

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY	)	
POWER COMPANY FOR APPROVAL OF (1) A	)	
CERTIFICATE OF PUBLIC CONVENIENCE AND	)	
NECESSITY TO MAKE THE CAPITAL	)	
INVESTMENTS NECESSARY TO CONTINUE	)	
TAKING CAPACITY AND ENERGY FROM THE	)	CASE NO.
MITCHELL GENERATING STATION AFTER	)	2025-00175
DECEMBER 31, 2028, (2) AN AMENDED	)	
ENVIRONMENTAL COMPLIANCE PLAN, (3)	)	
REVISED ENVIRONMENTAL SURCHARGE	)	
TARIFF SHEETS, AND (4) ALL OTHER	)	
REQUIRED APPROVALS AND RELIEF	)	

COMMISSION STAFF'S FOURTH 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 November 14, 2025. 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

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).

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 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 Third Request for Information (Staff's Third Request), Item 11(c), indicating that the annual revenue

requirement effect of the Commission adopting Alternative 1 as compared to the status quo in 2026, 2027, and 2028 is contained in KPCO_R_AG_1_1_Attachment2. Identify where in that document the information requested in Item 11(c) is contained.

2. Refer to the Supplemental Testimony of Alex Vaughan (Vaughan Supplemental Testimony), Table AEV-SD3. Refer to Kentucky Power's response to Staff's Third Request, Item 6 and 9(c). Refer to Kentucky Power's response to the Attorney General's First Request for Information (AG's First Request), Item 1.

a. For attachments KPCO_R_AG_1_1_Attachment2, KPCO_R_AG_1_1_ConfidentialAttachment3 through KPCO_R_AG_1_1_ConfidentialAttachment7 and KPCO_R_KPCS_3_6_ConfidentialAttachment1 through KPCO_R_KPCS_3_6_ConfidentialAttachment9, explain the scenarios/portfolios in Table AEV-SD3 of the Vaughan Supplemental Testimony to which each attachment applies.

b. Provide the coal and natural gas prices per unit, e.g. per ton, MMBtu, etc., used in each year to determine the annual fuel costs reflected in the workpapers that support the costs reflected in Table AEV-SD3 for each of the portfolios/scenarios referenced.

c. Explain how the coal and natural gas prices were determined for each portfolio/scenario, including why the fuel prices remained the same or were varied across the portfolios/scenarios referenced in Table AEV-SD3.

d. Identify and provide any documentation Kentucky Power or its affiliate used to support its fuel cost assumptions.

e. For each type of unit, identify the types of costs included in Kentucky Power's variable operation and maintenance expense reflected in the workpapers

supporting costs of the units, and explain how Kentucky Power determined the per unit amounts for each category of variable operation and maintenance expense. If per unit amounts were determined, in whole or in part, from information Kentucky Power received from affiliates, explain how the affiliate or persons associated with the affiliate determined the per unit amounts for each portfolio/scenario..

f. Provide an itemized breakdown and workpapers, in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible, showing the calculation the annual amounts in Excel line 34 in Tab “OPCO Rev Req” of KPCO_R_AG_1_1_ConfidentialAttachment6, and provide the net present value effects of using a 10 year as opposed to a 20-year amortization period for those costs.

g. Explain how the Energy Margins in Excel line 8 and 14 in Tab PPAs of KPCO_R_AG_1_1_PublicAttachment1 were calculated and provide workpapers for those amounts in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible. If such workpapers have already been produced, identify the portions of those workpapers in the record reflecting the calculation of those amounts.

3. Refer to the Vaughan Supplemental Testimony, Table AEV-SD3. Refer to Kentucky Power’s response to Staff’s Third Request, Item 9(c). Refer to Kentucky Power’s response to the Attorney General’s First Request for Information (Attorney General’s First Request), Item 1.

a. Explain whether the natural gas combined cycle unit (NGCC) identified in Alternative E4 of Table AEV-SD3 was, for the purpose of calculating the amounts reflected in Table AEV-SD3, limited to an average annual capacity factor of

40 percent or some other amount to reflect the effects of the proposed greenhouse gas rules, and if so, explain how and the extent to which it was limited.

b. Provide an update to the workpaper provided to support Alternative E4, KPCO_R_AG_1_1_ConfidentialAttachment6, that calculates the production costs, revenue, and other amounts without any constraint on capacity factors to comply with the greenhouse gas rules but which otherwise uses all of the same assumptions and inputs.

c. Provide an update to the workpaper provided to support Alternative E4, KPCO_R_AG_1_1_ConfidentialAttachment6, that calculates the production costs, revenue, and other amounts by removing any constraints on capacity factors to comply with the greenhouse gas rules and removing the 1,200 MW NGCC unit currently reflected in that alternative and substituting the approximately 600 MW NGCC unit identified in the Key Supply-Side Option Assumptions chart in Tab "Input" of KPCO_R_AG_1_1_ConfidentialAttachment6.

d. Provide an update to Table AEV-SD3 that includes the Levelized Cost of Energy, Present Value Revenue Requirement, Average Annual Revenue Requirement, and Up Front Capital Costs for the scenarios/portfolios identified in subpart b. and c. above in the same manner that it provides those amounts for the scenarios/portfolios currently listed in the table.

