

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

In the Matter of:

ELECTRONIC INVESTIGATION OF)
LOUISVILLE GAS AND ELECTRIC)
COMPANY AND KENTUCKY UTILITIES) CASE NO. 2023-00422
COMPANY SERVICE RELATED TO WINTER)
STORM ELLIOTT)

**SUPPLEMENTAL DATA REQUESTS OF JOINT INTERVENORS
METROPOLITAN HOUSING COALITION, KENTUCKIANS FOR THE
COMMONWEALTH, KENTUCKY SOLAR ENERGY SOCIETY, AND MOUNTAIN
ASSOCIATION TO LOUISVILLE GAS AND ELECTRIC COMPANY AND
KENTUCKY UTILITIES COMPANY**

Tom FitzGerald
Byron L. Gary
Ashley Wilmes
Kentucky Resources Council, Inc.
P.O. Box 1070
Frankfort, KY 40602
(502) 875-2428
Byron@kyrc.org
FitzKRC@aol.com
Ashley@kyrc.org

*Counsel for Joint Intervenors Metropolitan
Housing Coalition, Kentuckians for the
Commonwealth, Kentucky Solar Energy
Society, and Mountain Association*

March 1, 2024

DEFINITIONS

1. “Document” means the original and all copies (regardless of origin and whether or not including additional writing thereon or attached thereto) of any memoranda, reports, books, manuals, instructions, directives, records, forms, notes, letters, or notices, in whatever form, stored or contained in or on whatever medium, including digital media.
2. “Study” means any written, recorded, transcribed, taped, filmed, or graphic matter, however produced or reproduced, either formally or informally, a particular issue or situation, in whatever detail, whether or not the consideration of the issue or situation is in a preliminary stage, and whether or not the consideration was discontinued prior to completion.
3. “Person” means any natural person, corporation, professional corporation, partnership, association, joint venture, proprietorship, firm, or the other business enterprise or legal entity.
4. A request to identify a natural person means to state his or her full name and business address, and last known position and business affiliation at the time in question.
5. A request to identify a document means to state the date or dates, author or originator, subject matter, all addressees and recipients, type of document (e.g., letter, memorandum, telegram, chart, etc.), identifying number, and its present location and custodian. If any such document was but is no longer in the Company’s possession or subject to its control, state what disposition was made of it and why it was so disposed.
6. A request to identify a person other than a natural person means to state its full name, the address of its principal office, and the type of entity.
7. “And” and “or” should be considered to be both conjunctive and disjunctive, unless specifically stated otherwise.
8. “Each” and “any” should be considered to be both singular and plural, unless specifically stated otherwise.
9. Words in the past tense should be considered to include the present, and words in the present tense include the past, unless specifically stated otherwise.
10. Unless otherwise specified in each individual interrogatory or request, the terms “you,” “your,” “LG&E,” “KU,” “LG&E/KU,” or “Companies” refer collectively to Louisville Gas & Electric Company and Kentucky Utilities Company, including any affiliated companies, predecessors-in-interest, employees, authorized agents, outside consultants or contractors, or other representatives.
11. “LG&E” means Louisville Gas & Electric Company and/or any of their officers, directors, employees or agents who may have knowledge of the particular matter addressed, and affiliated companies.

12. “KU” means Kentucky Utilities Company and/or any of their officers, directors, employees or agents who may have knowledge of the particular matter addressed, and affiliated companies including Pennsylvania Power and Light.

13. “The Companies” means LG&E and KU.

14. “Joint Intervenors” means the Metropolitan Housing Coalition, Kentuckians for the Commonwealth, Kentucky Solar Energy Society, and Mountain Association.

15. “Commission” or “PSC” means the Kentucky Public Service Commission, including its Commissioners, personnel, and offices.

16. “FERC-NERC Report” refers to the “FERC, NERC, and Regional Entity Staff Report, *Inquiry Into Bulk-Power System Operations During December 2022 Winter Storm Elliott* (Oct. 2023),” which is attached to the Commission’s December 22, 2023 Order in this proceeding as Appendix A.

