COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND SITE COMPATIBILITY CERTIFICATES	))))))	**CASE NO. 2025-00045**

RESPONSE OF KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS AND ELECTRIC COMPANY TO THE JOINT MOTION OF KENTUCKIANS FOR THE COMMONWEALTH, KENTUCKY SOLAR ENERGY SOCIETY, METROPOLITAN HOUSING COALITION, AND MOUNTAIN ASSOCIATION'S INITIAL REQUEST FOR INFORMATION DATED MARCH 28, 2025

FILED: April 17, 2025

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Lonnie E. Bellar**, being duly sworn, deposes and says that he is Senior Vice President Engineering and Construction for PPL Services Corporation and he provides services to Louisville Gas and Electric Company and Kentucky Utilities 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.

Lonnie E. Bellar

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 10th day of April 2025.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

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

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **John Bevington**, being duly sworn, deposes and says that he is Senior Director – Business and Economic Development for PPL Services Corporation and he provides services to Louisville Gas and Electric Company and Kentucky Utilities 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.

John Bevington

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 9th day of April 2025.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

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 9th day of April 2025.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Christopher M. Garrett**, being duly sworn, deposes and says that he is Vice President – Financial Strategy & Chief Risk Officer for PPL Services Corporation and he provides services to Kentucky Utilities Company and Louisville Gas and Electric 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.

Christopher M. Garrett

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 14th day of April 2025.

Notary Public

Notary Public ID No. KYNP61560

My Commission Expires:

November 9, 2026

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

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Philip A. Imber**, being duly sworn, deposes and says that he is Director – Environmental Compliance for PPL Services Corporation and he provides services to Louisville Gas and Electric Company and Kentucky Utilities 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.

Philip A. Imber

Philip A. Imber

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 10th day of April 2025.

Caroline J. Davison

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

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Lana Isaacson**, being duly sworn, deposes and says that she is Manager – Energy Efficiency Programs for LG&E and KU Services Company, and that she has personal knowledge of the matters set forth in the responses for which she is identified as the witness, and the answers contained therein are true and correct to the best of her information, knowledge, and belief.

Lana Isaacson

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 9th day of April 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

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Tim A. Jones**, being duly sworn, deposes and says that he is Senior Manager – Sales Analysis and 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.

Tim A. Jones

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 11th day of April 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

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Charles R. Schram**, being duly sworn, deposes and says that he is Vice President –Energy Supply and Analysis 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.

Charles R. Schram

Charles R. Schram

Subscribed and sworn to before me, a Notary Public in and before said County and State this 16th day of April 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, **David L. Tummonds**, being duly sworn, deposes and says that he is Senior Director - Project Engineering 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.

David L. Tummonds

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 16th day of April 2025.

Notary Public

Notary Public, ID No. KYNP45977

My Commission Expires:

April 1, 2028

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Stuart A. Wilson**, being duly sworn, deposes and says that he is Director – Power Supply 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 and State, this 14th day of April 2025.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.1

Responding Witness: Robert M. Conroy

Q-1.1. Provide all LG&E-KU responses to data requests from all parties in this proceeding, including confidential responses. Continue to provide any such documentation, until this docket is closed, on a regular basis.

A-1.1. Under 807 KAR 5:001 Section 8, the Companies requested, and the Commission approved, the use of electronic filing procedures in this proceeding. On March 28, 2025, the Joint Intervenors consented to the use of those procedures. All documents are filed electronically and provided to all parties of record. On April 3, 2025, the Joint Intervenors and the Companies executed a confidentiality agreement and the Joint Intervenors were granted access to an encrypted file-share site to access the confidential information and public files.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.2

Responding Witness: Stuart A. Wilson

Q-1.2. To the extent not provided elsewhere, please provide any modeling, including all inputs and outputs, conducted by the Companies related to the proposed projects, including any analysis of alternatives, any capacity expansion, resource optimization, or production cost modeling.

A-1.2. All modeling documentation has already been provided.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.3

Responding Witness: Robert M. Conroy

Q-1.3. Have the Companies attempted to estimate the incremental rate impacts should it proceed with each of the proposed CPCN projects? If so, please produce each such estimate, including supporting documentation and workpapers.

A-1.3. See the response to PSC 1-104 part a. See also the response to PSC 1-96.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.4

Responding Witness: Stuart A. Wilson

Q-1.4. Have the Companies attempted to estimate the incremental revenue requirement impact should it proceed with each of the proposed CPCN projects? If so, please produce each such estimate, including supporting documentation and workpapers.

A-1.4. Revenue requirements excluding variable fuel in the first full year of operation for each project are listed in the table below. For NGCCs, the values include firm gas transportation costs.

Revenue Requirements Excluding Variable Fuel in First Full Year of Operation ($ Millions)

Proposed Project	Assumed In-Service Date	First Full Year of Operation	Revenue Requirement Excluding Variable Fuel in First Full Year of Operation ($M)
Brown 12	6/1/2030	2031	191
Mill Creek 6	6/1/2031	2032	202
Cane Run BESS[1]	3/1/2028	2029	68
Ghent 2 SCR	3/1/2028	2029	29

The work papers for this response are attached. The information is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

[1] Revenue requirements for Cane Run BESS reflect the assumed 50% ITC.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.5

Responding Witness: John Bevington

Q-1.5. Please refer to the Direct Testimony of Lonnie E. Bellar, p. 3, lines 13-15. For each of the referenced potential data center projects and economic development projects in the economic development queue, specify and provide evidence of:

a. Whether and the degree to which the potential customer has secured control of the land where the project would be located, including whether the potential customer has an option on the land, has leased the land, has purchased the land, or has attempted to secure control of the land through another means;

b. Whether the potential customer has submitted a Request for Service, entered into a Service Agreement, entered into an engineering, procurement, and contraction ("EPC") agreement, or signed any other contract with the Companies;

c. Whether any studies, including Engineering Studies, have been conducted by, for, or on the potential customer;

d. Whether any transmission service requests ("TSRs") have been submitted;

e. Whether any construction, water use, or air quality permit applications have been submitted;

f. Any efforts taken to determine whether the potential customer has submitted the same project to another utility's economic development queue;

g. Any other efforts by LG&E-KU to assess the likelihood of the potential customer completing development of the project in LG&E-KU's service territory;

h. The identity of the potential ratepayer;

i. The planned or intended use of the data center or economic development project, to the extent known, including whether a data center would be used for artificial intelligence training, artificial intelligence training, or cryptocurrency mining;

j. Whether the project was submitted by a data center operator or a company that would lease a site to a data center operator;

k. Whether the project was submitted by the federal government.

A-1.5.

a. See the responses to PSC 1-17(a) and AG-KIUC 1-33(a). The pipeline of economic development projects and activities includes 122 projects at the time of this response and includes commercial developments, existing customer expansion opportunities, possible location of new manufacturing or logistics facilities, and data centers. While the Companies do not formally track the real estate perspective of all projects in the queue, the Companies actively work to qualify the validity of projects in a variety of ways including spending time with the projects and the representatives involved, investigating the potential customer behind the project if known, and asking questions about site control if it is not readily apparent what the site and real estate situations are related to the projects.

b. The Companies have agreements with the Camp Ground Road data center project and a manufacturing project referred to as Project Shelby. The agreement for the Camp Ground Road project was provided confidentially as an attachment to SC 1-12(c)(i) in Case No. 2024-00326. Attached as a separate file is the agreement for Project Shelby. The attachment is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection. See also the attachment being provided in response to AG-KIUC 1-33(a); all Announced projects have a signed a contract for electric service.

c. See Case No. 2024-00326, responses to JI 2-16 and 2-25.

d. See the response to AG-KIUC 1-45(a).

e. This information is not tracked by the Companies.

f. It is common for economic development projects to evaluate multiple communities and states as they work to find the most suitable location for operations. As projects move closer to deciding to operate in the Companies' service territories, the economic development team modifies the project stage as referenced in PSC 1-18 (c). As the project moves

through the various stages, the probability that the project will locate in the Companies' service territory increases.

g. See the responses to PSC 1-18(c) and AG-KIUC 1-33(a), 1-35(a) and (b), and 1-36(a).

h. For some economic development projects, the client identity is known and for some it is not. Some companies wish to evaluate multiple states and communities to find the best fit for their long-term success and they want to do that confidentially due to sensitivities with the market, an existing employee base or other factors. Unless otherwise known in the public domain, the Companies have a duty to uphold the confidentiality of the clients they are working with until such a time as the clients are willing to share, or have already shared their identity.

i. Specific to data center projects being worked by the Companies, see the response to PSC 1-28(a). There are no cryptocurrency projects in the economic development pipeline currently. For all other economic development projects, the intended uses are varied and include manufacturing, commercial projects, and projects that provide public benefit such as universities and hospitals.

j. The Companies have received requests for data centers from both developers that would lease or sell a site to a data center operator and actual data center companies.

k. The federal government has not submitted any of the projects in the Companies' current economic development pipeline.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.6

Responding Witness: John Bevington

Q-1.6. For any prospective data center customers that have submitted TSRs to the Companies, please provide:

a. The TSR;

b. What year the TSR was submitted;

c. For what year of implementation was the TSR submitted;

d. How many MWs of transmission service have been requested; and

e. Whether the TSR is active, has lapsed, or has been withdrawn.

A-1.6.

a. See the attached TSRs being provided as separate files. The information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential information.

b. See the response to AG-KIUC 1-45(a).

c. See the response to AG-KIUC 1-45(a).

d. See the response to AG-KIUC 1-45(a).

e. See the response to AG-KIUC 1-45(a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.7

Responding Witness: John Bevington

Q-1.7. For any prospective data centers customers that have signed EPC agreements with the Companies, provide:

a. The EPC agreement;

b. What year the EPC agreement was signed;

c. For what year of implementation the EPC agreement was signed;

d. How many MWs of demand are anticipated.

A-1.7.

a. The Companies have executed only one EPC agreement for a data center project. See the response in Case No. 2024-00326, SC 1-12(c)(i).

b. 2024.

c. The Companies assume that by "implementation" the question is requesting the year in which work will be initiated under the terms of the EPC agreement. If so, the answer is 2024.

d. 402 MW.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.8

Responding Witness: Lonnie E. Bellar

Q-1.8. With respect to the addition of large loads to the Companies' system please answer the following:

a. Are power quality assessments being conducted, such as evaluating voltage dips, harmonics, and flicker resulting from large load switching?

b. Are electromagnetic interference (EMI) studies included to assess potential impacts on nearby communications infrastructure, controls, or protection systems?

c. How are transient recovery voltage (TRV) and temporary overvoltage (TOV) events modeled and mitigated?

d. Are model validations and hardware-in-the-loop simulations being considered for loads with high variability or fast ramping profiles?

A-1.8.

a. The Companies perform power quality assessments for faults on the transmission system, not for large load switching.

b. The Companies do not perform EMI studies.

c. Transient recovery voltage (TRV) and temporary overvoltage (TOV) events are modeled through our standard stability studies using criteria outlined in our Planning Guidelines, Sections 8.3.6 and 8.3.7, which are posted on OASIS.

d. The Companies are considering model validations for such loads but have not completed such validations or simulations for these loads.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.9

Responding Witness: Charles R. Schram

Q-1.9. Please refer to the Direct Testimony of Lonnie E. Bellar, p. 5, lines 1-5, and the Direct Testimony of Charles R. Schram, p. 6, lines 3-7.

a. Explain how the Companies adjusted for the departed KU municipal customers in calculating the January 22, 2025 peak's equivalence to the Companies' 2014 Polar Vortex peak; and

b. Explain how the Companies adjusted for the Companies' load shedding in calculating the January 22, 2025 peak's equivalence to the Companies' December 2022 Winter Storm Elliot peak.

A-1.9.

a. The Companies have hourly load for the departed municipal customers. Therefore, the Companies removed the departed municipal customers' load from energy requirements in history (since 2010) to calculate historical hourly load had the municipal customers not been on the system at that time.

b. Although the Companies' maximum load shed during Winter Storm Elliott on December 23, 2022, was 317 MW, the Companies estimated the integrated hourly load shed at the time of the 6,407 MW hourly peak was near zero (0.4 MW). However, the following hour's load of 6,223 MW was reduced by CSR (144 MW estimate) and other load shedding (259 MW). Adding these amounts together results in an estimated total of 6,626 MW, which is less than the 6,814 MW peak experienced on January 22, 2025.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.10

Responding Witness: Charles R. Schram

Q-1.10. Please refer to the Direct Testimony of Lonnie E. Bellar, p. 5 lines 5-9 and the Direct Testimony of Charles R. Schram, p. 7, line 20 to p. 8 line 2.

a. Define the Companies' contingency reserve obligation under their reserve sharing agreement with the Tennessee Valley Authority, including all applicable Transmission Reliability Margins; and

b. Produce the Companies' reserve sharing agreement with the Tennessee Valley Authority and all supporting agreements.

A-1.10.

a. The Companies' current contingency reserve obligation is 230 MW. There is no applicable Transmission Reliability Margin associated with the contingency reserve sharing agreement.

b. See the response to AG-KIUC 1-25(a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.11

Responding Witness: John Bevington

Q-1.11. Please refer to the Direct Testimony of Lonnie E. Bellar, p. 5, lines 9-14. Describe the referenced 19.4 MW customer expansion.

A-1.11. The 19.4 MW expansion is at North American Stainless and includes a new cold rolling mill, roll grinders, an extensive upgrade of its annealing and pickling lines to support the new rolling mill, a new temper mill, and the expansion of the Melt Shop Building to include a 400-metric ton crane.[2]

[2] https://www.northamericanstainless.com/2023/01/26/nas-announces-244-million-expansion/.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.12

Responding Witness: Lonnie E. Bellar / Tim A. Jones / Charles R. Schram

Q-1.12. Please refer to the Direct Testimony of Lonnie E. Bellar, p. 6, lines 11-14. Describe any efforts that the Companies are taking now to assess and address potential resource needs beyond 2032.

A-1.12. See the responses to PSC 1-1(a) and (c) and 1-25(b).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.13

Responding Witness: Lonnie E. Bellar / David L. Tummonds

Q-1.13. Please refer to the Direct Testimony of Lonnie E. Bellar, p. 7, lines 8-14. Account for each of the factors responsible for the difference between the original estimated capital cost for Mill Creek 5 ($662 million) and the current estimated completion cost of $913.4 million, including the specific cost increase each factor is responsible for and when the Companies became aware of each specific cost increase.

A-1.13. The majority (95.5%) of the explanation for the referenced price increase was explained in the Case No. 2022-00402 post-hearing data request response to JI 4-1. For the reasons noted therein, the expected total project costs increased from $662.4 million to $902.2 million following receipt of the OEM and EPC consortium bids, clarification of those bids, final negotiation, and ultimate execution of the consortium contract with GE Vernova and TIC. The timing of this shift occurred between the time of bid receipt (September 14, 2023) and contract execution (February 29, 2024). Since February 29, 2024, the remainder (4.5%) of the price increase explanation consists of the following:

Item	Aware as of:	Impact ($ millions)
Condensate Polisher (add to scope for reliability improvement)	5/2025	5.0
Incremental Site Grading (excusable event)	9/2024	3.4
Gas Line Easement (final negotiated price)	1/2025	1.7
Additional of Load Commutated Inverter (LCI) Disconnect (Safety/Maintenance)	11/2024	0.5
Sulfate Concentration requiring concrete upgrade	9/2024	0.1
Addition of Spare Generator Step-Up (GSU) Transformer Considerations	11/2024	0.1
All Other	Various	0.4
TOTAL		11.2

The following table consolidates the price changes by major project component from initial estimate in Case No. 2022-00402 (in $ millions):

Project Component	Submission	Contract Signed	Current
EPC	385.8	615.5	626.7
OEM	203.8	219.5	219.5
Owner's Indirect	72.8	67.3	67.3
TOTAL	662.4	902.2	913.4

The current total cost ($913.4 million) represents a 1.2% increase above the project total last evaluated in Case No. 2022-00204.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.14

Responding Witness: David L. Tummonds

Q-1.14. Please refer to the Direct Testimony of Lonnie E. Bellar, p. 7, line 15 to p. 8 line 1.

a. Produce the best current estimate of the final completion cost for the Brown BESS.

b. If the current estimate of the final completion cost for the Brown BESS differs from the original estimated capital cost of $270 million, account for each of the factors responsible for the difference in cost, including the specific cost increase or decrease each factor is responsible for.

c. Produce the referenced material procurement contracts.

d. Produce an estimate of costs to be contained in the referenced engineering, procurement, and construction ("EPC") contracts, if an estimate exists.

A-1.14.

a. See the response to AG-KIUC 30(d).

b. Not applicable.

c. See the response to AG-KIUC 30(e).

d. See the response to AG-KIUC 30(d).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.15

Responding Witness: Lonnie E. Bellar / David L. Tummonds / Stuart A. Wilson

Q-1.15. Please refer to the Direct Testimony of Lonnie E. Bellar, p. 8, lines 1-4.

a. Describe how the Companies track general cost volatility associated with import tariff changes, raw materials, installation labor, and long lead electrical equipment, as well as specific cost volatility associated with lithium in the case of batteries.

b. Produce the Companies' current and historic data pertaining to cost volatility associated with import tariff changes, raw materials, installation labor, and long lead electrical equipment, as well as specific cost volatility associated with lithium in the case of batteries.

c. Produce any modeling that the Companies have conducted, including all modeling input and output files, workpapers, workbooks, and other documents used in such modeling, pertaining to cost volatility associated with import tariff changes, raw materials, installation labor, and long lead electrical equipment, as well as specific cost volatility associated with lithium in the case of batteries.

A-1.15.

a. The Companies track the referenced variables via a combination of discussion with Owner's Engineers and OEM providers. The Companies then target and execute specific decision points based on those discussions.

b. The Companies do not maintain records of these variables outside of purchase orders for other similar but much smaller installations. However, these previous installations have differed substantively in size.

c. The Companies do not model the referenced cost volatility. See also the response to AG-KIUC 1-18, in which the Companies evaluated a case where only the capital cost of NGCC and SCCT is 10% higher than currently

assumed (i.e., this case essentially increases the NGCC and SCCT contingency from 10% to 20%).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.16

Responding Witness: Lonnie E. Bellar / David L. Tummonds

Q-1.16. Please refer to the Direct Testimony of Lonnie E. Bellar, p. 8, lines 7-14.

a. Reconcile lines 8-9 ("The current estimated completion cost is $243.0 million") with lines 11-14 ("The Companies . . . currently estimate that project costs may increase from the noted estimate") and provide an updated estimated completion cost that accounts for anticipated increased project costs.

b. Describe each of the project costs that the Companies expect to increase, including how much the Companies anticipate each cost to increase.

c. Describe how the Companies track cost volatility associated with solar panel supply.

d. Produce the Companies' current and historic data pertaining to cost volatility associated with solar panel supply.

e. Produce any modeling that the Companies have conducted, including all modeling input and output files, workpapers, workbooks, and other documents used in such modeling, pertaining to cost volatility associated with solar panel supply.

A-1.16.

a. The Companies currently estimate project costs at $243.0 million as indicated in the referenced testimony. The Companies expect to execute an EPC contract later in the second quarter of 2025, at which point the Companies will be in an informed position to provide updated cost expectation.

b. The Companies will achieve appreciable cost certainty at execution of the EPC contract as noted in part (a) which will mitigate general cost and

market uncertainty leaving ordinary force majeure and other similar customary contract provisions as the most likely remaining sources of cost uncertainty. Of note, the typical "change in law" provision includes any tariff changes which the Companies continue to track as noted in the response to PSC 1-8..

c. The Companies track solar panel cost via a combination of discussions with Owner's Engineers and OEM providers. The Companies then target and execute specific decision points based on those discussions.

d. The Companies do not maintain records of these components outside of purchase orders for other much smaller installations. However, these previous installations have differed substantively in size making any comparison pointless.

e. The Companies do not model the referenced cost volatility.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.17

Responding Witness: Lonnie E. Bellar / David L. Tummonds

Q-1.17. Please refer to the Direct Testimony of Lonnie E. Bellar, p. 8, line 15 to p. 9 line 2.

a. Produce the build-transfer agreement with FRON bn, LLC.

b. For each of the factors responsible for the approximately $35 million in anticipated costs for Marion County Solar, provide the specific cost increase each factor is responsible for.

A-1.17.

a. See attachment provided as a separate file. Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

b. The following table details the increase in anticipated costs in $ millions:

Item	Impact
Civil Work	16
Labor and Material for BOP Electrical Work	10
Financing Costs	8
Interconnection Costs	3
Panel Tracking System Costs	2
138kV Substation Costs	2
Land Acquisition Costs	2
Construction Management Costs	2
Inverter Costs	1
Favorable Solar Panel Pricing	(11)
	35

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.18

Responding Witness: Lonnie E. Bellar / David L. Tummonds

Q-1.18. Please refer to the Direct Testimony of Lonnie E. Bellar, p. 11, lines 4-14. With regards to the referenced Unit Reservation Agreement with GE, produce:

a. The Unit Reservation Agreement with GE.

b. All information related to firm pricing for Brown 12 equipment.

c. Explain whether any portion of the $25 million paid to GE is refundable if the Commission were to deny approval, or the project did not move forward for any other reason.

