

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

**In the Matter of:**

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|  | ) |                            |
|  | ) |                            |
| <b>ELECTRONIC APPLICATION OF EAST</b>    | ) |                            |
| <b>KENTUCKY POWER COOPERATIVE, INC.</b>  | ) | <b>Case No. 2024-00310</b> |
| <b>FOR 1) A CERTIFICATE OF PUBLIC</b>    | ) |                            |
| <b>CONVENIENCE AND NECESSITY TO</b>      | ) |                            |
| <b>CONSTRUCT A NEW GENERATION</b>        | ) |                            |
| <b>RESOURCE; 2) A SITE COMPATIBILITY</b> | ) |                            |
| <b>CERTIFICATE; AND 3) OTHER GENERAL</b> | ) |                            |
| <b>RELIEF</b>                            | ) |                            |

**SIERRA CLUB’S INITIAL REQUESTS FOR INFORMATION TO EAST KENTUCKY  
POWER COOPERATIVE, INC.**

Sierra Club hereby submits this First Set of Data Requests to East Kentucky Power Cooperative (“EKPC” or the “Cooperative”). Please provide responses to these data requests below to the undersigned counsel.

**GENERAL INSTRUCTIONS**

1) **Definitions:** For the purposes of these data requests, the following definitions shall apply:

- a) The term “EKPC” means and includes East Kentucky Power Cooperative and any and all affiliates and/or subsidiaries, successors, predecessors, agents, consultants, and witnesses in this proceeding, and any and all of their affiliates, subsidiaries, or predecessors.
- b) The term “Cooperative” means and includes East Kentucky Power Cooperative and any and all affiliates and/or subsidiaries, successors, predecessors, agents, consultants, and witnesses in this proceeding, and any and all of their affiliates, subsidiaries, or predecessors.
- c) “Document” means all written, recorded or graphic matters, however produced or reproduced, pertaining in any manner to the subject of this proceeding, whether or not now in existence, without limiting the generality of the foregoing, all originals, copies and drafts of all writings, correspondence, telegrams, notes or sound recordings of any type of personal or telephone communication, or of

meetings or conferences, minutes of directors or committee meetings, memoranda, inter-office communications, studies, analyses, reports, results of investigations, reviews, contracts, agreements, working papers, statistical records, ledgers, books of account, vouchers, bank checks, x-ray prints, photographs, films, videotapes, invoices, receipts, computer printouts or other products of computers, computer files, stenographer's notebooks, desk calendars, appointment books, diaries, or other papers or objects similar to any of the foregoing, however denominated. If a document has been prepared in several copies, or additional copies have been made, and the copies are not identical (or which, by reasons of subsequent modification of a copy by the addition of notations, or other modifications, are no longer identical) each non-identical copy is a separate "document."

- d) "And" or "or" shall be construed conjunctively or disjunctively as necessary to make the requests inclusive rather than exclusive.
- e) The term "you" and "your" refer to "EKPC."
- f) The term "person" means any natural person, corporation, corporate division, partnership, limited liability company, other unincorporated association, trust, government agency, or entity.
- g) The term "regarding" means consisting of, containing, mentioning, suggesting, reflecting, concerning, regarding, summarizing, analyzing, discussing, involving, dealing with, emanating from, directed at, pertaining to in any way, or in any way logically or factually connected or associated with the matter discussed.
- h) The singular as used herein shall include the plural and the masculine gender shall include the feminine and the neuter.
- i) "Identify" or "identifying" or "identification" when used in reference to a person that is a natural person means to state: the full name of the person and any names under which he conducts business; the current employer of the person, the person's job title and classification, the present or last known work address of the person; and, the present or last known telephone number of the person.
- j) "Identify" or "identifying" or "identification" when used in reference to a person other than a natural person means to state: the full name of the person and any names under which it conducts business; the present or last known address of the person; and, the present or last known telephone number of the person.
- k) "Identify" or "identifying" or "identification" when used in reference to a document means to provide with respect to each document requested to be identified by these discovery requests a description of the document that is sufficient for purposes of a request to produce or a subpoena duces tecum, including the following:
  - (a) the type of document (e.g., letter, memorandum, etc.);

