

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2022 INTEGRATED RESOURCE)	CASE NO.
PLANNING REPORT OF KENTUCKY POWER)	2023-00092
COMPANY)	

COMMISSION STAFF'S SECOND REQUEST FOR INFORMATION
TO KENTUCKY POWER COMPANY

Kentucky Power Company (Kentucky Power), pursuant to 807 KAR 5:001, shall file with the Commission an electronic version of the following information. The information requested is due on August 7, 2023. The Commission directs Kentucky Power 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.

Kentucky Power shall make timely amendment to any prior response if Kentucky Power obtains information that indicates the response was incorrect or incomplete when made or, though correct or complete when made, is now incorrect or incomplete in any material respect.

For any request to which Kentucky Power fails or refuses to furnish all or part of the requested information, Kentucky Power shall provide a written explanation of the specific grounds for its failure to completely and precisely respond.

Careful attention shall be given to copied and scanned 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, Kentucky Power 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 Kentucky Power's response to Commission Staff's First Request for Information (Staff's First Request), Item 2. Explain how Kentucky Power is taking into consideration the consistent decline in customer base when developing its modeling.

2. Refer to Kentucky Power's response to Staff's First Request, Item 4.

- a. Explain how Kentucky Power's forecasted modeling will differ if the cryptocurrency companies that require significant load do not fulfill their contracts.

b. Explain, if any, the financial risk(s) associated with providing energy to the cryptocurrency industry.

3. Refer to Kentucky Power's response to Staff's First Request, Item 5. Also refer to Case No. 2023-00159, Application, Section III, Volume 1, Direct Testimony of Stevi Cobern at 10.² Provide the demand side management/energy efficiency (DSM/EE) market potential study.

4. Explain in detail the demand side management/energy efficiency (DSM/EE) programs being considered in the market potential study. Include in the response if the same, or similar, programs are being used by other American Electric Power (AEP) affiliates.

5. Refer to Kentucky Power's response to Staff's First Request, Item 10 and Item 12. Explain if any of the distribution or transmission projects are included in Case No. 2023-00059.³

6. Refer to the IRP, Volume A, Section 7.5.1, page 175. Explain if the 50 MW battery will deliver 50 MW continuously for four hours. If not, explain how the battery will run.

7. Refer to Kentucky Power's response to Staff's First Request, Items 4 and 6a. Provide an annual demand and energy forecast for the cryptocurrency industry in Kentucky Power's service territory.

8. Refer to Kentucky Power's response to Staff's First Request, Item 7.

² Case No. 2023-00159, *Electronic Application of Kentucky Power Company for (1) a General Adjustment of Rates for Electric Service; (2) Approval of Tariffs and Riders; (3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; (4) a Securitization Financing Order; and (5) All Other Required Approvals and Relief* (filed June 29, 2023), Application, Section III, Volume 1.

³ See Case No. 2023-00159.

a. Provide a map and description of the region used by Kentucky Power to obtain heating and cooling degree days for its energy models.

b. Confirm that Kentucky Power did not use weather data obtained from weather stations inside or adjacent to Kentucky Power's service territory that provide local specific weather forecasts. If Kentucky Power did, explain why.

9. Refer to Kentucky Power's response to Staff's First Request, Item 17. Confirm that if Kentucky Power were to build a natural gas combustion cycle (NGCC) unit, that Kentucky Power would be the sole ownership of the unit.

10. Refer to Kentucky Power's response to Staff's First Request, Item 22a. Confirm that the most reasonable location to place the wind generation is outside Kentucky Power's service territory.

11. Refer to Kentucky Power's response to Staff's First Request, Item 22c. Explain if it is Kentucky Power's preference to own or sign a Purchase Power Agreement (PPA) for wind generation.

12. Refer to Kentucky Power's response to Staff's First Request, Item 25. Explain why the Short-Term Market Purchase (STMP) resource is reliable source to determine avoided cost rates.

13. Refer to Kentucky Power's response to Staff's First Request, Item 37c. Confirm that it is Kentucky Power's stance that because they are meeting PJM's summer capacity obligations, it will rely on PJM for its winter load obligation and will not have a winter capacity deficit.

14. Refer to Kentucky Power's response to Staff's First Request, Item 39b. Kentucky Power states that "the NGCC was not economic versus the alternative

resources within the model.” Explain if the NGCC is considered more capacity efficient than the alternative options in the model.