17. “BA” means Balancing Authority.

18. “CPCN” means Certificate of Public Convenience and Necessity.

19. “MMD” means Merger Mitigation De-Pancaking.

20. “IRP” means Integrated Resource Plan.

21. “RTO” means Regional Transmission Organization.

22. “TEP” means Transmission Expansion Planning.

23. “VPP” means Virtual Power Plant.

INSTRUCTIONS

1. If any matter is evidenced by, referenced to, reflected by, represented by, or recorded in any document, please identify and produce for discovery and inspection each such document.

2. These requests for information are continuing in nature, and information which the responding party later becomes aware of, or has access to, and which is responsive to any request is to be made available to Joint Intervenors. Any studies, documents, or other subject matter not yet completed that will be relied upon during the course of this case should be so identified and provided as soon as they are completed. The Respondent is obliged to change, supplement, and correct all answers to interrogatories to conform to available information, including such information as it first becomes available to the Respondent after the answers hereto are served.

3. Unless otherwise expressly provided, each data request should be construed independently and not with reference to any other interrogatory herein for purpose of limitation.

4. Whenever the documents responsive to a discovery request consist of modeling files (including inputs or output) and/or workpapers, the files and workpapers should be provided in machine-readable electronic format (e.g., Microsoft Excel), with all formulas and cell references intact.

5. The answers provided should first restate the question asked and also identify the person(s) supplying the information.

6. Please answer each designated part of each information request separately. If you do not have complete information with respect to any interrogatory, so state and give as much information as you do have with respect to the matter inquired about, and identify each person whom you believe may have additional information with respect thereto.

7. Wherever the response to a request consists of a statement that the requested information is already available to Joint Intervenors, please provide a detailed citation to the document that contains the information. This citation shall include the title of the document, relevant page number(s), and, to the extent possible, paragraph number(s) and/or chart/table/figure number(s).

8. If you claim a privilege including, but not limited to, the attorney-client privilege or the work product doctrine, as grounds for not fully and completely responding to any discovery request, please describe the basis for your claim of privilege in sufficient detail so as to permit Joint Intervenors or the Commission to evaluate the validity of the claim. With respect to documents for which a privilege is claimed, please produce a "privilege log" that identifies the author, recipient, date, and subject matter of the documents or interrogatory answers for which you are asserting a claim of privilege and any other information pertinent to the claim that would enable Joint Movants or the Commission to evaluate the validity of such claims.

9. In the case of multiple witnesses, each interrogatory should be considered to apply to each witness who will testify to the information requested. Where copies of testimony, transcripts or depositions are requested, each witness should respond individually to the information request.

10. The interrogatories are to be answered under oath by the witness(es) responsible for the answer.

**SUPPLEMENTAL DATA REQUESTS PROPOUNDED TO
LOUISVILLE GAS AND ELECTRIC COMPANY AND KENTUCKY UTILITIES
COMPANY BY JOINT INTERVENORS**