- (b) the date of the document;
  - (c) the title or label of the document;
  - (d) the Bates stamp number or other identifier used to number the document for use in litigation;
  - (e) the identity of the originator;
  - (f) the identity of each person to whom it was sent;
  - (g) the identity of each person to whom a copy or copies were sent;
  - (h) a summary of the contents of the document;
  - (i) the name and last known address of each person who presently has possession, custody or control of the document; and,
  - (j) if any such document was, but is no longer, in your possession, custody or control or is no longer in existence, state whether it: (1) is missing or lost; (2) has been destroyed; or (3) has been transferred voluntarily or involuntarily, and if so, state the circumstances surrounding the authorization for each such disposition and the date of such disposition.
- l) “Identify” or “identifying” or “identification” when used in reference to communications means to state the date of the communication, whether the communication was written or oral, the identity of all parties and witnesses to the communication, the substance of what was said and/or transpired and, if written, identify the document(s) containing or referring to the communication.
  - m) “Current” when used in reference to time means in the present time of this data request.
  - n) “Member-Owner Cooperative” means a distribution cooperative that is a member of EKPC that distributes electricity to retail customers
  - o) “Customer” means a person who buys retail electricity on a regular and ongoing basis from a Member-Owner Cooperative.
  - p) “Workpapers” are defined as original, electronic, machine-readable, unlocked, Excel format (where possible) with formulas in-tact.

### **OTHER INSTRUCTIONS**

- a) Responses are to be provided in electronic format (e.g., text documents should be in the original word processor file format or PDF, data files should be in Excel).

- b) If you contend that any response to any data request may be withheld under the attorney-client privilege, the attorney work product doctrine or any other privilege or basis, please state the following with respect to each such response in order to explain the basis for the claim of privilege and to permit adjudication of the propriety of that claim:
- 1) The privilege asserted and its basis;
  - 2) The nature of the information withheld; and,
  - 3) The subject matter of the document, except to the extent that you claim it is privileged.
- c) For any document or set of documents EKPC objects to providing to Sierra Club on the grounds it is burdensome or voluminous, please identify the specific document (see instruction (k) above).
- d) These data requests are to be answered with reference to all information in your possession, custody or control or reasonably available to you. These data requests are intended to include requests for information, which is physically within your possession, custody or control as well as in the possession, custody or control of your agents, attorneys, or other third parties from which such documents may be obtained.
- e) If any data request cannot be responded to or answered in full, answer to the extent possible and specify the reasons for your inability to answer fully.
- f) These data requests are continuing in nature and require supplemental responses should information unknown to you at the time you serve your responses to these data requests subsequently become known.
- g) For each response, identify all persons (see instruction (j)) that were involved in the preparation of the answers to the interrogatories below and/or are responsible for compiling and providing the information contained in each answer.
- h) Identify which witness(es) at the hearing is competent to adopt and/or discuss the response.
- i) Please produce the requested documents in electronic format to the following individuals:

Kristin Henry  
[kristin.henry@sierraclub.org](mailto:kristin.henry@sierraclub.org)

Nathaniel Shoaff  
[nathaniel.shoaff@sierraclub.org](mailto:nathaniel.shoaff@sierraclub.org)

Joaquin Garcia  
[joaquin.garcia@sierraclub.org](mailto:joaquin.garcia@sierraclub.org)

- j) Wherever the response to an interrogatory or request consists of a statement that the requested information is already available to the Sierra Club, 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).
- k) 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.
- l) Sierra Club reserves the right to serve supplemental, revised, or additional discovery requests as permitted in this proceeding.

## **DATA REQUESTS**

- 1-1. Provide all EKPC responses to data requests from all parties in this proceeding, including confidential responses. Continue to provide any such documentation, until this docket is closed, on a regular basis.
- 1-2. To the extent not already provided, please provide any redacted documents included in the Cooperative's initial filing and direct testimonies in non-redacted, electronic versions (machine readable, unprotected, with formulas intact).
- 1-3. Please provide supporting workpapers and modeling files, including (not limited to) all input files, output files, and pre- or post-processing of said inputs and outputs for all portfolios and scenarios for all years modeled, in electronic spreadsheet format with formulas intact, supporting each of the statements, testimonies, exhibits, and attachments included in the Cooperative's initial filing and direct testimonies..
- 1-4. For the J.S. Cooper Station and the Hugh L. Spurlock Station, please provide the following historical annual data, from 2018 to present:
  - a. Fixed O&M cost
  - b. Non-fuel variable O&M cost
  - c. Fuel costs
  - d. Capital costs
  - e. Heat rate
  - f. Generation
  - g. Capacity rating
  - h. Capacity factor

