

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC TARIFF FILING OF EAST)	
KENTUCKY POWER COOPERATIVE, INC. AND)	
ITS MEMBER DISTRIBUTION COOPERATIVES)	CASE NO.
FOR APPROVAL OF PROPOSED CHANGES TO)	2024-00101
THEIR QUALIFIED COGENERATION AND)	
SMALL POWER PRODUCTION FACILITIES)	
TARIFFS)	

RESPONSES TO COMMISSION STAFF’S THIRD REQUEST FOR INFORMATION
TO EAST KENTUCKY POWER COOPERATIVE, INC.

DATED JULY 22, 2024

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CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

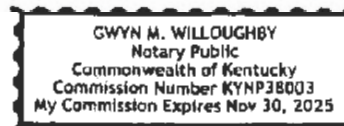
Chris Adams, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Third Request for Information in the above-referenced case dated July 22, 2024, and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry

Chris Adams

Subscribed and sworn before me on this 31st day of July 2024.

Gwyn M. Willoughby

Notary Public



EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2024-00101
THIRD REQUEST FOR INFORMATION RESPONSE

COMMISSION STAFF'S REQUEST DATED JULY 22, 2024

REQUEST 1

RESPONSIBLE PARTY: Chris Adams

Request 1. Refer to EKPC's Integrated Resource Plan (IRP) in Case No. 2022-00098, generally. It is not apparent where in the IRP a reciprocating internal combustion engine (RICE) was ever considered as a resource available to EKPC's models in the resource selection analyses or the production cost/portfolio optimization analyses. Provide all the citations in the IRP where RICE facilities are discussed and made available for modeling purposes and analyses.

Response 1. EKPC did not directly reference the RICE facility in its 2022 Integrated Resource Plan ("IRP") filing. However, Table 8-3 EKPC Projected Additions and Reserves (MW), shows the need for peaking capacity for both the summer and winter seasons beginning in 2032. When the 2022 IRP was produced, EKPC was not aware of which specific peaking generation technology would best serve its Owner-Member Cooperative's ("owner-members"), but it was aware of the general volume of capacity needed. EKPC and its owner-members have determined that the best technology to serve this need is the RICE facility.

EAST KENTUCKY POWER COOPERATIVE, INC.
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THIRD REQUEST FOR INFORMATION RESPONSE

COMMISSION STAFF'S REQUEST DATED JULY 22, 2024

REQUEST 2

RESPONSIBLE PARTY: Chris Adams

Request 2. Refer to EKPC's confidential response to Commission Staff's Second Request for Information (Staff's Second Request), Items 1 and 2, and Confidential-DR2-R1 and R2-CT-RICE Comparison Table 06172024. Explain why the variable operating and maintenance cost was not provided for EKPC's JK Smith combustion turbines (CT).

Response 2. EKPC provided all requested variable operations and maintenance ("VOM") cost information for its entire Combustion Turbine Fleet, including JK Smith, in its response to Staff's Second Request for Information, subject to motion for confidential treatment. VOM for JK Smith is calculated and offered into PJM on a dollar-per-start (\$/start) basis, while the RICE facility and F-Class CT VOM estimates are shown in dollar-per-megawatt-hour (\$/MWh). Please reference the revised table in attachment "CONFIDENTIAL – DR3 – R2 – CT-RICE Comparison Table 07232024.xlsx", which now includes the equivalent VOM in \$/MWh for EKPC's current CT fleet, subject to motion for confidential treatment.

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REQUEST 3

RESPONSIBLE PARTY: Chris Adams

Request 3. Refer to EKPC's confidential response to Staff's Second Request, Items 1 and 2, and Confidential-DR2-R1 and R2-CT-RICE Comparison Table 06172024. Also refer to EKPC's response to Commission Staff's First Request for Information, Item 3. EKPC's response indicates that the JK Smith LMS100's start-up to full-load time is faster than the other CTs and similar to the RICE generator full-load start time.

a. Explain why the discussion in Item 3 focuses on all of the other CTs, and specifically, the F-Class CT.

b. Explain the process by which PJM Interconnection LLC (PJM) coordinates with EKPC regarding CT start times.

c. Given that EKPC only has the JK Smith LMS100s with start-up to full-load times of less than 30 minutes, explain whether it has ever failed to meet PJM required generation obligations due to relatively longer CT start-up times.

d. If not, explain why the start-up time of the RICE is relevant.

Response 3a. EKPC's response to Staff's First Request for Information, Item 3, noted that a CT of comparable size to the RICE facility would take up to thirty (30) minutes to reach full output, whereas the RICE facility would reach that same level in five (5) minutes or less. The F-Class CT is the most comparable simple-cycle unit to the RICE facility in terms of capacity. In addition, in response to Staff's Second Request for Information, EKPC provided start times for its entire fleet of CT units showing that start times for JK Smith units 1-7 and Bluegrass units 1-3 are near thirty (30) minutes. Only JK Smith units 9 and 10, the LMS100s, have start times less than thirty (30) minutes, however these units are still slower to start and ramp than the RICE facility. PJM dispatches units in real-time on 5-minute intervals. The LMS100s start and ramp to full output within fifteen (15) minutes or less, however the unit(s) will have missed out on potential market prices for those initial two (2) to three (3) intervals. The RICE facility, in contrast, is able to reach full output within the first five (5) minute interval, capturing any potential market price spikes.

Response 3b. EKPC offers its CT fleet into PJM in both the Day-Ahead ("DA") and Real-Time ("RT") energy markets. PJM will then dispatch the units according to reliability constrained economic dispatch. A PJM generation operator will call an EKPC market operator to request one or more CTs and will relay the desired output level and time the unit is needed on the system. All CTs in PJM have a minimum start time of thirty (30) minutes, with a minimum notification time of five (5) minutes, for a total time from the PJM-initiated phone call to dispatch of thirty-five (35) minutes.

Response 3c. EKPC's CT fleet generally meets the required thirty-five (35) minutes notification plus start time requirement. However, on occasion a unit may experience mechanical or software-related issues that may delay the start, or the unit may fail to start altogether. These instances are rare, as the EKPC CT fleet has a 98%-plus starting reliability. Should a unit be delayed beyond the thirty-five (35) minute requirement as set forth by PJM, then that unit forgoes any make-whole, no-load, or start-up cost recovery from PJM for that specific dispatch period, but still receives energy payments based on the unit's cleared schedule.

Response 3d. See EKPC Response to Item 3a, above.

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REQUEST 4

RESPONSIBLE PARTY: Chris Adams

Request 4. Fuel type notwithstanding, provide a comparison of the RICE generator with EKPC's existing generators located at the various landfills.

Response 4. EKPC's existing landfill gas units and the RICE facility generators are only comparable in that they are both internal combustion engines. The landfill gas units are considerably smaller at 1-2 MWs as compared to the RICE facility units that are 18-20 MWs. The landfill gas units are meant to run continuously as long as sufficient landfill gas supply is available and are behind-the-meter, meaning they offset a portion of the load that would otherwise be required to be purchased from PJM. The RICE facility units will be offered into the PJM energy markets and will be called on according to reliability constrained economic dispatch. If the RICE units are not economic to run then the units would not be dispatched. The RICE facility units are anticipated to have similar reliability to EKPC's current CT fleet. The landfill gas units, while reliable engines, are subject to the availability and quality of the landfill gas supply.