A-1.18.

a. See attachment provided as a separate file. Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

b. See part (a) and the response to PSC 1-34.

c. See the response to PSC 1-34.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.19

Responding Witness: Lonnie E. Bellar

Q-1.19. Please refer to the Direct Testimony of Lonnie E. Bellar, p. 11, lines 4-14. With regards to the statement that "This requirement did not exist less than two years ago when the Companies originally proposed Brown 12," clarify whether "This requirement" refers to the Unit Reservation Agreement or a separate requirement.

A-1.19. Confirmed. The testimony refers to Unit Reservation Agreements, which were not required when the Companies originally proposed Brown 12.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.20

Responding Witness: Lonnie E. Bellar

Q-1.20. Please refer to the Direct Testimony of Lonnie E. Bellar, p. 11, lines 4-14. With regards to the statement that "It is possible that a similar requirement will be necessary for Mill Creek 6":

a. Describe any steps that LG&E-KU has taken to establish a Unit Reservation Agreement or to secure firm prices and delivery times for Mill Creek 6 equipment.

b. Describe the current status of any efforts to secure a Unit Reservation Agreement or firm prices for Mill Creek 6 equipment.

c. Provide the date by which the Companies' anticipate having to determine whether a Unit Reservation Agreement will be necessary for Mill Creek 6.

d. Produce any analysis or modeling related to the need for a Unit Reservation Agreement for Mill Creek 6, including all modeling input and output files, workpapers, workbooks, and other documents used in such modeling.

e. Produce all information related to the delivery time and pricing for equipment for Mill Creek 6, including projections of expected delivery time and pricing.

A-1.20.

a. See the response to PSC 1-34.

b. See the response to PSC 1-34.

c. See the response to SC 1-3(c).

d. See the response to SC 1-3(c).

e. The response to SC 1-3(c) explains the information necessary to remain abreast of OEM order status and that the OEMs do not document this information. For context, the referenced OEM discussions ensure the Companies will have a Unit Reservation Agreement in place, which facilitates a shipment date allowing for two months of shipping and 20 months of necessary work content between arrival to site and the envisioned operational date. Regarding expected pricing for the Mill Creek 6 equipment referenced in a Unit Reservation Agreement, see the response to Question 52(c).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.21

Responding Witness: Robert M. Conroy / David L. Tummonds / Counsel

Q-1.21. Regarding the estimated cost for Brown 12 of $1.383 billion and for Mill Creek 6 of $1.415 billion:

a. What is the basis for the current cost estimate for the NGCCs? In which Association for the Advancement of Cost Engineering (AACE) cost estimate class does the current estimate fall in? Please provide all documents that serve as the basis for your response.

b. Please provide any spreadsheet(s) or other documents reflecting the calculations used to create these estimates.

c. What cost guarantees, if any, are the Companies prepared to offer ratepayers for these projects?

d. In the event that costs increase, what steps, if any, would the Companies take to seek Commission approval of those additional costs?

e. Please provide the overnight capital costs of Brown 12 and Mill Creek 6, along with Mill Creek 5, defined as the construction cost excluding interest accrued during plant construction and development.

A-1.21.

a. The cost estimates for the proposed NGCCs result from the sum of three major components for each: 1) OEM costs for each units Power Island Equipment ("PIE") contract, 2) EPC costs for each unit, and 3) Other owner direct costs.
   1) See the response to PSC 1-34 as the basis for OEM costs is the executed URA for Brown 12.
   2) The Companies have continued to ask EPC providers for updated $/kW expectation for EPC scope as identified by their bids in response to the Mill Creek 5 and Brown 12 proposals during Case No. 2022-00402.

The most recent result of those discussions serves as the basis for the EPC component of the submitted estimates.

3) The Companies' familiarity with both sites and requirements from work done during Case No. 2022-00402 escalated to the expected execution month serves as the bases for other owner direct costs.

The aggregate of this estimate equates to Association for the Advancement of Cost Engineering (AACE) class 3.

b. See Exhibit SAW-2 at "Screening\Support\ CONFIDENTIAL_NGCC BR12 - DRAFT 2025 BP Cost Estimate (Base Case Update).xlsx" and "Screening\Support\CONFIDENTIAL_2031 NGCC MC6 - DRAFT 2025 BP Cost Estimate.xlsx."

c. The Companies object to this request as irrelevant to the subject matter of this proceeding under KRS 278.020(1) and the Commission's prior orders.[3] Without waiving that objection, the Companies will seek to obtain as much price certainty from vendors as is reasonable and prudent (increasing price certainty usually results in higher costs), and the Companies will seek to recover only prudently incurred costs.

d. The Companies will comply with all lawful requirements the Commission places upon any CPCNs it grants in this proceeding. See also the response to (c) above.

e. The costs provided are overnight capital costs.

[3] *See, e.g., Electronic Joint Application of Kentucky Utilities Company and Louisville Gas and Electric Company for Certificates of Public Convenience and Necessity and Site Compatibility Certificates and Approval of a Demand Side Management Plan and Approval of Fossil Fuel-Fired Generation Unit Retirements*, Case No. 2022-00402, Order at 10-12 (Ky. PSC Nov. 6, 2023) ("To obtain a CPCN, a utility must demonstrate a need for such facilities and an absence of wasteful duplication. … 'Need' requires: [A] showing of a substantial inadequacy of existing service, involving a consumer market sufficiently large to make it economically feasible for the new system or facility to be constructed or operated. … 'Wasteful duplication' is defined as 'an excess of capacity over need' and 'an excessive investment in relation to productivity or efficiency, and an unnecessary multiplicity of physical properties.' … The fundamental principle of reasonable least-cost alternative is embedded in such an analysis. Selection of a proposal that ultimately costs more than an alternative does not necessarily result in wasteful duplication. All relevant factors must be balanced.") (internal citations omitted).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.22

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

Q-1.22. For each of the following resources, provide the projected capacity factor for each month, if available, once the project becomes commercially operable:

a. Brown 12,

b. Brown BESS,

c. Mill Creek 5,

d. Mill Creek 6,

e. Cane Run BESS,

f. Ghent 2,

g. the Mercer County Solar Project, and

h. the Marion County Solar Project.

A-1.22. As summarized in Exhibit SAW-1, the Companies determined the least-cost resources for serving 1,750 MW of data center load and are proposing to add these resources as soon as possible to support economic development load growth. This analysis did not require the Companies to summarize detailed production costs on a monthly basis or develop a detailed production cost run with the proposed in-service dates for Cane Run BESS (March 2028), the Ghent 2 SCR (March 2028), Brown 12 (June 2030), and Mill Creek 6 (June 2031). For this response, the Companies developed a detailed production cost run with the proposed in-service dates and summarized production costs on a monthly basis. The load forecast utilized for this run is a resource-constrained load forecast, which is lower than the 2025 CPCN Load Forecast in 2028 through 2030 and reflects the level of new data center load that can be served reliably with the proposed resource additions. Finally, whereas detailed production costs were

computed with a "fast dynamic" battery storage dispatch logic in the resource assessment to reduce run times, this run utilizes a "normal dynamic" battery storage dispatch logic.

The work papers for this response are attached. Certain information is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

a. Monthly capacity factor is available in column F of the file "CONFIDENTIAL_out_unitmn.csv" in the attachment.

b. See the response to part (a).

c. See the response to part (a).

d. See the response to part (a).

e. See the response to part (a). Cane Run BESS was modeled in 100 MW blocks as CR BESS 01, CR BESS 02, CR BESS 03, and CR BESS 04. The facility's capacity factor would be the average of these four units.

f. See the response to part (a).

g. See the response to part (a). The Mercer County solar project was modeled as Solar MercerCo.

h. See the response to part (a). The Marion County solar project was modeled as Solar MarionCo.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.23

Responding Witness: Lonnie E. Bellar

Q-1.23. For each month January-December, please list the average capacity factors for the following generation on the Utilities' systems for the past 5 years:

a. Coal generation,

b. Natural gas generation,

c. Hydrogeneration,

d. Solar generation,

e. Wind generation, and

f. Other (please specify).

A-1.23.

a. See attachment being provided in a separate file.

b. See attachment being provided in a separate file.

c. See attachment being provided in a separate file.

d. See attachment being provided in a separate file.

Note for Solar, Wind and Battery assets (d, e, f)– These assets do not meet the threshold for NERC for GADS reporting. The capacity factors for these assets are calculated manually.

e. See attachment being provided in a separate file.

f. See attachment being provided in a separate file.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.24

Responding Witness: Lonnie E. Bellar

Q-1.24. Please refer to the Direct Testimony of Robert M. Conroy, p. 9, lines 8-11. Explain how the addition of Brown 12, Mill Creek 6, and the Cane Run BESS will, in the Companies' view, "help diversify their resource portfolio."

A-1.24. These resources better balance the energy provided by gas-fired resources vs. coal-fired resources, from which the Companies have historically generated approximately 80 percent of energy requirements. The Cane Run BESS will further increase BESS's relatively small share of the Companies' capacity mix.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.25

Responding Witness: Lonnie E. Bellar / David L. Tummonds

Q-1.25. Please refer to the Direct Testimony of Robert M. Conroy, p. 13, lines 1-5.

a. Have the Companies' concluded their study of the issue of electric transmission needs in connection with the proposed facilities? If so, please produce that study, including supporting workpapers.

b. Does the Companies' position remain unchanged that they do not currently believe that electric transmission-specific CPCNs will be required for the proposed facilities? If the Companies' position has changed, please explain why and in what manner.

A-1.25.

a. See attachment for the preliminary analysis of the transmission system to assist in upfront project development. The information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection. Results of the preliminary analysis indicate that significant upgrades are not required, but the Companies must rely upon the Independent Transmission Organization ("ITO") analysis for system and network upgrades. The Companies have an active interconnection request for Brown 12 and will submit an interconnect request for Mill Creek 6 and Cane Run BESS in November 2025.

b. The Companies' position remains unchanged.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.26

Responding Witness: Stuart A. Wilson

Q-1.26. Please refer to the Direct Testimony of Robert M. Conroy, p. 13, lines 13-23, and explain:

a. How was the ownership of the planned resources determined by the Companies?

b. Explain how this compares to the planned ownership for comparable assets in Case No. 2022-00402, and the reason for any differences.

A-1.26.

a. See Section 5.2 in Exhibit SAW-1 Resource Assessment in the testimony of Stuart A. Wilson. See also the response to AG-KIUC 1-14.

b. See Section 5.3 in Exhibit SAW-1. Mill Creek 5's (NGCC) ownership was set at 69% KU / 31% LG&E in Case No. 2022-00402. The Companies are proposing that Brown 12 and Mill Creek 6 be owned 100% by LG&E, which reflects the Companies' forecast that the majority of incremental data center load will be in LG&E's service territory. Regarding BESS ownership, see the response to LMG-LFUCG 1-21(b).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.27

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

Q-1.27. Please refer to the Direct Testimony of Robert M. Conroy, p. 14, lines 20-24.

a. When do the Companies expect to begin to recover costs under Construction Work in Progress ("CWIP") cost recovery?

b. When do the Companies expect to begin to recover costs under allowance for funds used during construction ("AFUDC")?

c. When do the Companies expect to begin to recover costs under post-in-service carrying costs ("PISCC") cost recovery?

d. To the extent known, provide an estimate of costs to be recovered under CWIP cost recovery for Mill Creek 5, Brown 12, and Mill Creek 6, on an individual project basis.

e. Have the Companies estimated incremental rate impacts of CWIP, AFUDC, and/or PISCC? If so, please produce each such estimate, including supporting documentation and workpapers.

A-1.27.

a. The Companies are not proposing to recover costs under CWIP cost recovery.

b. The Companies expect to begin to recover construction costs under AFUDC when new base rates are implemented that include a full 12 months of the facility being in service in the test year.

c. The Companies expect to begin to recover costs under PISCC cost recovery when new base rates are implemented that include a full 12 months of the facility being in service in the test year.

d. See the response to part (a). See also the response to PSC 1-31 for the associated construction carrying costs to be recovered from customers utilizing AFUDC for Brown 12, Mill Creek 6 and Cane Run BESS.

e. The Companies have not performed a rate impact analysis for the three investments. See the response to PSC 1-104.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.28

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

Q-1.28. Please refer to the Direct Testimony of Robert M. Conroy, p. 14, lines 20-24, and provide the following:

a. Any quantitative analysis the Companies have conducted to determine either ratepayer savings or ratepayer costs resulting from CWIP cost recovery. To the extent no such analysis has been conducted to quantify the impact of CWIP on ratepayers, please explain why not.

b. An explanation of all inputs and assumptions included in the Companies' calculations.

A-1.28.

a. See the response to Question No. 27(a).

b. See the response to Question No. 27(a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.29

Responding Witness: Christopher M. Garrett

Q-1.29. Please refer to the Direct Testimony of Robert M. Conroy, p. 14, line 24 to p. 15, line 4. Provide the estimated difference between AFUDC using the methodology approved by the Federal Energy Regulatory Commission ("FERC") and the Companies' weighted average cost of capital. Provide any supporting calculation in Excel spreadsheet format, with all formulas, columns, and rows unprotected and fully accessible.

A-1.29. See the response to PSC 1-31.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.30

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

Q-1.30. Please refer to the Direct Testimony of Robert M. Conroy, p. 15, line 9 to p. 16, line 5, and provide the following:

a. Any quantitative analysis the Companies have conducted to determine either ratepayer savings or ratepayer costs resulting from PISCC cost recovery. To the extent no such analysis has been conducted to quantify the impact of PISCC on ratepayers, please explain why not.

b. All studies, analyses, workpapers, or other documents prepared by or relied on by the Companies that support the statement that a regulatory asset treatment of post-in-service costs would "improve the administrative efficiency for the Commission and reduce rate case costs for customers."

c. An explanation of all inputs and assumptions included in the Companies' calculations.

A-1.30.

a. The Companies have not performed any studies or analyses to determine either ratepayer savings or ratepayer costs resulting from PISCC cost recovery. The Companies have requested PISCC cost recovery for the costs associated with Brown 12, Mill Creek 6 and Cane Run BESS given the size of the investments ($1.4 billion, $1.4 billion, and $0.8 billion, respectively). Under the existing regulatory framework, the Companies may need to file three rate cases with effective dates tied to the in-service dates of the investments to avoid experiencing significant regulatory lag.

b. See the response to part (a).

c. See the response to part (a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.31

Responding Witness: Philip A. Imber / Stuart A. Wilson

Q-1.31. Please refer to the Direct Testimony of Philip A. Imber, pp. 3-6, and provide:

a. The actual hourly NOX emissions from each of the Companies' units for the past 5 years;

b. The actual hourly heat input for each of the Companies' units for the past five years;

c. Whether each unit has selective catalytic reduction systems, and indicate which hours SCRs were operational for each of the past five years;

d. The quantity, price, transferor, and transferee of NOX allowances purchased, sold, and traded by the Company for each facility for each of the past 5 years;

e. Projected hourly NOX emissions and heat inputs for each of the Companies' units for the next five years; and

f. Projected price and availability of NOX allowances for each of the next 5 years.

A-1.31.

a.- c. See attachment being provided as a separate file. The table included here is a summary of annual NOx Tons, Heat Input, and % SCR Operation for each unit.

MC	2020			2021			2022			2023			2024		
	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op
MC1/2	2,344.7	16,797,152	NA	1,748.9	13,257,899	NA	1,692.7	12,666,014	NA	1,492.9	10,327,667	NA	1,319.8	8,699,733	NA
	1,343.3	9,176,256	NA	1,465.3	10,979,725	NA	2,150.9	16,381,349	NA	2,274.2	16,356,881	NA	2,549.9	16,808,104	NA
MC3	695.6	18,258,882	98%	717.3	22,689,195	98%	711.1	21,385,032	99%	963.3	24,037,060	99%	646.8	18,120,505	96%
MC4	869.7	24,054,465	97%	929.8	29,863,291	100%	836.8	24,968,392	100%	939.8	26,251,357	100%	945.5	28,615,741	100%

GH	2020			2021			2022			2023			2024		
	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op
GH1	816.6	27,906,603	100%	978.6	27,871,684	99%	750.8	28,253,249	100%	716.8	27,953,961	99%	1,009.8	30,248,940	100%
GH2	3,342.2	24,926,481	NA	4,068.8	26,183,411	NA	4,014.5	22,745,084	NA	4,746.3	26,827,574	NA	4,155.1	26,384,034	NA
GH3	508.6	25,881,117	100%	667.2	29,476,557	98%	623.4	29,362,096	100%	487.2	24,436,815	100%	871.3	29,757,870	100%
GH3FGD	-	-	83%	-	-	89%	-	-	91%	-	-	77%	-	-	92%
GH4	668.9	24,083,256	98%	869.8	27,153,915	99%	741.3	25,019,448	100%	701.0	23,924,432	99%	940.6	24,719,126	99%

EWB	2020			2021			2022			2023			2024		
	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op
BR3	279.6	13,372,354	100%	255.1	11,659,652	100%	287.1	12,021,483	100%	233.8	10,834,663	100%	324.5	16,647,002	100%
BRCT5	12.6	347,909	NA	10.7	261,310	NA	14.4	340,865	NA	4.1	98,473	NA	10.6	260,069	NA
BRCT6	16.7	790,733	NA	12.2	760,975	NA	19.6	1,215,698	NA	3.5	222,621	NA	13.7	711,416	NA
BRCT7	19.5	547,232	NA	23.1	570,952	NA	45.2	1,534,421	NA	7.9	269,757	NA	29.8	1,019,677	NA
BRCT8	7.8	138,562	NA	10.0	150,402	NA	50.8	736,034	NA	4.0	59,872	NA	9.2	136,955	NA
BRCT9	15.7	264,916	NA	7.4	126,367	NA	16.2	252,802	NA	4.1	69,453	NA	3.6	58,775	NA
BRCT10	14.5	230,265	NA	6.3	123,280	NA	15.6	307,381	NA	2.6	49,090	NA	3.9	72,550	NA
BRCT11	6.6	103,772	NA	7.0	108,281	NA	14.8	224,827	NA	5.6	88,345	NA	4.0	65,447	NA

TC	2020			2021			2022			2023			2024		
	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op
TC1	1,383.5	33,339,192	100%	1,153.7	28,698,162	100%	1,385.8	34,063,034	98%	1,046.1	31,921,023	99%	1,276.4	34,270,673	99%
TC2	846.3	44,755,622	100%	721.4	47,116,891	99%	766.8	44,748,949	99%	750.5	39,091,737	99%	789.0	36,747,606	100%
TCCT5	34.8	2,044,390	NA	27.7	1,612,588	NA	52.3	3,187,125	NA	7.7	362,919	NA	37.4	1,967,014	NA
TCCT6	6.2	378,051	NA	36.1	2,272,716	NA	41.5	2,562,734	NA	24.7	1,470,757	NA	37.0	2,021,532	NA
TCCT7	19.7	1,102,769	NA	47.6	2,399,186	NA	91.6	5,290,574	NA	20.0	1,139,231	NA	95.0	5,654,403	NA
TCCT8	14.4	866,195	NA	17.2	1,031,350	NA	47.7	2,718,643	NA	5.8	368,128	NA	16.4	863,070	NA
TCCT9	26.8	1,532,480	NA	22.9	1,347,195	NA	65.7	3,838,871	NA	7.7	451,269	NA	80.2	4,507,064	NA
TCCT10	3.5	203,996	NA	9.9	616,308	NA	82.8	4,980,154	NA	13.9	810,010	NA	31.5	1,727,281	NA

CR	2020			2021			2022			2023			2024		
	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op
CR7	279.6	13,372,354	NA	255.1	11,659,652	NA	393.8	30,726,236	NA	393.8	33,465,698	NA	438.9	28,926,253	NA

PR	2020			2021			2022			2023			2024		
	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op	NOX Tons	Heat	%SCR Op
PR12	-	-	NA	-	-	NA	0.9	2,628.00	NA	0.9	240	NA	1.4	3,942	NA
PR13	17.9	371,230	NA	21.4	427,277	NA	49.0	1,011,265	NA	49.0	306,746	NA	30.2	814,073	NA

Individual unit hourly data for 2020-2024 is provided in separate exhibits. Notes on the data in the files:

- Because coal units Ghent 2 and Mill Creek 1 and 2 do not have SCRs, no controls data is included.
- Combustion turbines do not have SCRs (Trimble County 5-10, Brown 5-11, Cane Run 7, and Paddy's Run)
- Ghent 2 and 3 share a common stack. Unit 3 has an SCR and produces far less NOx mass than Unit 2, but until 2023 the apportionment of NOx to the two units was by heat input without regard to SCR performance on Unit 3.
- Ghent 3 "SCRINRNG" means "SCR in range" for good control. The Companies do not record ammonia flow, only binary indication from the control room that the SCR is operating.
- SCRs require ammonia to work well, but it cannot be injected into the SCR until a minimum temperature of 700° F is reached.
- Ammonia (NH3) is tagged variously as AMMFLOW and NH3FLOW.