- i. Forced outage rate
  - j. Planned outage rate
  - k. Energy revenues
  - l. Capacity revenues
  - m. Ancillary services revenues
  - n. Unforced capacity (“UCAP”)
- 1-5. For J.S. Cooper Station and the Hugh L. Spurlock Station, please provide the following projected annual data:
- a. Fixed O&M cost
  - b. Non-fuel variable O&M cost
  - c. Fuel costs
  - d. Capital costs
  - e. Heat rate
  - f. Generation
  - g. Capacity rating
  - h. Capacity factor
  - i. Forced outage rate
  - j. Planned outage rate
  - k. Energy revenues
  - l. Capacity revenues
  - m. Ancillary services revenues
  - n. Unforced capacity (“UCAP”)
- 1-6. Please refer to the Direct Testimony of Witness Tucker at page 8, lines 6 – 16.
- a. Please provide all supporting workbooks, with formulas and links intact, used to develop the 2024 Long Term Load forecast (“LTLF”).
  - b. Please provide the monthly and annual energy and demand for the “load growth attributed to economic development” specific to each new customer over the forecast period.
  - c. Please provide the monthly and annual energy and demand for the electric vehicle penetration over the forecast period.
  - d. Please explain how the forecast for electric vehicle penetration was developed, including assumptions around charging and the hourly shape assigned.
  - e. Please explain how distributed generation was incorporated into the 2024 Long Term Load forecast.
    - i. If distributed generation was incorporated, please provide the supporting workbooks, with all formulas and links intact, used to develop the forecast.

- 1-7. Please refer to the Direct Testimony of Witness Tucker at page 8, lines 6 – 16.
- a. Please provide the supporting workbooks, with all formulas and links intact, used to develop the energy and peak demand assumptions modeled for each new large customer included in the forecast.
  - b. For each new customer included in the load forecast, please provide the peak demand, annual energy requirements, load factor, anticipated date the customer expects to receive service, the commercial activity of the customer (i.e. data center, cryptocurrency, or EV manufacturing), and whether the customer has entered into any agreements or contracts with the Cooperative or one its Member-Owner Cooperatives.
  - c. For each new customer that has executed an agreement indicating an intention to obtain service from the Cooperative or one its Member-Owner Cooperatives, please provide the date of the agreement.
    - i. If agreements have not been executed, please explain if any of the new customers are considering locating their facility outside of the Cooperative’s service territory or in another state.
  - d. Please provide the level of peak demand for each potential new customer that has not been included in the load forecast for this CPCN Application.
  - e. Please explain if any of the new customers have commenced site construction activities.
  - f. Please explain if the Cooperative or one its Member-Owner Cooperatives have had any conversations with new customers about arrangements for curtailable load, standby on-site generation, participation in energy efficiency programs, or any other approaches to offset the capacity need of the new customers.
- 1-8. Please refer to the Direct Testimony of Witness Tucker at page 9, lines 8-14, and page 10, lines 1-3.
- a. Please provide the supporting workbooks, with all formulas and links intact, used to develop the impact of energy efficiency measures and programs to the load forecast.
  - b. Please provide the costs associated with the level of savings and peak impact shown in the table on pages 9-10.
  - c. On page 13 of Witness Tucker’s Direct Testimony, it says, “This is consistent with actual events in Winter Storms Elliott and Gerri, which were multiple-day cold weather events, driving load saturation from residential consumption.” Please explain if the energy efficiency measures and programs included in this projection are aimed at addressing the residential consumption observed during the event.

