**COMMONWEALTH OF KENTUCKY**

**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

| | | |
|---|---|---|
| **ELECTRONIC 2024 JOINT INTEGRATED RESOURCE PLAN OF LOUISVILLE GAS AND ELECTRIC COMPANY AND KENTUCKY UTILITIES COMPANY** | **)** **)** **)** **)** | **CASE NO. 2024-00326** |

# RESPONSE OF LOUISVILLE GAS AND ELECTRIC COMPANY AND KENTUCKY UTILITIES COMPANY TO THE KENTUCKY INDUSTRIAL UTILITY CUSTOMERS' SECOND SET OF DATA REQUESTS FOR INFORMATION DATED JANUARY 22, 2025

**FILED: February 11, 2025**

**VERIFICATION**

**COMMONWEALTH OF KENTUCKY** )
)
**COUNTY OF JEFFERSON** )

The undersigned, **Robert M. Conroy**, being duly sworn, deposes and says that he is Vice President, State Regulation and Rates, for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

**Robert M. Conroy**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 5 day of February 2025.

Notary Public

Notary Public ID No. KYNP61560

My Commission Expires:

November 9, 2026

TAMMY J. ELZY
NOTARY PUBLIC
ID # KYNP61560
COMM EXPIRES 11/09/2026
STATE AT LARGE, KENTUCKY

**VERIFICATION**

**COMMONWEALTH OF KENTUCKY )**
**)**
**COUNTY OF JEFFERSON )**

The undersigned, **Michael S. Sebourn**, being duly sworn, deposes and says that he is Sr. Manager – Generation Planning for LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

Michael S. Sebourn

**Michael S. Sebourn**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 5th day of February 2025.

Caroline J. Davison

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

**VERIFICATION**

**COMMONWEALTH OF KENTUCKY )**
**)**
**COUNTY OF JEFFERSON )**

The undersigned, **Stuart A. Wilson**, being duly sworn, deposes and says that he is Director, Energy Planning, Analysis & Forecasting for LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

**Stuart A. Wilson**

Subscribed and sworn to before me, a Notary Public in and before said County an State, this 5th day of February 2025.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

CAROLINE J. DAVISON
COMM EXPIRES
01/22/2027
NOTARY
PUBLIC
ID # KYNP63286
STATE AT LARGE, KENTUCKY

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

**Response to Kentucky Industrial Utility Customers' Second Set of Data Requests for Information**
**Dated January 22, 2025**

**Case No. 2024-00326**

**Question No. 2-1**

**Responding Witness: Michael S. Sebourn / Stuart A. Wilson**

Q.2-1. Refer to IRP Table 9-1 and the Companies responses to KIUC 1-3 and KIUC 1-10. Please confirm that the Company's preferred plan and reported revenue requirements in table 9-1 reflects build case E01 (Low Gas, medium coal to gas ratio fuel input build plan) optimized under an ELG scenario but assessed under a MGMR fuel scenario. If not, please describe the assumptions reflected in Table 9-1.

A.2-1. Not confirmed. The Companies' Recommended Plan includes the resources in the least-cost resource plan for the Mid Load, Ozone NAAQS + ELG, Solar Cost Sensitivity scenario shown in Table 29 of the Resource Assessment in Vol. III of the IRP, but as stated in Section 4.5 of the Resource Assessment, the Companies started with this resource plan and modified it to (1) support the potential for high economic development load growth and $CO_2$ regulations and (2) have no regrets should high load or $CO_2$ regulations not come to fruition. Specifically, the additions of the Ghent 2 SCR and 400 MW of battery storage were accelerated to 2028, the addition of the second NGCC was accelerated to 2031, and the retirement of Brown 3 was deferred to 2035. In addition, 500 MW of solar was added in 2035 after prices fall to hedge natural gas price volatility and future $CO_2$ regulation risk.

Among the resource plans shown in Table 20 of the Resource Assessment for the Mid Load, Ozone NAAQS + ELG, Solar Cost Sensitivity scenario, the least-cost resource plan on average across all fuel scenarios is either the Mid Gas, Mid CTG plan (E02) or the Low Gas, High CTG plan (E04), which are identical. The Low Gas, Mid CTG plan (E01) is identical through 2039, but the Companies ran PLEXOS through 2050, and this plan has slight differences beyond 2039 when compared to the Mid Gas, Mid CTG (E02) and Low Gas, High CTG (E04) plans. The Companies assessed the Recommended Plan in the MGMR fuel scenario for purposes of developing Table 9-1.

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**Question No. 2-2**

**Responding Witness: Michael S. Sebourn**

Q.2-2. Refer to page 5-25 of the IRP that states, "Table 5-3 contains the least-cost resource plans across all fuel scenarios for these two load and environmental scenarios." Do the Companies imply that under a E01 (LGMR) and E02 (MGMR) build plans under the "03_ELG" environmental scenario, there is no difference in the build plans? Please explain.

