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 COMMISSION STAFF'S FIFTH REQUEST FOR INFORMATION

DATED JUNE 30, 2025

FILED: JULY 15, 2025

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Lonnie E. Bellar**, being duly sworn, deposes and says that he is Executive Vice President of Engineering, Construction and Generation for PPL Services Corporation and he provides services to Louisville Gas and Electric Company and Kentucky Utilities Company, 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 8th day of July 2025.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 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, 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 7th day of July 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, 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 July 2025.

Notary Public

Notary Public ID No. KYNP61560

My Commission Expires:

November 9, 2026

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

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **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, 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

Christopher M. Garrett

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

Tammy J. Elzy

Notary Public

Notary Public ID No. KYNP61560

My Commission Expires:

November 9, 2026

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

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, 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 9th day of July 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, **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, 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.

T. A. J.

Tim A. Jones

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 8th day of July 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, **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 is an employee of LG&E and KU Services Company, 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

Subscribed and sworn to before me, a Notary Public in and before said County and State this 8th day of July 2025.

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 Vice President - Generation for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, 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 10th day of July 2025.

Venita Michelle DeFreeze
Notary Public

Notary Public, ID No. KYNP4577

My Commission Expires:

April 1, 2028

VENITA MICHELLE DEFREEZE
NOTARY PUBLIC
Commonwealth of Kentucky
Commission # KYNP4577
My Commission Expires 4/1/2028

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 Kentucky Utilities Company and Louisville Gas and Electric Company and is an employee of LG&E and KU Services Company, 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 8th day of July 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

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Fifth Request for Information
Dated June 30, 2025

Case No. 2025-00045

Question No. 1

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

Q-1. Refer to LG&E/KU's response to Commission Staff's Third Request for Information (Staff's Third Request), Item 8(b), Attachment 1, page 7, Modeling Assumptions.

a. Explain why LG&E/KU chose to update the battery energy storage system (BESS) dispatch logic from "fast dynamic" to "normal dynamic." In this explanation, include why the dispatch logic was originally modelled as fast.

b. Explain what updated cost estimates LG&E/KU used for the assumption for the capital cost of a simple cycle combustion turbine (SCCT).

c. Confirm that the minimum winter reserve margin requirement decrease to 27 percent is based on a loss of load expectation (LOLE) of 1.07. If not confirmed, explain the basis for the decreases in minimum winter reserve margins.

A-1.

a. The Companies used the "fast dynamic" dispatch logic setting in the 2025 CPCN Resource Assessment (Exhibit SAW-1) to reduce model run times. In their response to JI 1-22, which is focused on capacity factors for various resources, the Companies changed this setting to "normal dynamic" to model BESS's anticipated dispatch in more detail. The Companies retained this setting for the analysis provided in response to PSC 3-8(b).

b. See Attachment 5 to the response to PSC 3-8(b) at "Screening\Support\CONFIDENTIAL_SCGT F-Class - DRAFT 2025 BP Cost Estimate (2030 COD).xlsx."

c. Confirmed.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Fifth Request for Information
Dated June 30, 2025

Case No. 2025-00045

Question No. 2

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

Q-2. Refer to LG&E/KU's response to Staff's Third Request, Item 8(b), Attachment 1, Tables 4, 5, and 6.

a. For each of the different tables (4, 5, and 6,) perform a stage two resource adequacy analysis for the mid gas and mid coal to gas (ctg) scenario for the 2,030 MW, 1,890 MW 1,750 MW, 1,610 MW, and 1,470 MW load scenarios.

b. Confirm that, in each table where Retire MC2 is not chosen as an option, there is an assumption that in 2030 Mill Creek 2 is still running in the short term.

A-2.

a. The Companies' Stage Two analysis is focused on the Stage One portfolios that are least-cost across all fuel price scenarios, but in three of the five load scenarios for the 40% ITC for BESS scenario (Table 4; 1,470 MW, 1,890 MW, and 2,030 MW) and two of five load scenarios for the 40% ITC for BESS + 30% Tariff and Full Repeal of ITC and PTC scenarios (Tables 5 and 6; 1,610 MW and 1,750 MW), the portfolio developed in PLEXOS for the Mid Gas, Mid CTG ratio fuel scenario is not least-cost across all fuel price scenarios. The least-cost portfolios across all fuel-price scenarios are listed in Table 7 at page 14 of the referenced attachment.

For this request, the Companies repeated their Stage Two analysis for the least-cost portfolios in Table 7 as well as the five above-referenced portfolios developed for the Mid Gas, Mid CTG ratio fuel scenario that are not least-cost. Consistent with the original Stage Two analysis and with one exception, the Companies started with the PLEXOS portfolio and evaluated adding and removing peaking capacity as a means of potentially achieving a LOLE closer to 1 day in 10 years. The results of this analysis are summarized in the four tables below. The workpapers for this analysis are attached in separate .zip files. One workpaper for this response is a SERVM

.bak file, which is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection. This same confidential .bak file is also a workpaper for the responses to Question Nos. 3(a) and (c) and 4(a). Astrapé Consulting, the entity that licenses the SERVM software, has denied the Companies' permission to disclose the native file format (.bak) of the Companies' SERVM database and other proprietary files to any person or party who lacks an active SERVM license. Therefore, the Companies will provide these files to any party to this proceeding who has an active SERVM license and enters into a confidentiality agreement with the Companies.

Least-Cost Portfolios (40% ITC for BESS)[1]

Analysis Stage	Data Center Load (MW)	BR12 NGCC	MC6 NGCC	GR5 NGCC	CR BESS	GH BESS	Solar PPA	CSR	DSM/ GH2 SCR (Y/N)	LOLE (days in 10 years)
Stage One: Portfolio Develop.	2,030	645	645	-	400	400	-	100	Y	1.64
	1,890	645	645	-	400	200	-	100	Y	1.18
	1,750	645	645	-	400	-	-	-	Y	1.07
	1,610	645	645	-	300	-	-	-	Y	0.61
	1,470	645	645	-	100	-	-	-	Y	0.65
Stage Two: Resource Adequacy	2,030	645	645	645	-	-	-	-	Y	0.67
	1,890	645	645	-	400	300	-	-	Y	0.89
	1,750	645	645	-	400	-	-	-	Y	1.07
	1,610	645	645	-	200	-	-	-	Y	1.02
	1,470	645	645	-	-	-	-	-	Y	1.05

Additional Notes: For the load scenario with 2,030 MW of data center load, the Stage One portfolio has an LOLE that is significantly higher than 1 day in 10 years. Because this portfolio already has a significant amount of BESS and the impact of additional BESS on LOLE has diminishing returns, the Companies replaced the BESS in this portfolio with NGCC to achieve an LOLE closer to 1 day in 10 years.