- 1-9. Please refer to the Direct Testimony of Tucker at page 13, stating, “The Reserve Margin of 7% for winter peak represents a significant change from EKPC’s 2022 IRP capacity reserve methodology which assumed a 0% Reserve Margin.”
- a. Please explain how.
- 1-10. Please refer to the Direct Testimony of Tucker at page 13, stating, “The Reserve Margin of 7% for winter peak represents a significant change from EKPC’s 2022 IRP capacity reserve methodology which assumed a 0% Reserve Margin,” and at p. 16 describing the projects in EKPC’s expansion plan.
- a. Please identify any other significant changes from EKPC’s 2022 IRP that support the projects in EKPC’s current expansion plan that have been added or advanced to an earlier date than as presented in the 2022 IRP.
  - b. If EKPC has completed other documents updating its 2022 IRP that have not been filed with this application, please provide them.
  - c. Please explain whether EKPC believes that both the Liberty RICE Facility and the NGCC referenced on p. 16 are needed primarily to contribute towards meeting needs associated with the change in the reserve margin, or whether one or the other facility is primarily intended to address other system needs.
  - d. Please explain why EKPC is filing an expansion plan, but not an updated IRP, in support of the Liberty RICE Facility and the NGCC referenced on p. 16.
- 1-11. Please refer to the Direct Testimony of Tucker at page 13, stating, “This is consistent with actual events in Winter Storms Elliott and Gerri, which were multiple-day cold weather events, driving load saturation from residential consumption.”
- a. Please provide documents, analyses, and workpapers sufficient to show the scope of service interruptions for EKPC and/or its Member-Owner Cooperatives during Winter Storm Elliott in December 2022 (including but not limited to interruptions on December 23, 2022), including:
    - i. The number and percentage of customers affected hourly by service interruptions
    - ii. The amount and percentage of resources offline each hour on December 23, 2022, and any other times during Winter Storm Elliott, broken down by generation category (coal, NGCC, SCCT, solar, wind, etc.)
  - b. Please provide documents sufficient to show the amount of power purchased hourly from the PJM Interconnection, and any and all other sources of power external to the Cooperatives from December 21, 2022, to December 28, 2022, broken down by:
    - i. Hour
    - ii. Seller (i.e., PJM, or other), and



- iii. Generation power source (i.e., coal, NGCC, SCCT, solar, wind, hydro, or other).
  - c. Please provide documents, analyses, and workpapers sufficient to show the scope of service interruptions for EKPC and/or its Member-Owner Cooperatives during Winter Storm Gerri in January 2024 (including but not limited to interruptions between January 13, 2024 to January 18, 2024), including:
    - i. The number and percentage of customers affected hourly by service interruptions
    - ii. The amount and percentage of resources offline each hour between January 13, 2024 to January 18, 2024, and any other times during Winter Storm Gerri, broken down by generation category (coal, NGCC, SCCT, solar, wind, etc.)
  - d. Please provide documents sufficient to show the amount of power purchased hourly from the PJM Interconnection, and any and all other sources of power external to the Cooperatives from January 13, 2024 to January 18, 2024, broken down by:
    - i. Hour
    - ii. Seller (i.e., PJM, or other), and
    - iii. Generation power source (i.e., coal, NGCC, SCCT, solar, wind, hydro, or other).
- 1-12. Please refer to the Direct Testimony of Tucker at page 13, stating, “This is consistent with actual events in Winter Storms Elliott and Gerri, which were multiple-day cold weather events, driving load saturation from residential consumption.”
  - a. Please provide any reviews of Winter Storms Elliott and Gerri conducted by or on behalf of PJM.
  - b. Please identify the portions of the documents provided in response to (a) that support the need for an increased reserve margin.
- 1-13. Please refer to the Direct Testimony of Witness Tucker, page 9, lines 8-9.
  - a. Please explain what analyses EKPC undertook to evaluate the energy efficiency measures and programs.
  - b. Please identify each DSM-EE program evaluated for implementation during the planning period and provide the data and analysis used to evaluate each DSM-EE program.
  - c. Please explain if the Cooperative has studied the demand response and energy efficiency potential among their residential, commercial, or industrial customers. If a study has been performed, please provide each study.
  - d. Please provide the most recent three full years of reported DSM-EE data (including program planned budgets and savings, actual spending and savings,

and planned and actual participation) by program, in executable Excel format with all formulas intact.

