COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN ELECTRONIC EXAMINATION OF THE	)	
APPLICATION OF THE FUEL ADJUSTMENT	)	**CASE NO.**
CLAUSE OF EAST KENTUCKY POWER	)	**2022-00264**
COOPERATIVE, INC. FROM NOVEMBER 1, 2021	)	
THROUGH APRIL 30, 2022	)	

RESPONSES TO COMMISSION STAFF'S SECOND INFORMATION REQUEST

TO EAST KENTUCKY POWER COOPERATIVE, INC.

DATED OCTOBER 14, 2022

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN ELECTRONIC EXAMINATION OF THE	)	
APPLICATION OF THE FUEL ADJUSTMENT	)	**CASE NO.**
CLAUSE OF EAST KENTUCKY POWER	)	**2022-00264**
COOPERATIVE, INC. FROM NOVEMBER 1, 2021	)	
THROUGH APRIL 30, 2022	)	

CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Michelle K. Carpenter, being duly sworn, states that she has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff's Second Information Request in the above-referenced case dated October 14, 2022, 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.

Michelle K. Carpenter

Subscribed and sworn before me on this ***28*** day of October 2022.

Gwyn M. Willoughby
Notary Public

GWYN M. WILLOUGHBY
Notary Public
Commonwealth of Kentucky
Commission Number KYNP38003
My Commission Expires Nov 30, 2025

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN ELECTRONIC EXAMINATION OF THE	)	
APPLICATION OF THE FUEL ADJUSTMENT	)	**CASE NO.**
CLAUSE OF EAST KENTUCKY POWER	)	**2022-00264**
COOPERATIVE, INC. FROM NOVEMBER 1, 2021	)	
THROUGH APRIL 30, 2022	)	

CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Mark Horn, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff's Second Information Request in the above-referenced case dated October 14, 2022, 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.

Mark Horn

Subscribed and sworn before me on this 28 day of October 2022.

Gwyn M. Willoughby
Notary Public

GWYN M. WILLOUGHBY
Notary Public
Commonwealth of Kentucky
Commission Number KYNP38003
My Commission Expires Nov 30, 2025

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN ELECTRONIC EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF EAST KENTUCKY POWER COOPERATIVE, INC. FROM NOVEMBER 1, 2021 THROUGH APRIL 30, 2022	)))))	**CASE NO. 2022-00264**

CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Julia J. Tucker, being duly sworn, states that she has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff's Second Request for Information in the above-referenced case dated October 14, 2022, 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.

Julia J. Tucker

Subscribed and sworn before me on this 28 day of October 2022.

Gwyn M. Willoughby
Notary Public

GWYN M. WILLOUGHBY
Notary Public
Commonwealth of Kentucky
Commission Number KYNP38003
My Commission Expires Nov 30, 2025

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2022-00264
SECOND REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED OCTOBER 14, 2022
REQUEST 1
RESPONSIBLE PARTY: Mark Horn

Request 1. Refer to the Direct Testimony of Mark Horn (Horn Testimony), page 5, lines 8–15. Explain the differences between Traditional Spot purchases, Emergency Spot Purchases, and Test Spot Purchases. Include in the response the circumstances dictating each type of purchase and the differences, if any, in how EKPC executes a contract.

Response 1. Spot purchases are non-contract supply agreements that permit EKPC to purchase coal at a specific rate for a defined term, typically one year or less. Spot purchases allow EKPC the flexibility to respond quickly and efficiently to inventory needs while remaining in compliance with EKPC policy. There are four types of spot purchases including (1) *Traditional*, (2) *Economy*, (3) *Emergency,* and (4) *Test* spot purchases. *Traditional* spot purchases are subject to the competitive bidding process, are initiated with either a written or verbal Request for Proposal ("RFP"), and are typically made for a term of one year or less. This is the most common type of spot purchase and is typically based on the long-term future burns projection. *Economy*, *Emergency,* and *Test* spot purchases do not require competitive bidding, are typically a shorter term than traditional spot, and may need to be executed timely, within hours. Any spot purchase that is not subject to the competitive bidding process must have an identifiable trigger such as, but not limited to, the following: time being of the essence, low physical inventory, near-illiquid market conditions, hedge optimization, change in legislation, governmental imposition, Force Majeure Event, breach of contract, or the need for transportation flexibility. The option of making Economy, Emergency, and Test spot purchases must be approved in writing by the Senior Vice President Power Supply or Executive Vice President/Chief Operating Officer prior to negotiating proposals. Economy, Emergency, and Test spot purchases will be subject to the standard approval process and levels as detailed in Policy No. 404 or Policy No. AO31 prior to execution of the short-term purchase order. Economy, Emergency, and Test spot purchases may involve specific need-based circumstances. All purchases are made in accordance with Policy, Strategy, and Procedure.