[1] All portfolios include the 2022 CPCN-approved resources (Brown BESS, Mill Creek 5, Mercer Solar, Marion Solar) and the retirements of the small-frame SCCTs and Mill Creek 2.

Other Portfolios for Mid Gas, Mid CTG (40% ITC for BESS)[2]

Analysis Stage	Data Center Load (MW)	BR12 NGCC	MC2 Long-Term Ext.	GR5 NGCC	CR BESS	GH BESS	Solar PPA	CSR	DSM/ GH2 SCR (Y/N)	LOLE (days in 10 years)
Stage One	2,030	645	297	645	500	-	-	-	Y	0.80
	1,890	645	297	645	300	-	-	-	Y	0.71
	1,470	645	297	-	500	-	-	-	Y	0.84
Stage Two	2,030	645	297	645	500	-	-	-	Y	0.80
	1,890	645	297	645	300	-	-	-	Y	0.71
	1,470	645	297	-	500	-	-	-	Y	0.84

Additional Notes: For the Stage Two analysis, the Companies removed 100 MW of BESS from each of the Stage One portfolios in an effort to achieve an LOLE closer to 1 day in 10 years, but the resulting LOLE was considerably higher than 1 day in 10 years. Therefore, the Stage Two portfolios are unchanged from the Stage One portfolios.

Least-Cost Portfolios (40% ITC for BESS+30% Tariff, Full Repeal of ITC and PTC)[3]

Analysis Stage	Data Center Load (MW)	BR12 NGCC	MC6 NGCC	GR5 NGCC	BR/ CR/GH BESS	Generic SCCT	Marion Solar	CSR	DSM/ GH2 SCR (Y/N)	LOLE
Stage One: Portfolio Develop.	2,030	645	645	645	-	243	-	-	Y	0.36
	1,890	645	645	645	-	-	120	-	Y	0.50
	1,750	645	645	-	-	486	-	100	Y	0.61
	1,610	645	645	-	-	243	120	-	Y	0.88
	1,470	645	645	-	-	243	-	-	Y	0.59
Stage Two: Resource Adequacy	2,030	645	645	645	-	243	-	-	Y	0.36
	1,890	645	645	645	-	-	120	-	Y	0.50
	1,750	645	645	-	-	486	-	-	Y	0.73
	1,610	645	645	-	-	243	120	-	Y	0.88
	1,470	645	645	-	-	243	-	-	Y	0.59

Additional Notes: For the Stage Two analysis, the Companies removed a SCCT (243 MW) where possible from the Stage One portfolios in an effort to achieve an LOLE closer to 1 day in 10 years, but the resulting LOLE was considerably higher than 1 day in 10 years. Therefore, the Stage Two portfolios are mostly unchanged from the Stage One portfolios.

[2] All portfolios include the 2022 CPCN-approved resources (Brown BESS, Mill Creek 5, Mercer Solar, Marion Solar) and the retirement of the small-frame SCCTs.

[3] All portfolios include Mill Creek 5, Mercer Solar, and the retirements of the small-frame SCCTs and Mill Creek 2.

Other Portfolios for Mid Gas, Mid CTG (40% ITC for BESS+30% Tariff, Full Repeal of ITC and PTC)[4]

Analysis Stage	Data Center Load (MW)	BR12 NGCC	MC2 Long-Term Ext.	GR5 NGCC	BR/ CR/GH BESS	Generic SCCT	Marion Solar	CSR	DSM/ GH2 SCR (Y/N)	LOLE
Stage One	1,750	645	297	645	-	243	-	-	Y	0.62
	1,610	645	297	645	-	-	120	-	Y	0.84
Stage Two	1,750	645	297	645	-	243	-	-	Y	0.62
	1,610	645	297	645	-	-	120	-	Y	0.84

Additional Notes: For the Stage Two analysis, the Companies removed a SCCT (243 MW) where possible from the Stage One portfolios in an effort to achieve an LOLE closer to 1 day in 10 years, but the resulting LOLE was considerably higher than 1 day in 10 years. Therefore, the Stage Two portfolios are unchanged from the Stage One portfolios.

b. Confirmed.

[4] All portfolios include Mill Creek 5, Mercer Solar, and the retirement of the small-frame SCCTs.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Fifth Request for Information
Dated June 30, 2025

Case No. 2025-00045

Question No. 3

Responding Witness: Stuart A. Wilson

Q-3. Refer to LG&E/KU's response to Commission Staff's Second Request for Information (Staff's Second Request), Item 1(b) Resource Adequacy Table. Provide the LOLE, loss of load hours (LOLH,) and expected unserved energy (EUE) based on the 1,002 MW Data Center Load Scenario for the following:

a. 2028 Portfolio, plus Brown 12 Natural Gas Combined Cycle (NGCC), plus Ghent 2 Selective Catalytic Reduction (SCR), without the 300 MW Cane Run Battery Energy Storage System (BESS);

b. 2028 Portfolio, plus Brown 12 NGCC, plus Ghent 2 SCR, without the 300 MW Cane Run BESS or the 815 MW Solar;

c. 2028 Portfolio, plus Brown 12 NGCC, plus Ghent 2 SCR, and the 815 MW of Solar; without the 300 MW Cane Run BESS;

d. 2028 Portfolio, plus Brown 12 NGCC, plus Ghent 2 SCR, plus the 300 MW BESS; without the 815 MW Solar;

e. 2028 Portfolio, plus Brown 12 NGCC, plus Ghent 2 SCR, the 300 MW Cane Run BESS; 815 MW Solar; without Ghent 2 SCR.

