

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

In the Matter of:

ELECTRONIC APPLICATION OF EAST	)	
KENTUCKY POWER COOPERATIVE, INC.	)	
FOR 1) CERTIFICATES OF PUBLIC	)	
CONVENIENCE AND NECESSITY TO	)	
CONSTRUCT A NEW GENERATION	)	
RESOURCES; 2) FOR A SITE	)	CASE NO. 2024-00370
COMPATIBILITY CERTIFICATE RELATING TO	)	
THE SAME; 3) APPROVAL OF DEMAND SIDE	)	
MANAGEMENT TARIFFS; AND 4) OTHER	)	
GENERAL RELIEF	)	

**SUPPLEMENTAL REQUESTS FOR INFORMATION OF APPALACHIAN  
CITIZENS LAW CENTER, KENTUCKIANS FOR THE  
COMMONWEALTH, AND MOUNTAIN ASSOCIATION TO EAST  
KENTUCKY POWER COOPERATIVE, INC.**

Byron L. Gary  
Ashley Wilmes  
Kentucky Resources Council  
P.O. Box 1070  
Frankfort, Kentucky 40602  
(502) 875-2428  
[Byron@kyrc.org](mailto:Byron@kyrc.org)  
[Ashley@kyrc.org](mailto:Ashley@kyrc.org)

*Counsel for Joint Movants for Joint  
Intervention Appalachian Citizens Law  
Center, Kentuckians for the  
Commonwealth, and Mountain  
Association*

Dated: January 17, 2025

## 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 Cooperative", or "EKPC", means East Kentucky Power Cooperative, Inc., its parents or subsidiaries, 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 Appalachian Citizens Law Center, Kentuckians for the Commonwealth, and Mountain Association who have moved for the status of full intervention as joint intervenors in this matter.
13. Unless otherwise specified in each individual request the term "tariff" means the tariff as filed in this matter by EKPC.
14. "AD Hub" means the AEP Dayton Hub.
15. "BESS" means Battery Energy Storage System.
16. "BRA" means base residual auction.
17. "CC" means combined cycle.
18. "CCGT" means combined cycle gas turbine.
19. "CFB" means circulating fluidized bed.
20. "GHG" means greenhouse gas.
21. "IRP" means Integrated Resource Plan.
22. "ITC" means Investment Tax Credit.
23. "MATS" means EPA's Mercury Air Toxics Standards
24. "NewERA" means the Empowering Rural America Program.
25. "NO<sub>x</sub>" means nitrogen oxides.
26. "NRCO" means National Renewables Cooperative Organization.
27. "O&M" means Operation and Maintenance.
28. "PJM" means PJM Interconnection, L.L.C.

29. "PM" means particulate matter.
30. "PM<sub>10</sub>" means coarse particulate matter, or particulate matter with a diameter of 10 micrometers (µm) or less.
31. "PM<sub>2.5</sub>" means fine particulate matter, or particulate matter with a diameter of 2.5 micrometers (µm) or less.
32. "RICE" means Reciprocating Internal Combustion Engine.
33. "RUS" means Rural Utilities Service.
34. "SO<sub>2</sub>" means sulfur dioxide.
35. "USDA" means United States Department of Agriculture.
36. "VOM" means Variable Operation and Maintenance.

## **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, INC. BY  
JOINT INTERVENORS**

Joint Intervenors hereby tender the following requests for information to the Company:

- 2.1. Please refer to the N-1 and N-1-1 contingency analysis results set forth in *J11-3c-1.xlsx* and *J11-3c-2.xlsx*, respectively. For each of those analyses:
  - a. State whether any of the scenarios included the addition of any new generation resources in the area being analyzed. If so, identify each such new generation resource.
  - b. State whether any of the scenarios included any transmission grid upgrades or additions in the area being analyzed. If so, identify each such upgrade or addition.
  
- 2.2. Please refer to your response to JI 1-3(d).
  - a. With regards to the two transmission projects referenced therein:
    - i. Identify the estimated capital cost of each project.
    - ii. Identify the status of each project and the date by which such project could be brought online.
    - iii. Produce any analysis in which the projects were identified as being needed to improve the reliability of service to customer load in the area with the absence of available generation at Cooper Station.
    - iv. State whether you have evaluated the level of reliability for the area with the two referenced projects and the Liberty RICE units proposed in Case No. 2024-00310. If so, explain and produce the results of that analysis. If not, explain why not.
  - b. With regard to the second transmission project referenced therein (i.e., new 345 kV line and associated substation expansion), please identify any portion(s) of that project that overlap(s) with or would be redundant to the potential network upgrades listed at pp. 7-9 of Darrin Adams' Direct Testimony that specifically mention "Alcalde".
  - c. Explain the meaning of "operating generators at Cooper Station" as used in the referenced response (i.e., specify which generators).
  - d. Define the geographic scope of each of the terms "area" and "region" as used in the statement that "as load continues to grow in the area and/or other generators in the region are retired, additional transmission reinforcements would be needed to help support a minimum level of reliability." (emphasis added).
  