- e. Please provide any energy efficiency or demand response Annual Reports prepared over the most recent three full years.
  - f. Please explain if the Cooperative has considered winter demand response as a resource to address the variability in winter peak load.
  - g. Please provide all workpapers used in the analysis in fully functional Excel format with formulas intact, including measure inputs, estimated measure saturations and stock turnover assumptions, baseline assumptions, take-rates for retrofit measures, etc.
  - h. Please provide the historical incremental peak and MWh savings from energy efficiency and demand response over the last three years.
  - i. Please provide electronic workpapers for any DSM plans in fully functional Excel format with all formulas and links intact.
  - j. Please explain if the Cooperative offers any formal demand response program offerings to residential, commercial, or industrial customers.
    - i. If so, please provide the details of those offerings including incentive level paid, administrative fees, enrollment fees, notification times.
    - ii. If no formal demand response programs are offered, please explain the steps that the Cooperative has taken to explore the option of doing so.
- 1-14. Please refer to the Direct Testimony of Witness Tucker, page 11, lines 11-20.
- a. Please explain if EKPC has taken any steps to dampen the swing in demand observed in January 2024.
  - b. Please explain if EKPC has undertaken any analyses to understand the cause of the swing in demand.
  - c. Please provide all documents that support the responses to subparts a and b.
- 1-15. Please refer to the Direct Testimony of Witness Tucker at page 13, lines 5-23.
- a. Please explain how “EKPC quantified this risk by analyzing the 1 in 10 probability of extreme weather events and spreading that risk over the planning horizon, with an extreme weather event occurring every two years for a 48-hour period within each of those two-year periods.”
  - b. Please provide the supporting workbooks, with all formulas and links intact, used to quantify risk and develop the 7% Reserve Margin.
  - c. Please explain how the Reserve Margin developed by EKPC differs from the PJM Forecast Pool Requirement.

- 1-16. Please refer to the Direct Testimony of Witness Tucker at pages 15-16.
- a. Please explain what modeling was conducted to develop the EKPC Capacity Expansion Plan.
    - i. If modeling was conducted, please provide the name of the modeling software used, whether the modeling used capacity expansion and production cost modeling, and the planning period.
    - ii. If modeling was conducted, please provide all modeling input and output files in machine readable format.
    - iii. If modeling was conducted, please provide the supporting workbooks, with all formulas and links intact, used to develop the Present Value of Revenue Requirements (“PVRR”) for each modeling run.
    - iv. If modeling was conducted, please provide the first year in which new resources could be selected, annual build limits applied to each resource, and cumulative build limits applied to each resource.
    - v. If modeling was conducted, did modeling allow for economic additions of new resources, i.e. not limited to capacity need additions? If not, please explain why not.
    - vi. If modeling was conducted, was the 757 megawatts of renewable energy that EKPC announced as part of the New ERA program included? If it was included, please identify which modeling scenarios or portfolios included this resource?
    - vii. If modeling was conducted, was the new proposed 745 MW combined cycle gas plant that the Board recently announced included? If it was included, please identify which modeling scenarios or portfolios included this resource?
    - viii. If modeling was conducted, which scenarios or portfolios, if any, included the proposed Liberty Rice Station, the 757 megawatts of renewable energy that EKPC announced as part of the New ERA program, and the new proposed 745 MW combined cycle gas plant? If all of these proposed new generation sources were all included, please identify which modeling scenarios or portfolios included these resources.
  - b. Please explain how EKPC developed the “EKPC Capacity Expansion Plan”.
  - c. Please explain all of the new generation sources that were included in the EKPC Capacity Expansion Plan?
    - i. Was the 757 megawatts of renewable energy that EKPC announced as part of the New ERA program included in the EKPC Capacity Expansion Plan? If not, why not?
    - ii. Was the new proposed 745 MW combined cycle gas plant that the Board recently announced included in the EKPC Capacity Expansion Plan? If not, why not?