A-3.

a. See the table below. The workpapers for this response and the response to part (c) below are attached in a separate .zip file. One workpaper for these responses is the SERVM .bak file being provided in response to Question 2(a).

1,002 MW Data Center Load; 2028 Portfolio + BR12 + GH2 SCR

LOLE	LOLH	EUE
1.48	4.93	997

b. This is the same portfolio as requested in part (a), as that portfolio already implicitly does not include 815 MW solar. See the response to part (a).

c. See the table below.

1,002 MW Data Center Load; 2028 Portfolio + BR12 + GH2 SCR + 815 MW Solar

LOLE	LOLH	EUE
0.74	2.07	437

d. See the response to PSC 2-1(b).

e. The Companies assume this should say "2028 Portfolio, plus Brown 12 NGCC, the 300 MW Cane Run BESS and 815 MW Solar, without the Ghent 2 SCR." See the response to PSC 2-1(b).

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Fifth Request for Information
Dated June 30, 2025

Case No. 2025-00045

Question No. 4

Responding Witness: Robert M. Conroy / Stuart A. Wilson

Q-4. Refer to LG&E/KU response to Staff's Second Requests, Item 1 and Item 8.

a. Provide the net present value revenue requirement (PVRR), and the LOLE for 1,002 MW of Data Center Load Growth relative to the chosen portfolio for 1,470 provided in the table in Item 8.

b. Provide the rate impact analysis of the 1,002 MW data center load growth scenario for the mid gas, mid ctg portfolio.

c. Provide the rate impact analysis of the 1,002 MW data center load growth scenario for the mid gas, mid ctg portfolio without the BESS.

d. Explain how in the 1,470 MW data center load growth scenario, LG&E/KU would plan to meet its economic development load growth prior to 2030.

e. Explain how in higher load scenarios of 2,030 MW, LG&E/KU would plan to meet its economic development load growth prior to 2030.

A-4.

a. See the table below.[5] The PVRR from PSC 2-1 was updated to reflect the change from fast dynamic to normal dynamic battery dispatch logic. Compared to the PSC 2-8 portfolio with Brown 12 and Mill Creek 6, the average PVRR for PSC 2-1 portfolio with Brown 12 and 300 MW of Cane Run BESS is $44 million lower. However, the PSC 2-1 portfolio includes a 50% ITC for BESS. With a 40% ITC for BESS, which now appears more likely, the average PVRR for the PSC 2-1 portfolio is $47 million higher

[5] The "2028 Portfolio" refers to the Companies' resource portfolio in 2028 and reflects the retirement of Mill Creek 1 (2024), the planned retirement of Mill Creek 2 (2027), the assumed retirement of the small-frame SCCTs (2025), the planned additions of Brown BESS (2027), Mill Creek 5 (2027), two owned solar facilities in 2026 and 2027, and dispatchable demand response programs from the Companies' 2024-2030 DSM-EE Program Plan.

and slightly higher than the more reliable PSC 2-8 portfolio. The workpapers for this response are attached in a separate .zip file. Certain information is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection. One workpaper for this response is the SERVM .bak file being provided in response to Question 2(a).

1,002 MW Data Center Load Scenario Portfolio Comparison[6]

	PSC 2-1 Portfolio: 2028 Portfolio + Brown 12 + 300 MW Cane Run BESS + Ghent 2 SCR	PSC 2-8 Portfolio: 2028 Portfolio + Brown 12 + Mill Creek 6 + Ghent 2 SCR	PSC 2-8 Portfolio less PSC 2-1 Portfolio
Low Gas, Mid CTG PVRR ($M)	35,117	35,303	-186
Mid Gas, Mid CTG PVRR ($M)	41,135	41,219	-84
High Gas, Mid CTG PVRR ($M)	53,495	53,325	170
Low Gas, High CTG PVRR ($M)	35,397	35,554	-157
High Gas, Low CTG PVRR ($M)	52,134	52,095	39
Average of All Fuel Price Scenarios PVRR ($M)	43,456	43,499	-44
LOLE (Days in 10 Years)	0.42	0.08	0.34

b. The Companies have not performed the requested rate impact analysis. See the response to PSC 1-104 and PSC 1-96.

c. The Companies have not performed the requested rate impact analysis. See the response to PSC 1-104 and PSC 1-96.

d. In load scenarios with no BESS and lower than expected economic development load growth, the Companies' primary option for serving near-term load growth is to extend the life of Mill Creek 2, if possible. Thus, the Companies are evaluating a short-term Mill Creek 2 life extension as a means of supporting economic development load growth and managing tariff, ITC, and other risks for customers. See also the response to PSC 4-2.

e. See the response to part (d). The least-cost portfolio in the load scenario with 2,030 MW of data center load includes three NGCCs (Brown 12, Mill

[6] The PSC 2-1 portfolio includes a 50% ITC for BESS. With a 40% ITC for BESS, which now appears more likely, the average PVRR for the PSC 2-1 portfolio is $47 million higher and slightly higher than the more reliable PSC 2-8 portfolio.

Creek 6, and Green River 5) and no BESS. Even if the Companies received approval for all three NGCCs in this proceeding, Green River 5 would not be available until 2032 at the earliest due to gas pipeline constraints. With no BESS, this portfolio would likely not be able to support the desired ramping schedule associated with 2,030 MW of data center load, and the state's ability to attract this amount of data center load would be diminished. However, with the proposed Cane Run BESS and potentially a short-term extension of Mill Creek 2, the Companies could support significant near-term economic development growth. Given the uncertainty in the long-term outlook for data center load growth, the Companies in this scenario would not change their recommended portfolio and address data center load growth beyond 1,750 MW in a subsequent resource decision.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Fifth Request for Information
Dated June 30, 2025

Case No. 2025-00045

Question No. 5

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

Q-5. Refer to LG&E/KU's response to Commission Staff's First Request for Information (Staff's First Request), Item 18.

a. Provide the year that the economic development queue was created.

b. Explain what percentage of inquiries in the past ten years in the economic development queue has turned into announced projects.

c. While LG&E/KU currently have no announced projects, for economic development load forecasting purposes, explain whether LG&E/KU anticipate including 100 percent of announced projects in such forecasts.

d. Explain whether there is communication with data centers that isn't reflected in the economic development queue, i.e. an initial phone call from the data center. If so, explain how LG&E/KU determines when that communication becomes an inquiry.

e. Does LG&E/KU have a methodology for discounting the data center load forecast. Explain the methodology and provide examples where this methodology is currently being applied. As part of the explanation, state if, and how, the methodology regarding data center load forecasts differs from LG&E/KU's methodology for creating load forecasts for more traditional economic development projects.

