

Kentucky Power Company  
KPSC Case No. 2026-00001  
Sierra Club's Second Set of Data Requests  
Dated April 17, 2026

**DATA REQUEST**

- SC 2\_1** Does Kentucky Power anticipate that it will incur costs at Mitchell 2 to comply with the 2024 Effluent Limitation Guidelines (ELG) rules? If so, please:
- a. Explain what modifications will be necessary at Mitchell 2 to comply with the 2024 ELG rules.
  - b. Provide the capital expenditures that will be necessary for these modifications, and the year the capital expenditures will be incurred.
  - c. Provide the annual operations and maintenance cost for the environmental modifications once they are completed.
  - d. If Mitchell 2 retires by 2034, could any of the costs in part (b) be avoided? If yes, please specify which of the costs could be avoided. If not, please explain why not.
  - e. If Mitchell 2 is converted by 2034 to burn only gas, could any of the costs in part (b) be avoided? If yes, please specify which of the costs could be avoided. If not, please explain why not.

**RESPONSE**

The Company objects to this request on the basis that it is not reasonably calculated to lead to the discovery of admissible evidence in this proceeding and that the request calls for the Company to speculate about future environmental regulations. Without waiving these objections, the Company states as follows:

Please see the Company's April 22, 2026, supplemental response to SC 1-13 and 1-31.

Witness: Tanner S. Wolfram

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**DATA REQUEST**

**SC 2\_2**

Regarding capacity expansion modeling:

- a. Did the Company complete any capacity expansion modeling for this docket? If not, please identify the most recent capacity expansion modeling the Company completed.
- b. Provide a summary of the scenarios, inputs, and outputs from the most recent capacity expansion modeling identified in part (a).
- c. What modeling software did the Company use for the modeling described in part (a)?

**RESPONSE**

a-c. No, the Company is not seeking to build new generation or retire old generation where capacity expansion modeling would be warranted. The Company is looking to perform a capital project at an existing plant. The Company's last integrated resource plan (IRP) was completed in 2022 and includes the Company's most recent capacity expansion modeling. The IRP is publicly available, with a summary and full details, at:

[https://psc.ky.gov/pscecf/2023-00092/sebishop%40aep.com/03202023030104/KPCO 2022 IRP Volume A-Public.pdf](https://psc.ky.gov/pscecf/2023-00092/sebishop%40aep.com/03202023030104/KPCO%202022%20IRP%20Volume%20A-Public.pdf)

Witness: Tanner S. Wolfram

Witness: Nicole M. Coon

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**DATA REQUEST**

**SC 2\_3** Regarding production cost modeling:

- a. Did the Company complete any production cost modeling for this docket? If not, please identify the most recent production cost modeling the Company completed.
- b. Please identify the source of the production cost modeling results used in KPSC 1-10 Attachments 2–5 in the energy margin calculations.
- c. Provide data on generation, total generation cost, and energy market revenue for each resource in the most recent production cost modeling identified in part (a).
- d. What modeling software did the Company use for the modeling described in part (a)?

**RESPONSE**

- a. Yes. The Company utilized production cost modeling to estimate energy margins.
- b. & c. Options 1, 3, and 4 utilized the Company's net energy cost (NEC) forecast for the Mitchell Units. The generation, revenue, and cost can be found on the NEC Forecast inputs tabs of KPCO\_R\_KPSC\_1\_10\_ConfidentialAttachments 2, 4, and 5. Option 2 included an estimated unit dispatch model for the natural gas-fired combined cycle. Please see KPCO\_R\_SC\_2\_5\_ConfidentialAttachment1.
- d. Plexos was used for the unit energy market dispatch portion of the analyses. Microsoft Excel was utilized for the remainder of the analysis.

Witness: Nicole M. Coon

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**SC 2\_4** Please refer to the Company's response to SC 1-12. Please explain in detail what the Company means by, "unit availability was considered in regard to outage requirements or any derates."

**RESPONSE**

The Company evaluated unit availability by considering additional required outage periods, during which the unit could not operate. Additionally, the expected derates were incorporated as reductions to the unit's estimated energy margins. These factors were also presented and discussed with the Mitchell Operating Committee when making the decision on which option to select to address the structure needs of the Unit 2 Cooling Tower.

Witness: Nicole M. Coon

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**DATA REQUEST**

**SC 2\_5**

With reference to KPSC 1-10, Attachment 3, tab "CC Cost":

a. The rate base, energy margins, and net revenue requirement calculations are hard-coded. Provide the underlying calculations with formulas intact.

b. Please explain the line item "2029 NBV recovery - ML Plant": i.: Explain what this cost category represents. ii.: Explain how this cost was developed and the source for this estimate. iii.: Provide the underlying calculations with formulas intact. iv.: Explain why this cost category is not included in the other scenarios.

c. Please explain why [REDACTED]

d. Do the energy margins in the "CC Cost" tab include all generation from the CC, or only generation in excess of what Kentucky Power needs to serve its own ratepayers?

e. Please explain how the Company developed the generation data shown on line 31 of the "CC Cost" tab.

