

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

**In the Matter of:**

<b>THE ELECTRONIC APPLICATION OF</b>	<b>)</b>	
<b>EAST KENTUCKY POWER COOPERATIVE,</b>	<b>)</b>	
<b>INC. FOR 1) A CERTIFICATE OF PUBLIC</b>	<b>)</b>	<b>CASE NO.</b>
<b>CONVENIENCE AND NECESSITY TO</b>	<b>)</b>	<b>2024-00310</b>
<b>CONSTRUCT A NEW GENERATION</b>	<b>)</b>	
<b>RESOURCE; 2) A SITE COMPATIBILITY</b>	<b>)</b>	
<b>CERTIFICATE; AND 3) OTHER GENERAL RELIEF</b>	<b>)</b>	

**RESPONSES TO SIERRA CLUB’S FIRST REQUEST INFORMATION REQUEST**  
**TO EAST KENTUCKY POWER COOPERATIVE, INC.**

**DATED OCTOBER 28, 2024**

**In the Matter of:**

THE ELECTRONIC APPLICATION OF )  
EAST KENTUCKY POWER COOPERATIVE, )  
INC. FOR 1) A CERTIFICATE OF PUBLIC ) CASE NO.  
CONVENIENCE AND NECESSITY TO ) 2024-00310  
CONSTRUCT A NEW GENERATION )  
RESOURCE; 2) A SITE COMPATIBILITY )  
CERTIFICATE; AND 3) OTHER GENERAL RELIEF )

## CERTIFICATE

STATE OF KENTUCKY )  
 )  
COUNTY OF CLARK )

Julia J. Tucker, being duly sworn, states that she has supervised the preparation of the supplemental responses of East Kentucky Power Cooperative, Inc. to the Sierra Club's First Information Request in the above-referenced case dated March 14, 2025, and that the matters and things set forth therein are true and accurate to the best of her knowledge, information and belief, formed after reasonable inquiry.

Julius F. Tucker

Subscribed and sworn before me on this 14th day of March, 2025.

Notary Public

**EAST KENTUCKY POWER COOPERATIVE, INC.**

**CASE NO. 2024-00310**

**FIRST REQUEST FOR INFORMATION RESPONSE**

**SIERRA CLUB'S REQUEST DATED OCTOBER 28, 2024**

**REQUEST 16**

**RESPONSIBLE PARTY: Julia J. Tucker**

**Objection: Legal**

**Request 16.** Please refer to the Direct Testimony of Witness Tucker at pages 15-16.

a. Please explain what modeling was conducted to develop the EKPC Capacity Expansion Plan.

i. If modeling was conducted, please provide the name of the modeling software used, whether the modeling used capacity expansion and production cost modeling, and the planning period.

ii. If modeling was conducted, please provide all modeling input and output files in machine readable format.

iii. If modeling was conducted, please provide the supporting workbooks, with all formulas and links intact, used to develop the Present Value of Revenue Requirements ("PVRR") for each modeling run.

iv. If modeling was conducted, please provide the first year in which new resources could be selected, annual build limits applied to each resource, and cumulative build limits applied to each resource.

v. If modeling was conducted, did modeling allow for economic additions of new resources, i.e. not limited to capacity need additions? If not, please explain why not.

vi. If modeling was conducted, was the 757 megawatts of renewable energy that EKPC announced as part of the New ERA program included? If it was included, please identify which modeling scenarios or portfolios included this resource?

vii. If modeling was conducted, was the new proposed 745 MW combined cycle gas plant that the Board recently announced included? If it was included, please identify which modeling scenarios or portfolios included this resource?

viii. If modeling was conducted, which scenarios or portfolios, if any, included the proposed Liberty Rice Station, the 757 megawatts of renewable energy that EKPC announced as part of the New ERA program, and the new proposed 745 MW combined cycle gas plant? If all of these proposed new generation sources were all included, please identify which modeling scenarios or portfolios included these resources.

b. Please explain how EKPC developed the “EKPC Capacity Expansion Plan”.

c. Please explain all of the new generation sources that were included in the EKPC Capacity Expansion Plan?

i. Was the 757 megawatts of renewable energy that EKPC announced as part of the New ERA program included in the EKPC Capacity Expansion Plan? If not, why not?

ii. Was the new proposed 745 MW combined cycle gas plant that the Board recently announced included in the EKPC Capacity Expansion Plan? If not, why not?

d. Please explain if EKPC evaluated alternative resource portfolios to the EKPC Capacity Expansion Plan.

i. If yes, please provide each alternative resource portfolio evaluated.

ii. If no, please explain why not.

e. Please confirm if a natural gas conversion for the Cooper Station or Spurlock steam units to burn gas has been evaluated.

i. If there has been an evaluation, please provide the documents produced as part of that assessment including but not limited to heat rate curve changes, capital costs, O&M changes, and other cost or performance differences.

f. Please explain if full conversion to gas was modeled as part of determining the EKPC Capacity Expansion Plan.

i. If a gas conversion was modeled, please provide all modeling input assumptions.

g. Please explain if the modeling performed to develop the EKPC Capacity Expansion Plan evaluated the retirement of either the Cooper Station or Spurlock.

h. Please explain if different levels of energy efficiency and demand response were evaluated as part of the modeling performed to determine the EKPC Capacity Expansion Plan.

i. Please explain if a capacity factor limit was applied to the new CCGT included in EKPC's Capacity Expansion Plan.