- Trimble County's NH3FLOW is flagged as Offline at all times in the Trimble County-related PDFs being provided with this response. It was not offline at all those times; the indicator is a result of a coding error. All ammonia was recorded whether operating or not.

- Ammonia flow above a *de minimis* measurement amount constitutes SCR operation.

- Because the Companies have five-year data retention requirements for this data, some data for the first quarter of 2020 is unavailable.

- All Brown units and Mill Creek 1 and 2 include NOx mass in units of LB/HR. On partial operating hours these are shown as a rate as if the unit ran the full hour. Mass can be computed as LB/HR * (Time Online/60)

d. There were no NOx allowances purchased, sold, or traded by the Companies in the last five years.

e. Hourly NOx emissions and heat inputs are not readily available from the Companies' production cost results. For monthly level data, see column G ('NOX') in the file "CONFIDENTIAL_out_emissmn.csv" for NOx emissions in thousands of US tons and column H in the file "CONFIDENTIAL_out_unitmn.csv" for heat input ('FuelBurn') in GBtu in the Companies' attachment to Question No. 22.

f. See Section 6.6.5 of Exhibit SAW-1 (2025 CPCN Resource Assessment).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.32

Responding Witness: Philip A. Imber / Stuart A. Wilson

Q-1.32. Please refer to the Direct Testimony of Philip A. Imber, p. 4, lines 18-21, and respond to the following requests:

a. How many hours during each year's ozone season Ghent 2 could operate without SCRs, and without purchasing or trading for additional NOX credits?

b. How many hours, and at what expense, would Ghent 2 be able to operate without SCRs, and with purchasing or trading for additional NOX credits, based on the Companies' estimates.

c. Refer to the Companies' Application at page 8, table 1, and confirm Ghent 2 is included as an "Existing Resource" under the "Fully Dispatchable Generation Resources" in all years in that table. If anything other than confirmed, explain.

A-1.32.

a. See the response to AG-KIUC 1-37.

b. See the response to part (a). Consistent with the Commission's guidance to utilities not to rely on energy markets for any extended period to ensure reliable service to customers,[4] the Companies plan to self-supply required NOx allowances. Indeed, relying on such markets could be quite expensive: The NOx market reacted to the Good Neighbor Plan with a dramatic increase in NOx allocation costs and scarcity of NOx allocation availability. It is clear

[4] Case No. 2022-00402, Order at 177 (Ky. PSC Nov. 6, 2023) ("This Commission has no interest in allowing our regulated, vertically-integrated utilities to effectively depend on the market for generation or capacity for any sustained period of time."), *quoting Electronic Tariff Filing of East Kentucky Power Cooperative, Inc. and Its Member Distribution Cooperatives for Approval of Proposed Changes to Their Qualified Cogeneration and Small Power Production Facilities Tariffs*, Case No. 2021-00198, Order at 5 fn. 10 (Ky. PSC Oct. 26, 2021).

that SCR is Reasonably Achievable Control Technology for NOx, and any future NAAQS-related limits will be based on SCR with limited ability to bank credits.

c. Confirmed.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.33

Responding Witness: Philip A. Imber

Q-1.33. Please refer to the Direct Testimony of Philip A. Imber, p. 6, line 21 to p. 7, line 2, and:

a. Provide the referenced comments of the Kentucky Attorney General, the Energy and Environment Cabinet, Louisville Metro, and Greater Louisville Inc., as well as any other comments the Companies are aware of on the January 3, 2025 proposal.

b. Did the Companies comment on the proposal? If yes, please provide those comments; if no, why not?

A-1.33.

a. Links to Federal Register docket for which comments were submitted are below.

- Kentucky Attorney General: https://downloads.regulations.gov/EPA-R04-OAR-2022-0789-0016/attachment_1.pdf
- KY Division for Air Quality: https://downloads.regulations.gov/EPA-R04-OAR-2022-0789-0018/attachment_1.pdf
- Louisville APCD: https://downloads.regulations.gov/EPA-R04-OAR-2022-0789-0017/attachment_1.pdf
- GLI: https://downloads.regulations.gov/EPA-R04-OAR-2022-0789-0015/attachment_1.pdf
- KY Resource Council: https://downloads.regulations.gov/EPA-R04-OAR-2022-0789-0019/attachment_1.pdf

b. The Companies did not submit comments. As noted in Mr. Imber's testimony, the Kentucky Attorney General, the Kentucky Energy and Environment Cabinet, Louisville Metro, and Greater Louisville Inc. all filed comments concerning EPA's proposal to withdraw the April 18, 2023 attainment redesignation for 2015 Ozone NAAQS and deny the attainment request. Those comments fully addressed the relevant issues. The Companies typically focus their comment efforts on their operational impact to air quality, which was not an aspect of this EPA action per se.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.34

Responding Witness: Philip A. Imber

Q-1.34. Please refer to the Direct Testimony of Philip A. Imber, p. 6, line 5 to p. 7, line 7 regarding the attainment status of the Louisville-Jefferson County area for the 2015 ozone NAAQS, and respond to the following requests:

a. Have the Companies performed or caused to be performed any analysis of the relative contributions of various sources, or the impacts of emissions from its facilities, on ozone levels in the Louisville-Jefferson County area, or elsewhere?

i. If yes, please provide any such analysis;

ii. If no, why not?

b. Have the Companies performed or caused to be performed any photochemical air quality modeling of the formation of ozone in the Louisville-Jefferson County area or elsewhere? If yes, please provide any such modeling, including inputs, outputs, results, reports, and analysis of results.

c. Explain the relevance of the referenced piece of testimony regarding local nonattainment to the CPCN applications.

A-1.34.

a. The Companies have not performed this analysis.

i. Not applicable.

ii. The Companies' Mill Creek coal units are major sources. As such, they are generally considered the primary sources for reduction or mitigation in a non-attainment status proceeding. Developing additional data and expending additional resources to assess the

impact of units without Reasonably Achievable Control Technology is not warranted.

b. No.

c. Generally, this testimony is background information on compliance, regulations, and operational impact to non-SCR units at Mill Creek and Ghent. The EPA is obligated to drive attainment of 2015 Ozone NAAQS. The uncertainty regarding local nonattainment reinforces the need for the Ghent 2 SCR, which will greatly reduce, if not entirely eliminate, the significant risk of being unable to operate the unit during future ozone seasons.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.35

Responding Witness: Philip A. Imber

Q-1.35. Please refer to the Direct Testimony of Philip A. Imber, p. 11, line 16 to p. 12, line 6, and provide, to the extent available to the Companies:

a. The 88 "large" coal fired generating units in Group 2E;

b. The 11 units without post-combustion controls;

c. The seasonal capacity factor for each of the past five years for each of the 88 units listed in subpart a.

A-1.35.

a. Upon closer evaluation, the data set was reevaluated to account for 83 "large" coal-fired generating units in Group 2E:

Plant Name	Unit ID	Plant Name	Unit ID
Powerton	51	Brandon Shores	2
Powerton	52	Herbert A Wagner	3
Powerton	61	Belle River	1
Powerton	62	Belle River	2
Prairie State Generating Station	PC1	Monroe (MI)	1
Prairie State Generating Station	PC2	Monroe (MI)	2
AES Petersburg	3	Monroe (MI)	3
AES Petersburg	4	Monroe (MI)	4
Cayuga	1	Cardinal	1
Cayuga	2	Cardinal	2
Gibson	1	Cardinal	3
Gibson	2	Gavin Power, LLC	1
Gibson	3	Gavin Power, LLC	2
Gibson	4	Conemaugh	1
Gibson	5	Conemaugh	2

Merom	1SG1	Homer City Generating Station	1
Merom	2SG1	Homer City Generating Station	2
Rockport	MB1	Homer City Generating Station	3
Rockport	MB2	Keystone	1
Warrick	4	Keystone	2
D B Wilson	W1	Talen Energy Montour	1
E W Brown	3	Talen Energy Montour	2
East Bend	2	Clover	1
Ghent	1	Clover	2
Ghent	2	Virginia City Hybrid Energy Center	1
Ghent	3	Virginia City Hybrid Energy Center	2
Ghent	4	FirstEnergy Fort Martin Power Station	1
H L Spurlock	1	FirstEnergy Fort Martin Power Station	2
H L Spurlock	2	FirstEnergy Harrison Power Station	1
Mill Creek (KY)	1	FirstEnergy Harrison Power Station	2
Mill Creek (KY)	2	FirstEnergy Harrison Power Station	3
Mill Creek (KY)	3	John E Amos	1
Mill Creek (KY)	4	John E Amos	2
Trimble County	1	John E Amos	3
Trimble County	2	Longview Power Plant	UHA01
Big Cajun 2	2B1	Mitchell (WV)	1
Big Cajun 2	2B3	Mitchell (WV)	2
Brame Energy Center	2	Mountaineer	1
Brame Energy Center	3-1	Mt Storm	1
Brame Energy Center	3-2	Mt Storm	2
R S Nelson	6	Mt Storm	3
Brandon Shores	1		

b. After discovering an error in the accounting, there are only 7 of the 83 "large" coal-fired generating units without post-combustion controls. And here is the list of those:

Plant Name	Unit ID	Plant Name	Unit ID
AES Petersburg	4	R S Nelson	6
Ghent	2	Belle River	1
Mill Creek (KY)	1	Belle River	2
Mill Creek (KY)	2		

c. The Companies do not have access to this data.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.36

Responding Witness: Philip A. Imber / Stuart A. Wilson

Q-1.36. Please refer to the Direct Testimony of Philip A. Imber, pp. 13-15, generally. Did the Company forecast or analyze the possibility or impact on its proposal of a Clean Power Plan or GHG Rule-like restrictions being imposed by a subsequent federal administration?

a. If yes, please provide any such forecasting or analysis;

b. If not, why not?

A-1.36.

a. See the responses to PSC 1-95 and PSC 1-25(b).

b. Not applicable.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.37

Responding Witness: Philip A. Imber / Stuart A. Wilson

Q-1.37. Please refer to the Direct Testimony of Philip A. Imber, p. 16, line 18 to p. 17 line 8. Did the Company forecast or analyze the possibility or impact on its proposal of 2024 ELG Rule-like restrictions (i.e., zero-discharge limits) being imposed by a future administration?

a. If yes, please provide any such forecasting or analysis;

b. If not, why not?

A-1.37.

a. The Companies evaluated the 2024 ELG rule as part of the 2024 IRP. See Sections 4.4.1.3 and 4.4.2.3 in the Resource Assessment in Vol. III of the 2024 IRP. In addition to the new resources proposed in this proceeding (i.e., Cane Run BESS, Ghent 2 SCR, Brown 12, and Mill Creek 6), compliance with the 2024 ELG Rule would require investments at Ghent and Trimble County by the end of 2029 to achieve zero-liquid discharge at those stations. See also the response to PSC 1-25(b).

b. Not applicable.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.38

Responding Witness: Philip A. Imber

Q-1.38. Please refer to the Direct Testimony of Philip A. Imber, p. 17, line 23 to p. 18, line 2, and state whether the Companies have submitted the referenced required air permit applications;

a. If yes, please provide copies of any applications submitted;

b. If no, please provide in a supplemental response as soon as such applications are submitted.

A-1.38.

a. See the response to PSC 1-43.

b. The Mill Creek 6 permit application will be provided upon submittal to the Louisville Metro Air Pollution Control District.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.39

Responding Witness: Philip A. Imber / David L. Tummonds

Q-1.39. Please refer to the Direct Testimony of Philip A. Imber, p. 18, lines 4-13, and respond to the following requests:

a. Do the Companies anticipate application of Prevention of Significant Deterioration ("PSD") or Nonattainment New Source Review ("NNSR") for Brown 12 for emissions of each regulated pollutant? Please specify by pollutant, including rationale for applicability.

b. Do the Companies anticipate application of PSD or NNSR for Mill Creek 6 for emissions of each regulated pollutant? Please specify by pollutant, including rationale for applicability.

c. Confirm both Brown 12 and Mill Creek 6 will utilize SCR systems for NOX emissions. If anything but confirmed, please explain.

d. Please list any other pre or post-combustion control technologies planned for Brown 12 and Mill Creek 6.

e. Do the Companies anticipate application of Louisville's Strategic Toxic Air Reduction ("STAR") Program to Mill Creek 6?

   i. If yes, have the Companies modeled or caused to be modeled the impacts of air toxics concentrations from Mill Creek 6? Please provide any such modeling results and report.

   ii. If no, why not?

f. Explain whether the Companies anticipate Mill Creek 6 will "net out" at step one of the New Source Review ("NSR") process under the Project Emissions Accounting Rule or using step two contemporaneous netting (see Prevention of Significant Deterioration (PSD) and Nonattainment New

Source Review (NNSR): Regulations Related to Project Emissions Accounting, 89 Fed. Reg. 36,870 (May 03, 2024)).

g. Please provide the emissions increase, and if relevant the net emissions increase, for each regulated pollutant for the Mill Creek 6 project, including any netting analysis and source of reductions in emissions included in calculations.

A-1.39.

a. Per the permit application submitted to the Kentucky Division for Air Quality (KDAQ) on March 25, 2025 for Brown 12 ("BR12"), PSD permitting requirements were triggered for several pollutants. Brown 12 is not anticipated to be in a national ambient air quality standard (NAAQS) designated nonattainment area. Therefore, NNSR review permitting requirements are not applicable. The pollutants for which PSD permit requirements were triggered because the projected emissions increase is greater than the PSD significant emission rates on Brown 12 are as follows:

Pollutant	Projected Emissions Increase (tpy)	PSD Significant Emission Rate (tpy)	PSD Review Triggered?
PM	102.0	25	Yes
PM10	101.7	15	Yes
PM2.5	100.7	10	Yes
NOx	169.2	40	Yes
CO	148.9	100	Yes
VOC	67.2	40	Yes
H2SO4	23.7	7	Yes
CO2e	2,321,537	75,000	Yes

b. The Companies do not presently anticipate PSD or NNSR permitting requirements to be applicable to Mill Creek 6 ("MC6").

c. BR12 and MC6 will use SCR systems for NOx emissions.

d. In addition to SCR systems, MC6 and BR12 will use dry, low-NOx burners and CO/VOC oxidation catalyst as control technologies.

e. MC6 emissions will be evaluated for compliance with the STAR Program.

   i. This information will be made available when the permit application is submitted.

   ii. Not Applicable.

f. Because LMAPCD has not yet adopted EPA's project emissions accounting rulemaking, MC6 NSR netting analysis will utilize the "step 1" and "step 2" contemporaneous netting analysis methods.

g. The preliminary data from the ongoing permit application development work is provided. The MC6 permitting action is anticipated to reduce each criteria pollutant.

Pollutant[1]	**"Step 1" Project Emissions Increase** (tpy)	**Creditable Contemp. Emissions Changes** (tpy)	**"Step 2" Project Net Emissions Increase** (tpy)	**PSD Significant Emission Rate**[2] (tpy)	**Project Triggers PSD Review?** (Yes/No)
PM	**104.6**	-289.4	-185	25	No
PM_{10}	**103.0**	-283.3	-180	15	No
$PM_{2.5}$	**101.8**	-258.1	-156	10	No
NO_X	**173.9**	-5,414.3	-5,240	40	No
VOC	39.9	NA	NA	40	No
CO	**169.6**	-209.4	-40	100	No
SO_2	26.6	NA	NA	40	No
H_2SO_4	6.9	NA	NA	7	No
Lead	0.001	NA	NA	0.6	No
GHGs (as CO_2e)	**2,272,880**	-1,136,887	**1,135,993**	75,000 [3]	No

[1] Only those regulated NSR pollutants for which the project emissions increase could potentially exceed the SER are listed.

[2] Per Regulation 2.05, 40 CFR §52.21(b)(40), which points to (b)(23), where significant means, in reference to an *emissions increase* of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates.
Note, O_3: 40 tpy of VOC emissions **or** 40 tpy of NO_X emissions
$PM_{2.5}$: 10 tpy of direct $PM_{2.5}$ emissions; 40 tpy of SO_2 emissions; **or** 40 tpy of NO_X emissions unless demonstrated not to be a $PM_{2.5}$ precursor under paragraph (b)(50).

[3] CO_2e (GHG Pollutants) only become subject to regulation and potentially applicable to PSD if another regulated NSR pollutant triggers PSD.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.40

Responding Witness: David L. Tummonds

Q-1.40. Please explain any space constraints or the impact of construction of Mill Creek 6 and Brown 12 on landfill constraints or coal stockpiles at either facility (see the Companies' 2024 IRP Vol. 1 at 5-26).

A-1.40. The recommended construction presents no landfill concerns at either E.W. Brown or Mill Creek. The Companies are reviewing initial site layouts to determine potential impact on coal stockpiles, and will then work through necessary layout modifications at each facility to ensure any subsequent impact on stockpiles, does not present a unit reliability risk.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.41

Responding Witness: David L. Tummonds

Q-1.41. Please identify in Companies' Exhibits 1 & 2 or similar diagrams the location of any coal combustion residual landfill, including type (e.g., Legacy coal combustion residual ("CCR") surface impoundments, CCR management units, etc.), in relation to the planned Mill Creek 6 and Brown 12 units.

A-1.41. At KU's EW Brown Station, the Companies are aware of three units that are potentially subject to the CCR Rule: two former CCR impoundments that are closed in place and one operating CCR landfill. Each of these is described below:

- The former Main Ash Pond was approximately 126 acres and in-place closure was completed under state oversight in April 2014.
- The former Auxiliary (Aux) Pond was approximately 38 acres and was closed in place according to CCR Rule requirements in 2021.
- The active CCR landfill is approximately 74 acres and sits within (and atop) the southern portion of the footprint of the former MAP.

Each of these units is located east-southeast of the proposed location of the subject NGCC unit. The approximate locations of these units are shown in the attached Figure 1-1, the KU Brown Site Plan modified from the Site Assessment Report and Cumulative Environmental Assessment prepared by Trinity (2/25/25).

At LG&E's Mill Creek Station, the Companies are aware that the following units are subject to the CCR Rule. Included are one former CCR impoundment that is closed in place, one operating CCR landfill, and one CCR Management Unit (CCRMU). Each of these is described below:

- The former Ash Treatment Basin was approximately 82 acres and in-place closure was completed according to CCR Rule requirements in 2021. This unit is located north of the proposed NGCC unit.

- The active CCR landfill is approximately 61 acres, and it is located south of the proposed NGCC unit.

- A known CCR Management Unit (CCRMU) is the former 50-acre CCR landfill that was closed under state oversight in 1988. The CCRMU is located (mostly) within the site's rail loop and a portion is beneath the proposed NGCC and supporting facilities.

The approximate locations of these three units are shown in the attached Figure 1-1, the LG&E Mill Creek Site Plan modified from the Site Assessment Report and Cumulative Environmental Assessment prepared by Trinity (2/25/25).

Additionally, four CCR surface impoundments (Construction Runoff Pond, Clearwell Pond, Dead Storage Pond, and Emergency Pond) at the LG&E Mill Creek site were closed by removal in 2017 and 2018. These former impoundment locations are not shown in the figure because all CCR was removed from these basins as part of the closure process.

Finally, additional CCRMUs may be located at each of the subject sites. However, the Companies are continuing to research potential CCRMU locations in accordance with the Legacy CCR Surface Impoundment regulations. The Companies will publish site-specific reports regarding potential CCRMUs in February 2026 to the Companies' public CCR Rule website (CCR Rule Compliance Data and Information | LG&E and KU) in accordance with the Rule's requirements.

See attachments being provided in separate files.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.42

Responding Witness: Charles R. Schram

Q-1.42. Please refer to the Direct Testimony of Charles R. Schram, p. 3 lines 13-15, and provide the dates on which the Companies experienced the referenced hourly winter load variation of 2,760 MW and hourly summer load variation of 3,220 MW.

A-1.42. On January 6, 2014, and June 28, 2012, respectively. See also the response in Case No. 2022-00402 to JI 1-28.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.43

Responding Witness: Charles R. Schram

Q-1.43. Please produce the following PPAs:

a. The Clearway Song Sparrow PPA;

b. The Ragland PPA;

c. The Gage PPA;

d. The Rhudes Creek Solar PPA;

e. The Nacke Pike PPA; and

f. The Grays Branch PPA.

