

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC JOINT APPLICATION OF	)	
KENTUCKY UTILITIES COMPANY AND	)	
LOUISVILLE GAS AND ELECTRIC COMPANY	)	
FOR CERTIFICATES OF PUBLIC	)	CASE NO.
CONVENIENCE AND NECESSITY AND SITE	)	2022-00402
COMPATIBILITY CERTIFICATES AND	)	
APPROVAL OF A DEMAND SIDE MANAGEMENT	)	
PLAN AND APPROVAL OF FOSSIL FUEL-FIRED	)	
GENERATING UNIT RETIREMENTS	)	

COMMISSION STAFF'S FOURTH 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 5:001E, shall file with the Commission an electronic version of the following information. The information requested is due on June 9, 2023. 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

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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).

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 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 obtain 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 fail or refuse 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 5:001E, Section 4(10), encrypt or redact the paper so that personal information cannot be read.

1. Refer to the Direct Testimony of Lonnie E. Bellar (Bellar 2023-00122 Direct Testimony), page 4, lines 9–20. Explain whether it is technically feasible to install the

required environmental controls at Mill Creek 1 before the compliance deadlines to continue operation beyond 2024.

2. Refer to the Bellar 2023-00122 Direct Testimony, page 5, lines 1–11. Explain the demarcation between ordinary maintenance and major mechanical issues. Include in the explanation examples of both and the minimum estimated expense that would precipitate retirement.

3. Refer to the Bellar 2023-00122 Direct Testimony, page 17, lines 13–16.

a. Will the same technology be installed at all natural gas generation resources, including the sites of the proposed natural gas combined cycle (NGCC) units, that allows combustion turbines to operate at full load at lower gas pressures than are required to start the units and to operate at reduced load if gas pressures further decreased.

b. Explain whether these improvements improve or support the reliability of the proposed NGCC units in addition to the existing simple-cycle combustion turbines (SCCT) and whether the combined cycle units will be able to operate at full load with lower gas pressure.

c. If the response to Item 3.b. is no, provide the partial load that the combined cycle units will be able to achieve under low gas pressure.

4. Refer to the Direct Testimony of Stuart B. Wilson (Wilson 2023-00122 Direct Testimony), Exhibit SB4-1, page 7.

a. Provide a copy of the “PJM Glossary” referred to in footnote 14.

b. State whether other transmission operators use the same or a similar definition of “dispatchable generation” proposed by LG&E/KU in Exhibit SB4-1, and if so,

identify the transmission operators that use that definition and provide documents supporting that use.

5. Refer to the Wilson 2023-00122 Direct Testimony, Exhibit SB4-1, page 14, Table 4.

a. Explain why retiring Paddy's Run and Haefling units doesn't result in a change in the dispatchable range from Portfolio 2 to Portfolio 3.

b. If the Commission were to deny any combination of the owned solar, Brown Battery Energy Storage System (BESS), dispatchable demand-side management (DSM), or the power purchase agreement (PPA) resource additions, explain whether the SB 4 dispatchability requirement is still satisfied.

c. Explain whether DSM/Energy Efficiency (EE) portfolio meets the SB 4 requirement pertaining to replacing generating capacity for the retiring unit.

d. Explain how the retirement of Ghent Unit 2 in Portfolio 4 and Portfolio 5 increases the full-year LOLE estimate in the summer and the full year.

6. Refer to Wilson 2023-00122 Direct Testimony, Exhibit SB4-1, page 13. Explain how maintaining a loss of load expectation (LOLE) of 3.57 with the proposed replacement generation satisfies the SB 4 requirement pertaining to replacing generating capacity for the retiring unit

7. Refer to the Wilson 2023-00122 Direct Testimony, Exhibit SB4-1, page 14, Table 5.

a. Explain how the retirement of Ghent Unit 2 in Portfolio 4 and Portfolio 5 increases the full year LOLE estimate in the summer and the full year.

b. If the Commission were to deny any combination of the owned solar, Brown BESS or the PPA resource additions, explain whether the SB4 reliability requirement is still satisfied.

c. Provide a version of Table 5 in which the DSM programs are removed from all portfolios, 0–8.

d. Provide a version of Table 5 in which the Solar PPAs are added to all portfolios 0-8.

8. Refer to the Wilson 2023-00122 Direct Testimony, Exhibit SB4-1, page 14, footnote 32.

a. Explain in detail how the forced outage rates included in the SERVVM analysis account for credible fuel assurance issues.

b. Explain in detail the measures taken by LG&E/KU and by Texas Gas Transmission to avoid a reoccurrence of the December 2022 load shedding event.

