

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

**In the Matter of:**

**ELECTRONIC INVESTIGATION OF LOUISVILLE  
GAS AND ELECTRIC COMPANY AND KENTUCKY  
UTILITIES COMPANY SERVICE RELATED TO  
WINTER STORM ELLIOTT** )  
)  
) **Case No. 2023-00422**  
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**SIERRA CLUB’S INITIAL REQUESTS FOR INFORMATION  
TO LOUISVILLE GAS AND ELECTRIC COMPANY AND KENTUCKY UTILITIES  
COMPANY**

Sierra Club submits these Initial Requests for Information (“RFI”) to Louisville Gas and Electric Company and Kentucky Utilities Company (“LG&E/KU” or the “Companies”) in the above-captioned proceeding pursuant to the Commission’s December 22, 2023 Order. Pursuant to that Order, the Companies shall respond to these requests for information no later than February 16, 2024. Please produce the requested information in electronic format whenever possible, and to the following recipients:

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## **DEFINITIONS**

Unless otherwise specified in each individual interrogatory or request, “you,” “your,” the “Companies,” or “LG&E/KU,” refers to Louisville Gas and Electric Company, Kentucky Utilities Company, and their affiliates, directors, officers, employees, consultants, attorneys, and authorized agents.

“And” and “or” shall be construed either conjunctively or disjunctively as required by the context to bring within the scope of these interrogatories and requests for production of documents any information which might be deemed outside their scope by another construction.

“Any” means all, each and every example of the requested information.

“Communication” means any transmission or exchange of information between two or more persons, whether orally or in writing, and includes, without limitation, any conversation or discussion by means of letter, telephone, note, memorandum, telegraph, telex, telecopy, cable, email, or any other electronic or other medium.

“Control” means, without limitation, that a document is deemed to be in your control if you have the right to secure the document or a copy thereof from another person or public or private entity having actual possession thereof. If a document is responsive to a request, but is not in your possession or custody or subject to your control, identify the person with possession, custody, or control. If any document was in your possession or custody or subject to your control, and is no longer, state what disposition was made of it, by whom, the date on which such disposition was made, and why such disposition was made.

“Document” refers to written matter of any kind, regardless of its form, and to information recorded on any storage medium, whether in electrical, optical or electromagnetic form, and capable of reduction to writing by the use of computer hardware and software, and includes all copies, drafts, proofs, and originals either (1) in the possession, custody or control of the Companies regardless of where located, or (2) produced or generated by, known to or seen by the Companies, but now not in their possession, custody or control, regardless of where located or whether still in existence. Such “documents” shall include, but are not limited to, applications, permits, monitoring reports, computer printouts, contracts, leases, agreements, papers, photographs, tape recordings, transcripts, letters or other forms of correspondence, folders or similar containers, programs, telex, TWX and other teletype communications, memoranda, reports, studies, summaries, minutes, minute books, circulars, notes (whether typewritten, handwritten or otherwise), agendas, bulletins, notices, announcements, instructions, charts, tables, manuals, brochures, magazines, pamphlets, lists, logs, telegrams, drawings, sketches, plans, specifications, diagrams, drafts, books and records, formal records, notebooks, diaries, registers, analyses, projections, email correspondence or communications, and other data compilations from which information can be obtained (including matter used in data processing) or translated, and any other printed, written, recorded, stenographic, computer-generated, computer-stored, or electronically stored matter, however and by whomever produced, prepared, reproduced, disseminated or made. For purposes of the production of “documents,” the term shall include copies of all documents being produced, to the extent the copies are not identical to the original, thus requiring the production of copies that contain any markings, additions or deletions that make them different in any way from the original.

“Identify” means:

- a. With respect to a person, to state the person’s name, address and business relationship (e.g., “employee”) vis-à-vis the Companies;
- b. With respect to a document, to state the nature of the document in sufficient detail for identification in a request for production, to state its date, to state its author, and to identify its custodian. If the information or document identified is recorded in electrical, optical, or electromagnetic form, identification includes a description of the computer hardware or software required to reduce it to readable form.