- 2.3. Please refer to your response to JI 1-4(j) and the Excel spreadsheet *J11-4j - Planned Outages.xlsx*
  - a. Explain the basis for assuming only two weeks per year of planned outages for Cooper Unit 1 in 2027 through 2029, given that the Excel spreadsheet

- shows 6 weeks of planned outages for that unit in 2024, and four weeks in each of 2025 and 2026.
- b. Explain the basis for assuming only three weeks per year of planned outages for Cooper Unit 2 in 2027 through 2029, given that the Excel spreadsheet shows 6 weeks of planned outages for that unit in 2024, five weeks in 2025, and four weeks in 2026.
- 2.4. Please refer to the Direct Testimony of Darrin Adams at p. 10, stating that EKPC submitted the proposed Cooper Station CCGT project to the PJM generator-interconnection queue on Jan. 24, 2024.
    - a. State when EKPC submitted the proposed Liberty RICE to the PJM generator interconnection queue.
    - b. Identify each other project EKPC submitted to the PJM generator interconnection queue over the last 18 months.
  - 2.5. Please refer to your response to JI 1-6. With regards to the NewERA program financial support that EKPC has been selected to receive, identify and produce: (1) EKPC's Letter of Interest in applying for such financial support, (2) EKPC's application for such financial support, and (3) RUS and/or USDA's notice informing EKPC that it has been selected to receive such financial support.
  - 2.6. Please refer to your response to JI 1-8. Confirm that EKPC did not carry out any capacity expansion modeling supporting the proposed Cooper CCGT plant. If not confirmed, identify such modeling and produce any modeling input and output files, workpapers, workbooks, and other documents used in carrying out such modeling.
  - 2.7. Please reconcile the statement in your response to JI 1-11 that "[t]he proposed projects were not modeled individually" with the statement in your response to Staff 1-21(a) that "[e]ach of the projects were modeled individually."
  - 2.8. Please refer to your response to JI 1-11. With regards to the statement that "our projections indicate that EKPC will be able to implement the complete proposed portfolio of projects (RICE, Cooper CC, Co-firing and New ERA renewables) which meets generation needs and environmental compliance requirements with modest rate increases, averaging less than 2% per year over the next 20 years."
    - a. Explain how you determined the referenced "modest rate increases," including identifying any modeling that went into such determination.
    - b. State whether each of the following categories of costs are reflected in this projected "modest rate increase". For each category that is not included, explain why not:
      - i. Capital
      - ii. Fixed O&M
      - iii. Variable O&M



- iv. Fuel
    - v. Gas pipeline infrastructure
    - vi. Transmission upgrades and/or additions
  - c. Produce any modeling input and output files, workpapers, workbooks, and other documents used in determining the projected “modest rate increase.”
- 2.9. Please refer to your response to JI 1-12(d) and (e).
  - a. Identify the total number of hours in December 23, 2024 through the end of 2024 during which EKPC’s peak demand exceeded its installed peak winter generation capacity.
  - b. Identify the total number of hours in each of the years 2025 through 2034 in which EKPC’s peak demand would exceed its current installed peak winter generation capacity assuming the 1 in 10 probability of extreme weather events described in the Direct Testimony of Julia Tucker at p. 14 lines 16 to 19.
- 2.10. Please refer to your response to JI 1-14 and to the Direct Testimony of Don Mosier, p. 13 lines 8-12.
  - a. Produce any document or written communication with NRCO regarding the cost of utility-scale BESS.
  - b. Produce any analysis, report, or other documentation supporting the BESS cost estimate that NRCO provided to EKPC.
  - c. Identify the date of the utility-scale BESS cost estimate that was provided to EKPC.
  - d. Identify at what cost EKPC would consider a utility-scale BESS to be competitive.
  - e. Did EKPC evaluate the impact of the Inflation Reduction Act’s ITC on the cost of a utility-scale BESS? If so, explain the result of that evaluation. If not, explain why not.
- 2.11. Please refer to your response to AG 1-10.
  - a. Identify and produce any documentation of the exploration of the addition of batteries at Cooper Station referenced therein.
  - b. Identify and produce any documentation that you have carried out or reviewed of the performance of pumped storage resources during Winter Storm Elliott or other severe weather event.
  - c. Identify and produce any analysis that you have carried out or reviewed of the performance of battery energy storage systems during Winter Storm Elliott or other severe weather event.
- 2.12. Please refer to your response to JI 1-21(b). Identify the referenced Commission Orders.

