

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2022 INTEGRATED RESOURCE)	CASE NO.
PLAN OF EAST KENTUCKY POWER)	2022-00098
COOPERATIVE, INC.)	

COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION
TO EAST KENTUCKY POWER COOPERATIVE, INC.

East Kentucky Power Cooperative, Inc. (EKPC), pursuant to 807 KAR 5:001, is to file with the Commission an electronic version of the following information. The information requested is due on July 21, 2022. The Commission directs EKPC to the Commission's July 22, 2021 Order in Case No. 2020-00085¹ regarding filings with the Commission. Electronic documents shall be in portable document format (PDF), shall be searchable, and shall be appropriately bookmarked.

Each response shall include the question to which the response is made and shall include the name of the witness responsible for responding to the questions related to the information provided. Each response shall be answered under oath or, for representatives of a public or private corporation or a partnership or association or a governmental agency, be accompanied by a signed certification of the preparer or the person supervising the preparation of the response on behalf of the entity that the

¹ Case No. 2020-00085, *Electronic Emergency Docket Related to the Novel Coronavirus COVID-19* (Ky. PSC July 22, 2021), Order (in which the Commission ordered that for case filings made on and after March 16, 2020, filers are NOT required to file the original physical copies of the filings required by 807 KAR 5:001, Section 8).

response is true and accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry.

EKPC shall make timely amendment to any prior response if EKPC obtains information that indicates the response was incorrect when made or, though correct when made, is now incorrect in any material respect. For any request to which EKPC fails or refuses to furnish all or part of the requested information, EKPC shall provide a written explanation of the specific grounds for its failure to completely and precisely respond.

Careful attention shall be given to copied material to ensure that it is legible. When the requested information has been previously provided in this proceeding in the requested format, reference may be made to the specific location of that information in responding to this request. When applicable, the requested information shall be separately provided for total company operations and jurisdictional operations. When filing a paper containing personal information, EKPC shall, in accordance with 807 KAR 5:001, Section 4(10), encrypt or redact the paper so that personal information cannot be read.

1. Refer to Integrated Resource Plan (IRP), Section 1, page 8. Provide EKPC's most recent Annual Report regarding its participation in PJM Interconnection, Inc. (PJM).

2. Refer to the IRP, Section 1, page 18.

a. Explain whether and how each of the four carbon prices listed in the GDS DSM evaluation were applied in the Resource Optimizer to determine a reasonable least cost resource portfolio.

b. Provide EKPC's avoided costs for energy and capacity in PJM.

c. EKPC indicates that it does not anticipate a requirement for a carbon adder to apply to generation resources. Explain whether EKPC ran the mid and high carbon prices applying to generation resources as a hypothetical scenario and, if so, provide a summary of those results.

d. Explain whether EKPC is aware of any discussions at the federal level that are focusing on the potential for CO₂ emission limits as opposed to carbon prices as a way to limit carbon.

3. Refer to the IRP, Section 2, pages 50–51 regarding capacity interconnection rights (CIRs) for Effective Load Carrying Capability (ELCC) resources. State whether there is any proposed or potential language being discussed in the PJM Planning Committee with respect to CIRs for ELCC resources, and if so, provide any publically available document discussing the proposed or potential language.

4. Refer to the IRP, Section 2, pages 55–56. Provide an update regarding the PJM backlog of projects, stating what (if any) new information is available or if EKPC's plans with respect to the backlog have changed.

5. Refer to the IRP, Section 2, page 56. Explain whether EKPC still believes that even though market and fuel prices are significantly higher than they were in the fall of 2021, the bulk of the differences would impact short term operations, and that the market is expected to eventually turn back towards the price assumptions used in this study.

6. Refer to the IRP, Section 3, page 64. Explain the drivers behind the load factor increasing from 50 percent in 2022 to 54 percent in 2036.

7. Refer to the IRP, Section 3, page 65. Identify the specific dates upon which EKPC's all-time summer and winter peaks occurred.

8. Refer to the IRP, Section 3, page 70. Provide a breakdown of the estimated residential customer growth of almost 54,000 by region.

9. Refer to the IRP, Section 3, Tables 3-5 – 3-9, pages 73–74. Provide an update to the tables for 2021.

10. Refer to the IRP, Section 3, page 81. Provide additional explanation and support for how electricity rates were derived, including whether there has been an updated board-approved Financial Forecast since the 2015-2034 Financial Forecast was approved and if so, why that updated forecast was not used to derive rates.

