization; depreciation; environmental surcharge.
11/14	E-015/CN-12-1163 Surrebuttal	MN	Large Power Intervenors	Minnesota Power	Great Northern Transmission Line; cost cap; AFUDC v. current recovery; rider v. base recovery; class allocation.
11/14	05-376-EL-UNC	OH	Ohio Energy Group	Ohio Power Company	Refund of IGCC CWIP financing cost recoveries.
11/14	14AL-0660E	CO	Climax, CF&I Steel	Public Service Company of Colorado	Historic test year v. future test year; AFUDC v. current return; CACJA rider, transmission rider; equivalent availability rider; ADIT; depreciation; royalty income; amortization.
12/14	EL14-026	SD	Black Hills Industrial Intervenors	Black Hills Power Company	Revenue requirement issues, including depreciation expense and affiliate charges.
12/14	14-1152-E-42T	WV	West Virginia Energy Users Group	AEP-Appalachian Power Company	Income taxes, payroll, pension, OPEB, deferred costs and write offs, depreciation rates, environmental projects surcharge.
01/15	9400-YO-100 Direct	WI	Wisconsin Industrial Energy Group	Wisconsin Energy Corporation	WEC acquisition of Integrys Energy Group, Inc.
01/15	14F-0336EG 14F-0404EG	CO	Development Recovery Company LLC	Public Service Company of Colorado	Line extension policies and refunds.
02/15	9400-YO-100 Rebuttal	WI	Wisconsin Industrial Energy Group	Wisconsin Energy Corporation	WEC acquisition of Integrys Energy Group, Inc.
03/15	2014-00396	KY	Kentucky Industrial Utility Customers, Inc.	AEP-Kentucky Power Company	Base, Big Sandy 2 retirement rider, environmental surcharge, and Big Sandy 1 operation rider revenue requirements, depreciation rates, financing, deferrals.
03/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Company and Louisville Gas and Electric Company	Revenue requirements, staffing and payroll, depreciation rates.
04/15	2014-00450	KY	Kentucky Industrial Utility Customers, Inc. and the Attorney General of the Commonwealth of Kentucky	AEP-Kentucky Power Company	Allocation of fuel costs between native load and off-system sales.
04/15	2014-00455	KY	Kentucky Industrial Utility Customers, Inc. and the Attorney General of the Commonwealth of Kentucky	Big Rivers Electric Corporation	Allocation of fuel costs between native load and off-system sales.

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04/15	ER2014-0370	MO	Midwest Energy Consumers' Group	Kansas City Power & Light Company	Affiliate transactions, operation and maintenance expense, management audit.
05/15	PUE-2015-00022	VA	Virginia Committee for Fair Utility Rates	Virginia Electric and Power Company	Fuel and purchased power hedge accounting; change in FAC Definitional Framework.
05/15 09/15	EL10-65 Direct, Rebuttal Complaint	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Accounting for AFUDC Debt, related ADIT.
07/15	EL10-65 Direct and Answering Consolidated Bandwidth Dockets	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Waterford 3 sale/leaseback ADIT, Bandwidth Formula.
09/15	14-1693-EL-RDR	OH	Public Utilities Commission of Ohio	Ohio Energy Group	PPA rider for charges or credits for physical hedges against market.
12/15	45188	TX	Cities Served by Oncor Electric Delivery Company	Oncor Electric Delivery Company	Hunt family acquisition of Oncor; transaction structure; income tax savings from real estate investment trust (REIT) structure; conditions.
12/15 01/16	6680-CE-176 Direct, Surrebuttal, Supplemental Rebuttal	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Power and Light Company	Need for capacity and economics of proposed Riverside Energy Center Expansion project; ratemaking conditions.
03/16 03/16 04/16 05/16 06/16	EL01-88 Remand Direct Answering Cross-Answering Rebuttal	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Bandwidth Formula: Capital structure, fuel inventory, Waterford 3 sale/leaseback, Vidalia purchased power, ADIT, Blythesville, Spindletop, River Bend AFUDC, property insurance reserve, nuclear depreciation expense.
03/16	15-1673-E-T	WV	West Virginia Energy Users Group	Appalachian Power Company	Terms and conditions of utility service for commercial and industrial customers, including security deposits.
04/16	39971 Panel Direct	GA	Georgia Public Service Commission Staff	Southern Company, AGL Resources, Georgia Power Company, Atlanta Gas Light Company	Southern Company acquisition of AGL Resources, risks, opportunities, quantification of savings, ratemaking implications, conditions, settlement.
04/16	2015-00343	KY	Office of the Attorney General	Atmos Energy Corporation	Revenue requirements, including NOL ADIT, affiliate transactions.
04/16	2016-00070	KY	Office of the Attorney General	Atmos Energy Corporation	R & D Rider.

**Expert Testimony Appearances
of
Lane Kollen
As of July 2023**

Date	Case	Jurisdict.	Party	Utility	Subject
05/16	2016-00026 2016-00027	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co., Louisville Gas & Electric Co.	Need for environmental projects, calculation of environmental surcharge rider.
05/16	16-G-0058 16-G-0059	NY	New York City	Keyspan Gas East Corp., Brooklyn Union Gas Company	Depreciation, including excess reserves, leak prone pipe.
06/16	160088-EI	FL	South Florida Hospital and Healthcare Association	Florida Power and Light Company	Fuel Adjustment Clause Incentive Mechanism re: economy sales and purchases, asset optimization.
07/16	160021-EI	FL	South Florida Hospital and Healthcare Association	Florida Power and Light Company	Revenue requirements, including capital recovery, depreciation, ADIT.
07/16	16-057-01	UT	Office of Consumer Services	Dominion Resources, Inc. / Questar Corporation	Merger, risks, harms, benefits, accounting.
08/16	15-1022-EL-UNC 16-1105-EL-UNC	OH	Ohio Energy Group	AEP Ohio Power Company	SEET earnings, effects of other pending proceedings.
9/16	2016-00162	KY	Office of the Attorney General	Columbia Gas Kentucky	Revenue requirements, O&M expense, depreciation, affiliate transactions.
09/16	E-22 Sub 519, 532, 533	NC	Nucor Steel	Dominion North Carolina Power Company	Revenue requirements, deferrals and amortizations.
09/16	15-1256-G-390P (Reopened) 16-0922-G-390P	WV	West Virginia Energy Users Group	Mountaineer Gas Company	Infrastructure rider, including NOL ADIT and other income tax normalization and calculation issues.
10/16	10-2929-EL-UNC 11-346-EL-SSO 11-348-EL-SSO 11-349-EL-SSO 11-350-EL-SSO 14-1186-EL-RDR	OH	Ohio Energy Group	AEP Ohio Power Company	State compensation mechanism, capacity cost, Retail Stability Rider deferrals, refunds, SEET.
11/16	16-0395-EL-SSO Direct	OH	Ohio Energy Group	Dayton Power & Light Company	Credit support and other riders; financial stability of Utility, holding company.
12/16	Formal Case 1139	DC	Healthcare Council of the National Capital Area	Potomac Electric Power Company	Post test year adjust, merger costs, NOL ADIT, incentive compensation, rent.
01/17	46238	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Company	Next Era acquisition of Oncor; goodwill, transaction costs, transition costs, cost deferrals, ratemaking issues.
02/17	16-0395-EL-SSO Direct (Stipulation)	OH	Ohio Energy Group	Dayton Power & Light Company	Non-unanimous stipulation re: credit support and other riders; financial stability of utility, holding company.
02/17	45414	TX	Cities of Midland, McAllen, and Colorado City	Sharyland Utilities, LP, Sharyland Distribution & Transmission Services, LLC	Income taxes, depreciation, deferred costs, affiliate expenses.