“Person” means, without limitation, every natural person, corporate entity, partnership, association (formal or otherwise), joint venture, unit operation, cooperative, municipality, commission, governmental body, or agency.

“Relating to” or “concerning” means and includes pertaining to, referring to, or having as a subject matter, directly or indirectly, expressly or implied, the subject matter of the specific request.

“Workpapers” are defined as original, electronic, machine-readable, unlocked, in native format, and with formulae and links intact.

### **INSTRUCTIONS**

1. The Definitions, Instructions, and Claim of Privilege set out in this Request for Information apply to these questions.

2. In answering these questions, furnish all information that is available to you, including information in the possession of your agents, employees, and representatives, all others from whom you may freely obtain it, and your attorneys and their investigators.

3. Please answer each question based upon your knowledge, information, or belief, and any answer that is based upon information or belief should state that it is given on that basis.

4. If you have possession, custody, or control (within Ky. R. Civ. P. 34.01) of the originals of the documents requested, please produce the originals or a complete copy of the originals and all copies that are different in any way from the original, whether by interlineation, receipt stamp, or notation.

5. If you do not have possession, custody, or control of the originals of the documents requested, please produce copies of the documents, however made, in your possession, custody, or control. If any document requested is not in your possession or custody or subject to your control, please explain why not, and give the present location and custodian of any copy or summary of the document.

6. Please answer the questions and sub-questions in the order in which they are listed and in sufficient detail to provide a complete and accurate answer to the question.

7. If any question appears confusing, please request clarification from the undersigned counsel.

8. In providing your responses, please start each response on a separate page and type, at the top of the page, the question that is being answered.

9. As part of the response to each question, please state, at the bottom of the answer, the name and job position of each person who participated in any way, other than providing clerical assistance, in the preparation of the answer. If the question has sub-parts, please identify the person or persons by sub-part. Please also state the name of the witness in this docket who will sponsor the answer to the question and who can vouch for the truth of the answer. If the question has sub-parts, please identify the witness or witnesses by sub-part.

10. Rather than waiting to provide all of the responses at the same time, please provide individual responses as each becomes available.

11. Wherever the response to a request for information consists of a statement that the requested information is already available to Sierra Club, please provide a detailed citation to the document(s) and/or workpapers that contain the information. The citation shall include the title(s) of the document(s), relevant page number(s), and to the extent possible paragraph number(s) and/or chart(s)/table(s)/figure number(s).

12. In the event that any document referred to in response to any request for information has been destroyed, specify the date and the manner of such destruction, the reason for such destruction, the person authorizing the destruction and the custodian of the document at the time of its destruction.

13. These questions are continuing in nature. If there is a change in circumstances or facts or if you receive or generate additional information that changes your answer between the time of your original response and the time of the hearings, then you should submit, under oath, a supplemental response to your earlier answer.

14. If you consider any question to be unduly burdensome, or if the response would require the production of a voluminous amount of material, please call the undersigned counsel as soon as possible in order to discuss the situation and to try to resolve the problem. Likewise, if you object to any of the questions on the grounds that the question seeks confidential information, or on any other grounds, please call the undersigned counsel as soon as possible.

15. If the response to any question is voluminous, please provide separately an index to the materials contained in the response.

16. If the information requested is included in previously furnished exhibits, workpapers, or responses to other discovery inquiries or otherwise, in hard copy or electronic format, please furnish specific references thereto, including Bates Stamp page citations and detailed cross-references.

17. Data should be provided in native electronic format including active EXCEL workbooks and all linked workbooks, with all formulas, cell references, links, etc., intact, functioning, and complete for all tables, figures, and attachments in the testimony.

18. To the extent that a question asks for the production of copyrighted material, it is sufficient to provide a listing of such material, indicating the title, publisher, author, edition, and page references relied on or otherwise relevant to the question.

19. Sierra Club reserves the right to serve supplemental, revised, or additional discovery requests as permitted in this proceeding.