**RESPONSE**

a. Please see KPCO\_R\_SC\_2\_5\_ConfidentialAttachment1.

b. This workpaper was utilized in the Company's ELG Case (2025-00175). In that case, when considering building a new CC, the cost of recovering the net book value of the Mitchell Plant was a factor. However, in this case, that line was not utilized in the calculation of the present value for Option 2. On the "CC" tab, the Revenue Requirement (row 28) and Energy Margins (row 32) are what is being utilized (and divided by two) on the "Option 2" tab, which is calculating the total revenue requirement that is being compared in Exhibit NMC-1.

c. The biggest factor that makes the energy margins appear larger on the "CC Cost" tab in KPCO\_R\_KPSC\_1\_10\_ConfidentialAttachment3, is that the energy margins listed there reflect the energy margins for a 1200 MW CC. In order to compare it to Mitchell Unit 2, it is important to divide the CC number in half and compare it to the full share of Mitchell Unit 2 in KPCO\_R\_KPSC\_1\_10\_ConfidentialAttachment4 and

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KPCO\_R\_KPSC\_1\_10\_ConfidentialAttachments5. Other factors that could impact differences would include variable costs, capacity factor, and unit availability between a coal plant and a natural gas plant. The revenue requirements for Option 2 identified in Company Witness Coon's Direct Testimony reflect one half of the values shown on the "CC Cost" tab in KPCO\_R\_KPSC\_1\_10\_ConfidentialAttachment3.

- d. The energy margins in the "CC Cost" tab include all generation from the CC.
- e. The Company utilized production cost modeling within the Plexos software tool. Please also see the Company's response to SC 2-3.

Witness: Nicole M. Coon

KPCO\_R\_SC\_2\_5\_ConfidentialAttachment1 is redacted in its entirety.

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**DATA REQUEST**

**SC 2\_6**      How do energy margins account for energy that Kentucky Power needs to serve its own ratepayers?

**RESPONSE**

The Company purchases its hourly load obligations from the wholesale PJM energy markets. It also bids in and sells all pool-selected generation into the same wholesale PJM energy markets. The net of the two transactions (plus applicable fuel costs) is what customers pay for in their rates for energy supply from the Company. This process effectively provides customers with energy supply at the lower of cost or market.

Witness: Nicole M. Coon

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**DATA REQUEST**

- SC 2\_7** With reference to option 2 (retire and replace Mitchell 2) outlined in the direct testimony of Witness Coon:
- a. Provide the nameplate and accredited capacity assumed for the replacement combined cycle plant, and the Company's reasoning for the size of the plant.
  - b. Explain how the Company developed its capital cost assumption for the combined cycle plant. Include copies of any data sources the Company relied on.
  - c. Explain how the Company developed its operations and maintenance (O&M) cost estimate for the combined cycle plant. Include copies of any data sources the Company relied on.
  - d. Identify the data source(s) and assumptions the Company used to develop its estimates of replacement capacity costs.
  - e. Explain why plant O&M costs are included in the combined cycle revenue requirement (KPSC 1-10 Attachment 3, tab "CC Cost," line 6) but are excluded for the Mitchell 2 revenue requirements (options 1, 3, and 4, or KPSC 1-10 Attachment 2, 4, and 5, respectively).

**RESPONSE**

- a. Please see the Company's supplemental response to SC 1-15.
- b. The Company used the most recent resource costs available at the time which were included in the Company's affiliate, Appalachian Power Company's Virginia Clean Economy Act (VCEA) filing (PUR-2025-00049), which can be found on the Virginia State Corporate Commission's (VSCC) website. The VCEA resource cost table that was filed with the VSCC is included in KPCO\_R\_SC\_2\_5\_ConfidentialAttachment1 on the "Input" tab, along with associated calculations. The VCEA was filed in May of 2025 with resource cost assumptions developed in December of 2024.
- c. The Company used the Plexos-modeled production cost output as a basis for O&M. This is included on the "Plexos Output" tab of:  
KPCO\_R\_SC\_2\_5\_ConfidentialAttachment1.

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d. The Company used the PJM base residual auction (BRA) clearing price for the 2026/2027 PJM planning year because that was the most recent auction prior to the development of the economic analysis. The BRA for the 2027/2028 PJM planning year was completed in December 2025 and reflected a further increase in clearing price from \$329.17/MW-day in the 2026/2027 BRA to \$333.34/ MW-day in the 2027/2028 BRA.

e. Please see the Company's response to KPSC 2-7.

