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	)	**CASE NO. 2025-00045**
CERTIFICATES OF PUBLIC CONVENIENCE	)	
AND NECESSITY AND SITE COMPATIBILITY	)	
CERTIFICATES	)	

RESPONSE OF
KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY
TO
THE KENTUCKY COAL ASSOCIATION'S
FIRST 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

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.

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, **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

CAROLINE J. DAVISON
COMM EXPIRES 1/22/2027
NOTARY PUBLIC
ID # KYNP63286
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, 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, **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

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, **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. KYNP4577

My Commission Expires:

April 1, 2028

VENITA M. DeFREEZE
NOTARY
COMM. #
KYNP4577
MY COMMISSION
EXPIRES
04 01 2028
PUBLIC
KENTUCKY, STATE AT LARGE

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

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

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Coal Association's First Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.1

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

Q-1.1. Please provide all analyses with related assumptions performed by the Companies including those developed subsequent to the filing of the IRP, including but not limited to the following:

a. Possible changes in environmental requirement assumptions and the loss of credits from the Inflation Reduction Act (IRA);

b. Proposed and implemented tariffs that could affect the supply chain and the cost of new generation;

c. Continuing inflation; and

d. A potential economic recession related to the factors listed above.

A-1.1.

a. See the response to PSC 1-6 in Case No. 2024-00326.

b. See the response to PSC 1-8.

c. The Companies' 2025 CPCN Resource Assessment (Exhibit SAW-1) assumes inflation will continue at 2.3 percent per year.

d. The Companies have not performed this analysis.

KENTUCKY UTILITIES COMPANY
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LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Coal Association's First Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.2

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

Q-1.2. Do the costs for the proposed two CCGT's reflect compliance with Section 111(b) of the Clean Air Act? If yes, what is assumed: a low-capacity factor or a CCS retrofit?

A-1.2. Yes. The units comply with the Phase 1 efficiency standard requirements of the Greenhouse Gas Rule ("GHG Rule) and are capable of adhering to a 40% capacity factor limit if the GHG Rule is not repealed. The Companies' 2024 IRP demonstrated that the proposed NGCCs are least-cost if the GHG Rule is not repealed. See pages 13-15 of Mr. Imber's testimony regarding the Greenhouse Gas Rule.

KENTUCKY UTILITIES COMPANY
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LOUISVILLE GAS AND ELECTRIC COMPANY

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Case No. 2025-00045

Question No. 1.3

Responding Witness: Lonnie E. Bellar / John Bevington / Charles R. Schram / Counsel

Q-1.3. Please provide additional information supporting the Companies' revised load growth assumptions including the following:

a. The status of the 6,000 MW potential data center demand referred to in the Testimony of John Bevington, including timing, term sheets, and exclusivity.

b. The basis for the 2,000 MW potential load growth from industrial customers.

c. Whether BOSK would owe the Companies Liquidated Damages (LD) if Phase 2 is not completed and /or not operated. If so, what are the estimated LD's.

A-1.3.

a. See the responses to PSC 1-18(c), AG-KIUC 1-33(a) and Case No. 2024-00326, responses to JI 2-16 and 2-25.

b. See the response to AG-KIUC 1-33(a).

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.[1]

[1] *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

The Companies further object to this request as seeking a legal conclusion. Without waiving these objections, KU's special contract with BlueOval SK, LLC is available on the Commission's website.[2]

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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).

[2] https://psc.ky.gov/tariffs/Electric/Kentucky%20Utilities%20Company/Contracts/Current/BlueOval%20SK,%20LLC/2023-12-18_Special%20Contract%20for%20Electric%20Service.pdf.

KENTUCKY UTILITIES COMPANY
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Case No. 2025-00045

Question No. 1.4

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

Q-1.4. Given the change in the load growth assumptions from the 2024 IRP, the retirement of MC 2 should be reconsidered. Have the Companies evaluated the continued operation of MC 2? If so, please provide the assumptions, analysis, and findings. If not, please explain why.

