

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

**In the Matter of:**

<b>ELECTRONIC 2024 JOINT INTEGRATED</b>	)	
<b>RESOURCE PLAN OF LOUISVILLE GAS AND</b>	)	<b>CASE NO. 2024-00326</b>
<b>ELECTRIC COMPANY AND KENTUCKY</b>	)	
<b>UTILITIES COMPANY</b>	)	

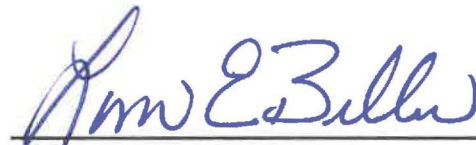
**RESPONSE OF**  
**LOUISVILLE GAS AND ELECTRIC COMPANY**  
**AND**  
**KENTUCKY UTILITIES COMPANY**  
**TO**  
**THE MOUNTAIN ASSOCIATION, KENTUCKIANS FOR THE**  
**COMMONWEALTH, KENTUCKY SOLAR ENERGY SOCIETY AND**  
**METROPOLITAN HOUSING COALITION'S POST-HEARING**  
**REQUESTS FOR INFORMATION**  
**DATED MAY 19, 2025**

**FILED: JUNE 6, 2025**

**VERIFICATION**

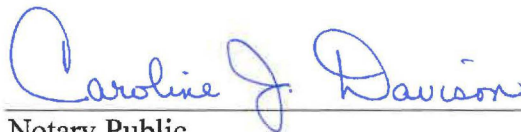
**COMMONWEALTH OF KENTUCKY** )  
 )  
**COUNTY OF JEFFERSON** )

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 30<sup>th</sup> day of May 2025.



Notary Public

Notary Public ID No. KYNP 63286

My Commission Expires:

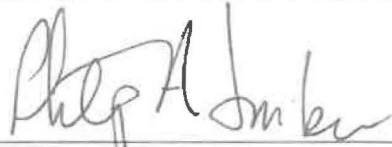
January 22, 2027



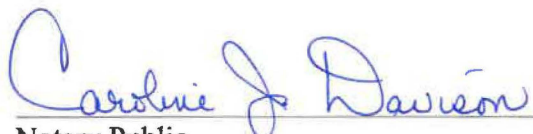
**VERIFICATION**

**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**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 2nd day of June 2025.

  
\_\_\_\_\_  
Notary Public

Notary Public ID No. KYNPL3286

My Commission Expires:

January 22, 2027



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

  
Tim A. Jones

Caroline J. Davison  
Notary Public

January 22, 2027



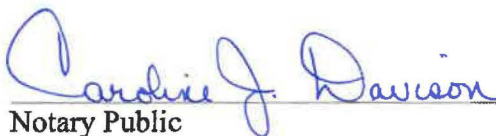
**VERIFICATION**

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

The undersigned, **Elizabeth J. McFarland**, being duly sworn, deposes and says that she is Vice President, Transmission for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, 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.

  
**Elizabeth J. McFarland**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 3rd day of June 2025.

  
Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:


January 22, 2027



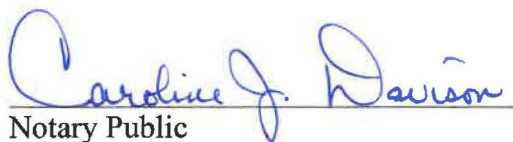
## VERIFICATION

COMMONWEALTH OF KENTUCKY )  
 )  
COUNTY OF JEFFERSON )

The undersigned, **Shannon L. Montgomery**, being duly sworn, deposes and says she is the Vice President, Customer Services for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, 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.

  
Shannon L. Montgomery

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 2nd day of June 2025.

  
Notary Public

Notary Public ID No. KYNP 63286

My Commission Expires:

January 22, 2027





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

Michael S. Sebourn  
**Michael S. Sebourn**

Caroline J. Dawson  
Notary Public

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 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.

  
**David L. Tummonds**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 4<sup>th</sup> day of June 2025.

  
Notary Public

Notary Public, ID No. KYNP 4577

My Commission Expires:

April 1, 2028





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

**Response to Mountain Association, Kentuckians for the Commonwealth, Kentucky  
Solar Energy Society and Metropolitan Housing Coalition's Post-Hearing Requests  
for Information**

**Dated May 19, 2025**

**Case No. 2024-00326**

**Question No. 3.1**

**Responding Witness: Lonnie E. Bellar**

- Q. 3.1. Please refer to the Joint Intervenors' cross-examination of the Companies' Witness Bellar, from approximately 11:45 a.m. to 11:48 a.m. on Tuesday May 13, 2025. Please produce the most recent evaluation of the feasibility of expanding capacity of the "Ohio Falls" hydroelectric facility.
- A. 3.1. See attachment being provided as a separate file. The information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection. The Companies' 2011 Integrated Resource Plan analyzed possible Ohio Falls capacity expansions based on the attached feasibility study and determined they were not least-cost.<sup>1</sup> Since then, the study's referenced river conditions have not appreciably changed and well understood market forces have increased expected costs well beyond general inflation estimates.