- 2.13. Please refer to your responses to JI 1-21(d) and Staff 1-9(a and b). Other than Winter Storms Elliot and Gerri, does EKPC have any additional analytical support for the assumed occurrence of an extreme weather event every two years for a 48-hour period? If so, please identify each such analysis, study, forecast, or other document.
- 2.14. Please refer to your response to JI 1-21(f), which refers to EKPC's response to JI 1-11. Confirm that EKPC has no analysis of the impact to its rates of using a 7% Capacity Planning Reserve Margin for each of the winter and summer seasons as compared to any other Capacity Planning Reserve Margin. If anything but confirmed, produce each such analysis.
- 2.15. Please refer to page 9 of the attachment to your response to JI 1-23(b). Explain the status of the potential Campbellsville RICE engines referenced therein. If those RICE engines are no longer being considered, explain why not.
- 2.16. Please refer to page 9 of the attachment to your response to JI 1-23(c).
  - a. Explain what the "Total EKPC MW Added 50/50" column refers to.
  - b. Explain what the "% Scaled Above Base" column refers to.
- 2.17. Please refer to your response to JI 1-24(c) and attachment *J11-24c - NG Coal ADHub.xlsx*.
  - a. Identify the source and date of the AD Hub market energy price forecast set forth in the referenced attachment.
  - b. Identify the source and date of the natural gas and coal price forecasts set forth in the referenced attachment.
  - c. Identify which of the AD Hub market energy prices set forth in the attachment was used in determining the Net Cost Benefits set forth in Attachment JJT-5 and updated attachment JI1-24e, and explain how they were used.
- 2.18. Please identify and produce EKPC's most recent forecast of PJM BRA capacity market clearing prices for any of the planning years 2024/25 through 2038/39 for which EKPC has a forecast.
- 2.19. Please refer to your response to JI 1-32.
  - a. Identify in cents per kwh the 2024 wholesale rate, or other applicable rate, to which the 2025 % change would be applied.
  - b. State whether the annual forecasted % change in wholesale rates identified in your response include the cost of the Cooper CCGT, Spurlock Co-Firing, Cooper 2 Co-Firing, or Liberty RICE projects. If not, explain why not.
- 2.20. Confirm that EKPC's 2022 Integrated Resource Plan modeling did not account for tax credits or other energy-related programs and funding streams authorized, modified, or extended by the Inflation Reduction Act. If anything but confirmed,

please explain your response in detail and provide modeling input files or other supporting workpaper(s) showing which IRA provisions were incorporated in the 2022 IRP modeling.

- 2.21. Please identify each variation or configuration of a combined cycle gas turbine evaluated in the production cost modeling and/or net revenue and energy production projections offered in support of the proposed 745 MW 2x1 unfired F-class combustion turbine at Cooper Station (e.g., 2x1 configurations of H- or X-class combustion turbine; 1x1 configurations of F-, H-, or X-class combustion turbine; once-through or recuperative Heat Recovery Steam Generator design; and variations in nameplate capacity).
  - a. For each variation or configuration evaluated in the modeling and/or net revenue and energy production projections, provide all inputs used to characterize the unit, output files, and associated workpaper(s) (all in electronic machine readable unprotected format with original formulas intact).
  - b. If the only combined cycle gas turbine variation or configuration evaluated in the modeling and/or net revenue and energy production projections was the proposed 745 MW 2x1 unfired F-class combustion turbine, please explain in full the analysis used by EKPC to select that particular CCGT configuration.
- 2.22. Please refer to Attachment JJT-2, EKPC's 2025-2039 Load Forecast. Sec. 3.0, p. 12, explains that the "preliminary forecast is revised based on mutual agreement of EKPC staff and owner-member's President/CEO and staff."
  - a. Provide documentation of all revisions made to the preliminary forecast. If no such documentation exists, please explain why not.
  - b. Identify each revision proposed, including explanation of the basis for each such revision.
  - c. For each revision identified in response to subpart (b), state whether EKPC staff and owner-member's President/CEO and staff did or did not mutually agree to revise the preliminary forecast accordingly.
- 2.23. Please refer to Attachment JJT-2, p.13-14. Provide county-level forecasts from IHS used as inputs to EKPC's load forecasting in spreadsheet format.
- 2.24. Please refer to Attachment JJT-2, p.14. Provide IHS forecasts used as inputs to EKPC's load forecasting aggregated to the co-op and/or EKPC region in spreadsheet format.
- 2.25. Please refer to Attachment JJT-2, p.47. Provide the data used to create this graph ( "High and Low Case Winter Demand Difference (MW)") in spreadsheet form. Include data for the mid, low and high cases by year and by demand type.

- 2.26. Please refer to Attachment JJT-2, p.49. Provide the data used to create this graph ("High and Low Case Summer Demand Difference (MW)") in spreadsheet form. Include data for the mid, low and high cases by year and by demand type.
- 2.27. Please refer to Attachment JJT-2, p.43.
- Provide all research, analysis, and background materials used to develop the assumption of plus/minus 90 MW of industrial/large commercial load.
  - Would this 90 MW of potential load include data centers?
- 2.28. Please refer to the Direct Testimony of Don Mosier, p.13, stating, "It is important to note that unlike wind and solar, BESS was excluded from the USDA's New ERA program," and see EKPC's response to JI 1-15: "According to the Notice of Funding Opportunity (NOFO) published in the Federal Register on 5/16/2023 (Vol. 88 No. 94) page 31223 C. 1. ii, b. 2, "Energy Storage Systems in support of GHG emission reduction or Renewable Energy Systems" are eligible projects. Standalone BESS or BESS to support fossil generation was not included."
- Please discuss EKPC's decision to not consider solar+storage resources as viable alternatives to meeting its capacity needs.
  - Did EKPC evaluate proposing for NewERA financial support battery energy storage systems that would support GHG emission reductions? If so, explain the results of that evaluation. If not, explain why not.
  - Did EKPC evaluate proposing for NewERA financial support battery energy storage systems that would support renewable energy systems? If so, explain the results of that evaluation. If not, explain why not.
  - Did EKPC inquire with RUS or USDA whether battery energy storage systems could be included as part of the NewERA application referenced in response to JI 1-6(b). If so, identify and produce any response to such inquiry. If not, explain why not.
- 2.29. Please refer to the Direct Testimony of Julia J. Tucker, p.23. Has EKPC ever issued an RFP for capacity resources for which BESS and/or solar+storage resources could submit proposals?
- If yes, please provide the RFP and the bidders responses.
  - Have BESS and/or solar+storage resources ever submitted a bid to an EKPC RFP? If so, what resources and what RFP. Please provide the relevant bids.
- 2.30. Please provide all research, analysis, and background materials conducted by EKPC or on EKPC's behalf related to the cost and availability of BESS resources. If EKPC is relying on outside expertise for this determination please provide all materials supplied to EKPC to support that information.
- 2.31. Please refer to the Direct Testimony of Don Mosier, p.13, stating, "Without this grant opportunity, BESS could not compete with solar and hydro resources, nor

with more traditional forms of dispatchable generation." EKPC finds that BESS resources are not cost competitive but does not present information regarding the suitability of solar+storage as a potential capacity resource. Please explain EKPC's rationale for excluding solar+storage from consideration.