A-5.

a. See the response to JI 3-20 (a). While the terminology "queue" has been used throughout the discovery phase of this proceeding, the project listings that have been shared are a database listing of opportunities from our Customer Relationship Management system. It is not a queue in the sense of managing projects in a certain order or for scheduling purposes.

b. See the response to AG-KIUC 1-36(a).

c. Yes, barring circumstance-specific conditions requiring a different approach, the Companies would anticipate including 100% of announced projects (as "announced" is defined in PSC 1-18(c)) in their load forecasts. The Companies would discuss with each affected customer specific details of how most accurately to include the customer's project in the load forecast (e.g., ramp schedules).

d. No. When the Companies have an initial conversation with a prospective data center customer, even if an initial phone call, it is logged in the Companies' system and given an "inquiry" status. All projects listed in the response to PSC 1-18 are those currently marked as "Open" or "In Process." Projects that have been designated as "Lost" or "Stopped" are not included in the list. Please note that the Companies are continuing to provide monthly updates to their economic development queue in response to PSC 2-17(g).

e. Yes. See the responses to AG-KIUC 1-35, PSC 2-14, and SC 2-9. See also the response to PSC 4-8(e). The Companies have not traditionally incorporated into their load forecasts discounted values of all economic development projects then in their economic development queue, and they have not done so in this case either for data center projects or non-data-center projects. If they had, their projected economic development load would have been about 2,400 MW (1,905 MW of data center load and 500 MW of non-data-center load (excluding BlueOval SK ("BOSK"))). Instead, the Companies have more conservatively projected 1,750 MW of data center load and only 40 MW of new non-data-center load (again excluding BOSK).

The Companies have historically included in their load forecasts 100% of expected economic development loads they viewed as being highly probable to materialize. That approach has worked well historically because the vast majority of economic development projects have been relatively small (less than 20 MW) and take years to come to fruition, allowing ample time to obtain resources to serve their needs. But that approach is not viable for data centers, which can proceed from groundbreaking to taking significant amounts of service in as little as 18 months, far faster than any utility can add needed resources, which typically require years for engineering, procurement, and construction.[7] Timely meeting such customers' needs thus requires making reasonable projections of their loads, seeking authority for the resources needed to serve them as

[7] *See, e.g.,* Ryan Quint, Kyle Thomas, Jiecheng Zhao, Andrew Isaacs, and Casey Baker, "Practical Guidance and Considerations for Large Load Interconnections" at 11 (May 2025) ("While it takes one-and-half to two years to build large load facilities like data centers, new generation plants take three to five years."), available at https://gridlab.org/portfolio-item/practical-guidance-and-considerations-for-large-load-interconnections/ (accessed June 30, 2025).

expeditiously as possible, and then prudently using that authority. That is what the Companies have done in this proceeding.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Fifth Request for Information
Dated June 30, 2025

Case No. 2025-00045

Question No. 6

Responding Witness: Christopher M. Garrett

Q-6. Refer to the Direct Testimony of Robert Conroy, pages 14–15.

a. State the amortization period LG&E/KU expect to request for the amortization of the regulatory asset for the differences in the allowance for funds used during construction.

b. State the amortization period LG&E/KU expect to request for the amortization of the regulatory asset post in service costs.

c. Refer also to LGE/KU's response to the Attorney General's Second Request for Information, Item 44(b). Explain how LG&E/KU plan to account for the equity component of the weighted average cost of capital in the proposed regulatory assets. Include the expected journal entries and an explanation of any tracking outside of accounting statements

A-6.

a. The Companies will amortize the difference between AFUDC accrued under the FERC methodology and the WACC over the remaining depreciable lives of the underlying assets.

b. The Companies expect to request the regulatory asset for the post-in-service costs be amortized over the remaining depreciable lives of the underlying assets.

c. The Companies will record the post-in-service carrying cost equity component as follows:

	FERC Books	GAAP Adj. Books
Oracle Company Numbers	100/110	99/119
DR	182.3	407.4
CR	407.4	182.3
Entries to record the PISCC deferral of the equity component		
DR	407.3	182.3
CR	182.3	407.3
Entries to record the PISCC equity component amortization		

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Question No. 7

Responding Witness: Lonnie E. Bellar / Charles R. Schram

Q-7. Provide any data or information gathered from the 165-foot-tall wind turbine located at the Renewable Integration Research Facility at the E.W. Brown that LG&E/KU has adopted into its modeling or planning. If the information was not utilized by the companies, explain the response.

A-7. The E.W. Brown Wind turbine began operation in the first quarter of 2024. The Companies did not use the limited amount of collected data in their CPCN analysis. The Companies modeled the one wind resource proposed in response to the 2024 RFP, which was located outside Kentucky. Section 6.4 of Exhibit SAW-1 describes the data sources and methodology the Companies used to develop their associated wind profile.

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Question No. 8

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

Q-8. State whether the Brown BESS approved in Case No. 2022-00402,[8] has been or is expected to be impacted by changes to the investment tax credit (ITC) or production tax credit (PTC) as contemplated H.R.1.[9]

A-8. No, the Companies do not expect that the referenced legislation, as signed into law on July 4, 2025, will affect Brown BESS's ability to qualify for the ITC.

[8] Case No. 2022-00402 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 Generating Unit Retirements.

[9] Text - H.R.1 - 119th Congress (2025-2026): One Big Beautiful Bill Act | Congress.gov | Library of Congress.

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Question No. 9

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

Q-9. State whether the Brown BESS has been, or is expected to be, impacted by tariffs, giving special consideration to tariffs imposed or modified in 2025.