Historically, the most common type of spot coal purchase for EKPC has been a Traditional Spot Purchase, which consists of the fair competitive bidding process that is initiated with a written or verbal RFP. This process may take weeks, but can take months before the coal supply agreement is fully executed. This is not an issue when coal is readily available, and there is considerable lead time prior to the beginning of the term. Currently, with a volatile and nearly illiquid coal market, time is of the essence. Therefore, coal supply agreements need to be fully executed expeditiously, or the coal may no longer be available. With spot coal in limited supply and high domestic and international demand, a coal supply agreement may need to be fully executed within hours, or the coal is at risk of being sold to another party. This immediate need for spot coal has recently lead EKPC to utilize more Emergency and Test Spot Purchases to secure coal supply in an effort to match the increased coal burn or simply to maintain compliance with physical coal inventory target levels.

The primary difference between Traditional Spot Purchases, Emergency Spot Purchases, and Test Spot Purchases is that only the Traditional Spot is competitively bid, therefore, generating a bid tabulation sheet (evaluation). A Traditional Spot Purchase is made with the competitive bidding process, initiated with a written or verbal RFP. An Emergency Spot Purchase is made without competitive bidding when there is an immediate need for coal is situations such as failure of coal supplier to perform, increased fuel usage, labor or transportation strikes, severe weather conditions, or the inability to receive fuel by normal means. A Test Spot Purchase is made without competitive bidding to test a supplier's performance or test a particular fuel for its suitability and burning characteristics at a power station (limited to a quantity of 25,000 tons). The Traditional Spot Purchase is a procurement process substantially similar to how EKPC executes a coal supply contract. Traditional Spot Purchases and contracts are competitively bid and initiated with a formal RFP; however, the contract will have a longer term and will require more extensive physical and financial due diligence regarding the supplier.

For the period under review, the coal market was very volatile. EKPC was active in the coal market with multiple RFPs issued for price discovery and market intelligence to provide a transparent view of both the short-term (spot) and long-term (contract) markets. This provided EKPC working knowledge of actual physical price discovery of the current market conditions. EKPC routinely purchases coal below the current market pricing published in publicly available indices. In addition, unsolicited spot offers were routinely compared to the most recent spot proposals that had been competitively bid and evaluated to ensure the coal was purchased in alignment with the market price.

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2022-00264
SECOND REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED OCTOBER 14, 2022
REQUEST 2
RESPONSIBLE PARTY: Julia J. Tucker

<u>Request 2.</u> Refer to the Direct Testimony of Julia J. Tucker (Tucker Testimony), page 2, lines 18–21.

a. Provide examples of the changes made by PJM Interconnection, Inc. (PJM) to its business rules and the stakeholder concerns that helped to commence these changes.
b. Explain when these changes were made and whether they occurred during the period under review.

<u>Response 2a-b.</u> Most significant changes to the PJM market rules are those that required approval by the Federal Energy Regulatory Commission (FERC) and have or will go into effect after the period of review. Those include:

- FERC approved changes to PJM's reserve markets, consolidating Tier 1 and Tier 2 synchronized reserves, aligning day-ahead and real-time reserve products, imposing penalties for non-performance. The changes went into effect on October 1, 2022. The changes had been driven by concerns that the current reserve construct did not fully value and incent reserves needed as generation availability becomes increasingly unpredictable with increasing penetration of intermittent resources (reliant on the sun or wind and multiple resources can be out when the fuel is not available) and an increasing amount of behind-the-meter resources make demand levels increasingly unpredictable. [FERC Docket No. EL19-58-000]