**Expert Testimony Appearances
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Date	Case	Jurisdict.	Party	Utility	Subject
03/17	2016-00370 2016-00371	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Company, Louisville Gas and Electric Company	AMS, capital expenditures, maintenance expense, amortization expense, depreciation rates and expense.
06/17	29849 (Panel with Philip Hayet)	GA	Georgia Public Service Commission Staff	Georgia Power Company	Vogtle 3 and 4 economics.
08/17	17-0296-E-PC	WV	West Virginia Energy Users Group	Monongahela Power Company, The Potomac Edison Power Company	ADIT, OPEB.
10/17	2017-00179	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Weather normalization, Rockport lease, O&M, incentive compensation, depreciation, income taxes.
10/17	2017-00287	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corporation	Fuel cost allocation to native load customers.
12/17	2017-00321	KY	Attorney General	Duke Energy Kentucky (Electric)	Revenues, depreciation, income taxes, O&M, regulatory assets, environmental surcharge rider, FERC transmission cost reconciliation rider.
12/17	29849 (Panel with Philip Hayet, Tom Newsome)	GA	Georgia Public Service Commission Staff	Georgia Power Company	Vogtle 3 and 4 economics, tax abandonment loss.
01/18	2017-00349	KY	Kentucky Attorney General	Atmos Energy Kentucky	O&M expense, depreciation, regulatory assets and amortization, Annual Review Mechanism, Pipeline Replacement Program and Rider, affiliate expenses.
06/18	18-0047	OH	Ohio Energy Group	Ohio Electric Utilities	Tax Cuts and Jobs Act. Reduction in income tax expense; amortization of excess ADIT.
07/18	T-34695	LA	LPSC Staff	Crimson Gulf, LLC	Revenues, depreciation, income taxes, O&M, ADIT.
08/18	48325	TX	Cities Served by Oncor	Oncor Electric Delivery Company	Tax Cuts and Jobs Act; amortization of excess ADIT.
08/18	48401	TX	Cities Served by TNMP	Texas-New Mexico Power Company	Revenues, payroll, income taxes, amortization of excess ADIT, capital structure.
08/18	2018-00146	KY	KIUC	Big Rivers Electric Corporation	Station Two contracts termination, regulatory asset, regulatory liability for savings
09/18	20170235-EI 20170236-EU	FL	Office of Public Counsel	Florida Power & Light Company	FP&L acquisition of City of Vero Beach municipal electric utility systems.
10/18	Direct Supplemental Direct				

**Expert Testimony Appearances
of
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Date	Case	Jurisdict.	Party	Utility	Subject
09/18	2017-370-E Direct	SC	Office of Regulatory Staff	South Carolina Electric & Gas Company and Dominion Energy, Inc.	Recovery of Summer 2 and 3 new nuclear development costs, related regulatory liabilities, securitization, NOL carryforward and ADIT, TCJA savings, merger conditions and savings.
10/18	2017-207, 305, 370-E Surrebuttal Supplemental Surrebuttal				
12/18	2018-00261	KY	Attorney General	Duke Energy Kentucky (Gas)	Revenues, O&M, regulatory assets, payroll, integrity management, incentive compensation, cash working capital.
01/19	2018-00294 2018-00295	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Company, Louisville Gas & Electric Company	AFUDC v. CWIP in rate base, transmission and distribution plant additions, capitalization, revenues generation outage expense, depreciation rates and expenses, cost of debt.
01/19	2018-00281	KY	Attorney General	Atmos Energy Corp.	AFUDC v. CWIP in rate base, ALG v. ELG depreciation rates, cash working capital, PRP Rider, forecast plant additions, forecast expenses, cost of debt, corporate cost allocation.
02/19	UD-18-17 Direct	New Orleans	Crescent City Power Users Group	Entergy New Orleans, LLC	Post-test year adjustments, storm reserve fund, NOL ADIT, FIN48 ADIT, cash working capital, depreciation, amortization, capital structure, formula rate plans, purchased power rider.
04/19	Surrebuttal and Cross-Answering				
03/19	2018-00358	KY	Attorney General	Kentucky American Water Company	Capital expenditures, cash working capital, payroll expense, incentive compensation, chemicals expense, electricity expense, water losses, rate case expense, excess deferred income taxes.
03/19	48929	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Company LLC, Sempra Energy, Sharyland Distribution & Transmission Services, L.L.C., Sharyland Utilities, L.P.	Sale, transfer, merger transactions, hold harmless and other regulatory conditions.
06/19	49421	TX	Gulf Coast Coalition of Cities	CenterPoint Energy Houston Electric	Prepaid pension asset, accrued OPEB liability, regulatory assets and liabilities, merger savings, storm damage expense, excess deferred income taxes.
07/19	49494	TX	Cities Served by AEP Texas	AEP Texas, Inc.	Plant in service, prepaid pension asset, O&M, ROW costs, incentive compensation, self-insurance expense, excess deferred income taxes.
08/19	19-G-0309 19-G-0310	NY	New York City	National Grid	Depreciation rates, net negative salvage.