A-1.43.

a. See March 1, 2023 filing of the Clearway Song Sparrow, Gage, Nacke Pike, and Grays Branch PPAs in Case No. 2022-00402.

b. See attachment being provided as a separate file.

c. See the response to part (a).

d. See attachment being provided as a separate file.

e. See the response to part (a).

f. See the response to part (a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.44

Responding Witness: Charles R. Schram

Q-1.44. Please identify the queue number in LG&E-KU's Generation Interconnection Queue for each of the following projects:

a. The Clearway Song Sparrow PPA;

b. The Ragland PPA;

c. The Gage PPA;

d. The Rhudes Creek Solar PPA;

e. The Nacke Pike PPA; and

f. The Grays Branch PPA.

A-1.44.

a. The PPA was terminated. Therefore the Companies have no information on the project's Generation Interconnection's queue status.

b. See the response to part (a).

c. See the response to part (a).

d. LGE-GIS-2019-029

e. The developer has not submitted a Generator Interconnect application.

f. LGE-GIS-2023-007

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.45

Responding Witness: Charles R. Schram

Q-1.45. To the extent known, why is each of the following projects "currently suspended" despite having a signed LGIA (identified by queue number listed in the LG&E-KU Generation Interconnection Queue):

a. LGE-GIS-2020-001;

b. LGE-GIS-2021-007;

c. LGE-GIS-2021-008;

d. LGE-GIS-2021-009;

e. LGE-GIS-2021-011;

f. LGE-GIS-2021-017; and

g. LGE-GIS-2021-018.

A-1.45.

a. The Companies do not have this information.

b. See the response to part (a).

c. See the response to part (a).

d. See the response to part (a).

e. See the response to part (a).

f. See the response to part (a).

g. See the response to part (a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.46

Responding Witness: Charles R. Schram

Q-1.46. Please refer to the Direct Testimony of Charles R. Schram, p. 9 lines 4-8. For the Ragland PPA, provide the original 2021 PPA price and the referenced new price, along with the date that the new price was proposed to the customers.

A-1.46. The 2021 price was $27.36/MWh. The updated price of $62.45/MWh was shared with the applicable Green Tariff Option 3 customers in various face-to-face meetings in March 2024. After meetings were held with customers, the contract was terminated in July 2024.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.47

Responding Witness: Charles R. Schram / Stuart A. Wilson

Q-1.47. Please refer to the Direct Testimony of Charles R. Schram, p. 9 lines 9-13. For the Gage PPA, provide:

a. The original PPA price and the price that the developer proposed in negotiations, along with the date that the new price was proposed to the Companies.

b. Any analysis and modeling, along with any supporting workpapers, that the Companies conducted when assessing whether to agree to a higher price for the Gage PPA.

A-1.47.

a. See the response to Question No. 144 part (c) for the Gage PPA price. The June 6, 2024 revised price was $72.50/MWh, later reduced to $69.50/MWh on August 16, 2024 as the developer's final proposal for the 115 MW project.

b. The revised pricing proposed by the Gage project developer was in excess of the approximate $60/MWh price for solar the Companies received from certain RFP respondents in June 2024.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.48

Responding Witness: Charles R. Schram

Q-1.48. Please refer to the Direct Testimony of Charles R. Schram, p. 9 line 15 to p. 10 line 2. Please provide the legal status of any applications to Hardin County for approvals for:

a. Rhudes Creek Solar; and

b. Nacke Pike.

A-1.48.

a. Both Rhudes Creek and Nacke Pike are awaiting further guidance on planning guidelines from Hardin County. There are no active legal proceedings for these projects.

b. See the response to part (a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.49

Responding Witness: Charles R. Schram

Q-1.49. Please refer to the Direct Testimony of Charles R. Schram, p. 10 lines 3-7. For the Grays Branch PPA, provide:

a. The original PPA price and the price that the Companies expect the project to reach.

b. Any analysis and modeling, along with any supporting workpapers, that the Companies have conducted to assess the anticipated increase in price.

A-1.49.

a. The executed PPA price is $42.13/MWh. The Companies do not have a revised price from the developer and do not have information to support speculating on a revised price.

b. The Companies do not have analysis assessing a speculative price for this project.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.50

Responding Witness: Charles R. Schram

Q-1.50. Please refer to the Direct Testimony of Charles R. Schram, p. 10 lines 8-14. What project selection criteria will the Companies adopt to avoid similar challenges in the future regarding solar PPAs reaching project completion?

A-1.50. Obviously, the Companies have no control over the solar equipment and labor markets. The price reopener provisions negotiated as part of three of the recent PPAs were intended to provide a pathway to advance a project if a revised price would still be favorable to customers. Furthermore, the Companies proposed a deposit structure in the May 2024 RFP by which a successful bidder would be required to provide a deposit that would be refundable if the project commenced, but non-refundable if the project was terminated under specific circumstances.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.51

Responding Witness: Charles R. Schram / Stuart A. Wilson

Q-1.51. Please refer to the Direct Testimony of Charles R. Schram, p. 10 lines 14-15.

a. Have the Companies conducted any analysis or modeling to determine whether the PPAs would be favorable to customers at increased prices?

b. If yes, please provide any analysis and modeling, along with any supporting workpapers.

A-1.51.

a. The Companies evaluated responses from the 2024 RFP in this CPCN proceeding and demonstrated that the current market prices for solar PPAs are not economic.

b. See the response to part (a) and Exhibit SAW-1.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.52

Responding Witness: Lonnie E. Bellar / David L. Tummonds

Q-1.52. Please refer to the Direct Testimony of Charles R. Schram, p. 13 lines 5-13 and explain:

a. Whether the Companies conducted any analysis or modeling to determine how the cost of using the Mill Creek 5 NGCC power island vendor for Brown 12 and Mill Creek 6 compares to the cost of using other potential vendors, and if yes, provide that analysis and any supporting workpapers.

b. To the best of the Companies' knowledge, what is the magnitude of gas turbine backlogs at each of the three major manufacturers, Siemens Energy, GE Vernova, and Mitsubishi Power.

c. To the best of the Companies' knowledge, how have backlogs impacted Original Equipment Manufacturer ("OEM") ability to support maintenance and spare parts availability for units in-service for each of the three major manufacturers, Siemens Energy, GE Vernova, and Mitsubishi Power.

d. To the best of the Companies' knowledge, how have backlogs impacted pricing at each of the three major manufacturers, Siemens Energy, GE Vernova, and Mitsubishi Power?

e. How the Companies evaluated the dependency risk of relying on the same OEM for gas turbine procurement and the potential value of mitigating that risk through diversification of OEM suppliers.

A-1.52.

a. The Companies have continued to discuss pricing with all referenced OEMs and noted that the pricing of each has continued to escalate at similar rates following analysis associated with Case No. 2022-00402. However, the Companies did not request formal quotes from OEMs other than GE Vernova because, as the response to PSC 1-34 notes, GE Vernova is the

only OEM provider that will suitably extend the validity of the Unit Reservation Agreement such that a full Power Island Equipment agreement may occur following a regulatory proceeding.

b. The Companies are aware that the three OEMs continue to take orders for their frame units that extend their backlogs, and they require Unit Reservation Agreements from entities like the Companies to enter their production queues. The OEMs do not share the specifics of their backlogs with the Companies.

c. The Companies are not aware of any impact that the current manufacturing backlog has on OEMs' ability to support maintenance and spare parts for in-service units. [redacted] Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

d. As noted in response to part (a), increased worldwide demand coupled with largely fixed supply has resulted in increased prices. For example, the Companies executed the Mill Creek 5 contract, which included $220 million of OEM work scope, on February 29, 2024. That same work scope in the December 2024 Brown 12 Unit Reservation Agreement carried an associated cost (mix of fixed and budgetary) of $280 million. [redacted] Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

e. GE Vernova has an appreciable share of the advanced class gas turbine market, both internationally and domestically. Therefore, the Companies believe the risk of relying on one supplier in this case is low, and the efficiency benefits associated with having three essentially identical units outweigh the risk.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.53

Responding Witness: Charles R. Schram

Q-1.53. Please refer to the Direct Testimony of Charles R. Schram, p. 13, line 19 to p. 14 line 5, and explain if the Companies have conducted any analysis or modeling to determine how the impact of cost increases for BESS projects might impact BESS PPAs differently than self-builds.

A-1.53. The Companies have not performed this analysis.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.54

Responding Witness: Charles R. Schram

Q-1.54. Please refer to the Direct Testimony of Charles R. Schram, p. 14, lines 5-9, and explain why, on a forward-looking basis, the Companies could not address the alluded-to challenges in BESS PPAs.

A-1.54. See the response to AG-KIUC 1-27. The Companies believe the challenges to executing future reasonable BESS PPAs will be mitigated by having operational experience with the Companies' own BESS facilities.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.55

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

Q-1.55. Please refer to the Direct Testimony of Charles R. Schram, p. 14, lines 13-18.

a. Explain whether the Companies are aware of any proposed pumped storage projects other than Lewis Ridge;

b. Explain whether the Companies have assessed the costs and feasibility of any pumped storage projects other than Lewis Ridge;

c. Provide the Companies' current assessment of the feasibility of the Lewis Ridge Pumped Storage project and its costs relative to other technologies such as lithium-ion batteries.

A-1.55.

a. No.

b. The Companies have not performed such assessments.

c. See Exhibit SAW-2 at "Screening\ CONFIDENTIAL_20250201_ResourceScreeningModel_2025CPCN_0336.xlsx." The data table starting in row 71 of the "Model" worksheet shows levelized costs of capacity ("LCOC" in column D) for each Generation Alternative. As shown in rows 85 and 86, the LCOC of the "Lewis Ridge Pumped Storage Project PPA" (at a price of $18/kW-mo) and the "Lewis Ridge Pumped Storage Project Sale with ITC" (at a capital cost of $1.6 billion) are $216/kW-yr and $226/kW-yr, respectively. Comparatively, for example, row 80 shows the "Cane Run BESS with 50% ITC" Generation Alternative has an LCOC of $130/kW-yr.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.56

Responding Witness: Charles R. Schram

Q-1.56. Please refer to the Direct Testimony of Charles R. Schram, p. 18 lines 1-5. For each of the projects that respondents offered to sell to the Companies, provide the project's:

a. Local permitting status;

b. Land control status;

c. Design engineering status; and

d. Anticipated or proposed development completion date.

A-1.56.

a. See exhibit CRS-2 for the May 2024 RFP responses. The Companies do not have the current status of these projects.

b. See response to part (a).

c. See response to part (a).

d. See response to part (a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.57

Responding Witness: Lonnie E. Bellar

Q-1.57. Please refer to the Direct Testimony of Charles R. Schram, p. 18, lines 8-10.

a. Do the Companies currently own the land where all of their generation assets are located?

b. If not, specify the generation asset and land control status for any of the Companies' generation assets for which the Companies do not own the land.

c. Provide a map of the property boundaries at each of the proposed resource locations, indicating the extent of the Companies' current ownership.

A-1.57.

a. Yes.

b. Not applicable.

c. Survey maps noting the property boundaries of the E. W. Brown, Mill Creek, Cane Run, and Ghent generating assets are attached. The Companies' ownership is noted by the recorded deed book and page reference on the survey maps.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.58

Responding Witness: Charles R. Schram

Q-1.58. For the Cane Run 7 NGCC, please provide average historical and projected costs on a yearly basis for:

a. Gas purchased on the spot market; and

b. Gas purchased on a forward basis.

A-1.58.

a. See attachment being provided in a separate file.

b. See attachment being provided in a separate file. The Companies do not have a projected cost for the forward purchases.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.59

Responding Witness: Charles R. Schram

Q-1.59. Please provide the duration of the longest-duration gas supply contract the Companies currently have in place for their generators.

A-1.59. The Companies currently have forward gas purchases in certain months through October 2027.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.60

Responding Witness: Charles R. Schram

Q-1.60. Please produce the Companies' contracts for gas purchased on a forward basis for Cane Run 7.

A-1.60. See attachment being provided in a separate file. Note that these purchases are submitted by the Companies to the Commission's Fuel Contracts website in PDF format as Other-Transaction-[M-DD-YY].pdf.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.61

Responding Witness: Charles R. Schram

Q-1.61. Please refer to the Direct Testimony of Charles R. Schram, p. 20, line 15 to p. 21, line 4.

a. Please provide any assessment, analysis, or modeling, along with any workpapers, pertaining to the Companies' evaluation of its gas procurement strategy.

b. Regarding the referenced expectation that the Companies will seek to increase their forward gas purchases as their NGCC fleet grows, please provide the anticipated percentage of gas supply that will be purchased on a future basis if the Companies develop all proposed NGCCs, if that percentage currently exists.

A-1.61.

a. See attachment being provided in a separate file.

b. The Companies have not conducted this analysis.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.62

Responding Witness: Charles R. Schram

Q-1.62. Please indicate whether pipeline capacity additions would be needed to support the addition of either of the two NGCCs.

A-1.62. The Companies do not believe that new interstate pipeline additions would be needed, but the Companies are uncertain if other upgrades that may be required.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.63

Responding Witness: Charles R. Schram

Q-1.63. For each pipeline proposed for service to each facility, please identify that pipeline's operational status, including pressure and utilization rate.

A-1.63. Mill Creek 6 is proposed to be served by Texas Gas Transmission (TGT) with an expected utilization of 100%. Brown 12 has access to both Texas Eastern Transmission Company (TETCO) and Tennessee Gas Pipeline (TGP). TGP currently has firm transport available and would likely provide 100% of gas utilization. TETCO is expected to provide an estimated cost to create additional capacity, however the pipeline is currently fully subscribed. TGT, TETCO, and TGP are currently fully operational. 2024 average pressure at the LGE/KU interconnect: TGP - 693psig, TETCO – 718psig, TGT – 611psig.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.64

Responding Witness: Charles R. Schram

Q-1.64. Regarding the Mill Creek 5, Mill Creek 6, and Brown 12 NGCCs:

a. Has LG&E-KU entered into any contracts for the transportation of gas? If yes, please provide all such contracts.

b. Has LG&E-KU received any cost estimates from the pipelines serving Brown and Mill Creek for the transportation of gas to Mill Creek 5, Mill Creek 6, and Brown 12? If yes, please provide all cost estimates.

A-1.64.

a. The Mill Creek 5 contract can be found on the Commission's website at https://psc.ky.gov/PSC_WebNet/FuelContracts/Kentucky%20Utilities%20Company%20-%20KU/Texas%20Gas%20Transmission%202-19-24.pdf.

b. For Mill Creek 5, see the response to part (a). For Brown 12 and Mill Creek 6 see the response to Question No. 71.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.65

Responding Witness: Charles R. Schram

Q-1.65. Please produce the Companies' contracts and agreements with Texas Gas Transmission, Tennessee Gas, and Texas Eastern for firm gas transportation to its Brown and Mill Creek stations.

A-1.65. See the response to Question No. 64 for the Texas Gas Transmission agreement. The Companies do not have firm transportation agreements with Tennessee Gas and Texas Eastern to serve generation assets.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.66

Responding Witness: Charles R. Schram

Q-1.66. For Brown's simple-cycle combustion turbines, please specify what percentage of gas is transported by Tennessee Gas compared to Texas Eastern.

A-1.66. During 2024, 100 percent of the gas was transported by Texas Eastern. The last usage from Tennessee Gas was in May 2022.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.67

Responding Witness: Charles R. Schram

Q-1.67. For the Brown NGCC, please specify what percentage of gas the Companies expect to be transported by Tennessee Gas compared to Texas Eastern.

A-1.67. See the response to Question No. 63.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.68

Responding Witness: Lonnie E. Bellar / Charles R. Schram / Stuart A. Wilson

Q-1.68. Please refer to the Direct Testimony of Charles R. Schram, p. 23, lines 17-19. Regarding the Final Order in the Winter Storm Elliot investigation case, please explain whether the Companies' have taken the following steps, and if not, why not:

a. Accounting for incremental outage rates that can occur during extreme weather when modeling reliability benefits in its resource planning.

b. A quantitative analysis of the potential reliability benefits to LG&E-KU's customers of RTO membership.

c. Evaluated the improvement or expansion of the Curtailable Service Rider ("CSR") Program, including the creation of new curtailable service riders to protect more vulnerable customers from load shed or amendments to Curtailable Service Rider-1 (CSR-1) and Curtailable Service Rider-2 (CSR-2) to increase penalties for non-compliance.

d. Sought or improved agreements with other Balancing Authorities regarding purchasing power in an emergency situation.

e. Implemented changes to their customer communication and public appeal process to notify customers of the need of conserving energy to reduce load and to keep customers informed and prepared in case of necessary energy curtailments or firm load shedding.

A-1.68.

a. See Section 5.4.1 on page 23 of the 2024 IRP, Volume III, Resource Adequacy Analysis.

b. See the 2024 IRP, Volume III, RTO Membership Analysis.

c. See the response to PSC 1-24.

d. See the response in Case No. 2023-00422 to PSC PHDR 5. Additionally, the Companies entered into an improved and modernized interconnection agreement with the Tennessee Valley Authority ("TVA") and initiated discussions with TVA regarding a potential emergency energy agreement in September 2024.

e. See the response in Case No. 2023-00422 to PSC PHDR 4. Additionally, a new vendor has been contracted to send weather and other potential power outage alert messages to customers in mass (e.g., by geographic area) when power may be affected. Messages can be sent via SMS text message or automated voice call. This option is expected to be available by the end of 2025.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.69

Responding Witness: Charles R. Schram

Q-1.69. Please refer to the Direct Testimony of Charles R. Schram, p. 24, lines 12-15, and provide the historical transaction details for gas transport to the Brown Simple Cycle Combustion Turbines ("SCCTs"), along with any projected transaction details, if those projections exist.

A-1.69. The Companies buy a "delivered gas" product for the Brown SCCTs that includes transportation and do not have firm gas transportation agreements in place for the units.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.70

Responding Witness: Lonnie E. Bellar

Q-1.70. Please refer to the Direct Testimony of Charles R. Schram, p. 24, lines 15-17, and produce the referenced agreement with Tennessee Gas for a portion of its gas transportation requirements to serve its retail gas customers.

A-1.70. See the attached agreements being provided in a separate file.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.71

Responding Witness: Charles R. Schram / Stuart A. Wilson

Q-1.71. Please provide the Firm Transportation costs assumed in the Companies' analyses indicating annual/monthly costs and term.

A-1.71. See the table below. The first year of the Companies' analysis period is 2030, but Mill Creek 6 cannot be commissioned until 2031. As noted in footnote 20 of Exhibit SAW-1, firm gas transportation estimates for Mill Creek 6 reflect the need for new interstate pipeline infrastructure, are likely conservative, and are assumed to decrease after 20 years once those investments are recovered. The Companies have not assumed a specific term for these agreements, but they are anticipated to have rollover provisions to ensure continuity of transport capacity beyond the initial term.

Firm Gas Transportation Costs Assumed in Stage One Analysis ($)

Year	Brown 12	Mill Creek 6
2030	9,634,460	17,342,028
2031	9,730,805	17,515,448
2032	9,828,113	17,690,603
2033	9,926,394	17,867,509
2034	10,025,658	18,046,184
2035	10,125,914	18,226,646
2036	10,227,174	18,408,912
2037	10,329,445	18,593,002
2038	10,432,740	18,778,932
2039	10,537,067	18,966,721
2040	10,642,438	19,156,388
2041	10,748,862	19,347,952
2042	10,856,351	19,541,431
2043	10,964,914	19,736,846
2044	11,074,563	19,934,214
2045	11,185,309	20,133,556
2046	11,297,162	20,334,892
2047	11,410,134	20,538,241
2048	11,524,235	20,743,623
2049	11,639,478	20,951,060
2050	11,755,872	6,461,027

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.72

Responding Witness: Lonnie E. Bellar / David L. Tummonds

Q-1.72. Please refer to the Direct Testimony of David L. Tummonds, p. 3 lines 1-3.

a. Provide a detailed list of all sites considered for the location of the proposed NGCCs.

b. Of the sites considered, please explain to what extent land availability was a determining factor in choosing Brown or Mill Creek instead.

A-1.72.

a. The Companies focused attention on their owned property at E.W. Brown, Mill Creek, and Green River.

b. Land availability was not a determining factor.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.73

Responding Witness: David L. Tummonds

Q-1.73. Please refer to the Direct Testimony of David L. Tummonds, p. 3, lines 9-19. Describe the differences in cost, construction, and operation of a 2x1 NGCC like Cane Run 7 and the 1x1 single-shaft NGCCs proposed in this case.

A-1.73. The most substantive advantage to the Companies' selection of the NGCCs proposed in this case is that this choice makes optimal use of existing and future space at plant sites due to their compact size relative to Cane Run 7. Two factors drive this land use advantage:

1. The proposed NGCC's utilize H-Class gas turbine technology vs. the F-Class gas turbine technology at Cane Run 7. An H-Class gas turbine generates about 75% more electric energy than an F-Class gas turbine with no appreciable increase in necessary space for the gas turbine.
2. The 1x1 single-shaft configuration requires one gas turbine, one steam turbine, one heat recovery steam generator ("HRSG"), and one electric generator whereas Cane Run 7 requires two gas turbines, one steam turbine, two heat recovery steam generators ("HRSG"), and three electric generators. The incremental major equipment requires substantial land use not then available for future use.