## **PRIVILEGE**

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 request for information or request for production, describe the basis for your claim of privilege in sufficient detail so as to permit meaningful evaluation of the validity of the claim. With respect to documents for which a privilege is claimed, 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 likewise enable evaluation of the validity of such claims.

## **REQUESTS FOR INFORMATION**

- 1.1 Please provide all responses to Requests for Information issued by LG&E/KU or any other party to this proceeding.
- 1.2 Please provide all testimony, exhibits, work papers, and schedules supporting any testimony by the Companies in these proceedings in electronic, machine-readable format with formulae intact, including all confidential or highly sensitive testimonies, exhibits, work papers, and schedules.
- 1.3 Have the Companies considered adopting an effective load carrying capability (ELCC) or ELCC-type analysis in any aspect of their resource planning or other work?
  - a. If so:
    - i. Please provide any and all documents, analyses, and workpapers regarding the Companies’ consideration of an ELCC or ELCC-type analysis.
    - ii. Please provide an explanation of the Companies’ decision to adopt an ELCC-type analysis.
  - b. If not:
    - i. Please explain why not.
    - ii. Please provide any and all documents, analyses, and workpapers regarding the Companies’ decision not to consider an ELCC or ELCC-type analysis.



- 1.4 Have the Companies conducted an ELCC or ELCC-type analysis in any aspect of their resource planning or other work?
- a. If so:
    - i. Please provide any and all documents, analyses, and workpapers regarding the Companies' ELCC or ELCC-type analysis and its conclusions.
  - b. If not:
    - i. Please explain why not.
- 1.5 In the Companies' view, do any and/or all of LG&E/KU's coal units experience correlated outages?
- a. If so:
    - i. Why and under what circumstances?
    - ii. Please provide any and all documents, analyses, and workpapers that support the Companies' conclusion.
  - b. If not:
    - i. Why not?
    - ii. Please provide any and all documents, analyses, and workpapers that support the Companies' conclusion.
- 1.6 Please refer to LG&E/KU Response to Att'y Gen. Question No. 1-13(l) (attachment) ("Winter Storm Elliott: Events in the LG&E and KU Balancing Area Authority (BAA), December 23-24, 2022") in Case No. 2022-402. That document states, "During the time of the load shedding event, derates attributable to the inability of Texas Gas to meet contractual delivery obligations ranged from 785 to 943 MW. Derates unrelated to Texas Gas supply ranged from 45MW to 361MW."
- a. Is each number in that statement accurate?
    - i. If not:
      - i. Which numbers are inaccurate?
      - ii. For each inaccurate number, what is the accurate number?
      - iii. For each inaccurate number, what was the cause or reason that LG&E/KU recorded an inaccurate number?
- 1.7 Please refer to LG&E/KU Response to Sierra Club Post-Hearing Data Request No. 4.1(a)-(b) (attachment) and LG&E/KU Response to Sierra Club Post-Hearing Data Request No. 4.1(d) (attachment), both in Case No. 2022-402.

- a. Please confirm that Response to Request No. 4.1(a)-(b) (attachment) shows an average daily forced outage rate of roughly 5,000 MWh across the nine years.
    - i. If not confirmed, please explain why not.
  - b. Please confirm that summing the unit-specific MWh lost data in Response to Request No. 4.1(d) (attachment) shows a much lower figure for MWh lost for December 23, 2022 than Response to Request No. 4.1(a)-(b) (attachment).
    - i. If not confirmed, please explain why not.
    - ii. If confirmed, please explain the discrepancy between these two responses by LG&E/KU.
- 1.8 Please refer to the graph provided in Witness Sinclair’s rebuttal testimony at 80:1, “Daily MWh Lost – Annual Averages and Cold Weather Event Days” (hereinafter “Sinclair Graph”), in Case No. 2022-402. Please describe the criteria for selection of “cold weather event days” for the Sinclair Graph.
- 1.9 Please refer to the Sinclair Graph. Please also refer to LG&E/KU Response to Sierra Club Post-Hearing Data Request No. 4.1(a)-(b) (attachment).
- a. Please confirm that the Sinclair Graph does not include January 3 or January 8, 2014 as cold weather event days.
  - b. Please confirm that Response to Request No. 4.1(a)-(b) (attachment) shows that on January 3, 2014, LG&E/KU had 12,068 MWh of forced outages.
    - i. If not confirmed, please explain why not and provide the accurate number.
    - ii. If confirmed, please confirm that that number is accurate.
    - iii. If that number is not accurate, please explain why not and provide the accurate number.
  - c. Please confirm that Response to Request No. 4.1(a)-(b) (attachment) shows that on January 8, 2014, LG&E/KU had 10,065 MWh of forced outages.
    - i. If not confirmed, please explain why not and provide the accurate number.
    - ii. If confirmed, please confirm that that number is accurate.
      - i. If that number is not accurate, please explain why not and provide the accurate number.
  - d. Please confirm that Response to Request No. 4.1(a)-(b) (attachment) shows that on January 6, 2014, LG&E/KU had 6,030 MWh of forced outages.