- d. Please explain if EKPC evaluated alternative resource portfolios to the EKPC Capacity Expansion Plan.
    - i. If yes, please provide each alternative resource portfolio evaluated.
    - ii. If no, please explain why not.
  - e. Please confirm if a natural gas conversion for the Cooper Station or Spurlock steam units to burn gas has been evaluated.
    - i. If there has been an evaluation, please provide the documents produced as part of that assessment including but not limited to heat rate curve changes, capital costs, O&M changes, and other cost or performance differences.
  - f. Please explain if full conversion to gas was modeled as part of determining the EKPC Capacity Expansion Plan.
    - i. If a gas conversion was modeled, please provide all modeling input assumptions.
  - g. Please explain if the modeling performed to develop the EKPC Capacity Expansion Plan evaluated the retirement of either the Cooper Station or Spurlock.
  - h. Please explain if different levels of energy efficiency and demand response were evaluated as part of the modeling performed to determine the EKPC Capacity Expansion Plan.
  - i. Please explain if a capacity factor limit was applied to the new CCGT included in EKPC's Capacity Expansion Plan.
- 1-17. Please provide the annual revenue requirements and present value revenue requirement (PVRR) for all portfolios and scenarios modeled.
- 1-18. Please refer to the Direct Testimony of Witness Tucker, page 16, lines 5-7. Please provide the term length for the long-term purchased power agreements from hydro resources.
- 1-19. Please refer to the Direct Testimony of Witness Tucker, Figures 2 and 3 on page 18.
- a. Please provide the supporting workbooks, with all formulas and links intact, used to develop Figures 2 and 3.
  - b. On page 4, lines 21-22 of the Direct Testimony of Witness Mosier, it states that "EKPC also has 200 MWs of interruptible load and approximately 28 MWs in peak reduction mechanisms." Please explain how interruptible load was factored into the winter and summer capacity in Figure 2 and 3.
- 1-20. Please refer to the Direct Testimony of Witness Tucker, page 19, lines 19-21.
- a. Please provide a list of the solar projects that are pending Commission approval, the size in MWs of each project, and the online date for each project.

- b. Please provide a list of all other solar projects that EKPC has in development and anticipates submitting to the Commission for approval, the size in MWs of each project, and the anticipated submission date and online date for each project.
- 1-21. Please refer to the Direct Testimony of Witness Young, page 11, lines 18-20. Please confirm if EKPC has paid a reservation fee for the proposed RICE units.
  - a. If EKPC has paid a reservation fee, please provide the amount of that fee and the date paid.
- 1-22. Please explain how EKPC's modeling in support of this CPCN application incorporates the EPA's updated Clean Air Act Section 111 rules, if at all.
- 1-23. Please explain how EKPC's modeling in support of this CPCN application incorporates the EPA's Good Neighbor Rule, if at all.
- 1-24. Has EKPC conducted any analysis of the potential costs and timing for such costs at Spurlock and/or Cooper to comply with EPA's Good Neighbor Plan? If so, please provide all documents reflecting such analyses. If not, why not?
- 1-25. Confirm that Kentucky is part of the Group 3 Trading Program under EPA's Update to the Cross-State Air Pollution Rule ("CSAPR"). If not confirmed, please explain which Trading Group to which Kentucky belongs.
- 1-26. Please provide the total number of NOx credit purchases under CSAPR and cost by year for Cooper and Spurlock from 2017 to present.
- 1-27. Does EKPC have a forecast for NOx credit costs under EPA's Good Neighbor Plan? If yes, please provide all forecasts through 2046. If not, why?
- 1-28. Please explain how EKPC's modeling in support of this CPCN application incorporates the EPA's updated Effluent Limitation Guidelines ("ELG") Rule, if at all.
- 1-29. Has EKPC conducted any analysis of the compliance costs at Cooper and/or Spurlock to comply with EPA's ELG Rule?
  - a. If so, please provide all documents reflecting such analyses. If not, why not?
  - b. Identify the total cost of the projects the Cooperative intends to undertake or has undertaken at Cooper and/or Spurlock to comply with the ELG Rule.
  - c. State the year these costs have been or will be incurred.
  - d. Please identify and describe each itemized capital expenditure required to complete the ELG Rule compliance project.