- 2.1. Please refer to the Companies' response to Joint Intervenors' Request No. 1-2, paragraphs (e) and (f).
- a. Is it the Companies' position that they are not seeking to add additional transmission tie lines, or only that any such construction would not require Commission approval under 807 KAR 5:120? Please explain your answer.
 - b. Do the Companies believe that additional transmission tie lines are needed? Please explain why or why not.
 - c. Do the Companies believe that additional transmission tie lines would improve reliability on their system? Please explain why or why not.
- 2.2. Please refer to the Companies' response to Joint Intervenors' Request No. 1-19. Please produce any analysis of future load and resources carried out or considered as part of the Companies' annual business planning process since Winter Storm Elliott.
- 2.3. Please refer to the Companies' response to Joint Intervenors' Request No. 1-19(a)-(e). With regards to each of the resource options identified in 1-19(a)-(e), please state whether the Companies intend to evaluate the following as part of its 2024 IRP:
- a. The role that each resource can play in each of (i) improving reliability, (ii) reducing peak demand, and (iii) reducing the chance of rolling blackouts or other load shedding events in the Companies' service territory. If so, please explain how you intend to evaluate the role for each resource. If not, please explain why not.
 - b. The role that each resource can play as part of a VPP. If so, please explain how the Companies intend to evaluate the role of each resource. If not, please explain why not.
 - c. The role that a VPP can play as a resource option to improve reliability, reduce peak demand, and reduce the chance of rolling blackouts or other load shedding events in the Companies' service territory. If so, please explain how you intend to evaluate the role of a VPP. If not, please explain why not.
- 2.4. Please refer to the Companies' response to Joint Intervenors' Request No. 1-19(d).
- a. Please produce any cold weather plan that the Companies have for the Brown Solar facility. If no such plan exists, please explain why not.

- b. Please explain and produce any documentation of the Companies' procedures for removing snow from the Brown Solar facility after snowfall occurs. If no such procedures exist, please explain why not.
 - c. Please identify what steps were taken to remove snow from the Brown Solar facility after the snowfall the night of January 14, 2024, and when such steps were taken. If no such steps were taken, please explain why not.
 - d. Please identify Brown Solar's output each of the days of December 22 through December 26, 2022.
 - e. Please produce any cold weather plan that the Companies intend to have for the Marion County and Mercer County solar facilities approved in the Companies' CPCN docket, 2022-00402.
 - f. Please explain and produce any documentation of the snow removal procedures that the Companies intend to institute at the Marion County and Mercer County solar facilities.
- 2.5. Please refer to the Companies' response to Joint Intervenors' Requests No. 1-19(f) and (g), and No. 1-20(a).
- a. Please identify any new or upgraded interconnections with neighboring transmission systems the Companies have recommended since 2012 in the TEP process.
 - b. For each recommended new or upgraded interconnection identified in response to subpart (a) of this request, please state whether such new or upgraded interconnection has been completed. If so, please state when it was completed. If not, please explain why not.
 - c. Please identify any new or upgraded facilities that have been identified as needed in the LG&E/KU Balancing Authority Area to mitigate constraints identified in the extreme weather/high load case analyzed as part of the annual TEP processes since 2012.
 - d. For each new or upgraded facility identified in response to subpart (c) of this request, please state whether such new or upgraded facility has been completed. If so, please identify when it was completed. If not, please explain why not.
 - e. Please state whether it is the Companies' position that increased interconnections to neighboring RTOs and/or Balancing Authorities would not have increased the amount of energy that could have been imported into the Companies' system during Winter Storm Elliott. If so, please explain the basis for that position and produce any analysis upon which that position is based.
 - f. Please state whether it is the Companies' position that new or upgraded transmission infrastructure within the Companies' Balancing Authority Area would not have increased the amount of energy that could have been imported into the Companies' system during Winter Storm Elliott. If so, please explain the basis for that position and produce any analysis upon which that position is based.