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<sup>1</sup> See Case No. 2011-00140, IRP Vol. III, Analysis of Supply-Side Technology Alternatives and 2011 Optimal Expansion Plan Analysis (Apr. 21, 2011), available at [https://psc.ky.gov/pscscf/2011%20cases/2011-00140/20110421\\_LG&E-KU\\_IRP\\_Volume%20III.pdf](https://psc.ky.gov/pscscf/2011%20cases/2011-00140/20110421_LG&E-KU_IRP_Volume%20III.pdf).

**LOUISVILLE GAS AND ELECTRIC COMPANY  
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Dated May 19, 2025**

**Case No. 2024-00326**

**Question No. 3.2  
Responding Witness: Tim A. Jones**

- Q. 3.2. Please refer to the Joint Intervenors' cross-examination of the Companies' Witness Jones, from approximately 4:55 p.m. to 4:57 p.m. on Tuesday May 13, 2025. Please provide the forecast by rate class used to develop the Companies' power service rate.
- A. 3.2. See KPSC Case No 2024-00326 -- LGE-KU 2024 IRP Load Forecasting Workpapers—CONFIDENTIAL.zip at  
"Electric\_Load\_Forecast\Electric\CONFIDENTIAL\_Deliverables\CONFIDENTIAL\_Financial\_Planning\_2025BP\_20240910.xlsx." The Power Service rate class specifically is broken out between Primary and Secondary for each Company.

**LOUISVILLE GAS AND ELECTRIC COMPANY  
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**Response to Mountain Association, Kentuckians for the Commonwealth, Kentucky  
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**Dated May 19, 2025**

**Case No. 2024-00326**

**Question No. 3.3**

**Responding Witness: Michael S. Sebourn / David L. Tummonds**

- Q. 3.3. Please refer to the Joint Intervenors’ cross-examination of the Companies’ Witness Sebourn, from approximately 9:21 a.m. to 9:24 a.m. on Wednesday May 14, 2025. Please explain how battery storage technology has improved since 2018 and how that is reflected in the Companies’ modeling to accurately characterize battery storage technology.
- A. 3.3. Since 2018, the industry has continued to evolve both the chemistry of battery modules and the monitoring capability of the battery management system (“BMS”) such that physical faults within the battery modules propagate less rapidly and are more promptly identified by the BMS. This combination of these two improvements yield lower likelihood and lesser extent of thermal runaway. However, these improvements are not pertinent to the Companies’ modeling of BESS resources, which focuses on characteristics that impact costs and efficiency. In each IRP, the Companies update such modeling inputs to reflect current technology for all resource alternatives that are considered, including batteries. The table below provides a comparison of 2018 IRP, 2021 IRP, and 2024 IRP BESS inputs.

**IRP Inputs for 4-hr BESS Resources**

	<b>2018 IRP (2018 \$)</b>	<b>2021 IRP (2022 \$)</b>	<b>2024 IRP (2030 \$)</b>
Round-Trip Efficiency	90%	85%	87%
Capital Cost (\$/kW)	2,073	1,274	2,049
Book life (years)	25	15	15
Fixed O&M (\$/kW-yr)	9	32	25
Variable O&M (\$/MWh)	2.72	N/A	N/A
Investment Tax Credit	N/A	N/A	50%
Max Capacity (MW)	100	100	100
Min Capacity (MW)	0	0	0

**LOUISVILLE GAS AND ELECTRIC COMPANY  
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**Response to Mountain Association, Kentuckians for the Commonwealth, Kentucky  
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**Dated May 19, 2025**

**Case No. 2024-00326**

**Question No. 3.4**

**Responding Witness: Elizabeth J. McFarland**

Q. 3.4. Please refer to the Joint Intervenor's cross-examination of the Companies' Witness McFarland, from approximately 11:46 a.m. to 11:51 a.m. on Wednesday May 14, 2025; the table listing interconnections with neighboring transmission systems at page 3 of the "Transmission Section" of the Companies' 2024 IRP, Vol. III; and Table 6-1 at page 150 of East Kentucky Power Cooperative's 2025 Integrated Resource Plan, Case No. 2025-00085 (pdf 168 of 244).

