

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

In the Matter of:

ELECTRONIC APPLICATION OF EAST	)	
KENTUCKY POWER COOPERATIVE, INC. FOR	)	
1) A CERTIFICATE OF PUBLIC CONVENIENCE	)	
AND NECESSITY TO CONSTRUCT A NEW	)	CASE NO. 2024-00310
GENERATION RESOURCE; 2) A SITE	)	
COMPATIBILITY CERTIFICATE; AND 3) OTHER	)	
GENERAL RELIEF	)	

**SUPPLEMENTAL REQUESTS FOR INFORMATION OF JOINT  
INTERVENORS MOUNTAIN ASSOCIATION AND KENTUCKIANS FOR  
THE COMMONWEALTH TO EAST KENTUCKY POWER  
COOPERATIVE, INC.**

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Dated: December 02, 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. "You" or "your" means the person whose filed testimony is the subject of these data requests and, to the extent relevant and necessary to provide full and complete answers to any request, "you" or "your" may be deemed to include any other person with information relevant to any interrogatory who is or was

employed by or otherwise associated with the witness or who assisted, in any way, in the preparation of the witness' testimony.

11. "Company", "East Kentucky Power Coop", or "EKPC", means East Kentucky Power Cooperative, Inc., and/or any of its officers, directors, employees or agents who may have knowledge of the particular matter addressed, and affiliated companies including member cooperatives.
12. "Joint Intervenors," means Mountain Association, Kentuckians for the Commonwealth, and Kentucky Solar Energy Society who have moved for the status of full intervention as joint intervenors in this matter.
13. "IRP" means integrated resource plan.
14. "Section 111 Update" means the EPA *New Source Performance Standards for Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions From Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule*, 89 Fed. Reg. 39798 (May 09, 2024).
15. "CAA" means Clean Air Act.
16. "EIR" means the Energy Infrastructure Reinvestment Program.
17. "ELCC" means effective load carrying capacity.
18. "GRIP" means the Grid Resilience and Innovation Partnerships Program.
19. "IRA" means the Inflation Reduction Act of 2022.
20. "ITC" means investment tax credits.
21. "O&M" means operation & maintenance.
22. "PTC" means production tax credits.
23. "PV" means solar photovoltaic.
24. "PVRR" means present value revenue requirement.
25. "TFP" means the Transmission Facilitation Program.

## 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. The answers provided should first restate the question asked and also identify the person(s) supplying the information.
5. 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.
6. 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.
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 Intervenors or the Commission to evaluate the validity of such claims.

9. 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.
10. The interrogatories are to be answered under oath by the witness(es) responsible for the answer.

**SUPPLEMENTAL DATA REQUESTS PROPOUNDED TO  
EAST KENTUCKY POWER COOPERATIVE BY JOINT  
MOVANTS FOR JOINT INTERVENTION**

Joint Intervenors hereby submit the following supplemental requests for information to the Company:

- 2.1. Please provide responses to each of the *Tendered Initial Requests for Information of Mountain Association and Kentuckians for the Commonwealth to East Kentucky Power Cooperative, Inc.* submitted in this docket on October 28, 2024, if not already separately responded to in this docket.
- 2.2. Please refer to the 2025 - 2039 Load Forecast provided in EKPC's updated response to Commission Staff's First Request for Information 1(a) on November 12, 2024 (hereinafter "Long-Term Load Forecast" or "LTLF"), and dated December 2024, and provide the date this document was prepared.
- 2.3. Please provide all workpapers underlying the LTLF.
- 2.4. Please refer to the LTLF at page 1, which states "Once finalized, EKPC aggregates the owner-member forecasts, adds projections of EKPC facilities and transmission losses, and incorporates energy efficiency impacts, demand side management impacts, and electric vehicle (EV) assumptions resulting in EKPC's total system forecast," and respond to the following questions:
  - a. Ideally, these latter impacts would be accounted for using a bottom-up methodology. Especially for EV loads, what gives EKPC confidence that its ex-post methodology reasonably predicts loads pockets as well as accurately captures the offsetting effects that DSM programs and energy efficiency have?
  - b. Does EKPC agree that a correlation exists among early adopters of different types of energy technologies from EVs to EE to DSM?
- 2.5. Please refer to the LTLF, and specifically the table at page 2 labeled "Energy Sales Growth by Class," and explain the following:
  - a. The drivers and their relative contributions behind the reversal in the declining residential energy use trend, and
  - b. The driver(s) behind the disappearance of any seasonal growth given massive growth rates historically.
- 2.6. Please refer to the LTLF, and specifically the table at page 3 labeled "Coincident Peak Demands and Total Requirements Historical and Projected," and respond to the following requests:
  - a. Explain the jump discontinuities between historical and forecasted values;
  - b. Explain why these jump discontinuities result in a lower future expectation of peak load in both summer and winter, but a higher total electricity requirement; and

- c. Specifically, explain what resources contribute to this immediate trend in suppressed peak but higher total consumption in the near term.
- 2.7. Please compare the 2022 IRP at page 65 Table 3-2, and page 166 Table 8-3 with the LTLF at page 3 at the table labeled “Coincident Peak Demands and Total Requirements Historical and Projected,” and the Direct Testimony of Don Mosier at page 6 line 15 to page 7 at line 7, and respond to the following requests:
  - a. What vintage long-term load forecast is the 2022 IRP based on?
  - b. Why does EKPC update its load forecast every two years, rather than in cycle with the IRP?
  - c. What is the actual MW difference in the load forecasts in each future year?
  - d. Please compare the resource additions outlined in the Direct Testimony of Don Mosier to those in Table 8-3 of the 2022 IRP, and explain why additional resources are needed as compared to the projected additions in the 2022 IRP.
  - e. Does the stated position of the incoming Presidential Administration on the Greenhouse Gas Rule that became law on April 25, 2024 impact the Company’s anticipated need for additional resources? Please explain why or why not.
- 2.8. Please refer to the LTLF, and specifically the table at page 5 labeled “Total Energy Requirements,” and answer the following requests:
  - a. Justify EKPC’s choice of fixed distribution line losses at 3.3% and transmission line losses at 2% when actual losses have been higher historically.
  - b. What specific actions has EKPC taken or does EKPC plan to take to reduce system losses on both the distribution system and the transmission system?
- 2.9. Please refer to the LTLF at page 12, which states “[s]easonal peak demands are developed using historical normalized peaks and modeled growth,” and answer the following requests:
  - a. Explain how EKPC accounted for changing seasonal trends in modeling seasonal peak load growth.
  - b. Specifically explain how EKPC accounted for each of the following:
    - i. more mild winters on average;
    - ii. hotter summers on average; and
    - iii. changing patterns in frequency and severity of extreme events across the entire year.
- 2.10. Please refer to the LTLF at page 17, which states “[p]rojections of appliance efficiencies are sourced from the Energy Information Administration (EIA) Annual Energy Outlook,” and provide the exact vintage and appliance efficiency numbers used in your SAE model. If they are not the most up to date assumptions, provide an explanation.

- 2.11. Please refer to the LTLF at page 17, which states “Normal weather is based on historic 20-year values (2003-2023),” and respond to the following requests:
  - a. Since member-owner forecasts are based on a single point forecast near the service territory, explain any measures taken to correct the weather data to be representative of conditions throughout the service territory.
  - b. Also, provide a description (ideally quantitative) of weather-related forecast bias by member-owner forecasts, remarking on those with the best and worst performance.
  