Witness: Nicole M. Coon

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**DATA REQUEST**

**SC 2\_8** Please refer to KPSC 1-10 Attachments 2, 3, and 5:

- a. Describe the "Plant Budgeted Capital Expense" in the "input" tab for 2029 (attachment 4), 2038 (attachment 2), and 2040 (attachments 2, 4, and 5). Are these demolition costs?
- b. Assuming these are demolition costs, if option 1 includes a full demotion and option 3 includes a partial demolition, why are these costs the same for options 1 and 3?

**RESPONSE**

a. & b. Yes, the referenced expense are demolition costs. A breakdown of the timing of these costs is provided in KPCO\_R\_KPSC\_1\_5\_Attachment1. Options 1, 3 and 4 all require partial and then full demolition of the existing cooling tower. The \$29 million for partial demolition and \$3 million for full demolition are the same across all options. The timing varies as to when partial demolition would occur across all the options based on project timing and scope.

Witness: Nicole M. Coon

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**DATA REQUEST**

**SC 2\_9** With reference to the direct testimony of Wolffram at 7, and the Company's response to SC 1-20, which discusses PJM's proposed revisions to how winter capacity is accounted for in its accreditation methodology starting in year 2031/2032:

- a. Please provide the Company's assumptions for how PJM's potential changes to its ELCC accreditation methodology-including how it accounts for winter conditions and correlated outages-will affect ELCC ratings, reserve margins, and capacity obligations.
- b. Please confirm that the proposed changes to PJM's ELCC ratings (per the ELCCSTF) are included in the accredited capacity assumptions for Mitchell 1, Mitchell 2, Big Sandy, and the Option 2 combined cycle plant. If not, please provide an updated response to SC 1-18 and SC 1-19.

**RESPONSE**

- a. The Company did not make any “assumptions” on potential PJM changes to its ELCC accreditation methodology. To determine its capacity position, the Company applied the then-current PJM ELCC accreditations to its existing generation portfolio and applied that to the Company’s load forecast for the applicable PJM planning years to determine the Company’s capacity position. To determine the winter capacity requirement, the Company followed the same process.
- b. Confirmed.

Witness: Tanner S. Wolffram

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**DATA REQUEST**

**SC 2\_10** Please refer to the direct testimony of Wolffram at 7 and the Company's response to SC 1-19(a).

a. Why is the Company assuming that its winter FPR load obligation will differ from its annual FPR load obligation? Is it the Company's belief that PJM will adopt a seasonal capacity market?

b. Why is the Company assuming that its winter load obligation will decrease in 2032/2033 after the initial increase in 2031/2032?

**RESPONSE**

a. The Company expects PJM to adopt a seasonal capacity requirement based on the ongoing stakeholder process referenced in the Company's response to SC 1-20. Additionally, the Commission has clarified that "Kentucky law requires retail electric suppliers, such as Kentucky Power, to have sufficient capacity to meet maximum estimate customer demand, including sufficient generation capacity."<sup>1</sup> Kentucky Power is a winter-peaking utility and, therefore, its maximum demand is a winter capacity requirement.

b. The decrease is based on the Company's current load forecasting, which shows a decrease in load at that time.

Witness: Tanner S. Wolffram

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<sup>1</sup> Order at 7, *In The Matter Of: Electronic Investigation Of The Service, Rates And Facilities Of Kentucky Power Company*, Case No. 2021-00370 (Ky. P.S.C. June 23, 2023); *see also* KRS 278.010(14).

**DATA REQUEST**

**SC 2\_11** Please refer to the direct testimony of Coon and the discussion therein of energy margins.

a. Are energy margins returned to ratepayers or are they treated as a source of revenue for the Company's shareholders? Please explain.

b. [REDACTED]  
[REDACTED]  
[REDACTED])

c. Confirm whether the lost energy margins represent lost profit that the Company would have earned if Mitchell 2 continued to operate at its full, non-derated capacity. If this is incorrect, please explain what the lost energy margins represent.

d. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

**RESPONSE**

a. Net Energy margins are cost-of-service offsets that are returned to customers through the Company's system sales clause rider.

b. The lost energy margins should not reduce the net revenue requirement and should have been added as they are a lost opportunity cost in Options 3 and 4. The Company is providing updated workpapers as described below. Importantly, this does not change the outcome of the Company's decision to move forward with a new mechanical draft cooling tower.