- i. If not confirmed, please explain why not and provide the accurate number.
  - ii. If confirmed, please confirm that that number is accurate.
    - i. If that number is not accurate, please explain why not and provide the accurate number.
  
- e. Please confirm that Response to Request No. 4.1(a)-(b) (attachment) shows that on January 7, 2014, LG&E/KU had 4,655 MWh of forced outages.
  - i. If not confirmed, please explain why not and provide the accurate number.
  - ii. If confirmed, please confirm that that number is accurate.
    - i. If that number is not accurate, please explain why not and provide the accurate number.
  
- f. Please confirm that on January 3, 2014, LG&E/KU had more MWh offline than on either January 6, 2014 or January 7, 2014.
  - i. If not confirmed, please explain why not.
  
- g. Please confirm that on January 8, 2014, LG&E/KU had more MWh offline than on either January 6, 2014 or January 7, 2014.
  - i. If not confirmed, please explain why not.
  
- h. Please explain why January 3, 2014 was not included on the Sinclair Graph as a “cold weather event day.”
  
- i. Please explain why January 8, 2014 was not included on the Sinclair Graph as a “cold weather event day.”
  
- j. For February 19, 2015:
  - i. Please confirm that Response to Request No. 4.1(a)-(b) (attachment) shows 11,529 MWh of forced outages.
    - i. If not confirmed, please explain why not and provide the accurate number.
    - ii. If confirmed, please confirm that that number is accurate. If that number is not accurate, please explain why not and provide the accurate number.
  
  - ii. Please confirm that the Sinclair Graph shows roughly 3,000 MWh of outages for that date.

- i. If not confirmed, please explain why not and provide the accurate number.
    - ii. If confirmed, please confirm that that number is accurate. If that number is not accurate, please explain why not and provide the accurate number.
    - iii. Please explain any discrepancy between the numbers for Response to Request No. 4.1(a)-(b) (attachment) and the Sinclair Graph, including which unit(s) were omitted from the Sinclair Graph, if any, and the MWh omitted.
  - k. For February 20, 2015:
    - i. Please confirm that Response to Request No. 4.1(a)-(b) (attachment) shows 11,119 MWh of forced outages.
      - i. If not confirmed, please explain why not and provide the accurate number.
      - ii. If confirmed, please confirm that that number is accurate. If that number is not accurate, please explain why not and provide the accurate number.
    - ii. Please confirm that the Sinclair Graph shows roughly 3,000 MWh of outages for that date.
      - i. If not confirmed, please explain why not and provide the accurate number.
      - ii. If confirmed, please confirm that that number is accurate. If that number is not accurate, please explain why not and provide the accurate number.
    - iii. Please explain any discrepancy between the numbers for Response to Request No. 4.1(a)-(b) (attachment) and the Sinclair Graph, including which unit(s) were omitted from the Sinclair Graph, if any, and the MWh omitted.
  - l. For December 23, 2022:
    - i. Please confirm that Response to Request No. 4.1(a)-(b) (attachment) shows 27,075 MWh of forced outages on December 23, 2022.
      - i. If not confirmed, please explain why not and provide the accurate number.