11. Refer to the IRP, Section 3, page 82.

a. For the residential and small commercial sales equations, explain whether all of the variables listed were included in each of the 16-owner-member forecasts. If not, provide the regression equations showing the actual variables used to forecast residential and small commercial sales for each owner-member.

b. Refer also to the IRP, Section 3, page 90. Explain why there are two heating degree day (HDD) variables included in the regression equations, the wide divergence of the base (30 versus 55) and whether there is any multicollinearity that needs to be addressed.

c. Refer also to the IRP, Technical Appendix, Vol. I. Load Forecast, page 13–14. Explain where the SAE variables discussed in the technical appendix are used in the equations or variables listed on page 82 of the IRP.

12. Refer to the IRP, Section 3, page 83. Explain further how each owner-member's load factor is derived in order to calculate its peak demand.

13. Refer to the IRP, Section 3, pages 84–89 and the IRP Vol. 1, Technical Appendix, Section 5, pages 33–38. Explain and reconcile the differences between the forecasted sales in each of the corresponding tables for each customer class.

14. Refer to the IRP, Section 3, page 95. If available, provide an explanation of any findings or lessons learned from the smart home pilot program offered by two different EKPC owner-members.

15. Refer to the IRP, Section 4, page 97, stating “Spurlock 1 and 2 have had extensive modification and enhancements to comply with coal combustion residuals and effluent limitation guidelines.” Provide a timeline of when these modifications and enhancements were made and provide details on each modification made to the Spurlock units.

16. Refer to the IRP, Section 4, pages 98–99. Provide the Capital Improvement Plan developed by the Nashville District Corps of Engineers Hydropower Program.

17. Refer to the IRP, Section 4, page 99. Provide the number of subscribers to the Cooperative Solar Farm One as of June 30, 2022.

18. Refer to the IRP, Section 4, pages 105–110. Explain what changed in the Fixed Operating and Maintenance (O&M) costs and the Variable O&M costs from 2021 to 2022 for Spurlock, Gilbert, Smith CT, and Bluegrass CT.

19. Refer to the IRP, Section 5.2, DSM Planning Process, page 112. Explain why EKPC did not evaluate or propose new demand-side management (DSM) programs for this IRP.

20. Refer to the IRP, Section 6, pages 125–126.
 - a. Provide any potential operating problems identified by SERC Reliability Corporation (SERC) for EKPC since the filing of EKPC’s 2019 IRP report.
 - b. Explain if there are any potential problems identified by SERC in its most recent study that are scheduled to be addressed by EKPC.
 - c. Explain how SERC prioritizes the potential problems that need to be addressed on EKPC’s system.
21. Refer to the IRP, Section 6, pages 127–130. Provide EKPC’s planned transmission line re-conductors/rebuilds for the next three-year period.
22. Refer to the IRP, Section 6, page 129, regarding the planned improvements to the EKPC transmission system for the period from 2022 to 2024.
 - a. Identify the projects that EKPC plans to file future Certificate of Public Convenience and Necessity (CPCNs) for and when EKPC plans to file the CPCNs, if any.
 - b. Provide the case number for any CPCNs that EKPC has already filed for that are related to the planned projects.
 - c. If EKPC does not plan to file CPCNs for any of the listed projects, then explain how EKPC plans to fund those projects.
23. Refer to the IRP, Section 7, pages 143–144, regarding the paragraph entitled “Methodology for Five-Year Major Projects Plan.”
 - a. Provide examples of recent smaller projects that did not require approval from the EKPC Board of Directors for implementation.

b. Explain how EKPC differentiates between projects that require approval from the EKPC Board of Directors for implementation and those projects that do not require such approval.

24. Refer to the IRP, Section 7, pages 144–156. Explain how EKPC factors in possible supply chain constraints when planning its current five-year major projects timeline.

25. Refer to the IRP, Section 7, Table 7-5, page 156. Refer also to the IRP, Section 8, page 164.

a. Explain the steps EKPC has taken to improve performance of the six landfill gas-to-energy facilities.

b. Explain the process for overhauling a landfill gas unit.

26. Refer to the IRP, Section 8, page 164. State whether or not the hydro-generation facilities on the Kentucky River lock and dam system listed are the same ones detailed in EKPC's response to Commission Staff's First Request for Information, Item 48 in EKPC's 2019 IRP in Case No. 2019-00096.² If not, then explain what happened to the facilities since EKPC's 2019 IRP.

27. Refer to the IRP, Section 8, page 167 and Table 8-4, page 167 and Table 8-5, page 168. EKPC indicates that the Resource Optimizer was set to run up to 2,500 unique expansion plans. Both Tables 8-4 and 8-5 illustrate the five lowest cost plans. However, the final plan, listed in Table 8-5, does not correspond to any of the five lowest cost plans.

² See Case No. 2019-00096, *Electronic 2019 Integrated Resource Plan of East Kentucky Power Cooperative, Inc.* EKPC's Response to Commission Staff's First Request for Information (filed Mar. 16, 2020), Item 48.