The Companies analyzed cost differences in Case No. 2022-00402. Costs for all unit configurations have trended up similarly since that case as all appreciable cost components have increased notably due to market demand as well as material and labor costs. Since the 2x1 configuration requires substantially more material and installation labor, the 1x1 has become even more favorable economically.

The primary difference associated with construction also revolves around the substantial increase in required time and material as a 2x1 project becomes more exposed to labor rate increases, raw material cost increases, and higher potential for excusable events associated with the increased scope of supply.

Operational differences also revolve around the substantial increase of major unit components as the plant staff would need to monitor, operate, maintain, and budget for the incremental major components discussed above.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.74

Responding Witness: David L. Tummonds

Q-1.74. Please refer to the Direct Testimony of David L. Tummonds. p. 4, and provide the following:

a. Any assessment, analysis, or modeling, along with any workpapers, pertaining to the Companies' evaluation of the acquisition and construction of a single, larger NGCC instead of the two proposed NGCCs.

b. Any information related to the cost or availability of a larger NGCC that the Companies' developed, relied upon, or received from either GE, Mitsubishi, or Siemens. If the Companies' do not have any further information relating to the cost or availability of a larger NGCC, please explain why no such inquiry was made.

c. Explain any disadvantages the Companies identified in constructing two NGCCs instead of a single larger NGCC at just one location.

A-1.74.

a. A single, larger NGCC would rely on the identical gas turbine as the primary driver and would, therefore, necessitate a 2x1, multi-shaft, configuration. Other than the F-Class vs. H-Class distinction discussed in response to Question No. 1.73 above, the same disadvantages to this alternative solution continue to render it sub-optimal. The Companies' response to Question No. 1.73 above also references the Companies' analysis as part of Case No. 2022-00402 and the assessment that differences between the costs have become more pronounced since.

b. The gas turbine necessary for a 2x1 configuration is effectively the same, which means gas turbine availability would be no different if the Companies chose the currently sub-optimal 2x1 configuration. Costs would increase for critical unit components due to the requirement for an additional

generator and the inclusion of a much larger and relatively uncommon steam turbine.

c. The Companies see no disadvantages to the proposal.

CONFIDENTIAL INFORMATION REDACTED

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.75

Responding Witness: David L. Tummonds

Q-1.75. Please refer to the Direct Testimony of David L. Tummonds, p. 7, lines 15-17. Beyond a "good experience with GE," what other factors have the Companies' taken under consideration in developing their plan to use GE for both Brown 12 and Mill Creek 6.

A-1.75. [redacted]

[redacted] Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

Lastly, having three sister units (Mill Creek 5, Brown 12, and Mill Creek 6) will have operations and maintenance benefits when the units enter commercial operation.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.76

Responding Witness: David L. Tummonds

Q-1.76. Please refer to the Direct Testimony of David L. Tummonds, p. 7, line 18 to p. 8 line 2. Explain the Independent Transmission Organization ("ITO") requirement that requires the Companies to wait until November 2025 to submit a generation interconnection request for Mill Creek 6.

A-1.76. Section 3.4.1 of the ITO's "Attachment M Standard Large Generator Interconnection Procedures (LGIP)" states:

> 3.4.1 Cluster Request Window.
>
> ITO shall accept Interconnection Requests during a forty-five (45) Calendar Day period (the Cluster Request Window). The initial Cluster Request Window shall open for Interconnection Requests beginning as of completion of the transition process set out in Section 5.1 of this LGIP and successive Cluster Request Windows shall open annually every November 16th thereafter; provided, however, if completion of the transition process set out in Section 5.1 of this LGIP occurs less than six (6) months prior to November 16th, the initial Cluster Request Window shall open November 16th.

The ITO is actively working through the transition process, and it is the Companies' understanding that the ITO will not complete the transition process on or by May 16. Because completion of the transition process will occur less than six months prior to November 16, 2025, the initial Cluster Request Window will open on November 16, 2025.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.77

Responding Witness: David L. Tummonds

Q-1.77. Please refer to the Direct Testimony of David L. Tummonds, p. 8, lines 3-10.

a. Did the Companies consider any engineering firm other than HDR for this proposal?

b. Besides familiarity, what other considerations did the Companies' take into account in choosing HDR to serve as the Owner's Engineer ("OE")?

c. Confirm that the Companies intend to use HDR as the OE for both Brown 12 and Mill Creek 6.

A-1.77.

a. No.

b. The Companies' familiarity with HDR's capabilities carries profound benefit in the current market environment where worldwide demand drives the Companies to issue less voluminous specifications so EPC bidders do not simply decline to bid as they assess their time more wisely spent with other projects. Similarly, HDR's familiarity with GE and the likely EPC bidders will ensure that issued specifications remain focused on necessary clarification as opposed to unnecessary volume likely to discourage EPC bidding. In addition, HDR's costs remain competitive, and the Companies remain pleased with HDR's performance.

c. Confirmed.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.78

Responding Witness: David L. Tummonds

Q-1.78. Please refer to the Direct Testimony of David L. Tummonds, p. 8, lines 12-15. When do the Companies' anticipate issuing a request for proposals ("RFP") for the EPC contractor?

A-1.78. The Companies plan to issue the noted RFP in either late in the third quarter or early in the fourth quarter of 2025.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.79

Responding Witness: David L. Tummonds

Q-1.79. Please refer to the Direct Testimony of David L. Tummonds, p. 10, lines 17-18. Have the Companies' quantified the potential increase in costs, should delay occur at any stage in the acquisition, construction, or in-service date of Brown 12 or Mill Creek 6? If yes, provide all cost estimates.

A-1.79. Though the current market for gas turbines and NGCCs is unpredictable, the Companies' recent experience with Brown 12 pricing may be indicative of the future cost of delay. The last evaluated cost for Brown 12 in Case No. 2022-00402 was $988 million, which was risen to the $1,383 million estimate for identical scope in the current case. Given the roughly 27-month delay between envisioned signing dates, the cost difference and duration yields an expectation of about 16% annual increase due to delay.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.80

Responding Witness: David L. Tummonds

Q-1.80. Please refer to the Direct Testimony of David L. Tummonds, p. 10, lines 20-22. Explain the reasons for the differences in fixed and variable costs between the two proposed NGCCs.

A-1.80. See the response to AG-KIUC 1-28(c) and (d).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.81

Responding Witness: David L. Tummonds

Q-1.81. Please refer to the Direct Testimony of David L. Tummonds, p. 11, lines 3-11.

a. Provide any analyses that support the Companies' conclusion that the proposed NGCCs will be able to transmit power using the existing network of transmission infrastructure.

b. Explain the "limited modifications" the Companies anticipate will be necessary for the proposed NGCCs to transmit power using the existing network of transmission infrastructure.

A-1.81.

a. See the response to Question No. 1.25.

b. Necessary modifications will be determined by the ITO and would typically include, but not be limited to, modification or expansion of existing substations, relocation of transmission lines adjacent to the transmission substation, and reconductoring of transmission circuits.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.82

Responding Witness: David L. Tummonds / Stuart A. Wilson

Q-1.82. Please refer to the Direct Testimony of David L. Tummonds, p. 11, lines 16-22.

a. Provide the cost estimate developed for the Ghent BESS.

b. If site space was not a limiting factor at the Cane Run site, would the Companies' propose a larger BESS system? If so, what size?

c. Did the Companies consider any locations for the BESS where site space did not necessitate limiting the BESS to 400 MW?

d. Did the Companies consider any locations other than Cane Run and Ghent?

i. If yes, provide any such comparison or analysis.

ii. If not, why not?

A-1.82.

a. See the response to AG-KIUC 1-30(h).

b. No. The Companies are proposing 400 MW of BESS to meet minimum reliability metrics.

c. Yes. Based on land availability, the Ghent station could accommodate a larger BESS system.

d. No.

i. Not applicable.

ii. These sites were deemed to be the most favorable among the Companies' existing sites.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.83

Responding Witness: David L. Tummonds

Q-1.83. Please refer to the Direct Testimony of David L. Tummonds, p. 13, lines 5-8. Have the Companies completed the engineering planning for the BESS?

a. If yes, please provide the engineering planning results.

b. If not, why not, and when do the Companies anticipate completing such planning?

A-1.83. The Companies have not completed the engineering planning for the Cane Run BESS.

a. Not applicable.

b. As noted in the response to LMG-LFUCG 1-22, battery technology continues to evolve such that making a technology selection at this time may not ensure the best available technology. As noted in the response to SREA 1-3, the Companies expect to complete equipment and installation contracting in the first or second quarter of 2026.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.84

Responding Witness: David L. Tummonds

Q-1.84. Please refer to the Direct Testimony of David L. Tummonds, p. 13, lines 20-21. Of the SCRs constructed on the Companies' coal-fired units, were any of those projects delivered at a capital cost higher than initially estimated? If so, please identify the project, the initial capital cost estimate, and the final capital cost to construct.

A-1.84. Yes. The initial SCR program, executed between 2000 and 2006, experienced cost overruns compared to the initial capital cost estimates. At that time, the industry primarily based initial cost estimates at large coal-fired generation facilities on EPA estimates, which the industry later determined were too largely based on early atypical installations. Specifically, that earlier experience suffered from the following atypical inputs: (a) strong competitive forces, with four or five major suppliers competing for a limited number of projects, (b) relaxed performance target demanding less equipment and engineering, and (c) degree of retrofit difficulty of the first sites. The Companies applied lessons learned from the initial SCR program when estimating and constructing the Brown Unit 3 SCR between 2010-2013, which resulted in final project costs well below the initial capital cost estimate.

Project	Initial Estimate (millions)	Final Cost (millions)
Initial SCR Program	$309.2	$399.4
Brown Unit 3	$183.9	$97.8

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.85

Responding Witness: Stuart A. Wilson

Q-1.85. Please refer to the Direct Testimony of Stuart Wilson, p. 7, lines 2-6, 8-12; p. 8, lines 4-11, providing various estimates of the likelihood of Energy Emergency Alert 1 and 3 events. For each scenario presented, please:

a. Explain the assumptions and calculations used to determine the likelihood of an Energy Emergency Alert 1, and provide supporting workpapers, if any.

b. Explain the assumptions and calculations used to determine the likelihood of an Energy Emergency Alert 3, and provide supporting workpapers, if any.

c. Explain how each percentage likelihood compares with a Loss of Load Expectation ("LOLE") of one day in ten years.

A-1.85.

a. See the response to AG-KIUC 1-13(c).

b. See the response to part (a).

c. The Companies developed the 2028 portfolio in Table 1 to have a LOLE of approximately one day in ten years. Therefore, the percentage likelihoods for the 2028 portfolio and these weather scenarios are consistent with a LOLE of one day in ten years.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.86

Responding Witness: Lonnie E. Bellar

Q-1.86. Please identify each instance over the last ten years when the Companies declared an Energy Emergency Alert 1, and describe the circumstances in each such instance.

A-1.86. The only occurrence of an EEA at any level was during Winter Storm Elliott in December 2022.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.87

Responding Witness: Tim A. Jones

Q-1.87. Please refer to the Direct Testimony of Stuart Wilson, p. 12, lines 3-6, regarding projected annual energy reductions of 1,500 GWh by 2032, please disaggregate the annual contributions of each of the following:

a. Customer-initiated energy efficiency improvements;

b. Advanced metering infrastructure related conservation voltage reduction;

c. ePortal savings;

d. Distributed generation;

e. The energy-efficiency effects of the Companies' 2024-2030 DSM-EE Plan; and

f. The assumed impacts of the Companies' DSM-EE programs beyond 2030.

A-1.87.

a. See the responses to JI 1-59(c) and SC 1-15 from Case No. 2024-00326. Energy efficiency reductions are not broken out between customer-initiated and DSM-EE. Total energy efficiency in 2032 is 1,110 GWh.

b. 205 GWh.

c. 60 GWh.

d. 200 GWh.

e. See the response to part (a).

f. See the response to part (a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.88

Responding Witness: Lana Isaacson

Q-1.88. Please provide an update on the DSM/EE Potential Study that Resource Innovations started work on for the Companies in September 2024, including when the study will be completed. If the study has already been completed, please produce a copy and supporting workpapers.

A-1.88. The DSM/EE Potential Study is in progress and expected to be completed by the end of June 2025.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.89

Responding Witness: Lana Isaacson

Q-1.89. Please provide a progress report on all existing DSM/Energy Efficiency and Demand Response programs, from January 2024 through March 1, 2025, including for each program and incentive:

a. Number of customers participating or enrolled each month;

b. Program expenditures;

c. Cumulative MW savings (and compare to program goals);

d. Cumulative MWh savings (and compare to program goals).

A-1.89.

a. See attachment being provided in a separate file.

b. See the response to part (a).

c. See the response to part (a).

d. See the response to part (a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.90

Responding Witness: Lana Isaacson

Q-1.90. Please identify any additional DSM, Energy Efficiency, or Demand Response Programs the Companies have evaluated since January 2024. Please describe any such new programs the Companies plan to implement in the next three years.

A-1.90. The Companies have reviewed three potential program enhancements, which the Companies included in their resource modeling in Case No. 2024-00326 and this case. These enhancements are Bring Your Own Device – Energy Storage, Bring Your Own Device - Home Generator, and Small Business Demand Response. The Companies have not conducted program design nor cost-effectiveness testing of these potential program enhancements. Within the current 2024-2030 DSM/EE Plan period, the Companies may explore the enhancements as pilot offerings.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.91

Responding Witness: Lonnie E. Bellar / Robert M. Conroy / Counsel

Q-1.91. In the last three years, has LG&E/KU studied, or caused to be studied, residential customers' energy burden? If so, please produce the results of each such study. If not, please explain why not.

A-1.91. The Companies object to this request as irrelevant to the subject matter of this proceeding under KRS 278.020(1) and the Commission's prior orders.[5] Without waiving that objection, although the Companies have not specifically studied their residential customers' energy burden, the Companies believe that their continued focus on the provision of safe and reliable service at the lowest reasonable cost will facilitate affordability for their customers.

[5] *See, e.g., Electronic Joint Application of Kentucky Utilities Company and Louisville Gas and Electric Company for Certificates of Public Convenience and Necessity and Site Compatibility Certificates and Approval of a Demand Side Management Plan and Approval of Fossil Fuel-Fired Generation Unit Retirements*, Case No. 2022-00402, Order at 10-12 (Ky. PSC Nov. 6, 2023) ("To obtain a CPCN, a utility must demonstrate a need for such facilities and an absence of wasteful duplication. … 'Need' requires: [A] showing of a substantial inadequacy of existing service, involving a consumer market sufficiently large to make it economically feasible for the new system or facility to be constructed or operated. … 'Wasteful duplication' is defined as 'an excess of capacity over need' and 'an excessive investment in relation to productivity or efficiency, and an unnecessary multiplicity of physical properties.' … The fundamental principle of reasonable least-cost alternative is embedded in such an analysis. Selection of a proposal that ultimately costs more than an alternative does not necessarily result in wasteful duplication. All relevant factors must be balanced.") (internal citations omitted).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.92

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

Q-1.92. During the development of the present CPCN application, did the Companies evaluate the potential for managed distributed energy resources ("DERs"), also known as a Virtual Power Plant ("VPP") to supply a portion of the Companies' forecasted new resource requirements? Please provide all analysis and workpapers with formulas intact.

A-1.92. No. See also the response in Case No. 2024-00326 to JI 2-15.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.93

Responding Witness: Lana Isaacson

Q-1.93. Please provide DSM-EE Annual Reports for the five previous complete program years.

a. Please provide reports as filed with the Commission

b. For each program, by program year, please provide projected and actual costs, participation, and gross and net savings

c. For each program, by program year, please provide a listing of measures installed/incentivized and quantities of each

d. Please provide electronic workpapers in fully functional Excel format with formulas intact.

e. Please provide the Companies' assumed avoided energy and capacity cost values used for purposes of DSM/EE potential evaluations, DSM/EE program planning, integrated resource planning, or CPCN development over the last five years. Please include the avoided cost values as initially filed in Case No. 2022-00402 and as updated in May 2023, as well as avoided cost values developed for use in Resource Innovations' DSM/EE Potential Study for the Companies.

A-1.93.

a. The Companies do not file DSM-EE Annual Reports with the Commission.

b. See attachment being provided in a separate file for the years 2020 to 2023. The data for year 2024 is included in the attachment provided in response to Question No. 89.

c. See attachments being provided in separate files.

d. See the responses to parts (b), (c), and (e).

e. For the assumed avoided energy and capacity cost values in the Potential Study, see the attached files: "20241028_LAK_DSMAvoidedCapacityCost" and "20241021_LAK_2025BP_IRPUpdate_MarginalCost_2025-2050." These files are confidential and provided pursuant to a Petition for Confidential Protection.

As guidance, the Companies are providing two examples of how to interpret the Avoided Capacity Cost document and utilize the tables. First, if the Companies have a need for new capacity in 2028, the avoided capacity cost of new DR programs beginning in 2025 would be $120/kW-yr in 2025 and subsequent years (see Table 1). Second, if the Companies have a need for new capacity in 2030, the avoided capacity cost of new DR programs beginning in 2025 would be $106/kW-yr in 2025 and subsequent years.

For the values assumed in Case No. 2022-00402, see the attached file:"20220630_LAK_AvoidedCapacityCost_JHayden_DR." This file is confidential and provided pursuant to a Petition for Confidential Protection.

For the values as updated in May 2023 for Case No. 2022-00402, see the attached file: "20220803_LAK_2023BPMarginalCost." See also "20220718_LAK_AvoidedCapacityCost_DR," which the Companies provided in Case No. 2022-00402 as part of Exhibit LI-6.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.94

Responding Witness: Lana Isaacson

Q-1.94. Please provide an update on the Evaluation, Measurement, and Verification ("EM&V") study that ADM Associates started work on for the Companies in October 2024.

a. If the study has already been completed, please produce a copy and supporting workpapers.

b. If the study has not been completed, please provide available data on DSM/EE program performance since January 2024, including but not limited to, program expenses, number of participants, housing types served, measures installed, estimated savings, administration expenses, and marketing expenses.

A-1.94. ADM Associates is currently working on an evaluation of the Income Qualified Services – Multifamily Program.

a. The study is not complete.

b. See the response to Question No. 1.89(a)-(d).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.95

Responding Witness: Tim A. Jones

Q-1.95. Please explain in sufficient detail to allow independent verification the analysis used to determine the appropriateness of including nearly 1,500 GWh of reductions (as opposed to any other savings level) by 2032 from customer-initiated energy efficiency improvements, AMI-related conservation load reduction and ePortal savings, distributed generation, and the energy efficiency effects of the Companies' proposed 2024-2030 DSM-EE Program Plan as well as new programs beyond 2030. Please produce related inputs, assumptions, and workpapers.

A-1.95. See the response to Question No. 87. The majority of the total load reduction is captured in the Companies' residential and small commercial forecasts, which are developed using a statistically-adjusted end-use modeling framework based on saturation and efficiency inputs from the Energy Information Administration. For workpapers supporting the overall energy efficiency assumptions used in the Companies' load forecasts used in resource modeling, see Exhibit TAJ-2 at:

- Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\Residential\Work\KU\Data\CONFIDENTIAL_KU EastSouthCentralRes23.xlsx
- Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\Residential\Work\KU\Data\IRP\CONFIDENTIAL_KU EastSouthCentralRes23_FlatEff.xlsx
- Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\Residential\Work\LE\Data\CONFIDENTIAL_LE EastSouthCentralRes23.xlsx
- Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\Residential\Work\LE\Data\IRP\CONFIDENTIAL_LE EastSouthCentralRes23_FlatEff.xlsx
- Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\Residential\Work\ODP\Data\CONFIDENTIAL_OD EastSouthCentralRes23.xlsx
- Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\Residential\Work\ODP\Data\IRP\CONFIDENTIAL_OD EastSouthCentralRes23_FlatEff.xlsx

- Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\Commercial\Data\CONFIDENTIAL_EastSouthCentralCom23_20240610.xlsx
- Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\Commercial\Data\CONFIDENTIAL_EastSouthCentralCom23_20240610_FlatEff.xlsx

For distributed generation, see responses to JI 1-123 and JI 1-137. Also see Exhibit TAJ-2 at "Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\PV\monthly_solar_gen_byRate" for files related to load reduction percentage of customer solar production. The files provided are in their native formats, which is not necessarily Excel.

For CVR calculations, see Exhibit TAJ-2 at "Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\Topside_Adjustment_Work\20240624_CVREnergyReductions_2025BP.xlsx."

For AMI calculations, see Exhibit TAJ-2 at "Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\Topside_Adjustment_Work\CONFIDENTIAL_20240624_AMI_EPortal_Savings_Adjustments_2025BP.xlsx."