- 2.32. Please provide all research, analysis and background materials conducted by EKPC or on EKPC's behalf related to solar+storage resources. If EKPC is relying on outside expertise for this determination please provide all materials supplied to EKPC to support that information.
- 2.33. Please refer to the VOM tab of the Excel spreadsheet *CONFIDENTIAL - INPUTS - 3May24.x/sx*. With regards to Cooper Unit 2 and each of the Spurlock units:
  - a. State whether the VOM (\$/MWh) costs for each of the years 2030 through 2039 reflect the proposed gas co-firing at those units.
    - i. If so, explain how those costs are consistent with the statements in the Direct Testimony of Craig Johnson, p. 10 lines 12-17 and p. 13 lines 10-14 regarding the non-fuel O&M costs for the Cooper 2 and Spurlock co-fire projects.
    - ii. If not, identify the projected variable O&M costs in \$/MWh for each of the years 2030 through 2039 for Cooper Unit 2 and each of the Spurlock units under the proposed gas co-fire projects.
  - b. Identify the VOM in \$/MWh input into the RTSim modeling for each of the years 2030 through 2039 for the proposed Cooper CCGT.
  - c. Identify the VOM in \$/MWh input into the RTSim modeling for each of the years 2030 through 2039 for the proposed Liberty RICE units.
- 2.34. Please refer to page 1 of Attachment BY-4 - Project Feasibility Report.pdf. Produce the reports regarding synchronous condensers and solar generation referenced therein.
- 2.35. Please refer to your response to JI 1-36(c).
  - a. Identify through what date in November 2024 the 12,517,665 MWh of year-to-date energy sales figure is for.
  - b. Identify EKPC's total energy sales to owner-members through all of 2024.
  - c. State whether the 2024 energy sales forecasts set forth in Attachment JJT-3 are weather adjusted. If so, explain how they are adjusted, and identify the non-weather adjusted 2024 energy sales forecasts from each of the 2020, 2022, and 2024 Load Forecasts.
- 2.36. Please refer to your response to JI 1-41(a). With regards to the statement that "several projects have been identified and implemented in the area to address violations of EKPC planning criteria identified due to an outage of a transmission element in the area along with a simultaneous outage of one or both Cooper

Units,” identify each such project, when it was implemented, the reason for the project, and the cost of the project.

- 2.37. Please refer to your response to JI 1-44. With regards to the pipeline expansion for which “the interstate pipeline company will recoup its capital investment from EKPC over a twenty-year period”
- a. State whether EKPC intends to recover from its owner-members and their ratepayers the costs that the interstate pipeline company will recoup from EKPC.
    - i. If so, explain how.
    - ii. If not, explain why not and how EKPC intends to pay for those costs.
  - b. State whether the costs of the pipeline expansion was factored into any economic evaluation of the Spurlock co-fire project.
    - i. If so, explain how and produce any supporting documentation.
    - ii. If not, explain why not.
- 2.38. Please refer to your response to JI 1-45. With regards to the pipeline expansion for which “the interstate pipeline company will recoup its capital investment from EKPC over a twenty-year period”
- a. State whether EKPC intends to recover from its owner-members and their ratepayers the costs that the interstate pipeline company will recoup from EKPC.
    - i. If so, explain how.
    - ii. If not, explain why not and how EKPC intends to pay for those costs.
  - b. State whether the costs of the pipeline expansion was factored into any economic evaluation of the Cooper Co-Fire and/or Cooper CCGT.
    - i. If so, explain how and produce any supporting documentation.
    - ii. If not, explain why not.
  - c. Identify the extent to which the cost of securing a natural gas supply for the Cooper site would change if gas supply were needed only for the Cooper CCGT and not for the Cooper Co-Fire project. Explain your answer and produce any supporting analysis or documentation.
- 2.39. Please refer to your response to JI 1-47. Identify and explain the “new and more accurate information” that became available that led to the acceleration of the Cooper CCGT expected Commercial Operation Date from February 2033 to December 31, 2030.
- 2.40. Please refer to your response to JI 1-58(b).
- a. Explain why EKPC did not evaluate the impact of incentive levels that were higher than historic levels.
  - b. Explain how allowing for “direct comparisons between technical potential studies over times” relates to the stated intent of the potential study to “provide[] a roadmap and identif[y] the energy efficiency and demand

response measures having the greatest potential savings and the measures that are the most cost-effective,” as stated on p. 2 of Attachment SD-7.