15. Refer to Kentucky Power’s response to Staff’s First Request, Item 41. Kentucky Power states in its response that “Currently Kentucky Power does not have a PJM winter capacity requirement.” Also refer to the Application, Volume A, Section 7.4.3.1, page 167. Kentucky Power states “All portfolio builds exhibit capacity shortfall for winter due to the winter peaking nature of the Kentucky Power system.” Reconcile the discrepancy that Kentucky Power has a winter capacity deficit.

16. Refer to Kentucky Power’s response to Staff’s First Request, Item 42b. Provide, if possible, the uniform costs associated with the wind and solar facilities.

17. Refer to Kentucky Power’s response to Staff’s First Request, Item 46. Kentucky Power states that building gas generation takes approximately six years to complete. In its Preferred Plan Kentucky Power is anticipating having an NGCT built by 2029. Based on Kentucky Power’s response, explain if a 2029 date for an NGCT is still reasonable considering the Commission has not received a certificate of public convenience and necessity (CPCN).

18. Refer to Kentucky Power’s response to Staff’s First Request, Item 51b. Explain Kentucky Power’s plan if PJM does not have 407 MW of capacity available in 2028.

19. Refer to Kentucky Power’s response to Staff’s First Request, Item 51c. Explain how Kentucky Power plan’s on recovering the \$15,668,228 from capacity purchases in 2028.

20. Refer to the IRP, Volume A, Section 3.2, page 56. Also refer to Kentucky Power's Response to Staff's First Request, 04_KPCO_R_KPSC_1_8_Attachment1.xlsx, Tab Existing Resources.

a. Confirm that the 100 MW Spicewood solar facility was manually included with Kentucky Power's other existing resources instead of having the AURORA model select the solar facility as a potential resource addition. If not, explain why it was not.

b. Explain why the Spicewood solar facility capacity credits begin at 44 MW and decline to 22 MW.

21. Refer to the IRP, Volume A, Section 3.2, page 56. Also refer to Kentucky Power's response to Staff's First Request, 04_KPCO_R_KPSC_1_8_Attachment1.xlsx, Tab Capacity Charts and Reserves and Tab Existing Resources. Explain why the Spicewood solar facility is listed on the Tab Existing Resources and the Tab Capacity Charts and Reserves as a new resource. Explain whether this discrepancy exists for all portfolios.

22. Refer to the IRP, Volume A, Exhibit C-5, page 201. Also refer to Case No. 2022-00387,⁴ Kentucky Power's response to Commission Staff's Second Request for Information, Item 4a-4b.⁵ Explain the reason the IRP does not contain the most up to date forecasting even though it was filed after Case No. 2022-00387.

⁴ Case No. 2022-00387, *Electronic Tariff Filing of Kentucky Power Company for Approval of a Special Contract with EBON International, LLC* (filed Oct. 28, 2022).

⁵ Case No. 2022-00387, *Electronic Tariff Filing of Kentucky Power Company for Approval of a Special Contract with Ebon International, LLC* (filed Jan. 27, 2023), Kentucky Power's Response to Staff's Second Request for Information.

23. Refer to the IRP, Volume A, Exhibit C-5, page 201. Also refer to Case No. 2022-00387, Kentucky Power's response to Commission Staff's First Request for Information (Staff's First Request), Item 4, Attachments 1–3.⁶

a. Explain the difference between the load forecasts in IRP, Volume A, Exhibit C-5 and Case No. 2022-00387, Kentucky Power's response to Staff's First Request, Item 4, Attachment 1, and Attachment 2.

b. Provide a breakdown of all load additions contained in Attachment 1, Load Additions Tab. Include in the response a distinction between each entity's firm and interruptible load. Additionally, if not already included in the Load Additions Tab, include the anticipated additional Ebon International firm load requirement, and interruptible capacity and energy usage.

c. Explain how the anticipated load in the Load Additions Tab was included in the forecast based upon the most recent data provided in Attachment 3.

24. Refer to the IRP, Volume A, Exhibit C-5, page 201. Also refer to Case No. 2022-00387, Kentucky Power's response to Staff's First Request, Item 7, Attachment, KPCO_R_KPSC_1_7_Attachment1.xlsx.⁷

a. Explain why Kentucky Power interrupts customers during PJM Interconnection LLC's (PJM) estimated peak hours.

b. Explain why the 25 MW firm capacity from the Ebon International special contract does not appear to be included in the Company's capacity obligation.

⁶ Case No. 2022-00387, *Electronic Tariff Filing of Kentucky Power Company for Approval of a Special Contract with Ebon International, LLC* (filed Dec. 28, 2022), Kentucky Power's Response to Staff's First Request for Information.