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.96

Responding Witness: Stuart A. Wilson

Q-1.96. Please refer to the Direct Testimony of Stuart Wilson, p.17, lines 13-15, stating "the Companies' PLEXOS modeling tool could retire any resource at any time subject to the timing and replacement constraint of KRS 278.264 or keep existing coal units in service and incur stay-open costs for each affected unit."

a. Please explain how "timing . . . constraint of KRS 278.264" was included in the PLEXOS modeling.

b. Please explain how "replacement constraint of KRS 278.264" was included in the PLEXOS modeling.

c. Have the Companies modeled any sensitivities in which the timing and replacement constraints imposed by KRS 278.264 are not included? If so, please provide the results of such sensitivity analyses.

A-1.96.

a. The Companies' PLEXOS model optimized the timing of existing unit retirements on an economic basis within a given set of constraints. One of these constraints, named "SB349 Replacements," ensured compliance with KRS 278.264 but had no other direct effect on the timing of unit retirement decisions.

b. The "SB349 Replacements" constraint in the Companies' PLEXOS model requires the system to maintain a level of dispatchable resources (as defined by KRS 278.264) equal to the amount of dispatchable resources on the system at the beginning of the study period. For example, if the PLEXOS model decides to retire a coal-fired unit on an economic basis, this constraint will require the unit to be replaced by an equal or greater amount of net capacity from one or more compliant expansion units, including Brown.12, Mill.Creek.6, or SCCT.Expansion. This constraint does not limit the types of resources that can be added to serve load growth.

c. The Companies have not performed this analysis.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.97

Responding Witness: Stuart A. Wilson

Q-1.97. Please refer to the Direct Testimony of Stuart Wilson, p.19, lines 4-7, and produce:

a. Each of the 2024 IRP Resource Assessment fuel price scenarios; and

b. Each of the fuel price scenarios used in the Companies' 2022 CPCN case.

A-1.97.

a. See Table 38 on p. 62 of the Companies 2024 IRP, Volume III, Resource Assessment.

b. See the attachment being provided in a separate file. Certain information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.98

Responding Witness: Charles R. Schram

Q-1.98. Please provide the Companies' actual average monthly cost of coal since January 2022.

A-1.98. See attachment being provided in a separate file.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.99

Responding Witness: Charles R. Schram

Q-1.99. Please provide the Companies' actual average monthly cost of gas since January 2022.

A-1.99. See attachment being provided in a separate file.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.100

Responding Witness: Stuart A. Wilson

Q-1.100. Please produce each third-party coal price forecast, developed since January 2024, in the Companies' possession.

A-1.100. The Companies have not obtained any third-party coal price forecasts since January 2024.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.101

Responding Witness: Stuart A. Wilson

Q-1.101. Please produce each third-party gas price forecast, developed since January 2024, in the Companies' possession.

A-1.101. The Companies have not obtained any third-party gas price forecasts since January 2024.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.102

Responding Witness: Stuart A. Wilson

Q-1.102. To the extent known, do any entities other than the Companies use a coal-to-gas ratio to forecast coal prices? Please name each, if any.

A-1.102. The Companies have not evaluated other entities in this regard.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.103

Responding Witness: Stuart A. Wilson

Q-1.103. Since the 2022 CPCN, have the Companies sought independent peer review of its coal-to-gas ratio approach to forecasting coal prices?

a. If so, please describe the peer review process, identify the reviewers, and provide all documentation of the process and result(s).

b. If not, please explain why not.

A-1.103. No.

a. Not applicable.

b. Resource planning contemplates long-term investments in resources that are typically commissioned 3-5 years into the future. The aspects of coal and natural gas prices that materially impact long-term resource planning decisions are the average level and average ratio of coal and natural gas prices over a long period of time. Using the coal-to-gas ratio approach, the Companies consider a wide range of fuel prices to capture a reasonably broad range of uncertain futures.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.104

Responding Witness: Charles R. Schram

Q-1.104. In each of the last five years, on a monthly basis, please state the amount of:

a. Spot coal purchases

b. Contract coal purchases

c. Spot natural gas purchases

d. Contract natural gas purchases

Note: To the extent that the Companies differentiate purchase types for either fuel in terms other than "spot" and "contract," please describe and respond using the Companies' internal terminology.

A-1.104.

a-d See attachment being provided in a separate file.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.105

Responding Witness: Charles R. Schram / David L. Tummonds

Q-1.105. Please refer to the Direct Testimony of Stuart Wilson, p. 15, lines 11-13, stating "Regarding BESS options, the Companies developed cost estimates for 100 MW, four-hour BESS increments at Cane Run and Ghent based on the Companies' most recent estimates for the 125 MW, four-hour Brown BESS."

a. Please provide the Companies' "most recent estimates for the 125 MW, four-hour Brown BESS."

b. Please produce the third-party battery storage project proposals received in response to the Companies' 2022 Request for Proposals (Case No. 2022-00402).

c. Please produce the Companies' 4-hour BESS proposal(s) submitted in response to the 2022 RFP.

A-1.105.

a. See the response to AG-KIUC 1-30(d).

b. See the response to SC 1-21.

c. See the response to SC 1-21.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.106

Responding Witness: Lana Isaacson / Stuart A. Wilson

Q-1.106. Please refer to the Direct Testimony of Stuart Wilson, p. 16, n.15, and answer the following requests.

a. Please provide all assumptions used to model the Bring Your Own Device Energy Storage program.

b. Please describe in full in the assumed program design for the Bring Your Own Device Energy Storage program, including program budget specifying each relevant cost category (e.g., program administration; program incentives and rebates; marketing).

c. Please provide all assumptions used to model the Bring Your Own Device Home Generators program.

d. Please describe in full in the assumed program design for the Bring Your Own Device Home Generators program, including program budget specifying each relevant cost category (e.g., program administration; program incentives and rebates; marketing).

e. Please explain how the Companies expect expanding the existing Business Demand Response program to customers with loads ranging from 50 kW to 200 kW will affect program participation.

f. Please explain how the Companies determined a 50 kW to 200 kW range would be a reasonable eligibility range for the Business Demand Response program.

g. Did the Companies evaluate the potential reasonableness of increasing the program budget for the existing Business Demand Response program? If so, please provide the results of each such evaluation in the last year, including supporting workpapers. If not, please explain why not.

A-1.106.

a. The following assumptions were used in the Companies' PLEXOS model:

Property	Value
Max Capacity	See Exhibit SAW-2 at "PLEXOS\CSV\CapMax_DSM.csv."
Min Stable Level	See Exhibit SAW-2 at "PLEXOS\CSV\CapRatings_DSM.csv."
VO&M Charge	$1,838/MWh
Rating	See Exhibit SAW-2 at "PLEXOS\CSV\CapRatings_DSM.csv."
Min/Max Up Time	4 hours
Max Starts per Day	1
Max Starts per Year	10
Firm Capacity	See Exhibit SAW-2 at "PLEXOS\CSV\FirmCapacityWinter_DSM.csv."

b. The Companies have not completed program design for this enhancement.

c. The following assumptions were used in the Companies' PLEXOS model:

Property	Value
Max Capacity	See Exhibit SAW-2 at "PLEXOS\CSV\CapMax_DSM.csv."
Min Stable Level	See Exhibit SAW-2 at "PLEXOS\CSV\CapRatings_DSM.csv."
VO&M Charge	$1,563/MWh
Rating	See Exhibit SAW-2 at "PLEXOS\CSV\CapRatings_DSM.csv."
Min/Max Up Time	4 hours
Max Starts per Day	1
Max Starts per Year	10
Firm Capacity	See Exhibit SAW-2 at "PLEXOS\CSV\FirmCapacityWinter_DSM.csv."

d. The Companies have not completed program design for this enhancement.

e. See the response to JI 1.80 in Case No. 2024-00326.

f. The range of 50 – 200 kW was determined to include the small business customers who do not meet the eligibility criteria of the current Business Demand Response program.

g. No. The Business Demand Response program was enhanced, including an increased budget, in the 2024-2030 DSM-EE Program Plan, which the Commission approved in November 2023.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.107

Responding Witness: Stuart A. Wilson

Q-1.107. Please confirm that the Companies' Ex. SAW-1, 2025 Resource Assessment modeling does not attempt to account for off-system sales or purchases. If anything but confirmed, please explain.

A-1.107. Not confirmed. See Section 5.6 of the 2024 IRP, Volume III, Resource Adequacy Study regarding the consideration of imports from neighboring regions in determining minimum reserve margin constraints for resource planning.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.108

Responding Witness: David L. Tummonds

Q-1.108. Please refer to Ex. SAW-1, 2025 Resource Assessment, at p.40, n.61.

a. Please produce the referenced Build and Transfer Agreement.

b. Please explain the Companies' role in relation to the Firm Date milestone.

c. Please explain how the Companies are "tracking closely" the uncertainty related to the Firm Date milestone in the Build and Transfer Agreement, and provide supporting documentation, if any.

A-1.108.

a. See the response to Question No. 17.

b. The noted milestone is one of many established in the Build and Transfer Agreement ("BTA") between the Companies and FRON bn, LLC ("FRON") dated August 19, 2024, which, in aggregate, establish the dates by which each party must meet certain conditions precedents. If either party fails to meet a contractually required condition precedent, the other party has the right to terminate the BTA. Currently, the parties have extended by mutual agreement the contractually noted dates a total of 52 days. The most important of these dates is the date by which the parties expect FRON to have entered into an EPC contract meeting three high-level requirements:
1) EPC counterparty is an approved contractor from the list established between the Companies and FRON in the BTA agreement.
2) The EPC contract adheres to the "Form EPC Contract" agreed to by the Companies and FRON on February 19, 2025, subject to changes requested by FRON and agreed to by the Companies. This ensures that the EPC selected by FRON will construct the facility to the Companies' expectations.

3) Costs associated with the EPC contract between FRON and their EPC counterparty will not drive an increase to the BTA price agreed to by the Companies and FRON unless agreed to by the Companies.

The Companies regularly discuss with FRON the status of bids they have received and their negotiations. The Companies expect that FRON will enter into an EPC contract by end of second quarter this year.

c. See the response to part (b).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.109

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

Q-1.109. Please refer to Ex. SAW-1, 2025 Resource Assessment, at p.41, stating that stay-open costs did "not include carrying costs for prior investments or costs for projects that would not be affected by unit retirements in this analysis, such as ash pond closures."

a. For each of the existing units listed in Ex. SAW-1, 2025 Resource Assessment, Table 17, at p.40, please provide an itemized list of excluded costs for prior investments, including total project costs and amount still being recovered from customers.

b. For each of the existing units listed in Ex. SAW-1, 2025 Resource Assessment, Table 17, at p.40, please provide an itemized list of excluded "costs for projects that would not be affected by unit retirements … such as ash pond closures." Please include individual project costs, amount already recovered from ratepayers, and amount still to be recovered from customers.

A-1.109.

a. The total cost of prior investments by unit through December 31, 2023 is reflected in the table below. While the gross and net book values of prior investments are not reflected in stay-open costs, they are reflected in the Companies' financial analysis and these values can also be found on the NBV tab of the Financial Model at Exhibit SAW-2 at "FinancialModel\CONFIDENTIAL_20250226_FinancialModel_01_Stage 1Step2_0336.xlsx". Each unit has thousands of assets from completed projects that make up the cost of the unit. The amount being recovered in base rates from customers will be addressed in the Companies next base rate cases.

As of December 31, 2023

Unit	Cost	Reserve	Net Book
Brown 3	1,039,576,058	471,494,218	568,081,841
Ghent 1	655,811,862	340,091,317	315,720,545
Ghent 2	451,761,846	269,258,935	182,502,910
Ghent 3	743,095,758	419,916,872	323,178,886
Ghent 4	1,489,072,164	643,153,862	845,918,303
Mill Creek 2	398,741,822	154,737,576	244,004,246
Mill Creek 3	569,442,410	227,761,371	341,681,039
Mill Creek 4	1,270,741,466	467,157,091	803,584,375
Trimble County 1	658,117,516	309,047,151	349,070,365
Trimble County 2	1,538,527,951	357,166,340	1,181,361,611

b. Projects excluded from the Companies' analysis were those required by the EPA's CCR Rule, because these projects were necessary for the Companies to maintain environmental compliance. Because unit retirements would not impact their execution, they were not included in the stay open cost analysis. The individual project costs, amount already recovered from ratepayers, and amount still to be recovered from customers are in the Companies' ECR filings. See below for the relevant Environmental Surcharge forms for KU and LG&E for the month ended December 31, 2023, which corresponds to the point in time used in development of the stay-open costs for the IRP and CPCN analysis.

The most significant expenditures have already occurred and these projects are expected to be complete by the end of 2025, although there is some ongoing well monitoring.

ES FORM 2.01

KENTUCKY UTILITIES COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Amortization of Monthly CCR Closure Costs

For the Month Ended: December 31, 2023

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Description	Accumulated CCR Closure Costs	Accumulated Amortization (Prior Month)	Current Month Amortization	Accumulated Amortization (Current Month)	Accumulated Deferred Income Taxes (ADIT)	Unamortized CCR Closure Cost Balance (Net of ADIT)
			[(2)-(3)]/ RemainingAmortMonths	(3)+(4)		(2)-(5)-(6)
2016 Plan:						
Amended Project 36 - Brown Station (Main Pond)	$ 8,576,020	$ 5,293,996	$ 105,872	$ 5,399,868	$ 792,450	$ 2,383,702
Project 39 - Green River Station	$ 35,887,704	$ 24,073,678	$ 381,098	$ 24,454,776	$ 3,340,459	$ 8,092,470
Project 39 - Pineville Station	$ 8,134,990	$ 5,109,178	$ 97,607	$ 5,206,785	$ 747,539	$ 2,180,666
Project 39 - Tyrone Station	$ 7,828,664	$ 5,202,417	$ 84,718	$ 5,287,135	$ 646,328	$ 1,895,201
Project 40 - Ghent Station	$ 161,540,228	$ 24,691,815	$ 648,571	$ 25,340,385	$ 35,422,082	$ 100,777,761
Project 41 - Trimble County Station	$ 18,422,660	$ 1,685,528	$ 79,323	$ 1,764,851	$ 4,253,170	$ 12,404,639
Project 42 - Brown Station (Aux. Pond)	$ 37,497,633	$ 5,600,591	$ 151,171	$ 5,751,762	$ 8,110,390	$ 23,635,481
Net Total - All Projects:	$ 277,887,899	$ 71,657,203	$ 1,548,358	$ 73,205,561	$ 53,312,418	$ 151,369,920

Note 1: The Accumulated Deferred Income Taxes (ADIT) includes Excess Deferred Taxes resulting from the Tax Cuts and Jobs Act.
Note 2: Amended Project 36 – Brown Station (Main Pond)'s CCR Closure Costs were not included in the proposed ECR project eliminations in KU's base rate proceeding (CN 2020-00349) and therefore continue to be recovered in the ECR mechanism.

ES FORM 2.01

LOUISVILLE GAS AND ELECTRIC COMPANY
ENVIRONMENTAL SURCHARGE REPORT
Amortization of Monthly CCR Closure Costs

For the Month Ended: December 31, 2023

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Description	Accumulated CCR Closure Costs	Accumulated Amortization (Prior Month)	Current Month Amortization	Accumulated Amortization (Current Month)	Accumulated Deferred Income Taxes (ADIT)	Unamortized CCR Closure Cost Balance (Net of ADIT)
			[(2)-(3)]/ RemainingAmortMonths	(3)+(4)		(2)-(5)-(6)
2016 Plan:						
Project 29 - Mill Creek Station	$ 54,764,753	$ 10,948,347	$ 207,661	$ 11,156,008	$ 11,700,957	$ 31,907,788
Project 30 - Trimble County Station	$ 19,941,555	$ 1,823,343	$ 85,868	$ 1,909,212	4,603,965	$ 13,428,379
Net Total - All Projects:	$ 74,706,308	$ 12,771,691	$ 293,529	$ 13,065,220	$ 16,304,922	$ 45,336,167

Note 1: The Accumulated Deferred Income Taxes (ADIT) includes Excess Deferred Taxes resulting from the Tax Cuts and Jobs Act.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.110

Responding Witness: Stuart A. Wilson

Q-1.110. Please refer to Ex. SAW-1, 2025 Resource Assessment, p. 47, stating: The Companies' pricing analysis was focused on the period from 2012 through 2021 because the CTG price ratio resulting from spot market pricing between 2022 and 2024 reflects extreme and aberrant market conditions that would inappropriately skew long-term price forecasts. While spot market prices continued to show an above-average ratio through 2024, the Companies' Business Plan open position shows prices returning to the historical average ratio of 0.57 observed over the ten-year period from 2012 to 2021. At this coal-to-gas price ratio, the cost of coal and NGCC energy is very similar, regardless of the level of gas prices.

a. Did the Companies calculate coal-to-gas ("CTG") price ratios using spot market pricing during any period of time including and between 2022 and 2024?

i. If so, please produce each such calculation.

ii. If not, please explain the basis for the Companies' stated belief that including spot market pricing between 2022 and 2024 would have inappropriately skewed long-term price forecasts.

b. If not already provided, please produce the workpaper underlying Figure 13 of Ex. SAW-1, 2025 Resource Assessment.

A-1.110.

a. Yes.

i. See tab named "HistoricalCoalGasRatios" in Exhibit SAW-2 at "2025PlanInputs\CONFIDENTIAL_CommodityPriceForecasts\20240712 2025 BP Coal Price Forecast.xlsx."

ii. Not applicable.

b. The data used to produce this figure is in the same location provided in response to part (a)(i) of this question.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.111

Responding Witness: Stuart A. Wilson

Q-1.111 Please refer to Ex. SAW-1, 2025 Resource Assessment, Table 23 p. 48, and p. 49, stating that "[t]he Mid Gas, Mid CTG Ratio scenario reflects a blend of coal price bids and a third-party coal price forecast for 2025-2029 and a constant 0.57 CTG ratio thereafter. All other scenarios reflect constant CTG ratios in all years." Have the Companies performed, or caused to be performed, any statistical analysis of the correlation between historical coal and gas prices (e.g., calculation of correlation coefficient)? If so, please produce each such analysis, including supporting workpapers in native format with formulas intact.

A-1.111. The Companies have not performed this analysis.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.112

Responding Witness: Stuart A. Wilson

Q-1.112. Please refer to Ex. SAW-1, 2025 Resource Assessment, p. 49, n.74, stating that "[t]he mid coal-to-gas price ratio (0.57) is the average coal-to-gas ratio over the ten-year period from 2012 to 2021 and approximates the ratio of NGCC and coal operating costs."

a. Over the same ten-year period, what was the ratio of Cane Run 7 operating costs and Brown Unit 3 operating costs?

b. Over the same ten-year period, what was the ratio of Cane Run 7 operating costs and Ghent Unit 2 operating costs?

c. Over the same ten-year period, what was the ratio of Cane Run 7 operating costs and Mill Creek 3 operating costs?

d. Over the same ten-year period, what was the ratio of Cane Run 7 operating costs and Mill Creek 4 operating costs?

A-1.112. Rather than operating costs, a more accurate observation is that the CTG ratio approximates the average ratio of new NGCC (such as Brown 12 and Mill Creek 6) and coal operating *efficiencies*. The following table shows the ratios of heat rates for new NGCC (6,200 Btu/MWh) and various coal units in the Companies' portfolio.

Coal Unit	Average Heat Rate (2016-2021)	Ratio of New NGCC (6,200 Btu/MWh) and Coal Heat Rates
Brown 3	11,796	0.53
Ghent 2	10,633	0.58
Mill Creek 3	10,694	0.58
Mill Creek 4	10,472	0.59
	Average	0.57

The following table shows the historical average annual ratios of the cost of fuel receipts on a per MMBtu basis for each of the units requested starting in 2016, as Cane Run 7 was commissioned in mid-year 2015. These data are only available at a station level and are provided on an undelivered basis, which is consistent with how the Companies originally developed the CTG ratio. Over this 9-year period, the average CTG ratio was 0.63 and ranged from 0.39 to 0.81 on an annual basis. In their resource assessment, the Companies assume the average GTG ratio over a much longer period will be between 0.52 and 0.60.

CTG Ratio	Brown	Ghent	Mill Creek	Average
2016	0.74	0.75	0.78	0.76
2017	0.55	0.58	0.58	0.57
2018	0.63	0.58	0.59	0.60
2019	0.67	0.67	0.70	0.68
2020	0.80	0.77	0.84	0.81
2021	0.55	0.55	0.57	0.56
2022	0.34	0.41	0.41	0.39
2023	0.52	0.58	0.59	0.57
2024	0.74	0.65	0.76	0.72
2016-2021 Average	0.66	0.65	0.68	0.66
2022-2024 Average	0.53	0.55	0.59	0.56
2016-2024 Average	0.61	0.62	0.65	0.63

a-d. See table above.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.113

Responding Witness: Lonnie E. Bellar

Q-1.113. Please confirm that the Companies' most recent assessment of CVR potential is reflected in the "CVR Potential Study" created by the Companies' Generation Planning and Electric Distribution Planning group in October 2020, and filed with the Commission as Ex. LEB-3, Appendix D. If anything but confirmed, please produce the Companies' most recent assessment of CVR potential.