- ii. If confirmed, please confirm that that number is accurate. If that number is not accurate, please explain why not and provide the accurate number.
  - ii. Please confirm that the Sinclair Graph shows less than 14,000 MWh of forced outages on December 23, 2022.
    - i. If not confirmed, please explain why not and provide the accurate number.
    - ii. If confirmed, please confirm that that number is accurate. If that number is not accurate, please explain why not and provide the accurate number.
  - iii. Please explain any discrepancy between the numbers for Response to Request No. 4.1(a)-(b) (attachment) and the Sinclair Graph, including which unit(s) were omitted from the Sinclair Graph, if any, and the MWh omitted.
- 1.10 Please confirm that LG&E/KU Response to Sierra Club Post-Hearing Data Request No. 4.1(a)-(b) (attachment) shows that six of the ten highest forced outage days in 2022 occurred from December 24 to December 29, 2022.
  - a. If not confirmed, please explain why not.
- 1.11 Please confirm that LG&E/KU Response to Sierra Club Post-Hearing Data Request No. 4.1(a)-(b) (attachment) in Case No. 2022-402 shows forced outages on December 24 higher than December 23.
  - a. If not confirmed, please explain why not.
- 1.12 Please confirm that on December 25, 26, and 27, 2022, LG&E/KU lost no MWh to maintenance.
  - a. If not confirmed, please explain why not.
- 1.13 Why did the Sinclair Graph identify only December 23, 2022 and no other date in December 2022 as a cold weather event day?
- 1.14 Please replicate the Sinclair Graph with (a) an average line that does not include maintenance outages and (b) the inclusion of forced outages that occurred prior to the onset of cold weather in the green dots for the cold weather event days.

- 1.15 Was LG&E/KU in EEA-1 or higher at any time in 2022 other than the times listed in LG&E/KU Response to Att’y Gen. Question No. 1-13(1) (attachment) in Case No. 2022-402?
- 1.16 Has LG&E/KU considered diversifying its generation fleet in light of Winter Storm Elliott?
- a. If so:
- i. Please provide any and all documents, analyses, and workpapers regarding the Companies’ consideration of generation fleet diversification in light of Winter Storm Elliott.
  - ii. Please describe any decisions that the Companies have made regarding generation fleet diversification in light of Winter Storm Elliott.
  - iii. Please provide any and all documents, analyses, and workpapers regarding any decisions that the Companies have made as to generation fleet diversification in light of Winter Storm Elliott.
  - iv. Please explain the Companies’ next steps, if any, regarding generation fleet diversification.
  - v. Please provide any and all documents, analyses, and workpapers regarding the Companies’ next steps, if any, as to generation fleet diversification.
- b. If not:
- i. Please explain why not.
  - ii. Please provide any and all documents, analyses, and workpapers regarding the Companies’ decision not to consider generation fleet diversification in light of Winter Storm Elliott.
- c. Specifically, has LG&E/KU considered increasing solar generation in light of Winter Storm Elliott?
- i. Please ensure that the answers to 1.9(a) and (b) include any consideration, decisions, and next steps as to solar generation.
- d. Specifically, has LG&E/KU considered increasing wind generation in light of Winter Storm Elliott?
- i. Please ensure that the answers to 1.9(a) and (b) include any consideration, decisions, and next steps as to wind generation.
- e. Specifically, has LG&E/KU considered increasing battery storage in light of Winter Storm Elliott?