- 2.41. Please refer to your response to JI 1-61.
  - a. Explain in detail how EKPC and its owner-member expert staff decided whether potential DSM programs were “top priority,” and provide any documentation of such decision making.
  - b. State whether EKPC and its owner-member expert staff ever considered whether achieving all or most of the Realistic Achievable Potential for the Residential and Commercial/Industrial Sectors identified in the 2024 Potential Study should be identified as a “top priority” in deciding what DSM programs to propose. If not, explain why not.
- 2.42. Please refer to your response to JI 1-62. Confirm that EKPC is not proposing in this CPCN any new demand response programs, or to expand any existing demand response programs. If not confirmed, identify each new or expanded demand response program EKPC is proposing.
- 2.43. Please refer to your response to Staff 1-1. With regards to the “well-designed, comprehensive resource plan” referenced therein:
  - a. State whether there are any other resource proposals besides the three pending CPCN applications and the to-be-filed NewERA CPCN application that are “part of” the referenced resource plan. If so, identify each such proposal.
  - b. Explain how you believe the Commission should go about looking “at the plan in total.”
  - c. Explain in sufficient detail to allow independent verification how you determined that the referenced resource plan is the “least-cost solution,” and provide all analyses, modeling input and output files, workpapers, workbooks, and other documentation supporting that determination.
- 2.44. Please refer to your response to Staff 1-7(a-b). Explain how the statement in the third paragraph of that response that “By selling at least as much as it buys from the market, EKPC ensures the cost that is borne by the Owner-Members is capped at the cost of EKPC’s generation resources.” is consistent with the statement in the fourth paragraph of that response that “Recent experience shows that EKPC is buying 30-40% of its energy from the market on an on-going basis.”
- 2.45. Please refer to your response to Staff 1-20.
  - a. Produce any written documentation of the two Post Contingency Local Load Relief Warnings referenced therein, and any communications with PJM regarding either or both of those warnings.

- b. Produce any written documentation of the post-Winter Storm Elliott review of the manual load shed and rolling blackout procedure that EKPC carried out.
  - c. Identify any lessons learned from Winter Storm Elliott that were incorporated into EKPC's manual load shed and rolling blackout procedure.
- 2.46. Please refer to your response to Staff 1-21(b)-(c). In your RTSims production cost modeling of the Spurlock Co-Fire Project, was the model allowed to run the Spurlock units at a level of natural gas below 50%?
- a. If so, at what level of natural gas did the model choose to run each of the Spurlock units?
  - b. If not, explain why not.
- 2.47. Please refer to your response to JI 1-43. With regards to the feasibility of gas co-firing at the Spurlock 3 and 4 CFB units:
- a. Confirm that your responses to subpart JI 1-43(a) and (b) should have referenced Attachment BY-3 to the application, rather than Attachment BY-1. If not confirmed, identify where in Attachment BY-1 the feasibility of gas co-firing at the Spurlock 3 and 4 CFB units is addressed.
  - b. Confirm that the Burns MCDonnell Project Scoping Report provided in Attachment BY-3 identifies as risks that "conversion of the Unit 3 and Unit 4 CFB's for co-firing natural gas requires novel design solutions that are unproven" and that the proposed co-firing modifications for the Unit 3 and Unit 4 CFB boilers "have not been executed to BMCD's knowledge."
  - c. Referring to p. 7-2 of Attachment BY-3, identify and produce any report or other documentation of the Reaction Engineering, Inc. model results that "show that co-firing the units on 50% gas at full load appears technically feasible."
  - d. Explain in detail any other engineering studies or research that Burns McDonnell or EKPC carried out or reviewed to determine if conversion of Spurlock Units 3 and 4 for co-firing natural gas is "feasible, doable and practicable." Identify and produce any documentation of such studies and research.
- 2.48. Please provide the unredacted, confidential version of EKPC's 2022 Integrated Resource Plan.
- 2.49. Please provide the confidential version of the corrected report by Energy Future's Group on behalf of the Joint Intervenors in Case No. 2022-00098.  
Note: Although previously in the possession and control of the Joint Intervenors during the pendency of Case No. 2022-00098, that filing was made under seal and Joint Intervenors possession and use the confidential document is restricted pursuant to a non-disclosure agreement.