- a. In the Companies' view, does Table 6-1 of EKPC's 2025 IRP accurately identify each of the "delivery points" or "free-flowing connections" between the transmission systems of EKPC and the Companies? If not, please specify changes necessary to correct each inaccuracy.
- b. In the Companies' view, does Table 6-1 of EKPC's 2025 IRP accurately characterize the voltage and ratings in MVA for each of the "delivery points" or "free-flowing connections" between the transmission systems of EKPC and the Companies? If not, please specify changes necessary to correct each inaccuracy.
- c. For each LG&E/KU transmission system interconnection with a neighboring transmission system other than EKPC, please provide the voltage (kV) and ratings in MVA for normal and emergency conditions in both the summer and winter.

A. 3.4.

- a. Yes, the referenced table represents bi-directional ("free-flowing") interconnection points between EKPC and the Companies.
- b. The Companies agree the referenced table is accurate for voltages of bi-directional interconnection points between EKPC and the Companies. The Companies have identified five interconnection points with differences in ratings from the table referenced and the Companies' recorded ratings. See

attachment being provided in a separate file for the details of these five interconnection point differences.

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

**LOUISVILLE GAS AND ELECTRIC COMPANY  
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**Dated May 19, 2025**

**Case No. 2024-00326**

**Question No. 3.5**

**Responding Witness: Elizabeth J. McFarland**

- Q. 3.5. Please refer to the Joint Intervenors' cross-examination of the Companies' Witness McFarland, from approximately 12:01 p.m. to 12:05 p.m. on Wednesday May 14, 2025. Does the Generator Interconnection Queue posted on the Companies' OASIS provide a complete historical record of previously submitted Generator Interconnection requests? If not, please explain the circumstances under which a once-queued generation interconnection request would be removed from the posted GIA Queue.
- A. 3.5. Yes, the Generator Interconnection Queue posted on the Companies' OASIS provides a complete historical record of previously submitted Generator Interconnection requests.



**LOUISVILLE GAS AND ELECTRIC COMPANY  
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**Response to Mountain Association, Kentuckians for the Commonwealth, Kentucky  
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for Information**

**Dated May 19, 2025**

**Case No. 2024-00326**

**Question No. 3.6**

**Responding Witness: Philip A. Imber**

- Q. 3.6. Please refer to the Joint Intervenor's cross-examination of the Companies' Witness Imber, beginning at approximately 2:02 p.m. to 2:05 p.m. on Wednesday May 14, 2025 and Joint Intervenor's supplemental request 19(c). Please provide the requested data on an hourly basis for the timeframe maintained by the Companies.
- A. 3.6. See attachments being provided in separate files. Notes for the data:
1. Ghent Units 2 and 3 have a common stack.
  2. Mill Creek Units 1 and 2 have a common stack.
  3. MC1 and 2 parameters show F flags that are incorrect, due to reconfiguration on 1/1/25 into a single stack for unit 2. Please refer to UNTOPHR1 and 2 for correct indication of the number of minutes of operation.
  4. MC1 retired 12/31/24. MC2 parameter names stopped indicating unit number so a separate file is provided for 2025.
  5. Since the mass parameters are in rates over the operating period, they are parsed partial operating hours by the portion of the hour that it ran. For example, if the mass parameter gave a value for the hour, but the unit was only operational for 15 minutes, there will be discrepancies between those and the full 60-minute hour values.

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for Information**

**Dated May 19, 2025**

**Case No. 2024-00326**

**Question No. 3.7**

**Responding Witness: Shannon L. Montgomery**

Q. 3.7. Please refer to the Joint Intervenor's cross-examination of the Companies' Witness Montgomery, beginning at approximately 3:05 p.m. to 3:08 p.m. on Wednesday May 14, 2025. With regard to the attachment provided in response to Joint Intervenor's supplemental data request number 36 ("02-JI\_DR2\_LGE\_KU\_Supplemental\_Attach\_to\_Q36(a,b)\_-\_Past\_Due\_Amt\_R EVISED.xlsx"), please:

- a. Explain how the "Average Number Of Customers (a)" for each year was calculated;
- b. Explain how the "Average Past Due Balance (b)" for each year was calculated; and
- c. Please also refer to the Companies' response to Joint Intervenor's initial data request number 55, and for each of the most recent three years available:
  - i. The monthly number of customers with a past due balance by zip code or census tract; and
  - ii. The monthly past due balance amount by zip code or census tract.

A. 3.7.

- a. Total number of past due customers, by year and zip code, divided by twelve months.
- b. Total past due amount, by year and zip code, divided by the total number of past due bills in the corresponding period and zip code.
- c.
  - i. See attachment being provided in a separate file.

- ii. Past due balances fluctuate daily as payments are made and new past due balances are incurred. To provide a monthly view, all past due balances that occurred during a particular month, even if only outstanding for one day, are summed together by zip code. See attachment being provided in a separate file. The information requested is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.