- i. Please ensure that the answers to 1.9(a) and (b) include any consideration, decisions, and next steps as to battery storage.
- 1.17 Has LG&E/KU considered taking any steps to secure power from outside the LG&E/KU Balancing Authority in future energy emergency alerts (EEA)?
  - a. If so:
    - i. Please provide any and all documents, analyses, and workpapers regarding the Companies' consideration of steps to secure power from outside the LG&E/KU Balancing Authority in future energy emergency alerts (EEA).
    - ii. Please describe any decisions that the Companies have made regarding steps to secure power from outside the LG&E/KU Balancing Authority in future energy emergency alerts (EEA).
    - iii. Please provide any and all documents, analyses, and workpapers regarding any decisions that the Companies have made as to steps to secure power from outside the LG&E/KU Balancing Authority in future energy emergency alerts (EEA).
    - iv. Please explain the Companies' next steps, if any, regarding steps to secure power from outside the LG&E/KU Balancing Authority in future energy emergency alerts (EEA).
    - v. Please provide any and all documents, analyses, and workpapers regarding the Companies' next steps, if any, as to steps to secure power from outside the LG&E/KU Balancing Authority in future energy emergency alerts (EEA).
  - b. If not:
    - i. Please explain why not.
    - ii. Please provide any and all documents, analyses, and workpapers regarding the Companies' decision not to consider taking any steps to secure power from outside the LG&E/KU Balancing Authority in future energy emergency alerts (EEA).
- 1.18 Please describe any and all remedial steps that LG&E/KU has taken following Winter Storm Elliott with respect to generation.
- 1.19 Please provide any and all documents, analyses, and workpapers regarding any and all remedial steps that LG&E/KU has taken following Winter Storm Elliott with respect to generation.
- 1.20 Please describe any and all remedial steps that LG&E/KU has taken following Winter Storm Elliott with respect to transmission.

- 1.21 Please provide any and all documents, analyses, and workpapers regarding any and all remedial steps that LG&E/KU has taken following Winter Storm Elliott with respect to transmission.
- 1.22 Please describe any and all remedial steps that LG&E/KU has taken following Winter Storm Elliott with respect to distribution.
- 1.23 Please provide any and all documents, analyses, and workpapers regarding any and all remedial steps that LG&E/KU has taken following Winter Storm Elliott with respect to distribution.
- 1.24 Please describe any and all consideration by LG&E/KU as to joining a regional transmission organization following Winter Storm Elliott.
- 1.25 Please provide any and all documents, analyses, and workpapers regarding any and all consideration of joining a regional transmission organization that LG&E/KU has taken following Winter Storm Elliott.
- 1.26 Please refer to LG&E/KU's Response to Sierra Club's Second Supplemental Request for Information 3.4(a) in Case No. 2022-402.
  - a. Please confirm that the document provided is the current reliability coordinator agreement between LG&E/KU and Tennessee Valley Authority.
  - b. If not confirmed, please provide the current agreement.
- 1.27 Please describe the relationship between the LG&E/KU Balancing Authority and LG&E/KU.
  - a. Do LG&E/KU and the LG&E/KU Balancing Authority share staff?
    - i. If so, please describe which staff.
  - b. Do LG&E/KU share office space?
    - i. If so, please describe which office space?
- 1.28 What is the leadership structure of the LG&E/KU Balancing Authority?
- 1.29 What is the corporate structure of the LG&E/KU Balancing Authority?
- 1.30 Please describe the nature of communications between LG&E/KU and the LG&E/KU Balancing Authority from December 21 to December 31, 2022.
  - a. Please list all such communications for which LG&E/KU has records.



- b. Please provide any such written communications.
- 1.31 Was any individual terminated from LG&E/KU due to events that occurred from December 21 to December 31, 2022 and that were related to Winter Storm Elliott, either during or after that time period? (Note that this question does not include termination for events unrelated to LG&E/KU's performance during Winter Storm Elliott.)
- a. If so, please provide the total number of individuals who were terminated.
  - b. For each individual terminated, please provide the job title, the date of termination, and the reason for termination.
- 1.32 Was any employee disciplined or otherwise given adverse consequences due to events that occurred from December 21 to December 31, 2022 and that were related to Winter Storm Elliott, either during or after that time period? (Note that this question does not include discipline or adverse consequences for events unrelated to LG&E/KU's performance during Winter Storm Elliott.)
- a. If so, please provide the total number of individuals who were disciplined or otherwise experienced adverse consequences.
  - b. For each individual, please provide the job title, the date of discipline or adverse consequences, the reason for discipline or adverse consequences, and the nature of discipline or adverse consequences.
- 1.33 Have the Companies projected any coal units' performance in future extreme weather events in light of increasing age?
- a. If so: please provide any and all such projections and any and all documents, analyses, and workpapers.
  - b. If not: why not?
- 1.34 For each of the Companies' existing generators, please provide Generator Availability Data System (GADS) data in Excel format showing all forced outage events during the years 2014-2023, including the start and end time for the outage, the MW on outage, and the cause code or any other information reported to NERC about the cause of the outage.
- 1.35 Please list all instances of force majeure declarations or other supply interruptions on gas pipelines serving the Companies' gas generators since January 1, 2014, and please describe and quantify any impact each event had on the availability or performance of each generator.