4. Refer to the Vaughan Supplemental Testimony, Table AEV-SD3. Refer to Kentucky Power's response Staff's Third Request, Item 9(c). Refer to Kentucky Power's response to the Attorney General's First Request, Item 1. Refer to Kentucky Power's response to Commission Staff's First Request for Information (Staff's First Request), Item 5b in which Kentucky Power indicates an intent to seek approval for a new 450 MW

natural gas simple cycle combustion turbine (SCCT) generating unit located in Kentucky Power's service territory.

a. State whether the calculation of the annual revenue requirement in the workpapers for Alternative E1, Alternative E2, and Alternative E5 in the years in which Mitchell Units 1 and 2 remain in operation includes the estimated cost of market energy purchases necessary to serve load that exceeds Kentucky Power's native generating capacity and the estimated cost of market energy purchases when Kentucky Power's units are not operating for any reasons, including a forced outage or circumstances in which they are not economically dispatched.

b. Provide an update to the workpapers provided to support Alternative E5 that calculates the production costs, revenue, and other amounts using all of the same assumptions and inputs used in the workpapers for Alternative E5 except that it adds the 450 MW SCCT for which Kentucky Power intends to seek approval.

c. Provide an update to Table AEV-SD3 that includes the Levelized Cost of Energy, Present Value Revenue Requirement, Average Annual Revenue Requirement, and Up Front Capital Costs for the scenario/portfolio identified in subpart b. above in the same manner that it provides those amounts for the scenarios/portfolios currently listed in the table.

5. Refer to Kentucky Power's response to Staff's First Request, Item 2, Attachment 2. Using the information in Attachment 2 for the period 2025-2040, provide and explain Kentucky Power's seasonal capacity position, and resulting seasonal reserve margins currently. Include in the response the extent of any sales to municipal customers.

6. Refer to Kentucky Power's most recent Integrated Resource Plan (IRP) in Case No. 2023-00092² Table "New Generation Technologies Key Supply-Side Resource Option Assumption," page 218 of 1,182. Provide an update to the table using the most current information. In updating the table, items including carbon capture and 20-hour storage technologies can be omitted. Also, additional duration hour sizes of Lithium-Ion batteries up to 10 hours should be added to the table.

7. Refer to Kentucky Power's response to Staff's First Request, Item 3c. Using Kentucky Power's AURORA, PLEXOS or similar software, its most recent load forecasts provided in Item 3c, and the information provided in the updated table containing New Generation Technologies Key Supply-Side Resource Option Assumptions, provide and explain an update to the analyses performed in the IRP resulting in a reasonably least cost optimal resource portfolio in tabular form, including any capacity purchase agreements, Kentucky Power's seasonal capacity position, resulting reserve margins, and present value revenue requirement (PVRR) assuming Kentucky Power retains its undivided 50 percent ownership share of the Mitchell station.

8. Refer to Kentucky Power's response to Staff's First Request, Item 3c. Using Kentucky Power's AURORA, PLEXOS or similar software, its most recent load forecasts provided in Item 3c, and the information provided in the updated table containing New Generation Technologies Key Supply-Side Resource Option Assumptions, provide and explain an update to the analyses performed in the IRP resulting in a reasonably least cost optimal resource portfolio in tabular form, including any capacity purchase

² See Case No. 2023-00092, *Electronic 2022 Integrated Resource Planning Report of Kentucky Power Company* (filed Mar. 20, 2023).

agreements, Kentucky Power's seasonal capacity position, resulting reserve margins, and present value revenue requirement (PVRR) assuming Kentucky Power divests its undivided 50 percent ownership share of the Mitchell station.

9. Refer to Kentucky Power's response to Staff's First Request, Item 3c. Using Kentucky Power's AURORA, PLEXOS or similar software, its most recent load forecasts provided in Item 3c, and the information provided in the updated table containing New Generation Technologies Key Supply-Side Resource Option Assumptions, provide and explain an update to the analyses performed in the IRP resulting in a reasonably least cost optimal resource portfolio in tabular form, including any capacity purchase agreements, Kentucky Power's seasonal capacity position, resulting reserve margins, and PVRR assuming Kentucky Power partially divests its ownership share of the Mitchell station on a pro rata basis based on its 50 percent share of the total net book value of Mitchell station in 2028 less the net book value of the ELG investment in 2028 as compared to the total remaining net book value of Mitchell Station in 2028.

10. Refer to Kentucky Power's response to Staff's First Request, Item 5b.

a. Explain and provide the analysis supporting the decision to select a 450 MW SCCT as opposed to a NGCC or different sized SCCT. Include in the response the estimated cost of the SCCT.

b. Explain whether Kentucky Power has paid any reservation fees for and or contracted for a SCCT turbine and any other necessary SCCT components. If so, provide the amount of fees that have been paid, the maker of the SCCT and the anticipated delivery date.

c. If Kentucky Power has paid a reservation fee or signed a contract pertaining to a SCCT, explain whether it has the option to increase or decrease the size of the SCCT and any timelines to do so.

d. If Kentucky Power has paid a reservation fee or signed a contract pertaining to a SCCT, provide a copy of any contracts or agreements entered into with any SCCT manufacturer or agent thereof.

e. If Kentucky Power has paid a reservation fee and/or signed a contract pertaining to a SCCT, explain whether the contract language enables the Company to substitute a NGCC unit for the SCCT unit.

11. Provide a detailed explanation and supporting production cost modeling results that supports the application of the SCCT peaking resource option versus a NGCC base load resource options.

12. Provide and explain the net book value of Kentucky Power's undivided 50 percent share of the Mitchell Station assets as of June 30, 2025.

13. Provide and explain the net book value of the ELG assets as of June 30, 2025.



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DATED **OCT 30 2025**

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