- a. Provide an outline of the input constraints used in the Resource Optimizer to obtain the five cases and final plan in Tables 8-4 and 8-5.
- b. Explain how EKPC settled on the final plan as the optimal resource plan going forward.
- c. Provide the final decision-making criteria, including cost used to select the final plan, and provide a comparison of the final plan to the ten lowest cost plans, including the lowest five plans listed in Table 8-5, from the 2,500 Resource Optimizer runs.

28. Refer to the IRP, Section 8, Table 8-5, page 168 and Table 8-7, page 171. Table 8-7 lists multiple energy purchases in the second column of the table. Table 8-5 makes a distinction between seasonal PPA purchases and renewable resource additions. Many of the energy purchases listed in Table 8-7 appear as renewable resource additions, yet only the energy addition in 2022 corresponds to a seasonal PPA purchase. All the other purchases correspond to renewable resource additions. Explain whether the renewable resource additions are seasonal in nature in order to satisfy EKPC's winter energy exposure. If not, explain how the renewable purchase fit into Table 8-7.

29. Refer to the IRP, Table 3-2, page 65, Table 8-6, page 170, footnote 14 and Table 8-7, page 171, and corrected Table 8-10 (filed May 17, 2022). Tables 3-2 and 8-10, though not an exact match, show projected energy needs over the forecast period.

- a. Explain and reconcile the projected energy additions in Table 8-7 (column 2) with the projected purchases listed in corrected Table 8-10.
- b. Footnote 1 in Table 8-6 states that EKPC seeks to hedge its winter energy exposure for price stability, but has no winter capacity obligation to satisfy its PJM

load serving obligation. Table 8-7 indicates that EKPC is capacity short in winter beginning in 2028. Prior to joining PJM, EKPC planned its system to satisfy its winter capacity obligations. Explain whether EKPC still has an obligation to have sufficient capacity to satisfy its winter capacity obligations and, if not, explain why joining PJM relieved EKPC of that obligation.

c. Footnote 1 in Table 8-6 and footnote 14 together indicate that all intermittent and seasonal purchases are to hedge EKPC's winter energy price exposure for price stability. Confirm that the final plan calls for EKPC to contract with renewable resources for the winter period only.

d. Explain whether solar renewable resources are as reliable or efficient at delivering energy during the winter as in the summer, including during the winter peak, and, if not, explain whether the MW purchases in the Final Plan are gross MW or delivered MW.

e. Provide a table showing the seasonal output differences EKPC has experienced with its own 8.5 MW solar installation on a monthly basis for the last five years.

30. Refer to the IRP, page 171, Table 8-7, columns 7–8, which indicate that EKPC is adding capacity in both winter and summer beginning in year 2026 through 2031.

a. Explain why there are no capacity additions listed in any of columns 5–6.

b. Explain the nature of the capacity additions shown in columns 7–8.

31. Refer to the IRP, Technical Appendix Vol. I, Load Forecast, pages 12–13.

a. Explain in greater detail how IHS Global Insight, Inc.'s (IHS) county level data is apportioned to each owner-member.

b. Explain whether any two owner-members in different regions have customers residing in the same county, and if so, how that situation is treated in assembling the seven regions and individual owner-member class forecasts.

32. Refer to the IRP, Technical Appendix Vol. I, Load Forecast, pages 13–17 generally.

a. Provide a copy of the final forecasting reports provided to the 16-owner-members.

b. Provide a brief explanation of the regional differences that have emerged from the regional forecasts.

33. Refer to the IRP, Technical Appendix Vol. I, Load Forecast, page 13. Explain how the regional forecasts are used, if at all, in making the individual owner-member forecasts.

34. Refer to the IRP, Technical Appendix Vol. I, Load Forecast, page 14. Provide a more detailed explanation of the derivation of the Heat, Cool, Water Heat and Other variables, and provide a numerical example as an illustration.

35. Refer to the IRP, Technical Appendix Vol. I, Load Forecast, pages 12 and 21. Explain whether the regional forecast for the North Central region is the summation of the individual owner-member forecasts.

36. Refer to the IRP, Technical Appendix Vol. 1, Load Forecast, page 18.

a. Explain whether IHS included pessimistic and optimistic economic forecasts in the data provided to EKPC and if so, why it did not use those forecasts.

b. Explain the method by which EKPC settled on the formula to simulate the lower and higher economic growth scenarios and whether the ten-year periods for the two scenarios overlap.

c. Explain what the lower and higher percentage growth rates are as compared to the base forecast.

37. Refer to the IRP, Technical Appendix Vol. 1, Load Forecast, pages 16, and 26–29. Provide a complete copy of the 2020 Residential end-use survey report.