A-9. Yes, the Companies expect trade tariffs may affect the cost of some Brown BESS components, but they do not anticipate trade tariffs will impact the cost estimate the Companies most recently provided for Brown BESS, which included reasonable cost contingencies.

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Question No. 10

Responding Witness: David L. Tummonds

Q-10. State whether the cost estimates relied on by LG&E/KU in its application for the NGCC resources in its preferred portfolio remain accurate in light of the tariffs imposed in 2025. If yes, provide an updated portfolio reflecting these costs.

A-10. Yes, the project total estimates previously submitted for both NGCCs remain accurate at the current country-specific tariff rates. As the first component of this question is posed, it appears that a "no" response would require an updated portfolio. Therefore, an update is not provided.

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Question No. 11

Responding Witness: John Bevington

Q-11. Provide any updates LG&E/KU have regarding the Project Lincoln Data Center.

A-11. The developer of the project announced on July 3, 2025, it would not proceed with the project in Oldham County,[10] but it further stated, "Kentucky remains a state full of opportunity and strong interest for future projects."[11]

[10] WDRB, "Controversial Oldham County data center project dropped after backlash" (July 3, 2025), available at https://www.wdrb.com/news/business/controversial-oldham-county-data-center-project-dropped-after-backlash/article_f3bc4301-b632-48cf-a005-2d24aeebc01c.html (accessed July 4, 2025).
[11] Grant Gerstner, "Data center developer pulls out of Oldham project," The Oldham Era (July 3, 2025), available at https://www.pmg-ky1.com/oldham_era/oldham_era/news/data-center-developer-pulls-out-of-oldham-project/article_f6de23b8-9b32-56d3-9d3b-fb620ae313d0.html (accessed July 4, 2025).

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Question No. 12

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

Q-12. Refer to LG&E/KU's Response to Staff's Third Request, Item 8b, Attachment 1.

a. State whether LG&E/KU believes it would require Commission approval to extend the life of Mill Creek 2 beyond 2027.

b. State whether extending the life of Mill Creek 2 through 2031 would require any projects, maintenance, or other actions that would require Commission approval.

c. As part of the responses to Item 12(a) and Item 12(b), provide each expected action which LG&E/KU believes would require the Commission's approval and the associated estimated cost for that action.

A-12.

a. No, the Companies do not believe it would require Commission approval to extend the life of Mill Creek 2 beyond 2027.

b. No, the Companies do not believe extending the life of Mill Creek 2 through 2031 would require any projects, maintenance, or other actions that would require Commission approval. The Companies anticipate all such projects, maintenance, or other actions would be in the normal course of business.

c. Not applicable.

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Question No. 13

Responding Witness: David L. Tummonds

Q-13. Refer to the Application, page 1 and LG&E/KU's Response to Staff's Second Request, Item 14, and the Direct Testimony of Chelsea Hotaling (Hotaling Direct Testimony) Table 12, page 42. Provide a more detailed project timeline showing construction dates and drop-dead dates, including both planning and engineering dates, for when decisions and or commitments must be made to move the project forward for each project identified in LG&E/KU's CPCN filing.

A-13. See the response to Sierra Club 3-13(e). A more detailed project schedule is not yet available for any project identified in the Companies' CPCN filing.

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Question No. 14

Responding Witness: Lonnie E. Bellar / Charles R. Schram

Q-14. Refer to the Direct Testimony of Leah J. Wellborn (Wellborn Direct Testimony), page 5, lines 18-20, and page 6, lines 1-2. If the Commission were to approve the Mill Creek 6 NGCC request with a conditional CPCN approval until the contracted long-term load reached 584 MW as recommended in witness Wellborn's testimony, explain the ramifications of that decision. Include in the response whether there would be additional cost in terms of maintaining places in various equipment and contracted construction crew procurement queues.

A-14. Please note Ms. Wellborn's testimony recommended 548 MW, not 584 MW.

Ms. Wellborn's proposal would not just drive up the cost of Mill Creek 6, it would also likely make it impossible for Mill Creek 6 to be available to serve projected load growth when needed due to the timing of when the Companies would need to contract for firm gas transportation. As noted in the attachment to the Companies' supplemental response to KCA 1-4, the narrow window of time to obtain firm gas transportation service for Mill Creek 6 via Texas Gas Transmission's ("TGT") Borealis project will likely be the fourth quarter of this year.[12] That will likely be TGT's last opportunity for significant capacity additions on its existing rights-of-way within a five- to eight-year horizon. That is why it is crucial for the Companies to have clear CPCN authority for Mill Creek 6 no later than the end of this October, which Ms. Wellborn's proposal would preclude.

If the Companies were somehow able to overcome the firm gas transportation hurdle, other ramifications of Ms. Wellborn's proposal include: (a) likely substantial market-based cost increase as noted by the 40% cost increase for Brown 12 two-year delay from the last evaluated cost in Case No. 2022-00402 to

[12] *See* Companies' Supplemental Response to KCA 1-4, Supplemental Attachment 1 at 8 (May 30, 2025) ("A key advantage to commissioning Mill Creek 6 in 2031 is that it will enable the Companies to bid for gas transportation through Texas Gas Transmission's ("TGT") proposed Borealis project, which will be TGT's last opportunity for significant capacity additions on its existing rights-of-way within a five- to eight-year horizon. … TGT expects Borealis to be fully subscribed, with subscriber commitments to the project likely taking place during the fourth quarter of 2025.").

the current case for identical scope; and (b) substantial additional reservation costs for both the Mill Creek 6 gas turbine and generator step-up transformer, and potentially other long-lead equipment to maintain the current in service date expectation.

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Question No. 15

Responding Witness: John Bevington

Q-15. Refer to the Wellborn Direct Testimony, page 6, lines 2-4. Explain whether the prospective data center customers are aware of and or have provided any comment of the Extremely High Load Factor (EHLF) tariff proposal as filed. If so, explain generally how the EHLF tariff has been received and whether there are conditions that would be perceived as a negative for siting a facility in the service territory.