- 2.50. To the extent that the version of *CONFIDENTIAL-JI1-SUMMARY - 3MAY24.xlsx* provided in response to JI 1-3(a) contains errors, as was the case with the attachment *CONFIDENTIAL – Staff1-24 – 3May24.xlsx* originally produced in response to Staff Request 24, produce a corrected version of *CONFIDENTIAL-JI1-SUMMARY - 3MAY24.xlsx*.
- 2.51. Please refer to the Direct Testimony of Jerry Purvis at page 6, lines 7-13 and state whether each of Cooper Units 1 & 2 and Spurlock Units 1-4 are currently capable of compliance with the updated MATS rule, or whether updates will be needed.
- If they are currently able to comply please explain how.
  - If not, please explain what upgrades will be needed and the timeline.
- 2.52. Please refer to the Direct Testimony of Jerry Purvis at page 8, lines 1-3, and provide hourly emissions, on an individual unit basis, for each of Cooper Units 1 & 2 and Spurlock Units 1-4 for the past five (5) years of SO<sub>x</sub>, NO<sub>x</sub>, ozone season NO<sub>x</sub>, and particulate matter (PM) (both filterable PM, as regulated by MATS, as well as PM<sub>10</sub> and PM<sub>2.5</sub>), as well as hourly heat-rate inputs.
- Also provide annual ozone season NO<sub>x</sub> credit allocations and use by unit.
  - Also provide rolling 30-day PM emissions on a lb/MMBtu basis.
- 2.53. Please refer to the Direct Testimony of Scott Drake, p. 17, which presents a table with the PCT, TRC, UCT, and RIM values for the proposed programs. Provide all workpapers (with formulae intact) used to generate this table.
- 2.54. Please refer to attachment SD-2 which states that “Among changes in scoring, many tax credits were included this time.” Explain which of the programs included in the filing are projected to receive tax credits, whether the tax credits were included in the cost test values presented in p.17 of witness Drake’s testimony, and provide the estimated tax credit per measure.
- 2.55. Please refer to the Direct Testimony of Scott Drake, p. 17, which presents a table with the PCT, TRC, UCT, and RIM values for the proposed programs. Please provide an excel spreadsheet that includes the following for all selected programs, as well as for programs that the Company evaluated but chose not to pursue:
- Utility cost:
    - incentive costs (both in \$/measure and as a percentage of incremental cost)
    - non incentive costs
    - Inflation Reduction Act or other tax credits
  - Participant cost
  - Measure cost
    - Total measure cost
    - Incremental cost over baseline equipment

- iii. Baseline Equipment
  - iv. Cost of baseline equipment.
  - v. Specify whether the total or incremental cost was used to calculate the cost test values.
- d. Measure Life
  - e. Annual energy and demand savings (MWh and MW) per measure per participant
  - f. Adoption rate per measure (number of participants and % of forecast or % of economic potential, however these are determined. Please explain how the adoption rates are determined for each measure.)
  - g. Annual cumulative and incremental energy and demand savings (MWh and MW) per measure for all participants.
- 2.56. Please refer to the Company's response to JI Request 57.
- a. Refer to part b(iv) stating that "The avoided cost for natural gas was \$3.94 per Mcf."
    - i. Justify and/or provide the source for the \$3.94 per Mcf natural gas price.
    - ii. Explain whether the price remains constant for all years of the DSM program life (in real or nominal terms). If the price escalates based on inflation, or other factor, please provide the natural gas price for all years studied.
    - iii. Please explain how the natural gas price informed the avoided cost calculation.
  - b. Refer to part b(i). Please provide the source of the forward price market and explain whether this is in real or nominal dollars.
  - c. Refer to part b(ii). Please provide a workpaper with formulae intact for Table 57-ii.
  - d. Refer to part c(iii). Please provide the numerical values (and the respective workpaper with formulae intact) for each tax credit included in the calculation of the costs and benefits of each DSM measure.
- 2.57. Please refer to Page 9 of the 2024 DSM Potential Study, where it states, "This study utilizes benefit/cost screening tools for the residential and non-residential sectors to assess the cost effectiveness of energy efficiency measures. These cost effectiveness screening tools are Excel-based models that integrate technology-specific impacts and costs, customer characteristics, utility avoided cost forecasts, and more."
- a. Provide the Excel-based model, with formulae intact, for all measures and programs included in the 2024 DSM Potential Study.
  - b. Indicate which measures and programs assessed for cost effectiveness and included in the 2024 Potential Study but not pursued by the Company.
  - c. Provide the avoided cost and financial inputs, and all associated workpapers.
- 2.58. Please refer to the Direct Testimony of Scott Drake, p. 5-6., which describes the process EKPC follows to calculate program-level cost-effectiveness and set

- budgets for measures and programs “identified by the owner-members’ staff as needed by and appropriate for their end-use members.”
- a. Provide a copy of the DSMore evaluation models, with formulae intact, for each program and measure included in EKPC’s existing and proposed new program offerings.
  - b. Provide an excel spreadsheet with the final adopted or proposed budget figures by program and year for the next program cycle.
- 2.59. Please refer to the Direct Testimony of Scott Drake, p. 29-31, which provides information about the Touchstone Energy Program.
- a. If not already produced in response to another request, provide the total measure cost, participant cost, and utility cost used to calculate the cost test values for the Touchstone Energy Program.
  - b. If not already explain in response to another request, explain in detail whether the total measure cost is based on the total cost of the selected heat pump or the incremental cost of the efficient heat pump relative to “less efficient forms of heating and cooling”.
    - i. If the measure cost includes the entire cost of the selected heat pump, then provide the numerical value of this cost and its source and/or justification.
    - ii. If the measure cost includes only the incremental cost over a less efficient form of heating and cooling (baseline measure), please provide a rationale for the selection of the baseline measure, its cost, and the source of that information.
- 2.60. Please refer to the Direct Testimony of Scott Drake, p. 32, which provides information about the Direct Load Control Program.
- a. Provide the total measure cost, participant and utility cost for this program.
  - b. Explain whether the Company assumes that the utility will not incur technology costs as it will not be installing new switches.
  - c. Explain whether participants are assumed to install new thermostats or participate through already installed thermostats and what the assumed participant cost is.
- 2.61. Please refer to the Direct Testimony of Scott Drake, p. 33, which provides information about the Residential EV Off-Peak Charing Program.
- a. Provide the total measure cost, participant, and utility cost for this program.
  - b. Explain in detail whether participants are assumed to incur any incremental cost to be able to participate in the program, how this is calculated, and provide its numerical value.
- 2.62. Please refer to the Direct Testimony of Scott Drake, p. 34-35, which provides information about the High Efficiency Heat Pump Program.
- a. Provide the total measure cost, participant cost, and utility cost used to calculate the cost test values for the program.