- FERC approved revisions to PJM's ARR/FTR market that resulted from an extensive stakeholder deliberation of the report issued by London Economics International detailing recommendations stemming from LEI's comprehensive review. The FERC approved changes that affect the rules for cost based energy offers. Generators must submit cost based offers that are consistent with their fuel cost policy. Generators are dispatched on their cost based offer if they are needed to relieve a transmission constraint and market power mitigation rules are triggered. The changes (1) require the costs included in the unit owner's Fuel Cost Policy to be "verifiable and systematic", and (2) clarify when a penalty may be assessed for not complying with the Fuel Cost Policy.
- The FERC also approved changes pertaining to how the rules for imposing a transmission constraint penalty factor are applied to a specific transmission constraint in the Dominion transmission zone. FERC approved PJM not applying the transmission constraint penalty factor during the time needed to finish constructing the Lanexa-Dunnsville-Northern Neck line because the price signal that would result is not able to be responded to because there is no additional generation available to resolve that constraint. [EL22-957-000] Those changes went into effect February 18, 2022.

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2022-00264
SECOND REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED OCTOBER 14, 2022
REQUEST 3
RESPONSIBLE PARTY: Julia J. Tucker

Request 3. Refer to the Tucker Testimony, page 2, lines 21–24, and page 3, lines 1–8.

Request 3a. Explain in greater detail the term "implied heat rate" and how that has prompted EKPC to begin purchasing forward physical gas. Include in the response how this new practice has proven more economical than purchasing forward energy products.

Response 3a. EKPC receives a daily update of Forward Market Prices, and more specifically prices at the AD Hub. The AD Hub is the AEP Dayton Hub, which is the closest liquid trading hub to the EKPC load zone. On October 18, 2022, the expected natural gas price for January 2023 was \$6.71/mmbtu. The expected price for a 5 x 16 energy purchase (5 days per week for 16 peak hours per day) at the AD Hub is \$132.13/MWh. An estimation of the implied heat rate would be 132.13/6.71 for a heat rate of 19.692 btu/MWh or 19,692 btu/kWh. EKPC's combustion turbine fleet averages significantly below this heat rate, closer to the 13,000 btu/kWh range. Therefore, it might be more economic to purchase gas to be burned in the combustion turbines to serve peak energy during January as opposed to purchasing energy. The amount of time that the gas turbine or the energy product are expected to be needed also come into account in the final determination. As an example, if EKPC determined that it needed the energy for 8 hours per day for 20 days in January, then it could buy gas at $6.71/mmbtu and burn it in the combustion turbines with an average heat rate of 13,000 btu/kWh for a cost of $87.23/MWh. If it purchased the energy strip, then it would cost $132.13/MWh plus the energy would have to be purchased for 16 hours for each day. The total cost to serve with gas would be 8 hrs/day x 20 days x $87.23/MWh for a cost of $13,956.80 per MW. The total cost to serve with an energy strip would be 8 hrs/day x 20 days x $132.13/MWh for a cost of $21,140.80 per MW. The gas purchase would be more economic by $7,184 per MW. Additionally, the energy purchase has to be taken for 16 hours per day regardless of need, so the additional 8 hours of energy might or might not be economic for a sale back into the real time market.

Request 3b. If markets are efficient, explain whether EKPC would expect market arbitrage to narrow or eliminate the economic benefit and thus make this a short-term practice.

Response 3b. When markets are efficient, then the expected energy strip prices more closely reflect the incremental cost to produce energy at the stated gas price. The current January market example used in Response 3a. reflects uncertainty and scarcity in the market expectations. The quotes for the November 2022 prices published on the same day as the previous example show a gas price of $6.00/mmbtu and a 5x16 energy purchase price of $76.20/MWh. The implied heat rate for November is 76.20/6.00 x 1000 = 12,700 btu/kWh. These price more closely reflect the expected costs of running combustion turbines. EKPC does expect the market to revert back to more normal expectations once the extreme uncertainty is alleviated and buying forward physical gas may not be economically advantageous. Buying forward physical gas will always help to secure a price hedge for EKPC's load, but whether or not it's an economically advantageous hedge could differ depending on the market price for energy hedges.

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2022-00264
SECOND REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED OCTOBER 14, 2022
REQUEST 4
RESPONSIBLE PARTY: Julia J. Tucker

Request 4. Refer to the Tucker Testimony, page 3, lines 17–18. Explain why Bluegrass 3 can be offered into the PJM energy market daily at EKPC's discretion unlike EKPC's other generating units.