- 2.6. Please refer to the Companies' Response to Sierra Club's Request No. 1-38.
- a. Please identify each of the "inherent risks" with the coal supply chain referenced therein.
 - b. Please explain how the Companies model these risks when establishing coal inventory target ranges for each coal-fired generating unit.
 - c. Please identify the extent to which these risks impact the coal inventory levels maintained on the site of each coal plant.
- 2.7. Please refer to the 2023 RTO Membership Analysis provided in Companies' Response to Joint Intervenor's Request No. 1-6.
- a. Please explain the basis for Companies' assertion that "exiting an RTO is much more challenging and costlier than entering one" (pp. 1-2).
 - b. Please provide a copy of the FERC order on rehearing and explain the Companies' current understanding of how the Companies' MMD obligations might be impacted by RTO membership.
 - c. Please explain the Companies' current understanding of how the Commission's Order in Case No. 2022-00402 may affect Companies' inputs and assumptions in their RTO membership analysis.
- 2.8. Please refer to the Companies' Response to the Attorney General's Request No. 1-5. Please identify by page number and/or subsection the specific portions of the "Analysis and Findings" section of the FERC/NERC Report that you believe "do not reflect the specific issues that impacted the Companies or their preparations for such events."
- 2.9. Please refer to the Companies' Response to the Attorney General's Request No. 1-6. With regards to your statement that "[t]he Companies' major issue during Winter Storm Elliott was low gas delivery pressure":
- a. Please state whether the Companies consider the outages and derates being experienced at certain Trimble County and Mill Creek coal-fired generating units during Winter Storm Elliott to be "major issues." If not, please explain why not.
 - b. Please state whether the load shedding and/or rolling blackouts experienced in the Companies' service territory during Winter Storm Elliott would have been lessened if the Companies had not been experiencing outages and derates at certain Trimble County and Mill Creek coal-fired generating units during the storm. If so, please provide any estimate of by how much such load shed and/or rolling blackouts would have been lessened. If not, please explain why not.

- 2.10. Please refer to the Companies' Response to the Attorney General's Request No. 1-8.
- a. Please produce any communications with Texas Gas regarding the evaluation of procuring gas storage services and adding dual-fuel capability to existing and planned units referenced therein.
 - b. Please produce any reports or other documents regarding the results of the evaluation referenced in subpart (a) above.
 - c. For each of the Companies existing gas-fired generating units, please identify the estimated cost of adding dual-fuel capability and produce any supporting documentation for such estimate.
 - d. For each of the Companies planned gas-fired generating units, please identify the estimated cost of adding dual-fuel capability and produce any supporting documentation for such estimate.
 - e. For each of the Companies planned gas-fired generating units, please state whether the estimated cost of adding dual-fuel capability was reflected in the estimated cost for such unit presented to the Commission in the CPCN docket, 2022-00402.
 - f. Identify any estimated cost for the Companies to procure gas storage services on the Texas Gas system and produce any supporting documentation for such estimate.
- 2.11. Please refer to the Companies' Response to the Attorney General's Request No. 1-20. With regards to your reference to Attachment 1 to the Companies' response to Staff's Post-hearing Request No. 20 in Case No. 2022-00402:
- a. Please confirm that the referenced document is found at this link - [https://psc.ky.gov/pscecf/2022-00402/rick.lovekamp%40lge-ku.com/09152023040050/20-PSC_PH_LGE_KU_Attach_to_Q20 - Attach 1 LOLE EUE PVRR of Alternative Portfolios - REDACTED.xlsx](https://psc.ky.gov/pscecf/2022-00402/rick.lovekamp%40lge-ku.com/09152023040050/20-PSC_PH_LGE_KU_Attach_to_Q20_-_Attach_1_LOLE_EUE_PVRR_of_Alternative_Portfolios_-_REDACTED.xlsx)
If not confirmed, please produce the referenced document.
 - b. Please explain how the referenced document shows that "winter reliability metrics improve immaterially when solar resources are added to a portfolio."
 - c. Please state whether the Companies believe that the addition of solar resources to a portfolio improves reliability metrics in other seasons besides the winter. If not, please explain why not and produce any analysis supporting that belief.
- 2.12. Please refer to the Companies' response to Staff's Request No. 1-20.
- a. Please identify the estimated cost of the compression equipment that the Companies currently expect to install on Mill Creek 5 and provide any supporting documentation of such cost estimate.
 - b. For each of the Companies' other existing or planned gas-fired units, please state whether the Companies expect to install compression equipment.
 - i. For each unit for which the Companies expect to install compression equipment, please identify the estimated cost of such equipment.