A-1.4. The Companies are currently evaluating the continued operation of Mill Creek 2 and will provide the results of their analysis when it is complete.

KENTUCKY UTILITIES COMPANY
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Response to Kentucky Coal Association's First Request for Information
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Case No. 2025-00045

Question No. 1.5

Responding Witness: John Bevington / Tim A. Jones

Q-1.5. Please provide the Companies' assessment of the risks and timing of the projected increases in demand. Did the Companies consider new technologies such as "DeepSeek," which may have the potential for significantly reducing data center costs and energy demand?

A-1.5. As discussed in the article referenced in the Jones Testimony at page 19 in footnote 27, DeepSeek may actually have the opposite effect. "Leaders of the U.S. companies were unbowed, touting advances in their own technology and arguing that lower costs will make AI more affordable and grow the demand for their cloud computing services, which AI needs to operate."

It is not only Big Tech leadership that is saying this. Wealth management firm UBS said something similar in a recent article: "If DeepSeek's model were to prove to be the way to go for the broader AI industry, it is not necessarily a zero-sum game. The overall market can grow, with potentially lower costs accelerating AI adoption across industries and further improving productivity gains."[3]

The above references notwithstanding, there is still a lot of uncertainty about what DeepSeek will actually do in terms of efficiency, as noted in an MIT Technology Review article.[4] "These early figures—based on the performance of one of DeepSeek's smaller models on a small number of prompts—suggest it could be more energy intensive when generating responses than the equivalent-size model from Meta. The issue might be that the energy it saves in training is offset by its more intensive techniques for answering questions, and by the long answers they produce."

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[3] https://www.ubs.com/us/en/wealth-management/insights/market-news/article.1847323.html
[4] https://www.technologyreview.com/2025/01/31/1110776/deepseek-might-not-be-such-good-news-for-energy-after-all/

KENTUCKY UTILITIES COMPANY
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LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Coal Association's First Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.6

Responding Witness: John Bevington / Stuart A. Wilson

Q-1.6. Did the Companies evaluate data center developers building dedicated generation, "behind the meter", to support their power needs?

A-1.6. No. The Companies have primarily been responding to requests for infrastructure and capacity from potential customers needing around the clock energy, every day of the year. The Companies are aware of data centers' need for emergency backup generation, but these potential customers have not asked about or expressed interest to the Companies concerning curtailable service, standby on-site generation, behind the meter generation, participation in energy efficiency programs, or any other approaches to offset needed capacity.

KENTUCKY UTILITIES COMPANY
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Response to Kentucky Coal Association's First Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.7

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

Q-1.7. Please provide for the new CCGT's what the Companies evaluated in order to increase the reliability of these plants in the event of gas supply problems. Specifically, please provide any analyses of dual fuel capability and/or on-site LNG production performed by the Companies.

A-1.7. Gas supply problems would result from one of two broad causes – a decrease in supply pressure as experienced during Winter Storm Elliott or a total interruption not previously experienced. As discussed previously during Case No. 2022-00402 and other proceedings that followed, the Companies plan to mitigate the risks associated with a decrease in natural gas supply pressure by installing incremental gas compression such that the proposed units would attain full load in the unlikely event that conditions mimic Winter Storm Elliott conditions.

Regarding dual fuel capability, which may be briefly beneficial in the event of total interruption, the Companies do not plan to include this optionality in the proposed plan for the reasons discussed in Case No. 2024-00326, KCA 1-1, and the lack of substantive cost or functionality update of these options since the date of that response. If dual fuel options (either fuel oil or LNG) evolve operationally or budgetarily in the future, the Companies retain the ability to further consider these options. See also the Natural Gas Fuel Security Analysis in Vol. III of the 2024 IRP.