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Attachment Name	Description	Original File
KPCO_R_SC_2_11_Attachment1	Corrected Economic Analysis Summary inclusive of Correction for Option 2 identified in SC 2-12	KPCO_R_KPSC_1_10_Attachment1
KPCO_R_SC_2_11_Confidential Attachment2	Corrected Lost Energy Margin: COS for Option 3 (also fixes NEC issue identified in SC 2-12)	KPCO_R_KPSC_1_10_Confidential Attachment4
KPCO_R_SC_2_11_Confidential Attachment3	Corrected Lost Energy margin: COS for Option 4	KPCO_R_KPSC_1_10_Confidential Attachment5

c. See the Company's response to subpart b.

d. The Company is uncertain as to what is meant by "generation." To the extent that generation is meant to mean energy production, the Company answers as follows: Unit generation is a function of the unit's maximum capacity, its availability, and how often it is called on by PJM to operate. It is possible that a unit with a lower maximum capacity could produce the same amount of energy if the unit's availability increases and/or it is called on more often to operate. These last two components, however, are independent of the capacity of the unit.

Witness: Nicole M. Coon

**DATA REQUEST**

**SC 2\_12** Please refer to energy margin calculations in KPSC 1-10 Attachments 2-5 ("Energy Margin" or "NEC forecast inputs" tabs:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**RESPONSE**

- a. Generation (GWh) is total generation for Mitchell Units 1 and 2.
- b. Please see the Company's response to SC 2-6.
- c. A transcription error occurred and columns G, H, and I in KPCO\_R\_KPSC\_1\_10\_ConfidentialAttachment4 and those columns should match the columns G, H, and I, in KPCO\_R\_KPSC\_1\_10\_ConfidentialAttachment5. See the updated workbook KPCO\_R\_SC\_2\_11\_ConfidentialAttachment2.

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d. KPCO\_R\_KPSC\_1\_10\_ConfidentialAttachment2 contains an older NEC Forecast. However, this does not impact the analysis, as there were no lost energy margins with this option due to no derate in the unit.

e. As shown in rows Q15:R22 (representing the full output of Mitchell) on the NEC forecast inputs tab the math shows that Q4:R11 is half, or Kentucky Power's 50% share, of the full share of Mitchell. Furthermore, the analysis uses the amounts included in the full Mitchell Plant section, Q15:R22, not the 50% share.

f. Mitchell Unit 2 should have only been used in the analysis. The Company is providing the updated workpaper as KPCO\_R\_SC\_2\_12\_ConfidentialAttachment1. The updated numbers were included in the summary table of options included as KPCO\_R\_SC\_2\_11\_Attachment1. Importantly, this does not change the outcome of the Company's decision to move forward with a new mechanical draft cooling tower.

Witness: Nicole M. Coon

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**DATA REQUEST**

**SC 2\_13** Provide AEP Service Corporation's most recent Fundamentals Forecast that examines regulatory compliance costs at AEP and/or affiliate generating facilities.

**RESPONSE**

The Fundamental Forecast is a long-term forecast of commodity prices specific to the operation of the Company's utilities under various macroeconomic scenarios. It does not forecast compliance costs. The Company is providing its most recent Fundamental Forecast as KPCO\_R\_SC\_2\_13\_Attachment1.

Witness: Tanner S. Wolfram

**VERIFICATION**

The undersigned, Nicole M. Coon, being duly sworn, deposes and says she is a Regulatory Consultant Staff for American Electric Power Service Corporation, that she has personal knowledge of the matters set forth in the foregoing responses and the information contained therein is true and correct to the best of her information, knowledge, and belief.

Nicole M. Coon

Nicole M. Coon

State of Ohio )  
County of Franklin )

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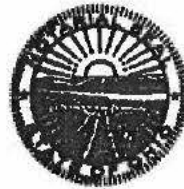
Subscribed and sworn to before me, a Notary Public in and before said County and State, by Nicole M. Coon, on April 21, 2026

CA Frankart

Notary Public

My Commission Expires Has no expiration

Notary ID Number 2025-AT-897466



**Christine Elaine Frankart**  
Attorney At Law  
Notary Public, State of Ohio  
My commission has no expiration date  
Sec. 147.03 R.C.

VERIFICATION

The undersigned, Tanner S. Wolfram, being duly sworn, deposes and says he is the Director of Regulatory Services for Kentucky Power, that he has personal knowledge of the matters set forth in the foregoing responses and the information contained therein is true and correct to the best of his information, knowledge, and belief.

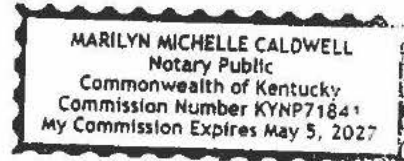
Tanner S. Wolfram  
Tanner S. Wolfram

Commonwealth of Kentucky )  
County of Boyd )

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Subscribed and sworn to before me, a Notary Public in and before said County and State, by Tanner S. Wolfram, on April 22, 2026.

Marilyn Michelle Caldwell  
Notary Public



My Commission Expires May 5, 2027

Notary ID Number KYNP71841