- b. Explain in detail whether the total measure cost is based on the total cost of the selected heat pump/water heater or the incremental cost of the efficient heat pump/water heater relative to a heat pump/water heater that would not qualify for the program.
    - i. If the measure cost includes the entire cost of the selected heat pump/water heater, then provide the numerical value of this cost and its source and/or justification.
    - ii. If the measure cost includes only the incremental cost over a less efficient heat pump/water heater, please provide a rationale for the selection of the baseline measure, its cost, and the source of that information.
- 2.63. Please refer to the Direct Testimony of Scott Drake, p. 37-38, which provides information about the Backup Generator Control Program.
- a. Provide the total measure cost, participant and utility cost for this program.
  - b. Confirm that the utility will not incur technology or other costs beyond administrative costs and the incentives provided. If not confirmed, please explain.
  - c. Confirm that participants will not incur technology costs as they are already assumed to own backup generators. If not confirmed, please explain.
- 2.64. Please refer to the Direct Testimony of Scott Drake, p. 38-40, which provides information about the Commercial Advanced Lighting and Commercial and Industrial Thermostat Programs.
- a. Provide the total measure cost, participant cost, and utility cost used to calculate the cost test values for each program.
  - b. Explain in detail whether the total measure cost assumes that the commercial or industrial customer will be replacing lighting fixtures/thermostats (that would otherwise keep operating) or whether they would be selecting high efficiency fixtures or self-learning thermostats at the end-of-life of their previous fixtures/thermostats.
    - i. If the total measure cost assumes a new fixture/device, please provide the Company's reasoning for this assumption.
- 2.65. If the total measure cost is based on the incremental cost of an efficient fixture/self-learning thermostat over a device that would not qualify for the respective program, please explain how the baseline was set and provide the cost of that baseline for each program. Please refer to the Direct Testimony of Scott Drake, pp. 18-19, which describes the energy (MWh) and seasonal peak demand (MW) impacts that were applied to the load forecast provided in this CPCN.
- a. Clarify whether the impact on summer and winter peak MW in the table on p. 19 reflect only energy efficiency programs, or include MW associated with demand response programs as well.
  - b. Provide an excel spreadsheet with the values shown in the table on p. 19 broken out by program.

- c. Explain the reasons for the large difference between the MW values on the table in p. 19 with the cost effective, “realistic achievable potential (RAP)” from the EKPC 2024 Potential Study. Specifically, the Company includes only 38 MW of cumulative winter peak demand reduction in 2030, whereas we estimate upwards of 337 MW as a conservative estimate of the RAP from just the DR potential for that same year. We estimated by leveraging values provided in Table 4-3, Table 5-3, and Table 6-7 of the 2024 DSM Potential Study. (Note our final estimate of 337 MW was derived from values in Table 6-7. We took the total sector-level RAP % of forecast values from table 6-9 and table 6-11 and applied these to the economic potential of Table 6-7, since there were no annual values provided for the RAP, only 15-year cumulative. We used winter RAP values to be conservative, so actual values could be higher).
- 2.66. Please refer to the EKPC 2024 Potential Study. If not already provided, provide an excel workbook containing the following:
    - a. Annual incremental and annual cumulative Peak Demand MW for the technical, economic, MAP, and RAP scenarios for the entire forecast period, and segmented by season.
    - b. Results from a) broken out by DR measure
    - c. Annual incremental and annual cumulative participant or unit counts for each scenario
    - d. Referring to Table 7-1, please include results (MWh and MW) of the three program funding scenarios broken out by measure or program area. Please break the demand MW into summer and winter by measure or program area.
  - 2.67. Please refer to the EKPC 2024 Potential Study, Table 6-8. Explain why the residential DLC Water Heaters MAP and RAP % of forecast adoption rate is 0.0% for summer and winter.
  - 2.68. Please explain whether the level of DSM programs included in the Company’s proposed portfolio is the result of capacity expansion modeling, including DSM as an available resource for selection.
  - 2.69. Please explain whether demand response resources were allowed to endogenously dispatch in the Company’s capacity expansion and production cost modeling. Please explain whether DR dispatch was subject to any constraints in the Company’s modeling.
  - 2.70. Please provide the hourly (8760) profile for each DSM measure included in the Company’s modeling. Please explain if there are any differences in the load profile used to score measures in the cost effectiveness screening conducted for the EKPC 2024 Potential Study and the load profile used for energy efficiency in the Company’s IRP modeling.

- 2.71. If DSM was included as load adjustment, please provide the 8760 profile of each measure for all years studied.
  - a. If DSM was included as a selectable resource, please provide the 8760 profile of each measure (on a per unit basis).
  - b. If the Company does not have 8760 data per measure, please provide the total DSM adjustment on an hourly basis.
  
- 2.72. Please refer to the Company's response to JI 1-49.
  - a. Provide an excel spreadsheet of these tables on a per measure basis.
  - b. Explain which measures are included in each table. Also please clarify whether the impact on summer and winter peak MW in the two tables reflect only energy efficiency programs, or include MW associated with demand response programs as well.
  - c. Confirm that the EV charging program is not included in any of the two tables and provide the estimated energy and demand savings for it.
  - d. If any other measure (of the 10 DSM programs included in the filing) is not included in the two tables, please provide its expected energy and demand savings.
  