38. Refer to the IRP, Technical Appendix Vol. 2, page DSM-4.

a. Discuss how EKPC had a Total Resource Cost (TRC) historically higher than 1.0 for the Cares – Low Income Program.

b. Explain what happened to the cost effectiveness of the program.

c. Explain why EKPC should continue the Residential energy audit program.

39. Refer to the IRP, Technical Appendix Vol. 2, Exhibit DSM-1, 2021 Potential Study, page 1. Provide the most recent avoided energy and capacity cost projections for electricity.

40. Refer to the IRP, Technical Appendix Vol. 2, Exhibit DSM-1, 2021 Potential Study, pages 3–4.

a. List all owner-members of EKPC that currently have AMI for their DSM programs.

b. State whether or not any of the Potential Residential or Commercial/Industrial DSM Programs will be implemented, as well as any reasons why or why not.

c. Explain if EKPC has any future plans for incorporating additional DSM Programs.

41. Refer to the IRP, Technical Appendix Vol. 2, Exhibit DSM-1, 2021 Potential Study, Appendix C, pages C-3 through C-9.

a. Explain the different scenarios represented in the tables on those pages.

b. Explain the rationale for not implementing each of the commercial and industrial programs and the cost effectiveness scores for each program listed.

42. Refer to the IRP, Technical Appendix Vol. 2, page DSM-6. Provide all presentations from the EKPC DSM collaborative meetings in 2021.

43. Refer to the IRP, Technical Appendix Vol. 2, page DSM-13. Explain how the \$3 million budget for the EE Program was determined.

44. Refer to the IRP, Technical Appendix Vol. 2, Exhibit DSM-3. Explain in detail how a 5 percent discount rate for TRC and RIM was determined.

45. Refer to the IRP, Technical Appendix Vol. 2, Exhibit DSM-9.

a. Explain what the PJM Peak Shaving Adjustment (PSA) is.

b. Explain how the PJM PSA operates.

c. Explain how EKPC can monetize the direct load control through the PJM PSA.

46. State how the MAP and RAP cost effectiveness changes under different carbon scenarios.

47. Identify those sections of PJM's current tariff and any current PJM manual that establish the capacity requirements for EKPC discussed on page 5 of the IRP.

48. Given PJM's reported reserve margins in the summer of 2022 and locational marginal prices (LMPs) seen during certain peak periods so far this summer, explain whether EKPC believes that PJM is assigning appropriate capacity values to generation resources.

49. Describe the effects, if any, of extremely high LMPs during certain summer peak periods (such as recent LMPs in excess of \$3,000/MW) on costs for EKPC members' customers, and describe what actions EKPC is currently taking and plans to take to mitigate exposure to such costs.



Linda C. Bridwell, PE
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

DATED JUN 28 2022

cc: Parties of Record

*L Allyson Honaker
Goss Samford, PLLC
2365 Harrodsburg Road, Suite B325
Lexington, KENTUCKY 40504

*Joe F. Childers
Childers & Baxter PLLC
300 Lexington Building, 201 West Sho
Lexington, KENTUCKY 40507

*Angela M Goad
Assistant Attorney General
Office of the Attorney General Office of Rate
700 Capitol Avenue
Suite 20
Frankfort, KENTUCKY 40601-8204

*John Horne
Office of the Attorney General Office of Rate
700 Capitol Avenue
Suite 20
Frankfort, KENTUCKY 40601-8204

*Ashley Wilmes
Kentucky Resources Council, Inc.
Post Office Box 1070
Frankfort, KENTUCKY 40602

*Kristin Henry
Staff Attorney
Sierra Club Environmental Law Program
2101 Webster Street
Suite 1300
Oakland, CALIFORNIA 94612

*Chris Adams
East Kentucky Power Cooperative, Inc.
P. O. Box 707
Winchester, KY 40392-0707

*Larry Cook
Assistant Attorney General
Office of the Attorney General Office of Rate
700 Capitol Avenue
Suite 20
Frankfort, KENTUCKY 40601-8204

*David S Samford
Goss Samford, PLLC
2365 Harrodsburg Road, Suite B325
Lexington, KENTUCKY 40504

*Michael West
Office of the Attorney General Office of Rate
700 Capitol Avenue
Suite 20
Frankfort, KENTUCKY 40601-8204

*Tom Fitzgerald
Kentucky Resources Council, Inc.
Post Office Box 1070
Frankfort, KENTUCKY 40602

*Honorable Michael L Kurtz
Attorney at Law
Boehm, Kurtz & Lowry
36 East Seventh Street
Suite 1510
Cincinnati, OHIO 45202

*Jody Kyler Cohn
Boehm, Kurtz & Lowry
36 East Seventh Street
Suite 1510
Cincinnati, OHIO 45202

*East Kentucky Power Cooperative, Inc.
4775 Lexington Road
P. O. Box 707
Winchester, KY 40392-0707