**Expert Testimony Appearances
of
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Date	Case	Jurisdic.	Party	Utility	Subject
10/19	42315	GA	Atlanta Gas Light Company	Public Interest Advocacy Staff	Capital expenditures, O&M expense, prepaid pension asset, incentive compensation, merger savings, affiliate expenses, excess deferred income taxes.
10/19	45253	IN	Duke Energy Indiana	Office of Utility Consumer Counselor	Prepaid pension asset, inventories, regulatory assets and liabilities, unbilled revenues, incentive compensation, income tax expense, affiliate charges, ADIT, riders.
12/19	2019-00271	KY	Attorney General	Duke Energy Kentucky	ADIT, EDIT, CWC, payroll expense, incentive compensation expense, depreciation rates, pilot programs
05/20	202000067-EI	FL	Office of Public Counsel	Tampa Electric Company	Storm Protection Plan.
06/20	20190038-EI	FL	Office of Public Counsel	Gulf Power Company	Hurricane Michael costs.
07/20	PUR-2020-00015 Direct	VA	Old Dominion Committee for Fair Utility Rates	Appalachian Power Company	Coal Amortization Rider, storm damage, prepaid pension and OPEB assets, return on joint-use assets.
09/20	Surrebuttal				
07/20	2019-226-E Direct	SC	Office of Regulatory Staff	Dominion Energy South Carolina	Integrated Resource Plan.
09/20	Surrebuttal				
10/20	2020-00160	KY	Attorney General	Water Service Corporation of Kentucky	Return on rate base v. operating ratio.
10/20	2020-00174	KY	Attorney General and Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Rate base v. capitalization, Rockport UPA, prepaid pension and OPEB, cash working capital, incentive compensation, Rockport 2 depreciation expense, EDIT, AMI, grid modernization rider.
11/20	2020-125-E Direct	SC	Office of Regulatory Staff	Dominion Energy South Carolina	Summer 2 and 3 cancelled plant and transmission cost recovery; TCJA; regulatory assets.
12/20	Surrebuttal				
12/20	2020172-EI	FL	Office of Public Counsel	Florida Power & Light Company	Hurricane Dorian costs.
12/20	29849 (Panel with Philip Hayet, Tom Newsome)	GA	Georgia Public Service Commission Staff	Georgia Power Company	VCM23, Vogtle 3 and 4 rate impact analyses.
02/21	2019-224-E 2019-225-E Direct	SC	Office of Regulatory Staff	Duke Energy Carolinas, LLC, Duke Energy Progress, LLC	Integrated Resource Plans.
04/21	Surrebuttal				
03/21	51611	TX	Steering Committee of Cities Served by Oncor	Sharyland Utilities, L.L.C.	ADIT, capital structure, return on equity.

**Expert Testimony Appearances
of
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As of July 2023**

Date	Case	Jurisdict.	Party	Utility	Subject
03/21	2020-00349 2020-00350	KY	Attorney General and Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Company and Louisville Gas and Electric Company	Rate base v. capitalization, retired plant costs, depreciation, securitization, staffing + payroll, pension + OPEB, AML, off-system sales margins.
04/21 Direct	18-857-EL-UNC 19-1338-EL-UNC 20-1034-EL-UNC 20-1476-EL-UNC	OH	The Ohio Energy Group	First Energy Ohio Companies	Significantly Excessive Earnings Test; legacy nuclear plant costs.
07/21	Supplemental Direct				
05/21	2021-00004 Direct	KY	Attorney General and Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	CPCN for CCR/ELG Projects at Mitchell Plant.
06/21	Supplemental Direct				
06/21	29849 (Panel with Philip Hayet, Tom Newsome)	GA	Georgia Public Service Commission Staff	Georgia Power Company	VCM24, Vogtle 3 and 4 rate impact analyses.
06/21	2021-00103	KY	Attorney General and Nucor Steel Gallatin	East Kentucky Power Cooperative, Inc.	Revenues, depreciation, interest, TIER, O&M, regulatory asset.
07/21	U-35441 Direct	LA	Louisiana Public Service Commission Staff	Southwestern Electric Power Company	Revenues, O&M expense, depreciation, retirement rider.
08/21 10/21	Cross-Answering Surrebuttal				
09/21	2021-00190	KY	Attorney General	Duke Energy Kentucky	Revenues, O&M expense, depreciation, capital structure, cost of long-term debt, government mandate rider.
09/21	43838	GA	Public Interest Advocacy Staff	Georgia Power Company	Vogtle 3 base rates, NCCR rates; deferrals.
09/21	2021-00214	KY	Attorney General	Atmos Energy Corp.	NOL ADIT, working capital, affiliate expenses, amortization EDIT, capital structure, cost of debt, accelerated replacement Aldyl-A pipe, PRP Rider, Tax Act Adjustment Rider.
12/21	29849 (Panel with Philip Hayet, Tom Newsome)	GA	Georgia Public Service Commission Staff	Georgia Power Company	VCM25, Vogtle 3 and 4 rate impact analyses.
01/22	2021-00358	KY	Attorney General	Jackson Purchase Energy Corporation	Revenues, nonrecurring expenses, normalized expenses, interest expense, TIER.
01/22	2021-00421	KY	Attorney General and Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Proposed Mitchell Plant Operations and Maintenance and Ownership Agreements; sale of Mitchell Plant interest.

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As of July 2023**

Date	Case	Jurisdict.	Party	Utility	Subject
02/22	2021-00481	KY	Attorney General and Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Proposed Liberty Utilities, Inc. acquisition of Kentucky Power Company; harm to customers; conditions to mitigate harm.
03/22	2021-00407	KY	Attorney General	South Kentucky Rural Electric Cooperative Corporation	Revenues, interest income, interest expense, TIER, payroll.
03/22	U-36190	LA	Louisiana Public Service Commission Staff	Entergy Louisiana, LLC	Certification of solar resources.
04/22	Direct Cross-Answering				
05/22	20200241-EI 20210078-EI 20210079-EI	FL	Office of Public Counsel	Florida Power & Light Company, Gulf Power Company	Hurricanes Sally, Zeta, Isaias; Tropical Storm Eta, pre-planning, restoration and repair, costs, ratemaking recovery.
05/22	U-36268	LA	Louisiana Public Service Commission Staff	1803 Electric Cooperative, Inc.	Wholesale power contracts, wholesale rate tariffs, wholesale rates.
06/22	20220048-EI 20220049-EI 20220050-EI 20220051-EI	FL	Office of Public Counsel	Tampa Electric Company, Florida Public Utilities Company, Duke Energy Florida, LLC, Florida Power & Light Company	Storm Protection Plans. prudence, reasonableness, cost recovery, including deferred return on CWIP.
06/22	29849 (Panel with Philip Hayet, Tom Newsome)	GA	Georgia Public Service Commission Staff	Georgia Power Company	VCM26, Vogtle 3 and 4 rate impact analyses.
07/22	S-36267	LA	Louisiana Public Service Commission Staff	1803 Electric Cooperative, Inc.	Non-opposition to establish revolving LOC and supporting guarantees by member cooperatives.
08/22	53601	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Company, LLC	Vendor financing, customer advances, cash working capital, ADFIT and temporary differences, depreciation expense, amortization expense.
09/22	20220010-EI	FL	Office of Public Counsel	Tampa Electric Company, Florida Public Utilities Company, Duke Energy Florida, LLC, Florida Power & Light Company	Storm Protection Plan, Cost Recovery Clause, prudence, reasonableness, deferred return on CWIP.
10/22	5-UR-110	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Company	Levelized recovery of retired plan costs, securitization financing.
10/22	2022-00283	KY	Attorney General and Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Rockport deferrals and recoveries.
12/22	2022-00263	KY	Attorney General and Kentucky Industrial Utility Customers, Inc.	Kentucky Power Company	Fuel adjustment clause methodology and disallowances.

**Expert Testimony Appearances
of
Lane Kollen
As of July 2023**

Date	Case	Jurisdiction	Party	Utility	Subject
01/23	29849 (Panel with Philip Hayet, Tom Newsome)	GA	Georgia Public Service Commission Staff	Georgia Power Company	VCM27, Vogtle 3 and 4 rate impact analyses.
03/23	2022-00372	KY	Attorney General	Duke Energy Kentucky, Inc.	Cash working capital, depreciation, decommissioning, regulatory asset amortization, retired generation asset recovery, modifications to existing tariffs, proposed new tariffs.
06/23	20230023-GU	FL	Office of Public Counsel	Peoples Gas System, Inc.	Restructuring, staffing, O&M expenses, storm expense, depreciation expense, amortization of theoretical depreciation surplus.