A-15. The Companies have shared the proposed EHLF rate schedule with several projects' representatives. The Companies have mentioned the EHLF rate schedule to multiple other projects' representatives, as well. It is also possible that projects' representatives have researched and read the terms of the proposed tariff on their own without the knowledge of the Companies. The Companies do not have feedback at this point as to prospects' opinions of the proposed tariff.

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Question No. 16

Responding Witness: Stuart A. Wilson

Q-16. Refer to the Direct testimony of Stuart Wilson (Wilson Direct Testimony) page 18, lines 3-4. If the ITC are ultimately not available and LG&E/KU elects to extend the life of Mill Creek Unit 2 through 2031, explain whether there is sufficient space at the Mill Creek land fill to accommodate the additional waste and include in the response whether that would shorten the time Mill Creek units 3 and 4 could operate.

A-16. Extending the life of Mill Creek 2 through 2031 would accelerate the need to address the landfill constraint at the Mill Creek Station by approximately one year. Alternatives for addressing the Mill Creek landfill constraint include replacing the Mill Creek units and hauling non-marketable coal combustion residuals to a different landfill. Whether the landfill constraint would shorten the time Mill Creek 3 and 4 could operate depends on the economics of these alternatives.

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Question No. 17

Responding Witness: Charles R. Schram

Q-17. Refer to the Direct Testimony of Charles Schram (Schram Direct Testimony), page 13, line 23, and page 14, lines 1-12. Explain in greater detail the unforeseen challenges with battery service contracts and whether LG&E/KU would have been able to overcome those challenges in negotiating a BESS purchase power agreement (PPA).

A-17. The nature of "unforeseen challenges" makes it difficult to speculate about the Companies' ability to successfully address such unknowns and unexpected outcomes in negotiating a BESS PPA. As noted in the Companies' response to AG-KIUC 1-27, the Companies believe operational experience with BESS is a prerequisite to negotiating a favorable battery offtake agreement that minimizes risks. See also the responses to PSC 1-12 and Metro-LFUCG 1-24.

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Question No. 18

Responding Witness: Charles R. Schram

Q-18. Refer to the Schram Direct Testimony, page 20, lines 3–17, and page 21, lines 1–7.

a. As the NGCC fleet expands, explain why it would not be prudent to acquire all the gas for these units on forward gas purchases as opposed to a combination of forward and spot purchases.

b. Additionally, state whether LG&E/KU has ever not operated its gas units (both SCCTs and/or NGCCs) because the spot price was uneconomic, but the gas LG&E/KU had purchased on a forward basis for that unit would have been economic if sufficient supply was purchased.

A-18.

a. Although purchasing all, or nearly all, of the natural gas for NGCC units on a forward basis in the future is a potential approach to gas procurement, the goal of the Companies' fuel guidelines to date has been to purchase natural gas for the current NGCC unit to reduce customer bill volatility. The Companies take a balanced view and do not assume purchasing gas in the forward market is always less expensive for customers than spot market purchases. Indeed, the gas market has periods of contango, in which future prices are higher than near-term prices, and periods of backwardation, in which future prices are lower than near-term prices. Therefore, buying all NGCC gas supply on a forward basis would ignore that the gas market can be in a state of contango that favors the economics of spot purchases.

b. The Companies currently have one NGCC unit, Cane Run 7. The Companies are certainly aware of instances when natural gas purchased for the NGCC on a forward basis was less expensive than the spot price. While the unit is still operating during such times, its output may be reduced for economic dispatch if spot gas prices are sufficiently high to favor output from lower-cost coal units. The Companies are also aware of instances when spot gas prices were lower than the price of gas purchased on a

forward basis. If the Companies bought 100 percent of the NGCC's gas on a forward basis and the spot price turned out to be lower, the higher priced gas would still need to be burned and customers would have no chance to receive the benefit of the lower spot prices.

SCCT units are primarily used as peaking units to support reliability. It is not possible to accurately predict weather, the primary driver of seasonal load demands, months or years in advance. Therefore, the Companies do not buy gas on a forward basis for their peaking units.

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Question No. 19

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

Q-19. By unit for the Mill Creek, Brown and Ghent generation stations, explain the current useful life of LG&E/KU's coal fleet, the expected retirement date, and the estimated stay open costs for extending the life of the each plants for up to five years.

A-19. The retirement date for these units will depend on future environmental regulations, the cost of these units relative to replacement resources, and customer energy requirements.

- **Mill Creek 2**: In the 2024 IRP and 2025 CPCN Resource Assessments, Mill Creek 2 was assumed to retire in 2027, but the Companies are evaluating a short-term life extension (i.e., through 2031) as a means of supporting economic development load growth and managing trade tariff, tax incentive, gas transport availability, and load risk. See supplemental attachment to KCA 1-4 and the response to PSC 3-8(b).

- **Mill Creek 3 and 4**: In the 2024 IRP, Mill Creek 3 and 4 retire as early as 2035 in the 2024 ELG environmental scenario and as late as 2045 due to landfill constraints. The Companies evaluated a scenario in the 2025 CPCN Resource Assessment with no landfill constraints, and Mill Creek 3 and 4 operate beyond 2050 in this scenario.

- **Brown 3**: In the 2024 IRP, Brown 3 retires by 2035 in all scenarios due to high fuel costs, life extension costs, and landfill constraints. As seen in the 2025 CPCN Resource Assessment, Brown 3 also retires in 2035 in a scenario with no landfill constraints.

- **Ghent 1-4**: The Ghent coal units operate beyond 2050 in all scenarios modeled in the 2024 IRP and 2025 CPCN Resource Assessments except the GHG Rule environmental scenario.

Thus, for resource planning purposes, the Companies do not have expected retirement dates for their coal units except Mill Creek 2 and Brown 3. Table 17

at page 40 of Exhibit SAW-1 lists the expected retirement date (end of book depreciation life) for accounting purposes.