- 1.36 For each of the Companies' existing and planned gas generators, please provide all current:
  - a. Gas supply contracts
  - b. Gas transportation contracts
- 1.37 Please provide any analysis the Companies have conducted or commissioned since January 1, 2014, related to reliability or economic risks from interruptions to gas supply or transportation.
- 1.38 Please list all instances of coal supply or delivery delays or interruptions to the Companies' coal generators since January 1, 2014, and please describe and quantify any impact each event had on the availability or performance of each generator.
- 1.39 For each of the Companies' coal and gas generators, please list all instances in which cooling water availability or temperature affected the generator's availability or performance since January 1, 2014, and please describe and quantify any impact each event had on the availability or performance of each generator.
- 1.40 Please provide any analysis the Companies have conducted or commissioned since January 1, 2014, related to the cost or feasibility of potential weatherization projects for any of the Companies' generators to improve availability during winter weather. Please list all potential weatherization projects that were identified in those analyses but not implemented, including the cost and why the project was not implemented.
- 1.41 Please list each winter weatherization project that has been implemented at each of the Companies' generators since January 1, 2014, including the cost and when it was implemented.
- 1.42 For each of the Companies' existing and planned generators:
  - a. Please document the assumptions and calculations that are used to derive summer and winter rates for forced outages and derates.
  - b. Please provide the results of those calculations, and the calculation of each generator's total availability.
  - c. For summer derate assumptions, please include any assumptions related to weather, such as temperature.

- d. For summer derate assumptions in forward-looking analysis, do the Companies account for the impact of increasing temperatures due to climate change? If so, please explain the assumptions used by the Companies. If not, why not.
- 1.43 In Excel format, please provide hourly data indicating the MW of load, generation, imports, and exports for the Companies' service territory (not the Balancing Authority Area) for each hour in the period 2014-2023.
- 1.44 Please describe and document all communications since January 1, 2019, the Companies have had with other SouthEastern Regional Transmission Planning (SERTP) members regarding:
- a. Interregional transmission planning or cost allocation with MISO
  - b. Interregional transmission planning or cost allocation with PJM
  - c. The Economic Study request submitted by the Southern Renewable Energy Association in 2023 to evaluate imports from MISO to LG&E/KU to evaluate capacity and energy alternatives to the Companies' proposed Mill Creek or Brown combined cycle generators.
- 1.45 Please provide all Economic Study Requests or Public Policy Study Requests the Companies have submitted to SERTP since January 1, 2014, as well as any studies that resulted from those requests. If the Companies have not submitted any such requests, please explain why.
- 1.46 Please provide any studies the LG&E/KU Transmission Planning Group has conducted or commissioned since January 1, 2014, related to increasing transfer capacity with other utilities or Balancing Authorities.
- a. Please identify the change in transfer capacity, cost, and completion date for each transfer capacity upgrade that was completed.
  - b. Please identify the change in transfer capacity and cost for each transfer capacity upgrade that was identified in those studies but not completed, and please explain why each upgrade was not completed.
  - c. If no such studies were conducted, please explain why.

Dated: January 26, 2024

Respectfully submitted,

*Of counsel* (not licensed in Kentucky)

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**CERTIFICATE OF SERVICE**

I certify that a copy of the foregoing Sierra Club submission was served upon all parties of record in this proceeding on January 26, 2024, by first-class U.S. mail, hand delivery, and/or e-mail, as permitted by the presiding officer.

/s/ Joe F. Childers  
JOE F. CHILDERS