- 2.12. Please refer to the LTLF at page 18, which states “GDS developed this element of the forecast using information from each owner-member’s load forecast (number of consumers), the US Census, the EIA Annual Energy Outlook 2023, and the Bureau of Transportation Statistics,” and respond to the following requests:
  - a. Explain each variable used in the EV load forecast and the associated variable weight if the algorithm differentiated variable weights.
  - b. Does EKPC agree that EV adoption is linked to a variety of demographic factors?
  
- 2.13. Please refer to the LTLF at page 30, which states “Heat Pump Retrofit Program provides incentives for end-use members to replace their existing resistance heat source (electric furnace, ceiling cable heat, baseboard heat, or electric thermal storage) with a more efficient heat pump. Most high bill complaints are from end-use members with homes that are heated with electric resistive heat instead of a heat pump. Installing an electric heat pump lowers electric bills significantly for those end-use members,” and respond to the following requests:
  - a. Given the prevalence of resistance heating within your member-owners’ territories,
    - i. please provide your assumed heat pump adoption curve; and
    - ii. the details of how heat pump adoption interacts with your peak load projection in both summer and winter.
  - b. How would faster than assumed heat pump adoption affect your total load forecast and peak forecasts?
  
- 2.14. Please provide any documentation related to compliance with the National Environmental Policy Act (“NEPA”) related to the Liberty RICE project, or associated electric transmission or gas transmission.
  
- 2.15. Please refer to the Direct Testimony of Brad Young, and Attachment BY-2, and explain how the impacts of any pollutants emitted from the proposed facility were accounted for in the site assessment report, if at all.
  
- 2.16. Please refer to the Direct Testimony of Brad Young at page 3 lines 1-8, as well as the Direct Testimony of Craig Johnson at pages 7-8, and respond to the following questions:



- a. Where will the mainline proposed by Columbia Gulf Transmission (“CGT”) be located? Please provide maps or diagrams.
  - b. What approvals or permits does the mainline proposed by CGT require?
  - c. What approvals or permits have been obtained for the mainline proposed by CGT?
  - d. What costs has CGT or EKPC paid or committed to pay related to the mainline?
  - e. Provide any cost estimates for the natural gas pipeline and other natural gas transportation costs to the proposed RICE facility that were included in EKPC’s cost analysis. If EKPC did not include such costs in its analysis, provide that cost now or explain why it did not.
  - f. Are costs for the gas supply pipeline, dew point heater, metering and regulating station, and diesel fuel oil storage tanks included in the projected costs in the CPCN application?
- 2.17. Please provide any analysis conducted by EKPC evaluating the potential cost impacts of gas price sensitivity or volatility on the relative viability of resource alternatives, including the relative benefit of resources that do not rely on fuel inputs. If EKPC did not conduct such an analysis, explain why.
- 2.18. Please refer to the Direct Testimony of Julia Tucker at page 21, lines 14-18, and provide documentation of whether and how EKPC evaluates battery energy storage system as an alternative to RICE units to support solar integration, or if not, please explain why.
- 2.19. Please refer to the Direct Testimony of Julia Tucker at page 22 line 7 to page 23 line 4, and respond to the following requests:
- a. Provide documentation of how EKPC considers generation options including solar, wind, solar-plus-battery and standalone battery energy storage system resources in assessing the resource portfolios;
  - b. Provide documentation of whether and how EKPC considers battery energy storage system as a capacity resource, or if not, please explain why;
  - c. Provide documentation of whether and how EKPC considers battery energy storage system resources as the ramping resources to displace gas generation, including any analysis, workpapers, or other sources that EKPC conducted or consulted in making its decision; if not considered explain why;
  - d. How would each of the following options compare to the ramp-up time of the proposed RICE units:
    - i. Battery,
    - ii. Virtual Power Plant,
    - iii. Aeroderivative, and
    - iv. H-Frame combustion turbine
  - e. What is the estimated 30 minute start-up time for a CT based on?
  - f. Do the RICE units require preheating?
  - g. Do the RICE units require additional time to achieve synchronization or frequency control?