Response 4. The Bluegrass 3 unit is not obligated in the PJM capacity market, therefore it is not obligated to offer energy into the PJM energy market on a daily basis. Bluegrass 3 has cleared the PJM capacity market previously and is recognized as an available resource to provide energy to the PJM energy market, but it is not obligated to do so since it is not currently committed in the PJM capacity market. That obligation can change from delivery year to delivery year depending on the clearing price of the capacity market.

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2022-00264
SECOND REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED OCTOBER 14, 2022
REQUEST 5
RESPONSIBLE PARTY: Julia J. Tucker

<u>Request 5.</u> Refer to the Tucker Testimony, page 3, line 22. When a unit is in reserve stand-by and ready for dispatch, explain how the unit is actually operating during that time. For example, whether the unit is generating energy and would have to be started prior to being dispatched.

<u>Response 5.</u> A unit in reserve stand-by is off line and not generating. It is in reserve and available for service if needed. The PJM dispatch model will take into account the cost and time to start a unit when determining if the unit will be requested for dispatch.

EAST KENTUCKY POWER COOPERATIVE, INC.

CASE NO. 2022-00264

SECOND REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED OCTOBER 14, 2022

REQUEST 6

RESPONSIBLE PARTY: Mark Horn

Request 6. Refer to EKPC's response to Commission Staff's First Request for Information (Staff's First Request), Item 3. Explain whether at any point during the period under review, the coal inventory level for Cooper and Spurlock fell below the units' target range. If so, provide the coal inventory level for the Cooper and Spurlock units when they fell below the target inventory.

Response 6. For the period under review, November 1, 2021, through April 30, 2022, the actual coal inventory for Cooper and Spurlock did not exceed its inventory target by ten days as detailed in Item 3 of Commission Staff's First Request for Information. However, the coal inventory level for Cooper and Spurlock were below their respective target ranges for a period of time during the period under review. Cooper's minimum coal inventory is 25 days at max burn or 90,725 tons. Cooper's coal inventory was 90,477.72 tons on November 1, 2021. Cooper's coal inventory was approximately 247 tons below the target range on the first day of the review period. Cooper's coal inventory was back within the target inventory range during the period under review, specifically on November 2, 2021. Spurlock's minimum coal inventory is 25 days at max burn or

404,950 tons. Spurlock's coal inventory was 311,283.31 tons on November 1, 2021. Spurlock's coal inventory was approximately 93,700 tons below the target range on the first day of the review period. This coal inventory shortage is uncommon for Spurlock, and this instance was precipitated by one of Spurlock's largest coal suppliers declaring an Event of Force Majeure in August 2021. Furthermore, incremental spot coal to serve as a replacement has been very limited in a nearly illiquid coal market. Spurlock's coal inventory was back within the target inventory range during the period under review, specifically on March 23, 2022.

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2022-00264
SECOND REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED OCTOBER 14, 2022
REQUEST 7
RESPONSIBLE PARTY: Julia J. Tucker

Request 7. Explain whether EKPC was subjected to any performance penalties by PJM during the period under review.

Response 7. No, EKPC was not subjected to any performance penalties by PJM during the period from November 1, 2021 through April 30, 2022.

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2022-00264
SECOND REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED OCTOBER 14, 2022
REQUEST 8
RESPONSIBLE PARTY: Michelle Carpenter

Request 8. For each month of the review period, provide the total amount of fuel related cost that occurred during a forced outage that was disallowed pursuant to 807 KAR 5:056, or EKPC was unable to collect via any other means.

Response 8. Please refer to the schedule below for a summary of forced outage related fuel costs that were disallowed pursuant to 807 KAR 5:056 for the period under review.

Month	Amount
November	$ -
December	51,890
January	-
February	137,930
March	-
April	346,595
Total	$536,415

EKPC has no separate mechanism established to recover these disallowed costs. However, as discussed in Response 26 to the First Data Request, EKPC proposed an adjustment in Case No. 2021-00103 to Test Year Other Power Supply Expense to include a component for highest cost unit exclusions and disallowed forced outages, based upon a historic five-year average. This adjustment was ultimately included in the rates approved by the Commission, effective with service rendered on and after October 1, 2021.