- e. Could any of those ELG Rule expenditures be avoided by making a commitment to cease burning coal under the ELG Rule’s alternative closure provisions? If so, please identify each specific avoidable cost.
  - f. Please provide all evaluations of the technical or engineering compliance options for the ELG Rule for Cooper and Spurlock.
  - g. Produce all evaluation(s) that the Cooperative performed to determine that incurring any avoidable ELG Rule costs at East Bend is in customers’ best interest (i.e., present value of retrofit versus retirement analyses). For any such evaluation, provide the following data:
    - i. All workpapers, with formulas intact.
    - ii. Provide a list of all capital expenditures associated with ELG Rule compliance included in each modeled scenario and provide the cost of each.
    - iii. PJM Energy price forecasts (with and without CO2 price).
    - iv. PJM Capacity price forecasts (with and without CO2 price).
    - v. CO2 price forecasts.
    - vi. Coal price (\$/MMBtu).
    - vii. Gas price (\$/MMBtu).
    - viii. Heat rate (Btu).
    - ix. Capital expenditures (\$).
    - x. Variable Operation and Maintenance (\$/MWh).
    - xi. Fixed Operation and Maintenance (\$/MW).
    - xii. For each replacement resource available to the model, provide each of the following inputs for each resource at the highest level of granularity used in conducting the retrofit analysis:
      - 1. Replacement resource options
      - 2. Replacement resource size (MW)
      - 3. Year replacement resource is available (year)
      - 4. Cost of replacement resource option (\$/MW)
      - 5. Annual capacity factor
      - 6. Year of transmission upgrade (if required)
      - 7. Cost of transmission upgrade (if required).
- 1-30. Please explain how EKPC’s modeling in support of this CPCN application incorporates the EPA’s Coal Combustion Residual (“CCR”) rule, if at all.
- 1-31. Has EKPC conducted any analysis of the compliance costs at Cooper and/or Spurlock to comply with EPA’s CCR Rule?
- a. If so, please provide all documents reflecting such analyses. If not, why not?

- b. Identify the total cost of the projects the Cooperative intends to undertake or has undertaken at Cooper and/or Spurlock to comply with the CCR Rule.
  - c. State the year these costs have been or will be incurred.
  - d. Please identify and describe each itemized capital expenditure required to complete the CCR Rule compliance project.
- 1-32. Please explain how EKPC’s modeling in support of this CPCN application incorporates the EPA’s updated Mercury Air Toxics Standards (“MATS”) rule, if at all.
- a. Has EKPC conducted any analysis of the potential costs and timing for such costs at Cooper and/or Spurlock to comply with EPA’s MATS rule? If so, please provide all documents reflecting such analyses. If not, why not?
- 1-33. Please explain how EKPC’s modeling in support of this CPCN application incorporates possible Regional Haze compliance costs, if at all.
- a. Has EKPC conducted any analysis of the potential compliance costs at East Bend to comply with EPA’s Regional Haze Rule for the second planning period, 40 C.F.R. § 51.308? If so, please provide all documents reflecting such analyses. If not, why not?
- 1-34. Please provide a load and resources table from now through 2034, or the furthest year the Company has available, showing the Company’s projected peak demand and firm capacity available by year. List firm capacity by resource/fuel type. Include the Company’s reserve margin in the table.
- 1-35. Please provide a narrative explanation of how the Company calculates its available firm capacity for purposes of system planning. Does the Company include an estimate of firm capacity for variable renewable energy or storage resources?
- 1-36. Does the Company calculate Capacity Contribution, Effective Load Carrying Capacity, or another metric of firm capacity for its generators for planning purposes? Please provide that value for the Company’s existing generators and any new generators included in this rate case.
- 1-37. Please provide a narrative explanation of how the Company ensures that it will have enough capacity to meet demand in the future while maintaining a cost-effective system for customers. Include answers to the following:
- a. How frequently does the Company assess its resource adequacy?
  - b. How far into the future does the Company plan for resource adequacy?
  - c. What standard does the Company use? For example, is it a 1 day in 10 years standard or a different metric?