- 2.20. Please refer to the Direct Testimony of Julia Tucker at page 23 line 5 to page 24 line 16, and respond to the following requests:
- a. Refer in particular to the statement at page 23 lines 22-23 that “[i]t takes a run time of over 6,000 hours to equalize the total cost between the two technologies”, and
    - i. Provide any analysis or workpapers, in spreadsheet format and with formulas intact, used by EKPC to validate this claim;
    - ii. Provide documentation of whether and how EKPC established any runtime or resource adequacy criteria required for generation resources to be considered as an alternative for this capacity need in evaluating generation resource alternatives. If so, provide a full set of these criteria and justify each of their inclusion in EKPC’s analysis. If not, please explain why;
    - iii. Provide all relative economic analysis of generation resource alternatives conducted by EKPC to meet resource adequacy needs; and
    - iv. Provide documentation of whether the 6,000 hours are estimated based on the system energy or capacity needs to be met by the proposed resources, or it is purely an economic break-even analysis that is only based on the comparison of RICE unit and CT unit.
  - b. Were the following options considered in comparing the economic competitiveness of various resources? Please provide any documentation, calculations, or comparison of the cost of each, or explain why it was not considered:
    - i. Battery,
    - ii. Virtual Power Plant,
    - iii. Aeroderivative, and
    - iv. H-Frame combustion turbine;
  - c. Provide documentation of whether and how EKPC established any runtime or resource adequacy criteria required for generation resources to be considered as an alternative for this capacity need in evaluating generation resource alternatives. If so, provide a full set of these criteria and justify each of their inclusion in EKPC’s analysis. If not, please explain why.
  - d. Please provide support for the assertion that “RICE engines have lower operating and maintenance (‘O&M’) costs than the traditional combustion turbine.”
  - e. To what extent were the following Inflation Reduction Act (“IRA”) benefits considered in determining the most suitable option? Provide documentation for each considered, or state why it was not considered:
    - i. the production tax credit and investment tax credit (26 U.S.C. §§ 45 & 45Y, 48 & 48E);
    - ii. The Grid Resilience and Innovation Partnerships (“GRIP”) Program;
    - iii. the elective pay provisions that would provide direct rebates for EKPC for clean energy resources; or

- iv. other financing programs such as the Energy Infrastructure Reinvestment Program (EIR) or the New ERA program, the latter of which has already been awarded to EKPC?
  - f. Provide documentation of whether and how EKPC conducted an all-source RFP to determine the portfolio selection of the RICE unit, or if not, please explain why.
- 2.21. Please summarize EKPC’s scenario development approach for evaluating multiple potential future conditions related to key IRA provisions and provide associated workpapers and analysis. Provide scenario approaches, including the number of scenarios and differentiating features, for the following IRA-related topics:
- a. Energy efficiency and demand-side management,
  - b. Distributed energy resources, and
  - c. Unit retirement and replacement timelines (and use of New ERA funding).
- 2.22. Please provide documentation of whether and how EKPC analyzed grid-enhancing technologies (GETs) or other alternatives in its power-flow study that could meet the same transmission upgrade requirements at lower cost. If EKPC did not consider GETs or other alternatives, please explain why.
- 2.23. Provide documentation of whether and how the planned projects associated with EKPC’s New ERA application were integrated into the CPCN inputs or quantitative modeling. If the planned projects are not considered as part of the CPCN, please explain why.
- 2.24. Please refer to Case No. 2022-00098, *Electronic 2022 Integrated Resource Plan of East Kentucky Power Cooperative, Inc.*, EKPC's 2022 Integrated Resource Plan dated 04-01-22 (“2022 IRP”) at pages 66, 115-119, & 161. What demand (energy, winter peak, and summer peak) reduction has EKPC achieved through DSM since the IRP?

Respectfully Submitted,



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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 December 02, 2024; that the documents in this electronic filing are a true representation 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.



Byron L. Gary