- 2.73. Please refer to the Company's response to JI 1-49, which projects savings of 29,577 MWh from existing DSM Programs with New tariffs, and 29,975 MWh from new DSM Programs. Witness Drake estimates savings of 69,792 MWh by 2030. Please explain whether this difference is only the result of not including the EV charging DSM program.
  
- 2.74. Please refer to the EKPC 2024 Potential Study, Table 3-3, and explain what these percentages represent.
  - a. For example, are residential water heating measures estimated to have a 75.7% adoption rate over the entire residential market, the technical potential, or over the economic potential?
  - b. How is "long term" defined? What level of adoption would be expected on a per year basis?
  
- 2.75. Would the 100% incentive level projection be equivalent to the MAP? If not, why not? Please refer to the EKPC 2024 Potential Study, Table 6-3.
  - a. Please explain whether the study assessed non-residential battery storage.
  - b. Were static time of use (TOU) rates evaluated in the EKPC 2024 Potential Study in addition to the CPP programs listed here? Please provide rationale for not including if they were not.
  - c. Please provide a summary of which member-cooperatives have previously offered or are currently implementing static TOU pricing pilots or programs. Please provide any accompanying evaluation reports or other assessments of the load shift / peak demand reduction achieved by these TOU rates.
  
- 2.76. Please refer to the EKPC 2024 Potential Study, Tables 6-8, 6-9, 6-10, and 6-11.

- a. Please confirm that CPP with enabling technology and interruptible rates programs are estimated to have the highest RAP in the residential and C/I categories.
  - b. Please explain why the Summer DR RAP potential for DLC Agricultural Irrigation is 0% (Table 6-10).
  - c. Please provide any and all analysis that the Company conducted to evaluate whether each of those programs should be implemented.
  - d. Please explain in detail how and why the Company decided not to implement those programs.
- 2.77. Please refer to the EKPC 2024 Potential Study. Please provide the Appendices in spreadsheet format.
- 2.78. Please refer to the EKPC 2024 Potential Study, Figure 4-4 and 5-4.
- a. Please provide the numerical values for MAP and RAP for residential and C/I programs by 2030, and confirm that the cumulative RAP is over 150,000MWh.
  - b. Please explain what incentive levels are included in this RAP projection. If incentive levels are based on historical estimates, please provide these historical estimates (in \$ and % of incremental cost) per measure.
  - c. Please explain why the Company is only pursuing 69,792 MWh by 2030 (inclusive of DR programs) instead of the full RAP.
- 2.79. Please explain whether the Company evaluated other EE measures or other incentive levels which they chose not to include in this filing. Provide any and all analysis conducted.
- 2.80. Please refer to the EKPC 2024 Potential Study, Appendix A.
- a. Provide a definition of “Base Saturation” and explain why it can go above 100%, and what it is a percentage of.
  - b. Provide a definition of EE Saturation and explain its relationship (if any) to “Base Saturation”
  - c. Confirm that the “Measure \$” reflects only incremental costs.
  - d. Explain whether the RAP adoption rate is expressed as a percentage of the total market, the technical potential, or other metric.
  - e. Explain whether any of the table entries expresses the potential in MWh for all units available (total market, technical economic, MAP, or RAP).
  - f. Explain whether the table entries can be used to calculate RAP in MWh (in addition to the RAP adoption rate).
  - g. Confirm that the “Base Annual Electric” is expressed in kWh.
- 2.81. Please refer to EKPC response to JI 1-55, which states that “The DSM programs offered by EKPC to its owner-member cooperatives are a la cart. EKPC is unaware of which programs each owner-member will offer to its end-use members.”

- a. Is this consistent with how EKPC and owner member cooperatives have updated their DSM programs historically.
  - i. If the answer is yes, please explain whether owner member cooperatives have historically selected to offer all of the EKPC DSM programs or smaller subsets.
  - ii. If the answer is no, please explain what the process has been in the past.
- b. Please explain how EKPC tracks the budgets and savings targets for each owner-member for each program year. Please provide total budget and savings targets by program for each owner-member for the time period of the 2021-2023 Annual reports provided in SD4-6 of Direct Testimony of Scott Drake.
- c. Please explain how EKPC projects DSM savings and adjusts its load without knowing which programs the cooperatives will eventually offer. Please explain any analysis or process between EKPC and cooperatives that is used to refine the EKPC DSM forecast as a combination of member cooperative DSM programs.
- d. Please explain whether a separate proceeding would be needed for each distribution cooperative that would want to adjust its tariff in light of EKPC's incentive changes or new program offerings.

Respectfully Submitted,



Byron L. Gary  
Ashley Wilmes  
Kentucky Resources Council  
P.O. Box 1070  
Frankfort, Kentucky 40602  
(502) 875-2428  
[Byron@kyrc.org](mailto:Byron@kyrc.org)  
[Ashley@kyrc.org](mailto:Ashley@kyrc.org)

*Counsel for Joint Intervenors  
Appalachian Citizens Law Center,  
Kentuckians for the Commonwealth,  
and Mountain Association*



## 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 January 17, 2025; 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.



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Byron L. Gary