A.2-2. No. For the Mid Load, Ozone NAAQS + ELG, Solar Cost Sensitivity scenario, the same resource plan was developed in PLEXOS for the E02 (MGMR) and E04 (LGHR) fuel price scenarios (see Table 20 of the Resource Assessment), and this plan is the least-cost plan on average across all fuel scenarios. See the response to Question No. 1 regarding differences between the E01 (LGMR) and E02 (MGMR) resource plans. For the High Load, Ozone NAAQS + ELG scenario, the same resource plan was developed in PLEXOS for the Low Gas, Mid CTG (E01) and Low Gas, High CTG (E04) fuel price scenario (see Table 19 of the Resource Assessment), and this plan is the least-cost plan on average across all fuel scenarios.

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**Case No. 2024-00326**

**Question No. 2-3**

**Responding Witness: Michael S. Sebourn / Stuart A. Wilson**

Q.2-3. Comparing "CONFIDENTIAL_20241001_FinancialModel_05_RefCase_0328.xlsx" and "CONFIDENTIAL_20241001_FinancialModel_03_ELG_0328.xlsx"

a. Confirm that the Reference Case Financial model (05_RefCase) is intended to reflect plan E01, under MGMR fuel assumptions, and ELG scenarios as found in Financial Model 03_ELG. If not, please explain which full financial model should match to 05_Ref Case.

b. Did the Companies run the Ref Case/Preferred Plan under the various fuel and environmental scenarios in order to compare its performance under various futures? If so, please provide the results of such analysis. If not, please explain why not.

c. Please explain why the "05_RefCase" model only shows 16 years (2024-2039) whereas the other financial models appear to reflect 26 years (2025-2050).

d. Please explain the unit retirement assumptions for BR3 in the 03_ELG model (2030 for E01 and 2031 for E02) compared to 2035 for the 05_Ref Case model.

e. Are unit retirements determined economically though the capacity expansion plan model or forced into specific years? Please explain.

A.2-3.

a. Not confirmed. See the response to Question No. 1.

b. No. The Companies developed the Recommended Plan using the output of earlier optimization steps across numerous load, environmental, and fuel price scenarios, but it focused on the Ozone NAAQS + ELG scenario, which was reasonable at the time the Companies performed the 2024 IRP analysis and filed the IRP in October 2024. Since then, a number of

potentially impactful events have occurred, including the election of a new presidential administration and a change in control of the U.S. Senate. This highlights the importance of understanding that, like all IRPs, the 2024 IRP was a planning exercise at a particular moment in time that contemplated possible resource decisions across a 15-year horizon. Most of those decisions do not have to be made in the near term and could change, in part because the IRP necessarily depends primarily on hypothetical resource costs rather than actually available resource options actionable in the near term.

c. As stated in the response to KIUC 1-10(a), the referenced file was developed solely to populate tables in Volume I pertaining to the Recommended Plan, such as annual revenue requirements for Table 8-10 and Table 9-1. As a result, the file is focused only on the IRP planning period (2024-2039) and one fuel price scenario (Mid Gas, Mid CTG). The other financial models include data through 2050, the period over which resource plans were developed in PLEXOS.

d. The Brown 3 unit retirement dates of 2030 (for Mid Load, Solar Cost Sensitivity) and 2031 (for High Load) reflect the economic unit retirements in the resource plans developed by PLEXOS. The Brown 3 retirement date of 2035 in the Recommended Resource Plan reflects the deferral of Brown 3's retirement to support the potential for high economic development load growth, as noted in Section 4.5 of the Resource Assessment in Vol. III of the IRP.

e. See the response to part (d). Except the deferral of the Brown 3 retirement in the Recommended Plan, all unit retirements are determined economically using PLEXOS.

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**Response to Kentucky Industrial Utility Customers' Second Set of Data Requests for Information**
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**Question No. 2-4**

**Responding Witness: Michael S. Sebourn / Stuart A. Wilson**

Q.2-4. Refer to the file, "CONFIDENTIAL_20241001_FinancialModel_05_RefCase_0328.xlsx "

f. Did the Companies run the reference case (05_Ref) for the comparable study duration through 2050? If so, please provide the financial model results or identify where they can be found in the Company's workpapers. If not, please explain why not.

g. Why is terminal value so much smaller when comparing the 05_ref to other cases? Is this a function of the shorter study period? Please explain.

A.2-4.

f. No. See the response to Question No. 3(c).

g. See the response to Question No. 3(c). Terminal value is an input to the NPVRR calculation, but the referenced file is not configured to compute NPVRR. Thus, the terminal value in the referenced file is not comparable to the terminal value in other financial models, which are configured to compute NPVRR.

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**Case No. 2024-00326**

**Question No. 2-5**

**Responding Witness: Robert M. Conroy**

Q.2-5. Refer to provided response to KIUC 1-2 part j and discussion related to service under Tariff RTS:

h. Confirm that the tariff includes language regarding contract term, "Company, however, may require a longer fixed term of contract and termination notice because of conditions associated with the Customer's requirements for service."

i. What term is the company requiring for new (data center) customers taking service under RTS and how was such a term length determined? Please explain.

j. What termination notice is the Company requiring for new (data center) customers taking service under RTS and how was such a requirement determined? Please explain.

A.2-5.

h. Confirmed.

i. Each customer is evaluated on an individual basis. The term is based on various metrics such as the customer's credit rating, customer's contribution to fixed cost, and cost of infrastructure deployed to serve, amongst other criteria. Therefore, the Companies have not predetermined the length of contract or type of contract for new data center customers.

j. See response to part (i).