A-1.113. Confirmed.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.114

Responding Witness: Lonnie E. Bellar

Q-1.114. Did the Companies consider or assess reciprocating internal combustion engine ("RICE") generators as potential resource additions?

a. If yes, please provide all analysis or modeling, along with all workpapers, assumptions, inputs, and outputs.

b. If not, why not?

A-1.114. See Section 3.4.8 in the Companies' 2024 IRP Volume III Technology Update. Reciprocating internal combustion engines were not evaluated in the 2024 IRP or 2025 CPCN Resource Assessments.

a. Not applicable.

b. As stated in Section 3.4.8 of the Companies' 2024 IRP Volume III Technology Update, "reciprocating engines are more popular in areas with high penetrations of renewable generation due to their quick start times and operational flexibility." The Companies will continue to consider the inclusion of RICE resources in future IRPs.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.115

Responding Witness: Lonnie E. Bellar / Tim A. Jones

Q-1.115. Please refer to the Direct Testimony of Tim Jones, p. 4.

a. Identify each of LG&E-KU's peak demand during each hour of Winter Storm Gerri.

b. Identify each of LG&E-KU's peak demand during each hour of Winter Storm Elliott.

c. Identify each of LG&E-KU's peak demand during each hour of Winter Storm Enzo.

d. Identify each of LG&E-KU's installed peak winter generation capacity in the years 2022-2024.

e. For each of the years 2025 through 2045, identify the total number of hours in which you forecast that the Companies' peak demand will exceed each of:

   i. The currently installed peak winter generation.

   ii. The currently installed peak winter generation and the addition of one NGCC.

   iii. The currently installed peak winter generation and the proposed CPCN projects.

A-1.115.

a. The peak hourly demand of Winter Storm Gerri was 4,656 MW and occurred on 1/10/2024. The following week at the end of Winter Storm Heather, the Companies experienced a higher peak load of 6,407 MW on the morning of 1/17/2024.

b. The peak hourly demand of Winter Storm Elliot was 6,407 MW and occurred on 12/23/2022. See also the response to Question No. 9(b).

c. The peak hourly demand of Winter Storm Enzo was 6,814 MW and occurred on 1/22/2025.

d. The Companies' net winter generation capacity in each year from 2022-2024 was 7,992.7 MW.

e. In this CPCN's Resource Adequacy analysis, the Companies produced 51 hourly demand forecasts for 2032 based on actual weather in each of the last 51 years. See Exhibit SAW-2 at file path "SERVM\Inputs\20250205_LGEWYLoad_2025CPCN.csv." The file can be used to identify the number of hours that the Companies' peak demand will exceed each of installed peak winter generation below. Note that the year 2032 is the first year when the full amount of 1,750 MW of data center load is included.

   i. As of February 28, 2025 when this CPCN was filed, the Companies' total winter resources are 7,791 MW, including an estimated 111 MW of possible Curtailable Service Rider ("CSR") curtailments. Note that none of the 2022 CPCN-approved resources are included.

   ii. The net winter capacity of a NGCC is 660 MW, resulting in 8,451 MW of total winter resources.

   iii. The 2022 CPCN-approved projects include the addition of Mill Creek 5 (660 MW), the addition of Brown BESS (125 MW), the addition of dispatchable DSM (86 MW), the addition of owned solar (240 MW), the retirement of Mill Creek 2 (297 MW), and the retirement of small-frame CTs (55 MW), resulting in a net addition of 519 MW and 8,310 MW of total winter resources. Note that, consistent with their experience during Winter Storm Elliott, Heather, and Enzo, solar is assumed to be unavailable at the time of winter peak.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.116

Responding Witness: Tim A. Jones

Q-1.116. Please refer to the Direct Testimony of Tim Jones, p. 8, lines 5-10, which states: "Simply stated, the 2025 CPCN Load Forecast is the 2024 IRP Mid load forecast extended to 2054 and adjusted to include the 2024 IRP High load forecast's economic development load, i.e., the 2025 CPCN Load Forecast includes 1,750 MW of data center load by 2032 and the 120 MW BOSK Phase Two load, whereas the 2024 Mid Load Forecast includes only 1,050 MW of data center load and excludes BOSK Phase Two."

a. Justify the choice of the mid load forecast scaled up for additional data center load. Why is this the most reasonable assumption for CPCN consideration?

b. Provide all calculations and background materials used in selecting the mid load forecast adjusted to include the high data center forecast.

A-1.116.

a. See the response to PSC 1-1(b).

b. See the response to PSC 1-1(b). See also the response to AG-KIUC 1-35(a)(b).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.117

Responding Witness: Lonnie E. Bellar / Tim A. Jones

Q-1.117. Please provide a detailed explanation of LG&E-KU's rationale for selecting load forecasts for resource planning.

a. On what basis should a utility plan for load in CPCN proceedings?

b. Should a relatively high forecast be used? Please explain why or why not.

c. What are the negative consequences to a utility of overestimating future load in resource planning?

d. What are the negative consequences to ratepayers of overestimating future load in resource planning?

A-1.117. This request is unclear. That aside, the Companies' objective is to serve current and future customers safely, reliably, and at the lowest reasonable cost. To that end, the Companies have produced and will continue to produce load forecasts representing the most likely load scenario under normal weather assumptions given the information available at the time the forecast is completed. Because weather is typically not normal, load forecasting for purposes of reliability planning is done via the Companies' weather years analysis.

Load forecasts that are too low could create imperil reliable service and might cause the Companies to be unable to meet their obligation to serve all customers, both existing and new. Load forecasts that are too high could result in costs that are not as low as they reasonably could be.

In Case No. 2022-00402, the Commission's Final Order addressed criticisms that the Companies' load forecast was both too high and too low.[6] It noted that one intervener argued the Companies' forecast was too low and other interveners

[6] Case No. 2022-00402, Order at 62-66 (Ky. PSC Nov. 6, 2023).

argued the Companies' forecast was too high, and it did not find the Companies' forecast in the middle to be unreasonable:

> Thus, Kentucky Coal Association and Joint Intervenors, along with Sierra Club, argued, respectively, that LG&E/KU underestimated and overestimated its need for generation.
>
> …
>
> Thus, while the Commission does ultimately agree with Kentucky Coal Association that there is a high-side "risk" to the load associated with unexpected economic growth, the Commission finds that such a risk does not render LG&E/KU's load forecast unreasonable.
>
> …
>
> [T]he Commission does not conclude that the low-side risks raised with respect to LG&E/KU's load forecast or its minimum reserve margin analysis materially affected LG&E/KU's need in this matter.[7]

The Commission went on to state, "[T]he Commission, if anything, would prefer that utilities err on the high side to ensure that they have sufficient reliability to serve load."[8]

a. See above.

b. See above.

c. See above.

d. See above.

[7] *Id.* at 62-65.
[8] *Id.* at 65.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.118

Responding Witness: John Bevington / Tim A. Jones

Q-1.118. Please refer to the Direct Testimony of Tim Jones, p. 12, lines 5-8, explaining that "[i]n addition to its size, the projected economic development load, particularly BOSK and data center load, is unlike nearly all other customer loads because it has a high load factor (assumed to be 95% for data centers and 90% for BOSK), much higher than the Companies' current average system load factor (about 56% in 2024)."

a. Does the stated current average system load factor of 56% include all customer classes?

b. Please identify the twenty highest load factor accounts currently taking service from the Companies. For each account, please also state the applicable rate schedule(s), peak demand, and monthly energy usage.

c. Please provide the Companies' basis for assuming a 95% load factor for data centers and a 90% load factor for BlueOval SK Battery Park ("BOSK").

d. Are the Companies aware of evidence that data centers do or do not, nationwide, participate in demand response programs?

A-1.118.

a. Yes, the total system load factor includes all customers.

b. See the table below.

Account Load Factor Rank	Company	Rate	Load Factor	Peak Demand (kW or kVA)	Total Energy (kWh)	Days	Energy per 30 Days

1	KU	PS Secondary	96%	77	649,600	368	52,957
2	KU	PS Secondary	95%	69	568,700	362	47,130
3	KU	PS Secondary	95%	97	813,800	368	66,342
4	KU	TOD Secondary	95%	424	3,525,700	366	288,992
5	KU	RTS	94%	13,360	110,448,000	366	9,053,115
6	KU	PS Secondary	90%	53	421,080	364	34,704
7	KU	PS Secondary	90%	1	10,216	365	840
8	KU	PS Secondary	89%	48	378,212	365	31,086
9	KU	PS Secondary	89%	34	264,680	363	21,874
10	LG&E	TOD Secondary	89%	495	2,877,600	273	316,220
11	KU	PS Secondary	88%	179	1,371,500	365	112,726
12	LG&E	PS Secondary	86%	149	1,122,400	364	92,505
13	KU	TOD Primary	86%	1,787	13,618,800	368	1,110,228
14	LG&E	PS Secondary	86%	174	1,313,760	367	107,392
15	LG&E	PS Secondary	85%	215	1,622,400	369	131,902
16	KU	TOD Secondary	85%	356	2,648,100	366	217,057
17	KU	PS Secondary	84%	121	890,680	363	73,610
18	LG&E	PS Secondary	84%	115	838,860	363	69,327
19	KU	PS Secondary	84%	70	515,280	366	42,236
20	LG&E	TOD Primary	83%	4,283	31,675,200	370	2,568,259

c. For data centers, see the response to AG-KIUC 1-34(a). The load factor for BOSK is based on a load shape provided by BOSK.

d. No. There is certainly discussion of data centers participating in demand response programs to some extent.[9] But the issue has not arisen in the Companies' data center-related interactions to date.

[9] *See, e.g.,* Varun Mehra and Raiden Hasegawa, "Supporting power grids with demand response at Google data centers," Google Cloud Blog (Oct. 3, 2023), *available at* https://cloud.google.com/blog/products/infrastructure/using-demand-response-to-reduce-data-center-power-consumption (accessed Apr. 13, 2025).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.119

Responding Witness: Tim A. Jones

Q-1.119. Confirm that the 2024 IRP load forecast and 2025 CPCN load forecast are the first two forecasts by the Companies to explicitly include data center customer growth. If anything but confirmed, please explain.

A-1.119. Confirmed.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.120

Responding Witness: Tim A. Jones

Q-1.120. Please provide a written description, a workbook (in an Excel spreadsheet with formulae intact, along with all inputs, outputs, and related data), and any relevant background materials comparing the load forecasts used in this CPCN to the forecasts used to develop the 2024 IRP. Include descriptions and data disaggregated by customer type. Include annual demand, summer and winter peak, number of customers, use per customer, and total usage. Include any load scenarios considered in either the CPCN or the IRP.

A-1.120. For a comparison between the 2024 IRP and the current CPCN forecast, see the Jones Direct Testimony at pg. 8: "RELATIONSHIP OF THE 2025 CPCN LOAD FORECAST TO THE 2024 IRP LOAD FORECASTS." See also the response to AG-KIUC 1-31.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.121

Responding Witness: Tim A. Jones

Q-1.121. Please provide historical and forecasted annual demand and winter/summer peak broken down by scenario and customer class; forecasts should include number of customers, use per customer, and total usage.

A-1.121. For historical and forecasted seasonal peaks data, see the response to AG-KIUC 1-31.

The Companies forecast peaks at the system level and do not forecast by customer class; historical peaks by customer class are unavailable without full deployment of AMI. For hourly forecasts of each load scenario described in Wilson Direct Testimony at page 18, see the response to AG-KIUC 1-13(d). For historical and forecast customer counts, usage, and UPC, see the attachment being provided in a separate file. See the footnote to Question No. 132 for rates included in each class.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.122

Responding Witness: Tim A. Jones

Q-1.122. Please provide all existing and new planned demand-side resources included in annual demand and peak forecasts by scenario. Include all related background materials and a written explanation of all assumptions.

A-1.122. See the response to Question No. 87. DSM-Demand Response programs are not included in the peak forecasts and are instead modeled as supply-side resources.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.123

Responding Witness: Tim A. Jones

Q-1.123. Please provide all existing and expected customer behind-the-meter ("BTM") resources included in annual and peak forecasts by scenario. Include all related background materials and a written explanation of all assumptions.

A-1.123. For capacity forecast, see Exhibit TAJ-2 at "Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\PV\FINAL_forecast_Billed_solar_subtractions_2025BP_GP_ODPadj.xlsx."

For existing behind-the-meter resources, see Exhibit TAJ-2 at "Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\PV\CONFIDENTIAL_FINAL_NM History_custFC_GPupdate_ODPadj.xlsx."

For background materials, see Exhibit TAJ-2 at "Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\PV\Input_Data."

For general discussion of process, see Exhibit TAJ-1 at page 16, Section 4.5 "Distributed Solar Generation Forecast."

For foundational distributed energy resources forecast assumptions and inputs, see the Jones Direct Testimony at pages 31-40.

Behind-the-meter assumptions did not vary between the CPCN load scenarios as those scenarios only contemplated different levels of economic development load.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.124

Responding Witness: Tim A. Jones

Q-1.124. Please provide projections of all new loads, such as those from electrification of transportation (i.e., electric vehicles) and buildings (i.e., electric heat pumps) sectors included in annual and peak forecasts by scenario. Include all related background materials and a written explanation of all assumptions.

A-1.124. For the electric vehicle forecast, see Exhibit TAJ-2 at "Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\EV\EV_forecast_results_25BP_final.xlsx", tab "VIO_FC_comp."

For electric vehicle forecast inputs and analyses, see Exhibit TAJ-2 at "Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\EV\EV\Analysis and "Load_Forecasting\Electric_Load_Forecast\Electric\Forecasts\EV\EV\Input Data."

For electric vehicle forecast assumptions and inputs, see the Jones Direct Testimony at pages 40-42.

For a general discussion of the process, see Exhibit TAJ-1 at page 16, Section 4.6 "Electric Vehicle Forecast."

For space heating electrification assumptions, see response to JI 1-48 in Case No. 2024-00326. Also see Jones Direct Testimony at page 29, "OTHER FOUNDATIONAL LOAD FORECAST ASSUMPTIONS AND INPUTS: ENERGY EFFICIENCY" for general discussion.

For more detailed information on statistically-adjusted end-use ("SAE") modeling, see Exhibit TAJ-1 Appendix B.

Electrification assumptions did not vary between the CPCN load scenarios as those scenarios only contemplated different levels of economic development load.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.125

Responding Witness: Tim A. Jones

Q-1.125. Please provide assumptions regarding all new large load customers (e.g., data centers, cryptocurrency mining, new large industrial loads, etc.) included in annual and peak forecasts by scenario. Include all related background materials and a written explanation of all assumptions.

A-1.125. See the responses to AG-KIUC 13(d) and AG-KIUC 1-26(a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.126

Responding Witness: Stuart A. Wilson

Q-1.126. Please provide all fuel price projections used in modeling by scenario with clear evidence and justification. Include all related background materials and a written explanation of all assumptions.

a. What is the data source used to develop the Companies' gas price projections?

b. What is the data source used to develop the Companies' coal price projections?

A-1.126. See Sections 6.6.1, 6.6.2, and 6.6.3 in Exhibit SAW-1 Resource Assessment in the testimony of Stuart A. Wilson. See also Exhibit SAW-2 at "2025PlanInputs\CONFIDENTIAL_Fuel."

a. See Sections 6.6.1 and 6.6.2 in Exhibit SAW-1 Resource Assessment in the testimony of Stuart A. Wilson.

b. See Sections 6.6.1 and 6.6.3 in Exhibit SAW-1 Resource Assessment in the testimony of Stuart A. Wilson.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.127

Responding Witness: Tim A. Jones

Q-1.127. Did Mr. Jones, or any member of the team responsible for the 2024 IRP load forecast or 2025 CPCN load forecast, attend any training or continuing education courses specifically addressing how to approach the unique challenges of forecasting potential data center customer demand changes? If so please, please identify each such training or course and produce any related documents in the Companies' possession.

A-1.127. No, but the Companies have participated in relevant industry conferences and initiatives. Members of Mr. Jones's team attended Itron's 2024 Annual Energy Forecasting Conference. At this conference, data centers were a key point of discussion with other utility or ISO/RTO forecasters. PPL has also joined EPRI's Data Center Flexible Load Initiative ("DCFlex"), and Mr. Jones has participated in a DCFlex meeting specifically discussing data center load forecasting. More importantly, Mr. Jones has had regular conversations with Mr. Bevington and members of Mr. Bevington's team to get updated information on prospective data center and other large customers.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.128

Responding Witness: John Bevington

Q-1.128. What energy-related factors are used by data center developers in choosing location besides electricity rates? Do data centers prefer places with renewable generation, green tariffs, behind the meter storage/generation, or DR programs?

A-1.128. For projects the Companies are engaged with, the primary energy-related factor is available transmission and generation capacity, and how quickly those can be delivered. It is the choice of the individual data center operator as to whether they prefer places with attributes suggested in the second part of the question.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.129

Responding Witness: Tim A. Jones

Q-1.129. Please identify and produce each reference document, manual, guide, or other resource used to inform the Companies' approach to forecasting potential data center customer demand changes in either the 2024 IRP or the 2025 CPCN load forecast.

A-1.129. As mentioned in the response to Question No. 127 and in the responses to PSC 1-3 and 1-28(a), the Companies relied mainly upon information provided by prospective data center customers to develop the data center portion of the load forecast. Prior to finalizing the 2025 CPCN Load Forecast, Mr. Jones inquired of the Itron forecasting team concerning data center load shape data. As shown in the attached email being provided as a separate file, one member of the Itron team stated that, based on reviewing hourly load data for a couple of data centers, such data centers had monthly load factors of 95% to 97%, no noticeable load differences between weekdays and weekends, and about 7% higher loads in summer months (likely due to cooling load). This is largely consistent with the Companies' data center load shapes.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.130

Responding Witness: John Bevington

Q-1.130. Please refer to the Direct Testimony of Tim Jones, p. 13, lines 5-7, which states: "John Bevington observes in his testimony that the data center developers with whom the Companies have interacted have expressed no interest in either DSM-EE programs or curtailable service."

a. Reconcile Mr. Jones' statement with the Direct Testimony of John Bevington, p. 14 lines 17-18. When Mr. Bevington refers to his experience with data centers, is he referring to the same interactions between the Companies and data center developers as Mr. Jones?

b. What specific DSM-EE or curtailable service products and programs did LG&E-KU offer to data center developers? Provide written descriptions as well as data regarding savings and costs.

c. What specific data center developers did LG&E-KU provide this information to?

d. What is the combined expected load by year of those data center projects?

e. Provide any evidence of the non-speculative nature of those projects, including but not limited to real estate purchased, permits applied for, TSRs submitted, and EPC agreements signed.

A-1.130.

a. Yes.

b. The Companies have not at this time had any requests from data center projects about DSM-EE programs.

c. Not applicable.

d. Not applicable.

e. See the response to 1-7(a), PSC 1-17 (b) and PSC 1-18(c), the response to AG-KIUC 1-45(a), and Case No. 2024-00326, responses to JI 2-16 and 2-25..

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.131

Responding Witness: John Bevington / Lana Isaacson / Tim A. Jones

Q-1.131. Please refer to the Direct Testimony of Tim Jones, p. 13 lines 7-10, which states: "Moreover, such customers already have a strong financial incentive to be as energy-efficient as reasonably possible, making it unlikely the Companies could develop and offer cost-effective energy-efficiency programs for such customers."

a. What commercial and industrial energy efficiency, demand response or curtailable load programs does LG&E-KU offer to its current customers?

b. Why do C&I customers participate in those programs?

c. Do LG&E-KU's existing C&I customers have strong financial incentives to be as energy-efficient as possible?

d. How do planned data center customers' incentives differ from existing C&I customers?

A-1.131.

a. The Companies have several programs available to their commercial and industrial customers. They are Business Rebates, Small Business Direct Install ("SBDI"), and Business (Nonresidential) Demand Response. Additionally, small business customers on the General Service ("GS") rate can also participate in the Bring Your Own Device ("BYOD") and Peak Time Rebates ("PTR") Programs. For a more detailed description of each offering, please see the applicable sections in Exhibit JB-1 from Case No. 2022-00402.

b. A key component of the LGE KU Industrial Sector DSM Potential Assessment for 2016-2035 included a survey of industrial customers. This survey, in part, was performed to further understand the motivations of industrial customers for pursuing energy efficiency upgrades and the

willingness to participate in demand response programs. The survey results were provided as part of Case No. 2014-00003.