EXHIBIT __ (LK-2)

**KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Metropolitan Housing Coalition, Kentuckians for the Commonwealth,
Kentucky Solar Energy Society and Mountain Association's
Supplemental Request for Information
Dated April 14, 2023**

Case No. 2022-00402

Question No. 60

Responding Witness: Tim A. Jones / Stuart A. Wilson

Q-60. Regarding the files "20221028_LGELoad2028" and "Load2023PlanCC_IRA_DSM_20221026" please answer the following:

- a. Please explain why the annual energy requirements in "Load2023PlanCC_IRA_DSM_20221026" fall below the energy requirements for all the weather years in "20221028_LGELoad2028".
- b. Please explain why 31 of the 49 weather years in "20221028_LGELoad2028" contain annual peak values in excess of the 2028 peak contained in "Load2023PlanCC_IRA_DSM_20221026", i.e, why is the distribution of load modeled in SERVVM distorted to the high side relative to the base load forecast?
- c. Please provide any workbooks that support your response to the previous subparts with all formulas and links intact, changing nothing.
- d. Please provide the workbooks with all formulas and links intact, changing nothing, that show how the hourly load shapes in "20221028_LGELoad2028" were updated from the 2021 IRP to the present docket.

A-60.

- a. Weather year energy requirements inadvertently double counted forecast items that are layered onto the hourly forecasts separately due to their unique load shape. These "unique forecast items" include electric vehicle growth, distributed solar growth, and most significantly the BlueOval SK load. Fortunately, this double counting did not have a material impact on the weather year summer and winter peak demands and had no effect on the Companies' optimal resource portfolio or projected revenue requirements, which are based on the Companies' load forecast under normal weather conditions and not the weather year forecasts.

The weather year forecast models are specified for each company based on load data from 2012 to 2019 and cannot account for class-specific forecast trends in the base CPCN load forecast. In addition, the weather year forecast models cannot capture the unique impact of items like electric vehicle growth, distributed solar growth, and the addition of the BlueOval SK load. Therefore, the initial weather year load forecast results are scaled so that the mean of weather year energy requirements equals a version of the normal weather CPCN load forecast that excludes these “unique forecast items,” and then these items are layered onto the forecast separately (a detailed summary of this process is attached as Attachment 1 to this response). The double counting of the BlueOval SK load occurred because the initial weather year load forecasts were inadvertently scaled to a version of the CPCN load forecast that included these unique forecast items, and then these items were effectively layered on a second time.

In the final step of the weather years process, the Companies tie the mean of the weather year summer and winter peaks to the CPCN forecast peaks through seasonal load factor adjustments that impact the distribution of peak demands but do not change total energy. Thus, the process produced a reasonable distribution of peak demands, but average weather year energy requirements and load factors were approximately 5.8% too high. The Companies did not detect this problem because an assessment of reliability and the calculation of LOLE in SERVVM is significantly focused on peak events, and the Companies’ review process was therefore focused on summer and winter peak demands, not annual energy requirements. The Companies have updated their review process to ensure this kind of error does not occur in the future.

Figure 1 compares the original and corrected ranges of peak demands and energy requirements at key steps in the weather years process. After scaling the initial weather year forecasts to equal CPCN energy requirements that exclude unique forecast items, the corrected ranges of peak demands and energy requirements are lower than the original (see “Energy Requirements Scaling” step in Figure 1). For both the original and corrected ranges, the impact of layering on the unique forecast items is the same (see “Addition of Unique Items” step in Figure 1). Finally, because of the double counting, the seasonal load factor adjustments in the original weather year forecasts are greater than in the corrected forecasts (see “Load Factor Adjustment” step in Figure 1). As a result, the corrected distributions of summer and winter peak demands are not materially different from the originals, but the corrected distribution of energy requirements is approximately 5.8% lower. Figure 2 contains the filed and corrected load duration curves for all weather years and further demonstrates that the impact of this correction is greater in non-peak hours.

Figure 1 – Weather Year Energy Requirements and Peak Demands⁷

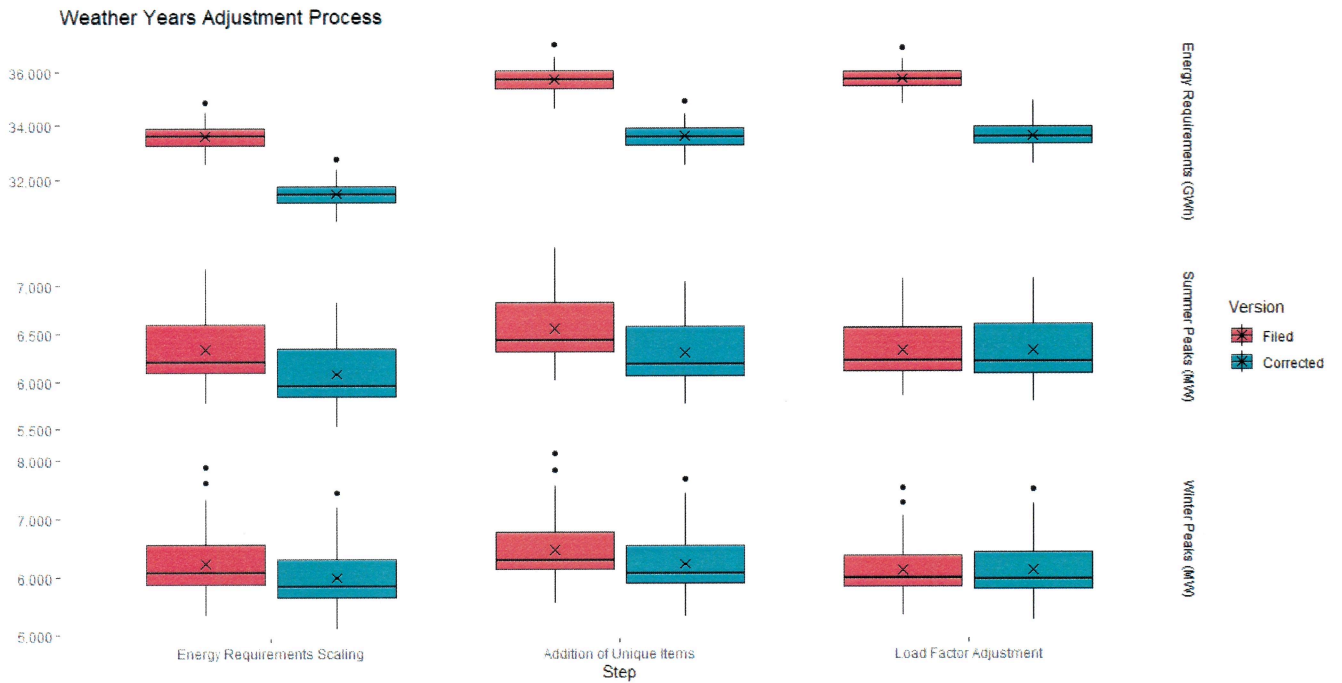
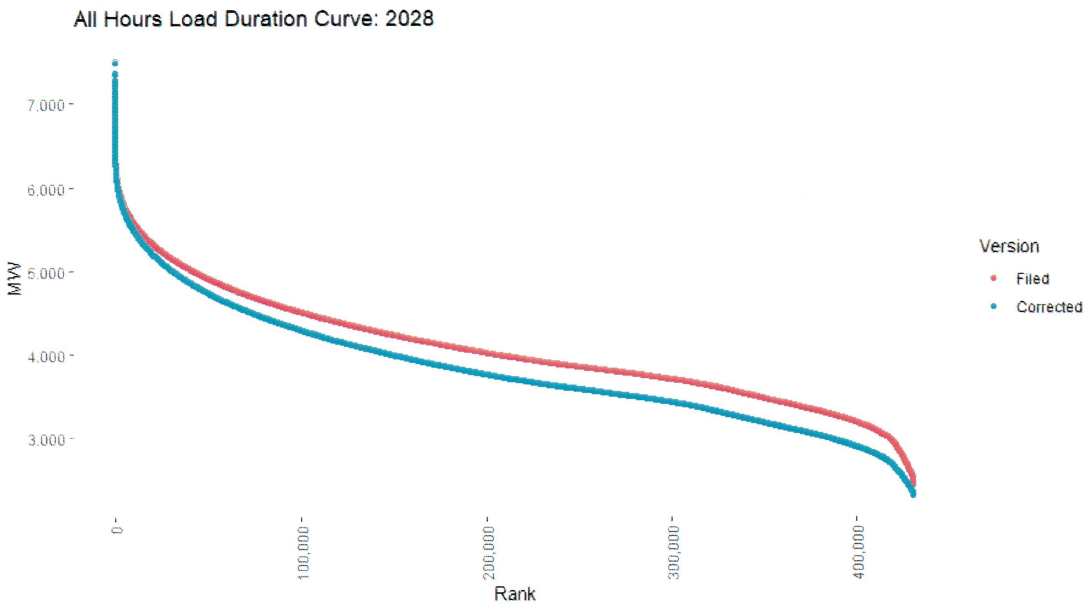