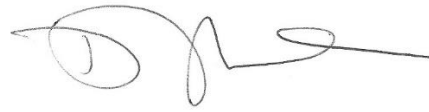
- ii. For each unit for which the Companies do not expect to install compression equipment, please explain why not.
 - c. Please confirm that the “broader study” with Texas Gas Transmission referenced therein is the same as the evaluation of procuring gas storage services and adding dual-fuel capability referenced in the Companies’ response to the Attorney General’s Request No. 1-8. If not confirmed:
 - i. Please produce any communications with Texas Gas regarding such “broader study.”
 - ii. Please produce the “broader study” when it is completed, and any reports or other documents regarding any results or findings of such study to date.
 - d. Please identify each of the “other options” being evaluated in the “broader study.”
 - e. Please state whether 4-hour battery storage is being evaluated as an option in the “broader study.” If not, please explain why not.
 - f. Please state whether long-duration battery storage is being evaluated as an option in the “broader study.” If not, please explain why not.

- 2.13. Please refer to the Companies’ response to Staff Request Nos. 1-43 and 1-52(a).
 - a. Please confirm the date on which the data provided was pulled from the Companies’ outage management system.
 - b. Please confirm whether data was pulled from the Companies’ outage management system during or immediately after loadshedding during Winter Storm Elliott. If so, please provide such data as a detailed list and corresponding maps of all customers in the LG&E-KU BA who were impacted by loadshedding during Winter Storm Elliott.
 - c. Please confirm whether Companies have any other data or system in place that may more accurately depict the total customers impacted by Winter Storm Elliott

- 2.14. Please refer to the Companies’ response to Staff Request No. 1-43.
 - a. Please explain the extent to which the Companies have sought to understand the number of customer households on low- or fixed-incomes in the LG&E-KU BA who were impacted by loadshedding during Winter Storm Elliott.
 - b. Please provide the address, county, zip code, and census tract of each customer impacted by loadshedding during Winter Storm Elliott.
 - c. For each customer and address identified in response to subsection (b) of this request, please provide the time and date for when outages were known or reported, when LG&E-KU resources responded to address known or reported outages, and when service was restored to each customer and address identified.

- 2.15. Please refer to the Companies' response to Staff Request No. 1-54. With regards to the referenced curtailment of non-firm power from PJM:
- a. Please identify by day and hour the time at which such curtailment began and ended.
 - b. Please state whether such curtailment would have prevented the Companies from receiving non-firm energy from other parts of PJM if the Companies were part of PJM. If so, please explain why.
- 2.16. Please refer to the Companies' response to Kentucky Coal Association Request No. 1-16. Please identify in dollars the amount of demand charge credits that Texas Gas Transmission provided to the Companies for December 23 through December 25, 2022.
- 2.17. Please refer to FERC's February 15, 2024 Order, available at <https://www.ferc.gov/media/e-1-rd24-1-000>, approving new extreme cold weather reliability standards.
- a. Please describe in practical terms what these new extreme cold weather reliability standards will mean for the Companies' operations.
 - b. Please identify any ways in which the Companies believe their practices already comply with the new standards.
 - c. Please identify any changes that the Companies believe they will need to make to comply with the new standards.
 - d. For each change identified in subpart (c), please identify the steps that the Companies intend to take to achieve compliance.

Respectfully submitted,

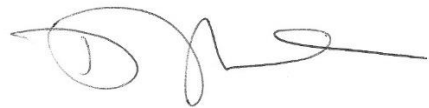


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Kentucky Resources Council, Inc.
P.O. Box 1070
Frankfort, KY 40602
(502) 875-2428
Byron@kyrc.org
FitzKRC@aol.com
Ashley@kyrc.org

*Counsel for Joint Intervenors Metropolitan
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CERTIFICATE OF SERVICE

In accordance with the Commission's July 22, 2021 Order in Case No. 2020-00085, Electronic Emergency Docket Related to the Novel Coronavirus COVID-19, this is to certify that the electronic filing was submitted to the Commission on March 1, 2024; that the documents in this electronic filing are a true representations of the materials prepared for the filing; and that the Commission has not excused any party from electronic filing procedures for this case at this time.



Tom FitzGerald