For stay-open and life extension costs, see Attachment 4 to PSC 3-8(b) at "FinancialModel\StayOpenCosts\" for Mill Creek 2 and Exhibit SAW-2 at "Public\FinancialModel\Support\StayOpenCosts\" for all other units. For life extension costs specifically, see Attachment 4 to PSC 3-8(b) at "FinancialModel\StayOpenCosts\ 20250428_StayOpenDetail__FleetLifeExtensionCapital_MC2_Ext_0336.xlsx" for Mill Creek 2 and Exhibit SAW-2 at "Public\FinancialModel\Support\StayOpenCosts\ 20241111_StayOpenDetail__FleetLifeExtensionCapital.xlsx" for all other units. The stay-open and life extension costs for all units are summarized in the 'FixTime' tab of the Financial Model, for example see Attachment 4 to PSC 3-8(b) at "FinancialModel\ CONFIDENTIAL_20250604_FinancialModel_09_PSC3-8b_ITC40_0336.xlsx".

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Question No. 20

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

Q-20. Refer the Direct Testimony of Phillip A. Imber (Imber Direct Testimony) page 16 lines 18-22 and page 17 lines 1-8.

a. Explain which generation stations are affected by the 2024 effluent liquid guidelines (ELG).

b. If the 2024 ELG guidelines are rescinded, explain whether the necessary compliance activity and any associated expenditures will be undertaken at any generation station or will be delayed until there is greater certainty regarding any future compliance guidelines and compliance dates.

A-20.

a. All generating stations with active coal-fired units (Trimble, Ghent, E.W. Brown, and Mill Creek) are affected by all components of the 2024 ELG (flue gas desulfurization wastewater, bottom ash transport water, and combustion residual leachate). The Cane Run, Tyrone, Green River, and Pineville Generating Stations may also be affected by the combustion residual leachate aspect of the 2024 ELG.

b. If there is a final rule that rescinds the 2024 ELG, all compliance-related development efforts will cease.

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Question No. 21

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

Q-21. Refer to LG&E/KU's response to Kentucky Coal Association's (KCA) First Request for Information, Item 4, Supplemental Attachment, page 5 of 13. Provide a breakdown of the life extension capital costs and plant capital reflected in the $72 million.

A-21. See Table 1 on page 5 of Attachment 1 to PSC 3-8(b). The $72 million reflects the sum of life extension capital of $24.1 million in 2026 (which consists of replacement or refurbishment of main steam piping, hot reheat piping, and the steam chest), ongoing capital of $25.4 million in 2026 for a turbine overhaul, and ongoing capital for routine operations of $2.2 million in 2027, $8.9 million in 2028, $4.8 million in 2029, and $7.2 million in 2030. For more detail pertaining to the capital projects included in ongoing capital, see the '2025 Capital Working' tab of Attachment 4 to PSC 3-8(b) at "FinancialModel\StayOpenCosts\ 20250428_StayOpenDetail_MC2_Ext_0336.xlsx".

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Question No. 22

Responding Witness: Robert M. Conroy

Q-22. Refer to P.S.C. Electric No. 13, First Revision of Original Sheet No. 77.1, the Retirement Asset Recovery Rider (RAR). Explain what, if any, impact delaying the retirement of Mill Creek 2 would have on the RAR.

A-22. Delaying the retirement of Mill Creek 2 could impact when LG&E would file for cost recovery through the RAR if Mill Creek 2's applicable retirement costs pursuant to the RAR tariff had not already been collected in base rates.

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Question No. 23

Responding Witness: David L. Tummonds

Q-23. Refer to the Attorney General and Kentucky Industrial Utility Customers' (KIUC) First Request for Information, Item 29a, Attachment, Cane Run BESS Project Schedule.

a. For Battery Modules, explain if the Equipment Bid Package Development has been completed.

b. For EPC Procurement, explain whether EPC Bid Package Development still plans to be completed by August 30, 2025.

c. Explain if there are any other differences in the timeline from what was originally described. If yes, explain the reasoning for any differences.

d. MW Cane Run BESS; 815 MW Solar; without Ghent 2 SCR.

A-23.

a. No, the Equipment Bid Package Development has not been completed.

b. The expected EPC Bid Package Development date remains August 30, 2025.

c. There are no significant differences to the timeline provided in the Companies' response to AG-KIUC 1-29(a). The project continues to progress as expected.

d. There is no question in part (d) of this request.

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Question No. 24

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

Q-24. If LG&E/KU delays the retirement of Mill Creek Unit 2 and elects to extend the Unit's operation beyond 2031 will this decision impact the environmental permitting of the Mill Creek 5 project?

A-24. No. The ongoing operation of Mill Creek Unit 2 does not directly impact the environmental permitting of Mill Creek 5. Although the retirement of Mill Creek Unit 2 is referenced in the Mill Creek 5 Title V Construction Permit, the emissions retired with Mill Creek Unit 1 offset the projected emissions from Mill Creek 5. As discussed in the supplemental attachment to KCA 1-4 ("Analysis of Mill Creek Unit 2 Life Extension as an Option to Support Economic Development While Managing Tariff, ITC, Gas Transport Availability, and Load Risk"), operating Mill Creek 2 beyond 2031 would be uneconomical and jeopardize the Companies' ability to serve customers' future needs because it would preclude the proposed Mill Creek 6 NGCC due to environmental permitting constraints.

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Question No. 25

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

Q-25. Refer to Direct Testimony of Lonnie Bellar (Bellar Direct Testimony), page 7, lines 8–14. As related to the Mill Creek Unit 5 NGCC project under Case No. 2022-00402, provide a detailed cost estimate for the originally estimated cost of $913.4 million. This should include the major components including the combustion turbine, generator, heat recovery steam generator, steam turbine, switchgear, generator step-up unit, natural gas supply, auxiliaries and electric transmission interface equipment.

A-25. $913.4 million was not the originally estimated cost in Case No. 2022-00402, but rather the project forecast at the time of filing this case. The Companies provided the requested original estimate information in Case No. 2022-00402 in response to Joint Intervenors 1-9(e).

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Question No. 26

Responding Witness: David L. Tummonds

Q-26. Refer to Bellar Direct Testimony, page 7, lines 15–22. As related to the Brown BESS project under Case No. 2022-00402, provide a detailed cost estimate for the originally estimated cost of $270 million. This should include the major components including batteries, rectifiers, inverters, battery monitoring systems, fire protection system, auxiliaries and electric transmission interface equipment.