Figure 2 – All Weather Years Load Duration Curve: 2028



⁷ In Figure 1, the mean is marked with an "X."

Table 1 compares the original and corrected distributions of peak demands by quartile.⁸ The seasonal load factor adjustment has a greater impact on hourly loads that are further from the mean, and a downward adjustment, as seen in the last two steps of Figure 1 for the filed version, has the effect of compressing the distribution of peak demands. With a smaller load factor adjustment, the corrected peak demand distributions are slightly less compressed. This is why the average of the top quartile demands in the corrected distributions are slightly higher than the original distribution. These minor differences are important to understand when assessing the impact of the corrected weather year forecasts on the Companies’ analysis.

Table 1 – Weather Year Peak Demands by Quartile (MW)

Season	Quartile	Filed	Corrected	MW Change in Average Peak	% Change in Average Peak
Summer	1	6,751	6,801	50	0.74%
	2	6,361	6,369	8	0.12%
	3	6,166	6,148	-18	-0.29%
	4	6,024	5,987	-36	-0.61%
Winter	1	6,824	6,889	65	0.95%
	2	6,151	6,166	15	0.24%
	3	5,905	5,889	-17	-0.29%
	4	5,581	5,523	-58	-1.04%

Weather year load forecasts are key inputs to the Companies’ minimum reserve margin analysis, the analysis to determine capacity contributions for limited-duration resources, the Stage Three, Step Two analysis that assesses dispatchable DSM and the Brown BESS as a means of increasing reliability, the Stage Three, Step Three analysis that assesses early retirement risk for OVEC, and the analysis that estimates LOLE for an all-DSM portfolio. An updated version of Exhibit SAW-1 is provided as Attachment 2 to this response. Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection. The corrected weather year forecasts impact only selected values in Appendix C (All-DSM Portfolio Analysis), Appendix D (Reserve Margin Analysis), and the Stage Three analysis. All updates are highlighted in blue.

⁸ The 49 peaks for each season were ranked in descending order (the highest value given rank 1) and divided into quartiles of 12 with the bottom quartile containing 13 points. The value in the table represents the average of the peaks for each quartile. Values in the MW Change column may appear inaccurate due to rounding.

As noted earlier, the corrected weather year profiles had no impact on the Companies’ optimal portfolio or projected revenue requirements, which are based on the Companies’ load forecast under normal weather conditions and not the weather year forecasts. The following provides a summary of why this is true:

No Impact to Minimum Reserve Margin Targets

Minimum reserve margins are determined as the reserve margin at which an increase in load would cause the reliability and production cost benefits of adding SCCT capacity to exceed the cost of this capacity. The downward shift in the corrected weather year energy requirements reduced production costs in all weather year scenarios, but with only minor changes to the distributions of peak demands, there was only a small impact on reliability costs and no impact on the minimum reserve margin targets (i.e., the reserve margin at which SCCT capacity becomes economic).

Immaterial Impact to Capacity Contributions

Table 2 summarizes the impact of the corrected weather year forecasts on the capacity contributions for limited-duration resources. Capacity contribution for a limited-duration resource is computed as the ratio of that resource’s impact on LOLE to the impact of a like-amount of SCCT capacity. With the corrected weather year forecasts, LOLE for the Reference portfolio is lower (i.e., LOLE for the Reference portfolio is 21.32 versus 25.13), but the capacity contributions of 4-hour and 8-hour battery storage are mostly unchanged. Unlike battery storage, the capacity contribution of dispatchable DSM is notably lower because the availability of dispatchable DSM is limited to only 100 hours and the top quartile of peak demands in the corrected weather year forecasts are slightly higher. Because the updated capacity contributions are immaterially lower for battery storage and because dispatchable DSM was not selected by PLEXOS in the Stage One or Stage Two analyses, the updated capacity contributions will have no impact on the rest of the Companies’ analysis.

Table 2 – Filed and Corrected Capacity Contributions

	LOLE (Days in 10 Years)		LOLE Reduction (Days in 10 Years)		Capacity Contribution	
	Filed	Corrected	Filed	Corrected	Filed	Corrected
1: Reference	25.13	21.32	NA	NA	NA	NA
2: Reference + SCCT	3.87	3.57	21.26	17.75	NA	NA
3: Reference + 4-hr BESS	6.98	6.72	18.15	14.60	0.85	0.82
4: Reference + 8-hr BESS	5.13	4.88	20.00	16.44	0.94	0.93
5: Reference + Disp. DSM	10.49	15.14	14.64	6.18	0.69	0.35

Dispatchable DSM Remains the Most Economical Means of Enhancing Reliability

The Stage One and Two analyses and the analysis of capacity contributions summarized in Table 2 above demonstrate that dispatchable DSM is not a cost-effective means of meeting minimum reserve margin targets or customers' significant need for energy resulting from the retirement of coal units. However, at higher reserve margins where LOLE is lower and explained by fewer peak events, the limited availability of dispatchable DSM is less of a concern and dispatchable DSM continues to be a more cost-effective resource for improving reliability than SCCT or battery storage.