**Response 16.** a. (all subparts) The EKPC Capacity Expansion Plan utilized the 2024 LTLF for peak load assumptions and compared them to existing capacity available to meet that load. Scenarios for new resource assumptions were not explicitly modeled, however, comparisons were evaluated prior to modeling as discussed in the Direct Testimony of Julia J. Tucker within the Application and expanded upon in EKPC's response to Staff's First Request for Information, Item 6.

b. Refer to EKPC's response to Staff's First Request for Information, Item 6.

c. Refer to Attachment JJT-3 in the Application, columns under the heading “CAPACITY ADDITIONS”

i. A portion of the 757 MWs of renewable energy announced by EKPC was included in the expansion plan provided in this case record. Of the 757 MWs, a 300 MW PPA with Safe Harbor Hydro was included as a firm energy resource in both the Summer and Winter capacity evaluations. A total of 136 MWs of solar capacity, the combination of the Fayette (40 MW) and Marion County (90 MW) solar facilities, was included for the Summer capacity evaluation at the PJM effective load carrying capability (“ELCC”) adjusted value of 11 MW. These facilities were included in a separate CPCN Application filed in April 2024. The remaining MWs announced by EKPC in late October 2024 are not included in the expansion plan as this Application was filed in September 2024.

ii. Yes.

d. (all subparts). Yes, Refer to EKPC’s response to Staff’s First Request for Information, Item 6.

e. Yes.

i. EKPC’s request in this case is for a CPCN to construct a new generation resource to supply the owner-members forecasted load growth. The projections for the Cooper Station and Spurlock Station are not relevant.

f. No, only natural gas co-firing was evaluated, not full conversion.

i. **Objection.** EKPC’s request in this case is for a CPCN to construct a new generation resource to supply the owner-members forecasted load growth. The projections for the Cooper Station and Spurlock Station are not relevant.

- g. **Objection.** EKPC's request in this case is for a CPCN to construct a new generation resource to supply the owner-members forecasted load growth. There is no request for early retirement.
- h. Refer to the Direct Testimony of Julia J. Tucker, beginning on page 9 line 5 and ending on page 10 line 1 for the impact of the DSM/EE plans on the 2024 LTLF.
- i. No capacity factor limit was applied.

**Supplemental Response :** Please see attached for the Excel files for the input and outputs which is being filed under seal pursuant to a motion for confidential treatment. This is the only format that can be provided since the modeling is proprietary information to the vendor.

**March 14, 2025 Supplemental Response:**

On March 10, 2025, Counsel for Sierra Club contacted EKPC and requested additional clarifications to this response. EKPC is providing the following responses based upon the questions posed by Sierra Club.

1. Regarding Fuel and Market Forwards, please explain whether the model dispatched directly against the supplied market forward prices or whether the model developed hourly prices.

a. If the model dispatched directly against the market forward prices, please explain how the model selected among the supplied market forward contracts.

b. If the model dispatched directly against the market forward prices, please explain how this relates to actual unit dispatch (bid vs PJM market).

c. If the model developed hourly prices, please provide the inputs used to develop hourly prices and an explanation of how the model used those inputs with the market forward prices to forecast hourly prices.

2. Regarding Heat Rates, applying the supplied values and formula to a dispatch of 2 MW or 18 MW produces values that are significantly larger than the Heat Rates reported in the SUMMARY (outputs) file. Please explain why the inputs do not correspond to the outputs.

**Response 1(a):** The model dispatched the RICE units against market forward prices utilizing an hourly market forward price translated from the monthly market forwards. EKPC utilizes the supplied monthly market forwards which are further broken down into hourly forwards utilizing a translation process owned and maintained by ACES Power Marketing. EKPC does not own the



rights to this translation process and cannot share the algorithm used to convert the monthly prices into hourly prices.

**Response 1(b):** The production cost model is meant to show a resource's economic position based on variable energy costs as compared to market pricing. In the model, as long as the hourly forward market price is greater than the variable energy cost, then the unit was dispatched within the model for that hour. Actual PJM unit dispatch is reliability constrained, meaning PJM assesses not only the cost of a unit, but also the impact to transmission congestion within the market by dispatching the unit. EKPC cannot reasonably model congestion impacts within a production cost model. All implied congestion is factored into the market forwards.

**Response 1(c):** See the Excel spreadsheet provided separately.

**Response 2:** The heat rate output in the model is based on the average heat rate of the unit as modeled over the entire planning horizon. Because the RICE units start and ramp very quickly, and the model is based on hourly market forwards, the average heat rate is very close the full-load heat rate. Applying a lower output to the unit (2 MW or 18 MW) would and should produce a higher heat rate than the average as reported in the Summary of outputs.