⁷ See Case No. 2022-00387.

c. Explain how the AURORA model accounts for interruptible customers' firm load for estimating demand peaks and how the model accounts for these customers' total energy needs.

25. Refer to the IRP, Volume A, Exhibit C-5, page 201 and to Case No. 2022-00387, Kentucky Power's response to Staff's First Request, Item 4, Attachments 1-3.⁸ Explain why Kentucky Power plans for PJM summer capacity obligations when Kentucky Power has a higher winter peak load.

26. Refer to the IRP, Volume A, Exhibit C-2A, page 198.

a. Explain why Total Sales-for-Resale is not included in total internal energy forecast and the peak demand forecast beyond 2025.

b. Explain the advance notice requirement for Vanceburg and Olive Hill if the cities choose to terminate Kentucky Power's franchise and intend to leave Kentucky Power's system. Also include in the response whether Vanceburg or Olive Hill have provided that notice. If not, explain why it is reasonable to exclude that load from a long-range forecast and resource planning study.

27. Refer to the IRP, Volume A, page 15 and Exhibit C-5 page 201. Exhibit C-5 and the Preferred Plan do not include anticipated load additions. Explain whether the hourly local marginal pricing (LMP) that Kentucky Power pays for energy could be affected by the additions of the anticipated load.

28. Explain if a higher hourly LMP would affect the resource choices made by the AURORA model and the timing of the additions of those resources into the resource portfolio.

⁸ See Case No. 2022-00387.

29. Refer to Kentucky Power's response to Staff's First Request, Item 14.

a. Explain the number of starts and total energy output for the natural gas combustion turbine (NGCT) supporting the variable operations and maintenance (VOM) calculation.

b. Explain whether one or both of the NGCT units will have dual-fuel (black start) capability. If so, explain whether this capability was included in the modeling. Include in the response an explanation of why the lack of dual fuel capability does not lessen the reliability of the system.

c. Explain whether having a NGCT capable of burning fuel oil would impair its ability to burn hydrogen in the future.

30. Refer to Kentucky Power's response to Staff's First Request, Item 19b, Item 20 and KPCO_R_KPSC_1_20_ConfidentialAttachment1.xlsx, Tab G2.

a. Confirm that all costs associated with extending the life of Big Sandy Unit 1 were included in the AURORA model.

b. According to Kentucky Power, Big Sandy Unit 1 has a useful life of 2041. Explain why the projections end in 2037.

c. Given the relative costs of extending Big Sandy Unit 1 through 2041 and the projected capacity factors, explain if the AURORA model contain a factor allowing the early retirement of Big Sandy Unit 1.

31. Refer to Kentucky Power's response to Staff's First Request, Item 20 and KPCO_R_KPSC_1_20_ConfidentialAttachment1.xlsx, Tab G2. Provide a comparison of capacity factors between the Big Sandy Unit 1 and each of the two NGCTs in the

Preferred Plan. Explain how and when the AURORA model chooses to dispatch the units.

32. Refer to Kentucky Power's response to Staff's First Request, Item 21.

a. Given that the 50 MW lithium-ion battery is charged with grid supplied energy, explain how and when the AURORA model chooses to charge the battery.

b. Explain how and when the AURORA model chooses to dispatch the 50 MW lithium-ion battery.

33. Refer to Kentucky Power's response to Staff's First Request, Item 22d.

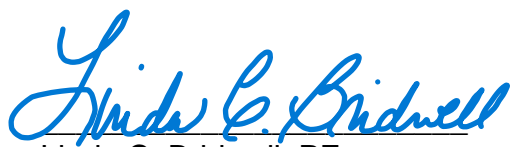
a. Explain why modeling variable O&M costs as fixed O&M costs does not distort the winter generation resources selected in the AURORA model.

b. Explain why modeling variable O&M costs as fixed O&M costs means that the AURORA model selects and dispatches wind resources uneconomically, relative to other generation resources.

34. Refer to the IRP, Volume A, Section 5.4.1, page 174. Also refer to Kentucky Power's response to Staff's First Request, Item 23.

a. Confirm the solar facility in Hazard, Kentucky is the 250 MW of solar energy in the Preferred Plan. If yes, explain if and when Kentucky Power will be filing for a certificate of public use and necessity (CPCN) for the Hazard, Kentucky solar facility.

b. Provide the generation Request for Proposal (RFP) solicitation for the Hazard, Kentucky solar facility. Also, include an explanation of the determination that was made that a company owned solar facility was more cost effective than a solar power purchase agreement.



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DATED JUL 24 2023

cc: Parties of Record

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