No Change in Conclusions to OVEC or All-DSM Analyses

As seen in Section 4.6.3 and Appendix C of the updated Exhibit SAW-1, the corrected weather year profiles have no impact on the conclusions reached regarding the implications of an early OVEC retirement or an all-DSM portfolio. The recommended portfolio will provide excellent reliability if OVEC retires early. Furthermore, with no replacement resources other than the proposed 2024-2030 DSM-EE Program Plan's dispatchable DSM programs, the Companies' LOLE is unacceptably high.

- b. For the base load forecast, the Companies model peaks by season. Under normal peak weather conditions, the annual peak is expected to occur during the summer. However, from a load risk perspective, the Companies' system is dual peaking. Thirty-one of the 49 weather years contain annual peaks in excess of the 2028 summer peak demand under normal weather conditions because a number of the annual peaks are winter peaks. When evaluated on a seasonal basis, more than 50% of summer and winter weather year peaks are less than the 2028 summer and winter peak demands under normal weather conditions. Figure 1 provided in part (a) shows that for peaks in each season of each version of the weather year forecast, the median is below the mean, supporting the statement above that more than 50% of peaks in the distributions are below the mean.
- c. See attached. Certain responsive files are too large for the Companies to upload to the Commission's website and are the subject of a Motion to Deviate being filed with these responses. Also, certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.
- d. For any confidential workpapers relating to the IRP weather years forecast, see the response to Question No. 63. The public workpapers the Companies provided in response to JI 1-3 in Case No. 2021-00393 are available at <https://highq.in/ous6sqhwi9>.

EXHIBIT __ (LK-3)

Ghent | Unit Monthly Operations

Unit : Ghent ST 2

Periods : Last 7 Years (Annual)

	2016Y	2017Y	2018Y	2019Y	2020Y	2021Y	2022Y
Operating Capacity (MW)	495.0	495.0	495.0	495.0	495.0	495.0	495.0
Net Generation (MWh)	2,970,741	2,867,721	3,275,277	2,638,164	2,498,542	2,534,622	2,210,693
Gross Generation (MWh)	3,227,670	3,122,501	3,564,582	2,873,159	2,729,739	2,762,473	2,413,463
Capacity Factor (%)	68.32	66.13	75.53	60.84	57.46	58.45	50.98
Heat Rate (Btu/kWh)	10,415	10,541	10,753	10,940	10,490	10,736	10,540
Heat Input (MMBtu)	28,302,114	26,576,098	31,241,594	25,887,122	24,926,482	26,183,411	22,745,085
Operating Time (hours)	8,021	7,993	8,291	7,224	7,750	7,329	6,288
CO2 Emissions (tons)	2,903,801	2,726,713	3,205,394	2,656,029	2,557,463	2,686,424	2,333,649
CO2 Emissions Rate (lb/MMBtu)	205.2003	205.2004	205.2004	205.2008	205.2005	205.2005	205.2003
NOX Emissions (lbs)	6,280,618	5,274,863	6,510,639	5,175,100	4,129,721	4,874,509	3,977,498
NOX Emissions Rate (lb/MMBtu)	0.2219	0.1985	0.2084	0.1999	0.1657	0.1862	0.1749
SO2 Emissions (lbs)	8,228,132	6,671,885	10,939,765	7,471,708	7,072,930	9,101,112	8,314,230
SO2 Emissions Rate (lb/MMBtu)	0.2907	0.2510	0.3502	0.2886	0.2838	0.3476	0.3655

This data is sourced from EPA's Continuous Emissions Monitoring System (CEMS) and the EIA 923 monthly and annual filings. The CEMS data is released quarterly and available for larger fossil fired facilities. The EIA 923 monthly filing represents a sampling of the annual filers and will therefore be a subset of the total filers. The annual filing has a significant lag of between 9 and 13 months dependent on the EIA.

EXHIBIT __ (LK-4)

**KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Commission Staff's First Request for Information
Dated February 17, 2023**

Case No. 2022-00402

Question No. 100

Responding Witness: Lonnie E. Bellar

Q-100. Provide the forced outage rates for each thermal generation unit in LG&E/KU's fleet over the last five years.

A-100.

Forced Outage Rates					
	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
Brown 1	14.06%	0.00%	-	-	-
Brown 2	4.27%	7.44%	-	-	-
Brown 3	12.49%	6.37%	3.25%	3.16%	5.04%
Ghent 1	1.54%	1.56%	1.20%	2.41%	1.20%
Ghent 2	1.90%	0.68%	0.61%	0.30%	0.66%
Ghent 3	4.86%	0.87%	1.12%	0.98%	0.20%
Ghent 4	1.11%	0.10%	1.97%	0.54%	5.25%
Cane Run 7	0.72%	1.04%	1.60%	0.34%	5.29%
Mill Creek 1	1.16%	2.93%	1.19%	2.56%	1.17%
Mill Creek 2	2.29%	1.80%	0.45%	4.18%	6.69%
Mill Creek 3	1.21%	3.89%	1.19%	1.03%	0.70%
Mill Creek 4	2.41%	0.75%	1.69%	2.85%	0.02%
Trimble County 1	1.88%	3.34%	1.26%	2.59%	3.92%
Trimble County 2	2.73%	7.52%	2.03%	3.01%	2.21%

EXHIBIT __ (LK-5)

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Industrial Utility Customers, Inc.'s
First Request for Information
Dated February 15, 2023

Case No. 2022-00402

Question No. 1-7

Responding Witness: Stuart A. Wilson

- Q.1-7. Please refer to SAW-1 page 23. The Company states: "PLEXOS did not select DSM or batteries in any of the fuel price cases. This likely results from the cost of these resources relative to their limited duration, making them uneconomical to achieve minimum reliability and meet the significant need for energy created by coal retirements. Also, batteries do not produce energy, but rather move it in time."
- a. For the each of the years of its planned operation, how much energy is the Brown BESS expected to supply?
 - b. For the each of the years of its planned operation, what is the all-in cost of energy per MWh expected to be supplied from the Brown BESS? The all-in cost should include capital costs, fixed and variable operating costs and the cost of the energy that charges the battery. Please provide the detail of how this calculation is made.
 - c. What is the energy conversion loss factor for the Brown BESS? For example, for every MWh supplied by the battery, how much energy is used to charge it? If there are winter/summer differences due to ambient air temperature differences please explain.
 - d. Did the PLEXOS model assume that the battery would only be charged with solar generation, or did it assume any type of charging generation including coal?
 - e. Does the Company have an estimate of the CO2 footprint of the 125 MW BESS before it begins operation? In other words, how much CO2 was produced by 1) the mining of the minerals that go into the battery; and 2) the manufacturing of the battery? If there is such an estimate, what type of electricity (e.g. coal, natural gas, wind, solar, hydro) was assumed to be used in the manufacturing of the battery?