A-26. See attachment provided as a separate file. The information being requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

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Question No. 27

Responding Witness: David L. Tummonds

Q-27. Refer to Direct Testimony Stuart Wilson (Wilson Direct Testimony), page 4, line 15, Case No. 2022-00402. As related to the Ghent Unit 2 SCR project, provide a detailed cost estimate for the originally estimated cost of $126 million. This should include the major components including the SCR, ammonia storage and delivery system and auxiliary equipment.

A-27. See attachment provided as a separate file. The information being requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

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Question No. 28

Responding Witness: David L. Tummonds

Q-28. Refer to Bellar Direct Testimony, page 10, lines 22–23. As related to the Mill Creek Unit 6 NGCC project, provide a detailed cost estimate for the originally estimated cost of $1.415 billion. This should include the major components including the combustion turbine, generator, heat recovery steam generator, steam turbine, switchgear, generator step-up unit, natural gas supply, auxiliaries and electric transmission interface equipment.

A-28. See Exhibit SAW-2 at "Screening\Support\CONFIDENTIAL_2031 NGCC MC6 - DRAFT 2025 BP Cost Estimate.xlsx" and the Companies' response to Sierra Club 1-11(c).

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Question No. 29

Responding Witness: David L. Tummonds

Q-29. Refer to Bellar Direct Testimony, page 10, lines 22–23. As related to the Brown Unit 12 NGCC project, provide a detailed cost estimate for the estimated cost of $1.383 billion. This should include the major components including the combustion turbine, generator, heat recovery steam generator, steam turbine, switchgear, generator step-up unit, natural gas supply, auxiliaries and electric transmission interface equipment.

A-29. See Exhibit SAW-2 at "Screening\Support\ CONFIDENTIAL_NGCC BR12 - DRAFT 2025 BP Cost Estimate (Base Case Update).xlsx" and the Companies' response to Sierra Club 1-11(c).

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Question No. 30

Responding Witness: David L. Tummonds

Q-30. Refer to Tummonds Direct Testimony, page 13, line 5. As related to the Cane Run BESS, provide a detailed cost estimate for the estimated cost of $775 million. This should include the major components including batteries, rectifiers, inverters, battery monitoring systems, fire protection system, auxiliaries and electric transmission interface equipment.

A-30. See Exhibit SAW-2 at "Screening\Support\ CONFIDENTIAL_CR 2028 BESS - DRAFT Cost Estimate (Buyers Market Adjustment) R1.xlsx" and the Companies' response to Sierra Club 1-11(d).

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Question No. 31

Responding Witness: David L. Tummonds

Q-31. Refer to Tummonds Direct Testimony, page 14, line 11. As related to the Ghent Unit 2 SCR project, provide a detailed cost estimate for the estimated cost of $152.3 million. This should include the major components including the SCR, ammonia storage and delivery system and auxiliary equipment.

A-31. See Exhibit SAW-2 at "FinancialModel\Support\GH2 SCR\ CONFIDENTIAL_GH U2 SCR - DRAFT 2025 BP Cost Estimate.xlsx" – specifically worksheet "2022to2024 Ghent 2".

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Question No. 32

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

Q-32. Comparing Case No. 2022-00402 and this application, provide a detailed explanation for the increased cost estimates as associated with the Mill Creek 5 and Mill Creek 6 projects.

A-32. The cost increase between the Mill Creek 5 and Mill Creek 6 projects results from the same market forces associated with the almost $400 million cost increase from the last evaluated cost for Brown 12 in Case No. 2022-00402 and the current estimate for the same unit with same scope noted in the response to Joint Intervenors 1-79. As discussed at length in the final stages of Case No. 2022-00402, worldwide demand for purchase and installation of both simple and combined cycle natural gas units increased dramatically starting in late 2022. As a result, original equipment manufacturer ("OEM") and installation from a qualified engineering, procurement, and construction ("EPC") contractor have filled production and installation slots, rendering their ability to further increase supply minimal. In parallel, extremely high price of entry and limited available labor resources result in very limited opportunity for new providers to increase supply. The appreciable increase in demand along an inflexible supply curve always yields price increases like those witnessed in this case.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Fifth Request for Information
Dated June 30, 2025

Case No. 2025-00045

Question No. 33

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

Q-33. Comparing Case No. 2022-00402 and this application, provide a detailed explanation for the increased cost estimates as associated with the Brown BESS and Cane Run BESS projects.

A-33. See the response to AG-KIUC 1-30(g). On a $/kW basis, the capital cost for BESS has not increased, but has slightly decreased. The capital cost estimate for 125 MW four-hour Brown BESS in Case No. 2022-00402 was $270 million ($2,160/kW); the capital cost estimate for 400 MW four-hour Cane Run BESS is $774.7 million ($1,937/kW), which is about 10% less on a per-kW basis than Brown BESS. Thus, Cane Run BESS, which has 3.2 times the storage capacity and peak output of Brown BESS, has an estimated cost less than 2.9 times the estimated cost of Brown BESS.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Fifth Request for Information
Dated June 30, 2025

Case No. 2025-00045

Question No. 34

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

Q-34. Comparing Case No. 2022-00402 and this application, provide a detailed explanation for the increased cost estimates as associated with the 2022 Ghent Unit 2 SCR project estimate and the 2025 Ghent Unit 2 SCR project estimate.

A-34. The cost estimate for the 2025 Ghent Unit 2 SCR is based on the 2022 estimate with the following adjustments: updated EPC pricing to 2024 dollars, one year of EPC price escalation to address market conditions and timing of the project at 6%, increased contingency from 5% to 15% to address market conditions, and other adjustments to reflect the timing of the projects.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Fifth Request for Information
Dated June 30, 2025

Case No. 2025-00045

Question No. 35

Responding Witness: Robert M. Conroy

Q-35. Provide the rate impact analysis for LG&E/KU's preferred portfolio in this case.

A-35. See the responses to PSC 1-104(a) and PSC 2-36.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Commission Staff's Fifth Request for Information
Dated June 30, 2025

Case No. 2025-00045

Question No. 36

Responding Witness: Robert M. Conroy

Q-36. Refer to LG&E/KU's response to Staff's Third Request, Item 8(b), Attachment 1.

A-36. There is no question in this request.