9. Refer to the Wilson Direct Testimony, Exhibit SB4-1, page 16, Table 6, and footnotes 37–39.

a. Explain whether contractually obligated generation output from the Solar PPAs will be dispatched before any of LG&E/KU's other generation resources.

b. Explain whether any of LG&E/KU current or planned fossil-fuel generation units has a lower marginal cost of energy than either the owned solar or the solar PPA facilities. If so, explain whether these units would be dispatched before the solar facilities.

10. Refer to the Wilson 2023-00122 Direct Testimony, Exhibit SB4-1, page 17 and page 18, Table 7.

a. Explain whether the SB 4 capacity requirement is fulfilled if LG&E/KU's summer and winter reserve margins exceed LG&E/KU minimum reserve margins.

b. Explain why Portfolio 8 with summer and winter reserve margins of 38.4 percent and 32.3 percent respectively is reasonable, given that the planning minimum reserve margin is 17 percent and 24 percent respectively.

11. Refer to the Wilson 2023-00122 Direct Testimony, Exhibit SB4-1, page 26, Table 11. Describe any analysis done to assess the present value of revenue requirement (PVRR) of an alternate portfolio that keeps Paddy's Run 12 and Haefling 1-2 online and reduces the size of the planned NGCC capacity build-out.

12. Refer to LG&E/KU's response to Commission Staff's Second Request for Information (Staff's Second Request), Item 50, filed in Case No. 2022-00402.

a. State whether, and if so, explain how the forced outage rates for Mill Creek Unit 2 and Ghent Unit 2 used to calculate the LOLE were affected by the addition of new selective catalytic reduction (SCR) on those units.

b. If the addition of new SCRs on Mill Creek Unit 2 and Ghent Unit 2 did not affect forced outage rates, explain what variable was used to reflect the unavailability of the units during ozone season if SCRs were not added and how that variable was reflected in the calculation of the LOLE.

13. Refer to LG&E/KU's response to Staff's Second Request, Question 81, which provided the results of a run using a 20-year life for both NGCC and SCCT unit, and determined the optimal portfolio was continuing to operate Ghent 2, but in non-ozone-season months only (October through April); retiring Mill Creek 2 and Brown 3;

constructing two 250 MW combustion turbines at Mill Creek; 100 MW battery storage PPA; and between 518 MW and 2,772 MW of Solar PPAs, depending on the fuel price scenario. Provide the LOLE value for this portfolio and discuss how the reliability compares relative to the other portfolios listed in Exhibit SB4-1, Table 5.

14. Refer to the Direct Testimony of Charles R. Schram, page 6, lines 1–12, regarding concerns regarding the impact of supply chain constraints and solar component tariffs on pricing raised by responded to a 2021 request for proposal (RFP). On May 18, 2023, S&P Global published an article that documented an increase in solar imports in 2023 Q1, due to a temporary tariff waiver in photovoltaic cells and modules from Southeast Asia, and projections that costs for imported solar components will not increase in the near term, based upon President Biden’s May 16, 2023, veto of proposed legislation to end a two-year moratorium on additional solar tariffs from Vietnam, Cambodia, and Thailand.<sup>2</sup>

a. Given a changing market trend regarding imported solar component availability and costs since the 2021 RPF, explain whether LG&E/KU will reopen the 2021 RFP to assess whether cheaper, more reliable applications are submitted by developers.

b. Refer also to Direct Testimony of Tim A. Jones (Jones Direct Testimony), CONFIDENTIAL-Exhibit TAJ-3, Confidential Workpapers folder, Hourly\_Forecast\_Updates, PV, Price Needed to Meet Total Project Costs, Price Needed

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<sup>2</sup> S&P Global, S&P Capital IQ, May 18, 2023.  
[https://www.capitaliq.spglobal.com/web/client?auth=inherit#news/article?id=75789625&KeyProductLinkType=58&utm\\_source=MIAAlerts&utm\\_medium=realtime-minewsresearch-newsfeature-energy%20and%20utilities-the%20daily%20dose&utm\\_campaign=Alert\\_Email&redirected=1](https://www.capitaliq.spglobal.com/web/client?auth=inherit#news/article?id=75789625&KeyProductLinkType=58&utm_source=MIAAlerts&utm_medium=realtime-minewsresearch-newsfeature-energy%20and%20utilities-the%20daily%20dose&utm_campaign=Alert_Email&redirected=1)

for Energy Exported to Grid to Meet Total Project Costs\_SAW.xlsx, Model tab, filed in Case No. 2022-00402. If the 2021 RFP is reopened, state whether LG&E/KU will update the escalation rate used to convert private solar costs from real to nominal.



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DATED   MAY 30 2023  

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