A.1-7.

- a. See the table below. Forecasted supply varies by fuel price scenario, so results are provided for the six fuel price scenarios with no CO₂ price used in the analysis over Brown BESS’s 15-year depreciable life. Note that if cycled once per day, the battery would supply 182.5 GWh annually.

Brown BESS Forecasted Supply (GWh)

Year	Low Gas, Mid CTG Ratio	Mid Gas, Mid CTG Ratio	High Gas, Mid CTG Ratio	Low Gas, High CTG Ratio	High Gas, Low CTG Ratio	High Gas, Current CTG Ratio
2026	5.7	4.2	3.7	6.5	14.8	2.3
2027	4.8	3	9.8	6.4	36.6	30.9
2028	10.6	14.8	22.4	12	44.1	56.1
2029	6.3	8.8	21.3	6.1	51	75.6
2030	3.4	8.7	22.7	3.2	49.1	67.1
2031	4.8	8.4	20.4	4.7	42	68.7
2032	3.8	9.9	19.9	3.6	44.6	69.1
2033	4	7.8	23.4	4.1	37.3	62.4
2034	4.3	9	24	4.6	36.2	66.5
2035	4.7	10.7	28.2	6.3	44.9	67.9
2036	2.7	9.8	25.4	2.6	38.5	64.7
2037	3.4	6.9	24.6	4.8	41.7	59.4
2038	2.8	8.8	25.9	2.1	41.6	55
2039	2.4	5.6	25.1	1.7	34	65.9
2040	3.9	8.4	31.1	2.4	52.8	59.9

- b. See the table below. These values reflect the updated ITC revenue requirement calculations for Brown BESS described in response to PSC 1-47(a). The cost of the energy that charges the battery is not available, so the average annual system production cost for each fuel price scenario was used as a proxy. This calculation required adding the capital revenue requirements and operating/maintenance costs to the product of the forecasted supply and the average annual system production costs adjusted for the round-trip efficiency losses of the Brown BESS, and dividing this sum by the forecasted supply. See the response to Question No. 6(b) and part (a). The Companies are not capturing potential value for supplying generation-based ancillary services. If the battery is utilized at a higher level (e.g., cycled once per day), its all-in cost of energy will be lower.

Brown BESS All-In Cost of Energy (\$/MWh, Nominal)

Year	Low Gas, Mid CTG Ratio	Mid Gas, Mid CTG Ratio	High Gas, Mid CTG Ratio	Low Gas, High CTG Ratio	High Gas, Low CTG Ratio	High Gas, Current CTG Ratio
2026	3,819	5,178	5,876	3,352	1,499	9,438
2027	4,321	6,902	2,144	3,248	605	719
2028	1,821	1,320	892	1,613	473	392
2029	2,856	2,060	882	2,949	394	291
2030	4,969	1,968	788	5,278	388	308
2031	3,345	1,932	830	3,416	427	292
2032	4,050	1,582	819	4,274	393	284
2033	3,721	1,932	685	3,632	448	302
2034	3,346	1,624	650	3,130	447	282
2035	2,955	1,325	545	2,214	362	272
2036	4,931	1,391	580	5,120	401	276
2037	3,773	1,885	579	2,683	364	289
2038	4,392	1,430	535	5,846	355	299
2039	4,906	2,132	532	6,913	407	257
2040	2,902	1,376	427	4,695	277	269

- c. Brown BESS has a round-trip efficiency of 0.87, which means that for every 1 MWh of energy supplied by the battery, approximately 1.149 MWh (1/0.87) was used to charge it. Regarding winter/summer differences, see the response to AG 1-28(o).
- d. No. In PLEXOS and PROSYM, battery storage can be charged by any generation resource.
- e. No, the Companies do not have an estimate of the CO₂ footprint.

EXHIBIT __ (LK-6)

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's First Request for Information
Dated February 17, 2023

Case No. 2022-00402

Question No. 47

Responding Witness: Christopher M. Garrett / Stuart A. Wilson

- Q-47. Refer to the Wilson Direct Testimony, page 10–11.
- a. Explain whether LG&E/KU's project engineering group updated their solar and storage, SCCT, and NGCC proposals to account for the IRA.
 - b. If yes, explain in detail what changes the updated proposals included.
- A-47.
- a. The Companies' Project Engineering group provided the estimated costs to build and operate each of their RFP responses. The tax implications of their proposals were addressed in the Resource Assessment prepared by Generation Planning. Therefore, no updates were needed from Project Engineering.

To evaluate the two owned solar proposals, the Companies assumed a \$27.50/MWh production tax credit ("PTC") for the first 10 years of each project's operating life. To evaluate the Brown BESS proposal, the Companies assumed a 50% investment tax credit ("ITC").⁵¹ Since the case was filed, the Companies have further reviewed the accounting treatment for these tax credits and determined that there will be additional reductions to customer revenue requirements.

Regarding the PTC, the Companies determined that the PTC for the owned solar projects should be grossed up for taxes to fully reflect its impact on revenue requirements. As a result of this change, revenue requirements over the first ten years of the solar projects' life will be reduced by an additional \$9.14/MWh (see table below). This change improves the PVRR of the proposed solar assets by \$27.7 million.⁵²

⁵¹ See section 7.5 of Exhibit SAW-1.

⁵² Revenue requirements are approximately \$4.8 million per year lower for 10 years (\$4.8 million = 240 MW * 25% capacity factor * 8,760 hours/year * \$9.14/MWh).

Solar PTC: Revenue Requirement Impact (\$/MWh)

Impact of PTC on Revenue Requirements in Exhibit SAW-1 (\$/MWh)	(27.50)	
Tax Gross-up Factor	1.33	1 / (1-24.95%)
Updated Impact of PTC on Revenue Requirements (\$/MWh)	(36.64)	
Change (\$/MWh)	(9.14)	

Regarding the ITC, the Companies determined that revenue requirements should include the impact of a 50% basis reduction associated with the ITC and that the net tax benefit should be grossed up for taxes to fully reflect its impact on revenue requirements (see table below). With these changes, the nominal impact of the tax benefit on revenue requirements increases from \$135 million to \$157 million.

Brown BESS ITC (\$ millions)		
Brown BESS Cost	\$270	
ITC Reduction to Rev. Req. in Exhibit SAW-1	(135)	Cost \$270 x 50%
ITC 50% Tax Basis Reduction	17	ITC \$135 x 50% x 24.95%
Net Tax Benefit	(118)	
Tax Gross-up Factor	1.33	1 / (1-24.95%)
Updated Reduction to Rev. Req.	(157)	
Change	(22)	

Finally, the Companies completed their analysis of the Brown BESS before they determined it should be 100% owned by LG&E,⁵³ and the Companies are now assuming they will elect to opt out of the normalization requirements with respect to the BESS.⁵⁴ Accounting for the basis reduction, gross-up on ITC, LG&E ownership, and normalization opt-out improves the PVRR of the Brown BESS by \$75.8 million.

