

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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

COMMISSION STAFF'S FIFTH REQUEST FOR INFORMATION  
TO KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS  
AND ELECTRIC COMPANY

Kentucky Utilities Company (KU) and Louisville Gas and Electric Company (LG&E) (jointly, LG&E/KU), pursuant to 807 KAR 5:001, shall file with the Commission an electronic version of the following information. The information requested is due on July 15, 2025. The Commission directs LG&E/KU to the Commission's July 22, 2021 Order in Case No. 2020-00085<sup>1</sup> regarding filings with the Commission. Electronic documents shall be in portable document format (PDF), shall be searchable, and shall be appropriately bookmarked.

Each response shall include the question to which the response is made and shall include the name of the witness responsible for responding to the questions related to the information provided. Each response shall be answered under oath or, for representatives of a public or private corporation or a partnership or association or a governmental agency, be accompanied by a signed certification of the preparer or the

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<sup>1</sup> Case No. 2020-00085, *Electronic Emergency Docket Related to the Novel Coronavirus COVID-19* (Ky. PSC July 22, 2021), Order (in which the Commission ordered that for case filings made on and after March 16, 2020, filers are NOT required to file the original physical copies of the filings required by 807 KAR 5:001, Section 8).

person supervising the preparation of the response on behalf of the entity that the response is true and accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry.

LG&E/KU shall make timely amendment to any prior response if LG&E/KU obtains information that indicates the response was incorrect or incomplete when made or, though correct or complete when made, is now incorrect or incomplete in any material respect.

For any request to which LG&E/KU fails or refuses to furnish all or part of the requested information, LG&E/KU shall provide a written explanation of the specific grounds for its failure to completely and precisely respond.

Careful attention shall be given to copied and scanned material to ensure that it is legible. When the requested information has been previously provided in this proceeding in the requested format, reference may be made to the specific location of that information in responding to this request. When applicable, the requested information shall be separately provided for total company operations and jurisdictional operations. When filing a paper containing personal information, LG&E/KU shall, in accordance with 807 KAR 5:001, Section 4(10), encrypt or redact the paper so that personal information cannot be read.

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.

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.

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.

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.

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.
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 for post in service costs.
  - c. Refer also to LG&E/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.

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.

8. State whether the Brown BESS approved in Case No. 2022-00402,<sup>2</sup> 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.<sup>3</sup>

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.

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.

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

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

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<sup>2</sup> 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.*

<sup>3</sup> [Text - H.R.1 - 119th Congress \(2025-2026\): One Big Beautiful Bill Act | Congress.gov | Library of Congress.](#)

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.

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.

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.

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.

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..

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).

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.



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.

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.

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.

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.

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.

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?

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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

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



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DATED   JUN 30 2025  

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