Nearly one-third of large customers stated they had goals related to energy efficiency. The top reasons for completing energy efficiency upgrades were to lower energy costs and replace aging equipment with more efficient equipment. Industrial customers were most likely to select energy efficient equipment when the payback period was within one year, they had available capital, and/or the return on investment met their internal objectives. Thus, the reasons for participation in incentive-based energy efficiency programs can complement the reasons for making the upgrades and improvements.

c. All customers have financial incentives to be energy efficient. But the Companies' anticipated data center loads are much larger and much higher load factor than any existing customer, giving them far larger total financial incentives to be energy efficient.

d. See the response to (c).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.132

Responding Witness: Tim A. Jones

Q-1.132. Please refer to the Direct Testimony of Tim Jones, p. 21, lines 21-23, stating that "weather-normalized variances from the Companies' recent load forecasts have been low, and the forecasts have proven to be reasonable and reliable for resource planning."

a. As used in the referenced testimony, do "recent load forecasts" refer to the 2021 IRP Load Forecast and the 2022 CPCN-DSM Load Forecast? If not, please explain.

b. Please provide the Companies' weather-normalized sales, annually and segregated by customer class, in the 10-year period of 2015-2024.

A-1.132.

a. As demonstrated in Mr. Jones's testimony at page 11 in Figure 4, the load forecasts excluding economic development load have not changed materially since the 2021 IRP. Therefore, while "recent load forecasts" could refer to any of the forecasts included in Figure 4 as the forecasts are indeed performing well when compared to weather-normalized actuals, the Companies intended this to refer to the 2024 IRP Mid and 2025 CPCN load forecasts.

b. The Companies' weather-normalized billed sales in MWh, annually and segregated by customer class, can be found in the table provided below. The Companies do not weather-normalize industrial sales, as the class as a whole is not weather-sensitive.

Year	Industrial[10]	Municipal	Other	Residential	Commercial
2015	9,946,591	412,573	240,888	10,389,827	10,279,133
2016	9,638,040	416,111	239,851	10,453,896	10,198,710
2017	9,511,035	404,288	240,925	10,425,476	10,087,485
2018	9,683,222	402,670	245,113	10,598,233	9,961,509
2019	9,436,767	398,044	241,119	10,385,691	9,755,015
2020	8,794,657	382,947	241,596	10,667,623	9,168,259
2021	9,330,671	384,472	237,885	10,632,206	9,424,926
2022	9,399,515	380,317	231,064	10,495,994	9,337,207
2023	9,170,168	359,695	222,290	10,445,206	9,289,169
2024	9,424,420	359,259	216,488	10,583,785	9,329,119

[10] Industrial is defined as Retail Transmission Service, Time-Of-Day Primary Service, and Power Service Primary rates.
Other is defined as Lighting LES, Outdoor Sports Lighting, Lighting TES, Electric Vehicle (ChargePoint), and Unmetered rates.
Residential is defined as Residential Service and Residential Time-Of-Day Service rates.
Commercial is defined as All Electric School Service, General Service, Power Service Secondary, and Time-Of-Day Secondary Service rates.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.133

Responding Witness: Tim A. Jones

Q-1.133. Please refer to the Direct Testimony of Tim Jones, p. 23, Figure 6. Confirm that Figure 6 reflects daily maximum and minimum loads for all customers in the Mid load forecast scenario, including new data center customers. If anything but confirmed, please explain.

A-1.133. Not confirmed. As stated in Mr. Jones's testimony, "[T]he 2025 CPCN Load Forecast is the 2024 IRP Mid load forecast extended to 2054 and adjusted to include the 2024 IRP High load forecast's economic development load, i.e., the 2025 CPCN Load Forecast includes 1,750 MW of data center load by 2032 and the 120 MW BOSK Phase Two load …."[11] Also, Figure 6 reflects daily maximum and minimum loads *for daylight and non-daylight hours* for all customers in the *CPCN* load forecast, including new data center customers. Therefore, there are 366 daily maximum points for daylight hours, 366 daily minimum points for daylight hours, 366 daily maximum points for non-daylight hours, and 366 daily minimum points for non-daylight hours.

[11] Jones Direct at 8 ln. 5-8.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.134

Responding Witness: Robert M. Conroy / Charles R. Schram

Q-1.134. Please refer to the Direct Testimony of Tim Jones, pp. 33-34, and answer the following requests.

a. Have the Companies evaluated or caused to be evaluated the impact of potential rate structure changes on influencing customers' adoption rate of distributed energy resources, particularly solar and storage resources? If so, please produce each such evaluation, including supporting documentation and workpapers.

b. Confirm that the Companies anticipate filing general electric rate cases by July 1, 2025. If anything but confirmed, please explain.

c. Approximately when would the Companies expect tariff changes approved in their next general electric rate cases to go into effect?

A-1.134.

a. The Companies have not performed such analysis.

b. The Companies object to this request as irrelevant to the subject matter of this proceeding under KRS 278.020(1) and the Commission's prior orders.[12] Without waiving that objection, on April 4, 2025, the Companies filed their notices of intent to file base rate applications on May 30, 2025.

[12] *See, e.g., Electronic Joint Application of Kentucky Utilities Company and Louisville Gas and Electric Company for Certificates of Public Convenience and Necessity and Site Compatibility Certificates and Approval of a Demand Side Management Plan and Approval of Fossil Fuel-Fired Generation Unit Retirements*, Case No. 2022-00402, Order at 10-12 (Ky. PSC Nov. 6, 2023) ("To obtain a CPCN, a utility must demonstrate a need for such facilities and an absence of wasteful duplication. … 'Need' requires: [A] showing of a substantial inadequacy of existing service, involving a consumer market sufficiently large to make it economically feasible for the new system or facility to be constructed or operated. … 'Wasteful

c. The Companies object to this request as irrelevant to the subject matter of this proceeding under KRS 278.020(1) and the Commission's prior orders.[13] Without waiving that objection, none of the proposals in this proceeding will affect the base rates applications the Companies plan to file on May 30, 2025.

duplication' is defined as 'an excess of capacity over need' and 'an excessive investment in relation to productivity or efficiency, and an unnecessary multiplicity of physical properties.' … The fundamental principle of reasonable least-cost alternative is embedded in such an analysis. Selection of a proposal that ultimately costs more than an alternative does not necessarily result in wasteful duplication. All relevant factors must be balanced.") (internal citations omitted).

[13] *Id.*

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.135

Responding Witness: Robert M. Conroy / Lana Isaacson / Tim A. Jones

Q-1.135. Please refer to the Direct Testimony of Tim Jones, p. 36, stating, "[c]urrently, the Companies do not have access to data concerning how these customers use their batteries, and the Companies lack data as to what extent non-net metering customers have battery storage because there is no mechanism to obtain such data today."

a. Please explain in full the Companies' plan to develop data concerning how customers use their batteries.

b. Please explain in full the Companies' plan to develop data concerning the extent to which non-net metering customers have battery storage systems.

A-1.135.

a. The Companies do not currently have the means or tariff authority to collect data concerning how customers use their batteries per se, though the net effect of how customers use their batteries is embedded in the Companies' load data (and therefore their load forecasts). Given the low penetration of known customer battery installations (2.5 MW of distributed battery storage capacity across 323 installations at the end of 2024, which is only about 6% of the Companies' net metering customer base and less than 0.03% of all customers), it is unclear what the benefit of obtaining such data would be.

That notwithstanding, the Companies are considering a new measure within the existing Bring Your Own Device program for residential and small business customers to enroll customer-owned, dispatchable residential-style battery energy storage systems, which would allow the Companies to control participating customers' batteries and gather data about their usage.

See also the response to JI 1-72 in Case No. 2024-00326.

b. The Companies do not currently have the means or tariff authority to collect data concerning non-net-metering customers' battery installations that operate exclusively not in parallel with the Companies' system.[14] See the response to part (a).

[14] The Companies' retail electric tariffs require customers to report any generation that operates in parallel with the Companies' system. Kentucky Utilities Company, P.S.C. No. 20, Original Sheet No. 96, Customer Generation; Louisville Gas and Electric Company, P.S.C. Electric No. 13, Original Sheet No. 96, Customer Generation.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.136

Responding Witness: Lana Isaacson

Q-1.136. Have the Companies evaluated a Bring Your Own Battery ("BYOB") demand response program, as discussed in their most recent IRP filing?

a. If yes, please provide all documents and spreadsheets (with formulas intact) used and produced in the analysis. If no, why not?

b. Do the Companies have plans to implement a BYOB program? If yes, please provide all details concerning the plan, including budget, program goals (MW and MWh of battery deployed over what time frame), and program structure.

A-1.136.

No, the Companies plan to evaluate the BYOD – Energy Storage program enhancement, which will include details of a potential program design.

a. Not applicable.

b. The Companies have not determined BYOD – Energy Storage implementation plans at this time.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.137

Responding Witness: Tim A. Jones

Q-1.137. Please refer to the Direct Testimony of Tim Jones, pp. 37-38, and provide the inputs, assumptions, outputs, and workpapers related to the Companies net metering and Qualifying Facility ("QF") customer forecasts.

A-1.137. See response to JI 1-123. Also see Exhibit TAJ-2 at "Load_Forecasting\CPCN\Work\ 20250117 Solar and battery update.xlsx" and "CPCN\Work\PV capacity and projection.xlsx."

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.138

Responding Witness: Tim A. Jones

Q-1.138. Please provide the number of customers in each rate class for LG&E-KU.

A-1.138. See the response to Question No. 121.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.139

Responding Witness: Robert M. Conroy

Q-1.139. Please provide a summary of the demand charges and kWh charges for each rate class that includes a demand charge.

A-1.139. The Companies do not have the requested summary. The Companies' Kentucky retail electric service tariffs are available on the Commission's website and the Companies' website.[15]

[15] https://psc.ky.gov/tariffs/Electric/Kentucky%20Utilities%20Company/Tariff.pdf; https://psc.ky.gov/tariffs/Electric/Louisville%20Gas%20and%20Electric%20Company/Tariff.pdf; https://lge-ku.com/sites/default/files/media/files/downloads/KU-Electric-Rates-01212025.pdf; https://lge-ku.com/sites/default/files/media/files/downloads/LGE-Electric-Rates-03142025.pdf.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.140

Responding Witness: Tim A. Jones

Q-1.140. How many of LG&E-KU's customers have an annual peak demand greater than:

a. 50 kW

b. 100 kW

c. 250 kW

d. 500 kW

e. 1 MW

f. 5 MW

g. 10 MW

h. 20 MW

i. 50 MW

A-1.140.

For all subparts, the response counts the total number of contracts which had a billed base kW or kVA greater than or equal to the number above in 2024.

a. 9,685

b. 6,158

c. 2,678

d. 1,372

e. 579

f. 103

g. 47

h. 18

i. 4

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.141

Responding Witness: Lonnie E. Bellar / John Bevington

Q-1.141. According to PPL's Second Quarter 2024 Investor Update presentation, "active data center requests" to the Companies "have increased to more than 2 GWs over 2027-2033, with about 350 MW in advanced stages."

a. Please define "active request" as used in the referenced presentation.

b. Please define "advanced stages" as used in the referenced presentation.

c. Please describe each "stage" that a data center request would progress through from initial contact with the Companies to delivery of electric services.

d. Please state the number of combined load of active data center requests currently before the Companies, if any.

A-1.141.

a. As referenced, active requests are projects that the Companies' economic development team are, or were, currently working on.

b. As referenced, advanced stages referred to a project that was in imminent stage. See the response to PSC 1-18(c) for an explanation of project stages.

c. See the response to PSC 1-18(c).

d. See the response to PSC 1-18(a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.142

Responding Witness: Lonnie E. Bellar / John Bevington

Q-1.142. Please provide an electronic copy of all presentations made by or given to PPL leadership team in the last 12 months, that identifies, summarizes, analyzes, or evaluates the impacts of data centers or other new large load facilities to PPL, the Companies' or its customers, including, but not limited to, factors considered by such facilities in making siting decisions, load growth, energy consumption, revenue generation, rate impacts, bill impacts, subsidies or cross-subsidies associated with such facilities, use of special contracts, modifications to applicable rates or tariffs, electric interconnection agreements, economic development, and inquiries received by the Companies' for interconnection.

A-1.142. See the response to JI 1-64 in Case No. 2024-00326.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.143

Responding Witness: John Bevington

Q-1.143. Please refer to the Direct Testimony of John Bevington, p. 4, lines 13-16. Provide a detailed list of all energy-intensive "mega projects" that have been announced within the Companies' territories in the past 5 years.

A-1.143. The BlueOval SK Battery Plant project in Hardin County.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.144

Responding Witness: John Bevington

Q-1.144. Please refer to the Direct Testimony of John Bevington, p. 7, lines 2-5. Provide an estimate of the size of data center projects the Companies are working to develop outside of Jefferson County.

A-1.144. See the response to PSC 1-17(b).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.145

Responding Witness: John Bevington

Q-1.145. Please refer to the Direct Testimony of John Bevington, p. 8, lines 16-19, stating that "Kentucky is located in close proximity to major data centers in neighboring states. Based on my discussion with data center developers, I understand there are advantages in latency and redundancy to locating data centers near other data centers."

a. Explain how the Companies' define "in close proximity" as used in the above sentence.

b. Provide a list of all major data centers in neighboring states to which the Companies are referring to.

c. Explain the latency and redundancy advantages mentioned.

d. To what extent does such latency and redundancy allow for shifting of computing needs between data centers?

A-1.145.

a. Close proximity in this context means within a neighboring state and within a few hundred miles. Some data centers that fall within that definition are Meta's announced hyperscale data center in Jeffersonville, Indiana,[16] which is just north of the Ohio River from Louisville, its $1.5 billion data center in Gallatin, Tennessee,[17] and its $1.5 billion data center in New Albany, Ohio.[18] Also within that definition are Google's $2.1 billion data center in Montgomery County, Tennessee,[19] as well as three data centers in Ohio

[16] https://datacenters.atmeta.com/wp-content/uploads/2025/02/Meta_s-Jeffersonville-Data-Center.pdf
[17] https://datacenters.atmeta.com/wp-content/uploads/2025/02/Meta_s-Gallatin-Data-Center.pdf
[18] https://datacenters.atmeta.com/wp-content/uploads/2025/02/Meta_s-New-Albany-Data-Center.pdf
[19] https://datacenters.google/locations/montgomery-county-tennessee/

(New Albany, Columbus, and Lancaster) with a total investment of $7.2 billion.[20]

b. The Companies do not maintain a list of all major data center projects in neighboring states and only referenced what had been announced publicly as noted in response to part (a).

c. From conversations with data centers, there are optimal distances based on the business models of the specific operators, by which related facilities should be located. Latency generally is a delay in data delivery and having facilities clustered within a certain proximity helps reduce latency. Redundancy of planned facilities helps reduce latency as they can provide more strength to the data processing network within a regional location.

d. Unknown and specific to the data center operator.

[20] https://economicimpact.google/state/oh/

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.146

Responding Witness: John Bevington

Q-1.146. Please refer to the Direct Testimony of John Bevington, p. 8, lines 19-21, stating that "Land in Kentucky is also relatively inexpensive when compared with other markets where data center development has been thriving and reaching a point of market saturation."

a. Explain what "other markets" the Companies' are referring to.

b. Explain what is meant by the statement that data center development is "reaching a point of market saturation."

c. What "Land in Kentucky" is being referred to? What is the relative price difference of land in Jefferson County compared to other areas of the state?

A-1.146.

a. Northern Virginia, Columbus, Dallas, Chicago, Phoenix.

b. As the supply and demand of data center increases in a market, the availability of land, infrastructure, and other necessary attributes likely gets saturated or becomes scarcer. Having less supply of those resources causes costs to rise, or a lack of availability altogether, which causes data centers to look at other markets.

c. Real estate in Kentucky generally. The Companies do not have specific information regarding land values in Jefferson County as compared to all other areas in Kentucky, and they did not assert that land costs are the sole factor in determining where to locate a data center.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.147

Responding Witness: John Bevington / Robert M. Conroy

Q-1.147. Please refer to the Direct Testimony of John Bevington, p. 9, describing the benefits data centers will provide to the Commonwealth. Explain what benefits, if any, the Companies anticipate data centers will provide to LG&E-KU customers specifically.

A-1.147. The Companies' customers will benefit from many of the items described in Mr. Bevington's testimony, including job creation and property tax revenue. More importantly, though, the Companies' obligation to serve data centers is not contingent upon a finding of benefits to the Companies' customers. See the responses to PSC 1-96 and AG-KIUC 1-44.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.148

Responding Witness: John Bevington / Robert M. Conroy

Q-1.148. Please refer to the Direct Testimony of John Bevington, p. 9, lines 16-19, describing Meta's pledge to work with Entergy Louisiana to bring at least 1,500 MW of new renewable energy to the grid.

a. Have the Companies' potential data center customers expressed interest in renewable energy resources to meet their projected demand?

b. Do the Companies' intend to bolster their renewable energy resource portfolio to attract potential data center customers? If so, please explain. If not, why not?

A-1.148.

a. Not specifically at this time.

b. No. The Companies have a duty to provide safe and reliable service at the lowest reasonable cost. Therefore, they do not seek to "bolster" their generating fleet to attract customers of any kind; rather, they seek to have adequate resources to serve existing and reasonably anticipated new customer needs reliably and economically. The Companies also have the Solar Share Program and a variety of Green Tariff offerings for customers interested in renewable resources beyond those already included in the Companies' resource portfolio.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.149

Responding Witness: Lonnie E. Bellar / John Bevington

Q-1.149. Please refer to the Direct Testimony of John Bevington, p. 13, discussing the process for a large load like a data center to locate in the Companies' service territory. Do the Companies currently plan to submit a transmission service request ("TSR") for any potential large load customer to complete the TSR process prior to the in service date proposed for Brown 12?

A-1.149. Yes. See the response to AG-KIUC 1-45 (a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.150

Responding Witness: John Bevington

Q-1.150. Please refer to the Direct Testimony of John Bevington, p. 14, lines 11-14. For a large load like a data center:

a. What is the average time from TSR being complete to the signing of an EPC agreement?

b. What is the average time from the signing of an EPC agreement to the start of construction?

c. What is the average time from the start of construction to the customer coming online?

A-1.150.

a. It varies. As Mr. Bevington described in his testimony, "Some potential customers enter into the EPC agreement after the TSR is complete; others enter into the EPC contract while the TSR is pending so engineering and design work may be done in parallel."[21]

b. It varies, but the intent of the EPC agreement is to help move projects along quickly and protect other customers.

c. It varies.

[21] Bevington Testimony at 13.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.151

Responding Witness: John Bevington / Tim A. Jones

Q-1.151. What share of total U.S. data center load does LG&E-KU expect in its territory? Please provide all relevant materials and workpapers along with a written explanation.

A-1.151. According to the report referenced in Mr. Jones's testimony, Berkeley Lab forecasts total U.S. power demand for data centers in 2028 will be between 74 and 132 GW.[22] The Companies forecast 490 MW of data center demand by the end of 2028, which is between 0.37% and 0.66% of Berkeley Lab's forecast of total U.S. data center demand in 2028.

[22] Jones Direct at 17, *citing* Berkeley Lab, "2024 United States Data Center Energy Usage Report" at 6 (Dec. 2024) ("Together, the scenario variations provide a range of total data center energy estimates, with the low and high end of roughly 325 and 580 TWh in 2028, as shown in Figure ES-1. Assuming an average capacity utilization rate of 50%, this annual energy use range would translate to a total power demand for data centers between 74 and 132 GW. This annual energy use also represents 6.7% to 12.0% of total U.S. electricity consumption forecasted for 2028."), available at https://etapublications.lbl.gov/sites/default/files/2024-12/lbnl-2024-united-states-data-center-energy-usage-report.pdf (accessed Jan. 10, 2025).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.152

Responding Witness: Lonnie E. Bellar / Robert M. Conroy

Q-1.152. If the projected new data center load does not materialize, what will be the consequences of the proposed new resource build for:

a. The Companies, and

b. Ratepayer costs.

A-1.152.

a. See the response to PSC 1-28(c).

b. See the response to PSC 1-28(c).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.153

Responding Witness: Lonnie E. Bellar / John Bevington / Tim A. Jones

Q-1.153. What is the earliest year in which new data center load could reasonably be expected to come online in LG&E-KU's territory? Explain why.

A-1.153 See the response to AG-KIUC 1-26(a).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Joint Motion of Kentuckians for the Commonwealth, Kentucky Solar Energy Society, Metropolitan Housing Coalition, and Mountain Association's Initial Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.154

Responding Witness: Lonnie E. Bellar

Q-1.154. Please describe any investments that the Companies have made or plan to make in:

a. Distribution grid management software platforms, including Advanced Distribution Management Systems, and

b. Distributed Energy Resource Management Systems.

A-1.154.

a. LG&E and KU is nearing completion of an $9.6M project to replace an older Oracle advanced distribution management system (aDMS) with an updated GE aDMS. The Companies are just beginning a $9.5M project to similarly replace it's EMS with an updated GE EMS.

b. The GE aDMS platform that LG&E and KU has native functionality for distributed energy resource management. The companies do not have specific investments planned for DERMS.