These changes impact values in Tables 17, 18, 20, 21, and 22 in Section 4.6 of Exhibit SAW-1 as well as three workpapers in Exhibit SAW-2. Updated versions of these files are attached to this response and updated values are highlighted in orange. Certain information in the updated Exhibit SAW-1 and the entirety of the information in the updated workpapers is confidential and

⁵³ The analysis of Brown BESS in Exhibit SAW-1 (Section 4.6.2) assumed a generic 65% KU / 35% LG&E ownership share based on each company's share of total energy requirements.

⁵⁴ The IRA provides an election out of ITC normalization requirements for battery storage facilities pursuant to IRC section 50(d)2, provided such election isn't prohibited by any state or regulatory authority. This election could allow utilities to provide all benefits of ITC to ratepayers.

proprietary and is being provided under seal pursuant to a petition for confidential protection.

The IRA does not impact SCCT and NGCC proposals.

- b. Not applicable.

EXHIBIT __ (LK-7)

**KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Joint Third Data Requests of the Attorney General and Kentucky
Industrial Utility Customers, Inc.
Dated May 31, 2023**

Case No. 2022-00402

Question No. 8

Responding Witness: Lonnie E. Bellar / Stuart A. Wilson

- Q-8. Refer to Ex. SAW-1 in the CPCN proceeding at 24 and Joint Application in the SB 4 proceeding at 5.
- a. Because the Companies will not have dispatch control over the referenced solar PPAs, would those PPAs be barred by SB 4?
 - b. Are the referenced solar PPAs intended to replace the generating units proposed to be retired in the SB 4 proceeding?
 - c. If the answer to subpart b., above, is “no,” are the referenced solar PPAs intended to be non-replacement (supplemental) resources?
- A-8.
- a. SB4 does not “bar” entering into solar PPAs. The Companies’ SB4 application and supporting testimony and exhibits are clear that solar PPAs are not dispatchable and therefore do not constitute “new electric generating capacity” that meets the requirements of SB4 Section 2(2)(a). The solar PPAs are intended to help hedge future natural gas price volatility and reduce exposure to possible future CO₂ emissions regulations.
 - b. No.
 - c. Yes. See the response to part (a).

EXHIBIT __ (LK-8)

**KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Commission Staff's First Request for Information
Dated February 17, 2023**

Case No. 2022-00402

Question No. 69

Responding Witness: Charles R. Schram

Q-69. Refer to the Direct Testimony of Charles Schram (Schram Direct Testimony), page 5, line 19.

- a. Describe the magnitude of the price change for the five RFP respondents who modified their proposal as a result of the IRA.
- b. Provide both the pre- and post-IRA RFP responses for the five RFP respondents who modified their proposal as a result of the IRA (or identify them in the record if already provided).
- c. Explain whether the respondents who modified their proposals gave justification for the change (i.e., identify specific programs within the IRA that would impact their cost).
- d. Confirm that the Department of Treasury has issued some initial guidance on certain federal tax credit provisions, with further guidance still pending, since the passage of the IRA. State whether that guidance is likely to affect the cost of facilities proposed in the RFP responses, and if so, explain how. Explain whether LG&E/KU will reissue the RFP or allow respondents to further adjust their bids based on that guidance

A-69.

- a. The following five offers were updated. The updated pricing did not result in a change in economics such that the Companies pursued any of the revised offers.
 1. Solar + Storage project: Energy cost reduced by \$3-\$4/MWh. Storage reduced by \$1.00-\$1.50/kW-month.
 2. Pumped hydro project: Reduced by \$2.25/kW-month.
 3. Storage-only project: Reduced by \$0.67-\$0.87/kW-month.
 4. Storage-only project: Reduced by 0.70/kW-month.
 5. Solar + Storage project: Energy cost reduced by \$11/MWh; Storage reduced by \$0.03/kW-month.

- b. See Exhibit CRS-2 for the pre-IRA RFP responses. For post-IRA updates see attached. The information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.
- c. Of the five updated offers listed in part a), the first two cited the domestic content and community energy bonus provisions of the IRA. The final three did not cite specific IRA provisions.
- d. Confirmed. The owned solar projects in Mercer County and Marion County and the Brown BESS will naturally capture and reflect the IRS regulations regarding the IRA in place at the time of their construction. Three of the four PPAs contain specific price reopener provisions and, to the extent IRA provisions are reflected in the future price of new solar PPAs, the Companies expect that the final prices from the re-opening process will reflect the then current IRS regulations. The Companies do not currently anticipate re-opening the RFP or issuing a new RFP given the need to comply with the timing of the Good Neighbor Plan.

EXHIBIT __ (LK-9)

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Attorney General's Supplemental Request for Information
Dated April 14, 2023

Case No. 2022-00402

Question No. 15

Responding Witness: Robert M. Conroy / Christopher M. Garrett

- Q-15. Reference the response to AG-DR-1-38. Confirm that the net book value as of the most recent projected retirement dates for the four units discussed therein totals \$694.3 million.
- a. Confirm that these sums will be recovered via the Companies' Retired Asset Recovery Rider (RARR), together with weighted average costs of capital (WACC).
 - b. Provide the amortization period that will be applied to the recovery of these funds through the RARR.
 - c. Confirm that costs of decommissioning, and demolition of the four plants will also be recovered through the RARR.
 - d. Confirm that the costs of the four plants recovered in base revenues will be credited to any recoveries through the RARR until base rates are reset in a future base rate case proceeding. If this is not the case, then explain how the Companies will ensure that: i) customers will not pay twice for the return of and on the rate base investment in the four plants, and ii) customers will timely receive the benefit of the reduction in non-fuel and non-depreciation operating expenses after the plants are retired.
 - e. Based on the WACC charges that will be applied over the amortization period, provide the total known costs that will be passed through to ratepayers as of the final year for the amortization period. Provide the support for your response in Excel live format with all formulas intact.
- A-15. Confirmed.
- a. The applicable retirement costs (including the associated carrying costs calculated using the companies' weighted average cost of capital) for Mill Creek Unit 1, Mill Creek Unit 2 and Brown Unit 3 will be recovered via the

RARR as specified in the Stipulation and established in the Orders in Case Nos. 2020-00349 and 2020-00350. With regards to Ghent Unit 2, the specific rate recovery methodology for the associated retirement costs has not been established at this time. The ultimate retirement costs to be recovered through the RARR or other rate recovery will not be known until the units are retired. Furthermore, the \$694.3 million is an *estimate* of the remaining net book values at the dates of projected retirements and does not include any associated decommissioning costs.

- b. The RARR provides for a 10-year amortization period from the retirement date of the unit.
- c. The RARR provides for the recovery of decommissioning and demolition costs. See the response to part (a) for additional information.
- d. As agreed to in the Stipulation Section 5.3 (C), the RARR includes a credit for the depreciation expense and rate of return component for each retired unit embedded in base rates, but no credit for any other expense embedded in base rates.
- e. See attachment being provided in Excel format.