- d. Does the Company use a planning reserve margin when making resource decisions? If so, please provide the margin the Company currently uses and a narrative explanation of how that PRM was determined to be appropriate for planning purposes.
  - e. Please identify the interconnections with neighboring systems identified in its resource adequacy analysis, the transfer capability (both directions) at each point, and explain any simplifications.
  - f. Are any upgrades to interconnections with neighboring systems included in EKPC's plans? If so, please provide supporting documentation.
- 1-38. What model or models does the Company use to assess resource adequacy?
- 1-39. When planning its resource portfolio, does the Company plan to use spot market purchases or short-term contracts to meet a portion of its capacity needs? Please explain why or why not.
- 1-40. Does the Company have capacity contracts with third parties? If so, please list each contract, its capacity in MW, the fuel type of any associated generator, and the cost of the capacity in \$/MW-year.
- 1-41. Please provide the Company's historical monthly peak (MW) and monthly energy demand (MWh) load data for the years 2019 through 2023.
- 1-42. Please provide the Company's forecast monthly peak (in MW) and monthly energy demand (in MWh) from 2024 through 2034.
- 1-43. Please provide the Company's estimated total available firm capacity in 2024. Include workpapers demonstrating the calculation of firm capacity.
- 1-44. Does the Company produce a forecast of capacity prices? If so, produce such forecast.
- 1-45. Please provide unredacted, in native format with all formulae intact, all analyses or assessments that study the value of continued operation (e.g., all retirement studies, unit condition assessments, cold reserve assessments, or deactivation assessments) conducted since 2015, for Cooper and Spurlock, including, but not limited to, all studies, presentations, reports, or other assessments conducted to determine how to comply with any existing, impending, or potential environmental regulation.



- 1-46. For each retirement study or other assessment provided in response to Sierra Club 1.41 above:
- a. State which modeling software was used to conduct the analysis.
  - b. State the date that the analysis was performed.
  - c. State whether the units were modeled with an economic (market) or self-commitment (must run) status for each year of the analysis.
  - d. State the date of each forecast or projection used in the analysis.
  - e. State the regulation or rationale behind each retirement date(s) studied.
  - f. Provide all underlying workbooks with formulas intact that were used to develop model input assumptions.
  - g. Identify all transmission grid updates or changes that would be needed to allow for the change in status (e.g., retirement) of Cooper and/or Spurlock.
- 1-47. Please refer to the Direct Testimony of Witness Adams, page 6, lines 4-5. Please provide a copy of the referenced power-flow analysis and any presentations, reports, or other documents summarizing the findings for planning or decision-making purposes.
- 1-48. Please refer to the Direct Testimony of Witness Adams, page 8, lines 11-13.
- a. Please confirm that the final list of required network upgrades will be determined in a facilities study performed by the transmission owner, in this case EKPC. If not confirmed, please explain.
  - b. Please confirm that other transmission owners may determine that their systems are affected by the interconnections and that those transmission owners may conduct affected system studies and determine that additional network upgrades are required.
  - c. If unanticipated network upgrades are identified and those upgrades have substantial cost, how will EKPC inform the Commission of those additional costs?
  - d. If unanticipated network upgrades are identified and those upgrades have substantial cost, how would EJPC reconsider the projects?
- 1-49. Please refer to the Direct Testimony of Witness Adams, page 10, lines 18 through page 11.
- a. Please identify where the information referenced in Case No. 2022-00098 can be located (e.g., exhibits, page numbers) and provide any confidential filings.
  - b. Please provide a history of each instance in which the transmission system in the referenced area became stressed during high-load periods, state whether the J.S.

Cooper Station units were online, and include a description of any remedial actions taken.

- c. Please provide any recent power-flow analyses or other studies evaluating potential solutions to the referenced reliability concern.
- d. Please identify any projects proposed by third parties that have been identified as having potential impacts on the referenced reliability concern, and provide any presentations, reports, or other documents summarizing relevant findings for planning or decision-making purposes.
- e. Please provide any studies that EKPC or PJM has conducted on any grid-enhancing technology or re-conductoring (potentially using alternative conductors) in the referenced area, and provide any presentations, reports, or other documents summarizing relevant findings for planning or decision-making purposes.
- f. If EKPC plans to implement any grid-enhancing technology or re-conductoring projects in the referenced area, please describe those project and provide any presentations, reports, or other documents summarizing relevant findings for planning or decision-making purposes.

Dated: October 28, 2024

Respectfully submitted,

/s/ Joe F. Childers  
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**CERTIFICATE OF SERVICE**

This is to certify that the foregoing copy of Sierra Club's First Set of Data Requests to East Kentucky Power Cooperative in this action is being electronically transmitted to the Commission on October 28, 2024, and that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding.

/s/ Joe F. Childers  
JOE F. CHILDERS