KENTUCKY UTILITIES COMPANY
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Response to Kentucky Coal Association's First Request for Information
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Case No. 2025-00045

Question No. 1.8

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

Q-1.8. Please provide the following assumptions in the CPCN for:

a. Delivered coal prices by year for each coal plant;

b. Delivered natural gas price curves on a monthly basis for the existing and planned CCGT's and CT's;

c. Documentation including updated actual fuel prices through December 2024 supporting the use of the Companies "C-T-G" pricing methodology going forward given the decline in power sector coal demand and the increase in total demand for natural gas including significantly increased LNG exports;

d. Expected terms (duration and pricing) of firm and interruptible pipeline supply agreements; and

e. Assumed monthly peak and off-peak energy and capacity prices through the forecast period that the Companies would pay absent the construction of adequate resources.

A-1.8.

a. See the tabs named "DataFromFuels_5YR" and "DataFromFuels_LTP" in the following files provided in Exhibit SAW-2 at 2025PlanInputs\CONFIDENTIAL_Fuel\Coal\:

- 20240716_2025BP_CoalforPROSYMPLEXOS_2024-2050_DelInvSplit_Iter1_ExclFixed_HGLR.xlsx
- 20240716_2025BP_CoalforPROSYMPLEXOS_2024-2050_DelInvSplit_Iter1_ExclFixed_HGMR.xlsx
- 20240716_2025BP_CoalforPROSYMPLEXOS_2024-2050_DelInvSplit_Iter1_ExclFixed_LGHR.xlsx
- 20240716_2025BP_CoalforPROSYMPLEXOS_2024-2050_DelInvSplit_Iter1_ExclFixed_MGMR.xlsx

- 20240716_2025BP_CoalforPROSYMPLEXOS_2024-2050_DelInvSplit_Iter1_ExclFixed_LGMR.xlsx

b. See the tab named "MonthlyPriceSummary" in the following files provided in Exhibit SAW-2 at 2025PlanInputs\CONFIDENTIAL_Fuel\Gas\:
   - 20240607_2025BP_GasforPROSYM_2024-2050_HGLR.xlsx
   - 20240607_2025BP_GasforPROSYM_2024-2050_HGMR.xlsx
   - 20240607_2025BP_GasforPROSYM_2024-2050_LGHR.xlsx
   - 20240607_2025BP_GasforPROSYM_2024-2050_LGMR.xlsx
   - 20240607_2025BP_GasforPROSYM_2024-2050_MGMR.xlsx

c. The Companies did not use the referenced data to support the CTG ratios, as discussed in Section 6.6.3 of Exhibit SAW-1 and demonstrated in the workpaper previously provided in Exhibit SAW-2 at 2025PlanInputs\CONFIDENTIAL_CommodityPriceForecasts\20240712 2025 BP Coal Price Forecast.xlsx. Notably, in 2025 the coal-to-gas ratio based on market coal and gas prices is 0.56 (See implied ILB/NG Price Ratio on "MGMR" tab). This indicates a reversion from the much higher market coal-to-gas price ratios experienced in recent years to a price ratio that is more reflective of the long-term average, which the Companies used as the 2025 CPCN Mid coal-to-gas price ratio. See the response to JI 1-112.

d. The Companies have not established the term lengths of natural gas transport agreements. Those agreements are anticipated to have rollover provisions to ensure continuity of transport capacity beyond the initial term. The Companies have no plans to enter into interruptible natural gas transport agreements. See response to LMG-LFUCG 1-11(d) and JI 1-71.

e. The Companies would not plan to attempt to reliably serve the anticipated levels of data center load with market energy and capacity and therefore do not have the requested prices.

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Response to Kentucky Coal Association's First Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.9

Responding Witness: Lonnie E. Bellar

Q-1.9. In development of the IRP and CPCN did the Companies discuss energy and environmental policy with the new presidential administration? If so, please explain how the results of those discussions are addressed in the IRP and/or CPCN.

A-1.9. No.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Coal Association's First Request for Information
Dated March 28, 2025

Case No. 2025-00045

Question No. 1.10

Responding Witness: Lonnie E. Bellar / John Bevington

Q-1.10. Have the Companies engaged with the Energy & Environment Cabinet, Economic Development Cabinet, or the EPIC Commission in the development of the IRP and CPCN? If so, please explain how the interests of the Commonwealth are incorporated in the IRP and CPCN.

A-1.10. No.