COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN ELECTRONIC EXAMINATION OF THE	)	
APPLICATION OF THE FUEL ADJUSTMENT	)	
CLAUSE OF KENTUCKY POWER COMPANY	)	Case No. 2025-00338
FROM NOVEMBER 1, 2022 THROUGH	)	
OCTOBER 31, 2024.	)	

DIRECT TESTIMONY OF

JASON M. STEGALL

ON BEHALF OF KENTUCKY POWER COMPANY

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.

A. My name is Jason M. Stegall. I am employed by American Electric Power Service Corporation ("AEPSC"), a subsidiary of American Electric Power Company, Inc. ("AEP"), in the Regulatory Services organization as Director of Regulatory Services. My business address is 1 Riverside Plaza, Columbus, Ohio 43215.

II. BACKGROUND

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCES.

A. I graduated from the Virginia Polytechnic Institute and State University with a Bachelor of Science degree in Accounting in 1997. I earned my Master's in Business Administration from the Ohio State University in 2011. In addition, I attended the 2018 EEI Transmission and Wholesale Markets School.

I joined AEPSC in June 1997 as an Accountant in the Regulated Accounting Division of the Accounting Department. From 1997 to 2009, I held various positions in Accounting and Risk Management. In July 2009, I joined the Regulatory Services Department as a Regulatory Consultant in Customer and Distribution Services Support. In July 2010, I transferred to Regulated Pricing & Analysis where my role focused on developing cost-of-service studies and rate designs as well as other projects related to regulatory issues and proceedings, individual customer requests, and general rate matters.

In December 2017, In December 2017, I was promoted to Manager of Regulatory Pricing where I managed the team that supports the fuel-related and purchased power-related filings across AEP's eleven retail jurisdictions. In September 2022, I was promoted into my current position.

Q. WHAT ARE YOUR PRINCIPAL AREAS OF RESPONSIBILITY WITH AEPSC?

A. My responsibilities include the oversight and support of all fuel and purchased power-related filings for the AEP System operating companies, advising and supporting the AEPSC Commercial Operations and AEPSC Fuel Procurement organizations, and supporting traditional cost-of-service and rate design projects.

Q. HAVE YOU PREVIOUSLY TESTIFIED IN ANY REGULATORY PROCEEDINGS?

A. Yes. I submitted written testimony before the Public Service Commission of Kentucky in Case Nos. 2013-00197, 2014-00396, 2020-00174, and 2022-00263. I appeared at the hearing before this Commission in Case Nos. 2020-00174 and 2022-00263. I also have filed testimony on behalf of Kentucky Power Company's ("Kentucky Power" or "Company") affiliates in Arkansas, Indiana, Louisiana, Michigan, Ohio, Oklahoma, Texas, Virginia, and West Virginia. I have appeared before the Commissions in Arkansas, Louisiana, Michigan, Ohio, Oklahoma, Texas, Virginia, and West Virginia.

III. <u>PURPOSE OF TESTIMONY</u>

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to address the following areas:

a.) Describe the PJM Regional Transmission Organization;

b.) Discuss the wholesale market during the period of November 2022 through October 2024 ("Review Period");

c.) Discuss how the Company mitigates high purchased power costs;

d.) Discuss the Company's activities and how they generate off system sales; and

e.) Discuss the Company's bidding practices in PJM.

IV. PJM OVERVIEW

Q. PLEASE PROVIDE A GENERAL DESCRIPTION OF PJM.

A. PJM is a regional transmission organization ("RTO") that is mandated by FERC to provide reliable supplies of power, adequate transmission infrastructure, and competitive wholesale prices of electricity. PJM operates markets for capacity, energy, and ancillary services. The capacity markets include annual auctions for capacity while the energy markets include both day-ahead and real-time markets. The ancillary services markets are each designed to address regulation-related and reserve-related ancillary services.

Q. PLEASE DESCRIBE THE COMPANY'S DAILY ACTIVITIES IN THE PJM ENERGY MARKETS.

A. Every day, Kentucky Power offers all of its available generating resources into the PJM Day-Ahead energy market and purchases all of its expected load in the PJM Day-Ahead energy market. The offering of the Company's generation resources involves submitting a large volume of data to PJM that includes unit commitment status, offer curves that cover the range of output from economic minimum to economic maximum, and market parameters. The market parameters include, but are not limited to, a unit's startup cost, startup time in hours, how quickly a unit can ramp-up energy production, and other characteristics defined in PJM protocols. PJM protocols are established in various documents such as the PJM tariff and the manuals published on www.pjm.com. This process involves a high level of coordination among AEPSC Commercial Operations, AEPSC Fuel Procurement, and generating unit personnel located at the individual plant sites. The purpose of this process is to provide the most up-to-date and accurate information to PJM prior to the market deadline. Commercial Operations relies on the generating unit personnel to provide the most up-to-date information on each generating unit's availability and capability. Commercial Operations relies on Fuel Procurement to provide the most up-to-date information on fuel availability and pricing, especially for natural gas, which has prices that change daily. The daily process concludes when Commercial Operations compiles and submits all information required by PJM in advance of the Day-Ahead market deadline.

Q. PLEASE EXPLAIN THE CONCEPT OF UNIT COMMITMENT.

A. At its most basic level, unit commitment provides the context under which a unit is brought online and made available for generation. As indicated above, unit commitment status is one of the items included in the Company's daily submission to PJM. PJM allows generating units to choose among four values: economic, must-run, emergency, and not available. Economic units are committed and dispatched by PJM via its economic dispatch model. Must-run units, also called self-committed or self-scheduled units, are committed by the unit operator into the Day Ahead market to run at their economic minimum level of output, although the PJM economic dispatch model can run them at a level above their economic minimum based upon the same economic dispatch model submitted under "economic" status. An emergency status indicates that PJM will only commit that unit for emergency dispatch. A status of not available identifies units that are in an outage and incapable of delivering any energy into the market.

Q. PLEASE FURTHER DESCRIBE THE OFFER CURVES MENTIONED EARLIER IN YOUR TESTIMONY.

A. Generating units in PJM submit two offer curves that cover the range of a unit's output from its economic minimum output to its economic maximum output and the corresponding price at that level of output. The first curve is the market offer curve, or the default curve used by PJM. The second curve is a cost-based curve, which is used only when PJM commits generating units to maintain system reliability and is subject to a strict set of rules established in the PJM Operating Agreement and PJM Manual 15.

Q. WHO ULTIMATELY DETERMINES THE LEVEL OF OUTPUT FOR A GENERATING UNIT?

A. PJM, through its economic dispatch model, determines the ultimate level of generation required to meet the load based on the units available in each hour and the economics of available units, as established in the offer curves submitted. In basic terms, PJM uses the offer information provided by market participants and arranges, or "stacks", the available units in economic order from the least cost to the highest cost. PJM's model then instructs, or dispatches, units to run by solving for the least-cost solution to serve the level of load while factoring in transmission constraints. The PJM economic dispatch model is continuously updated in the Real-Time market to adjust for changing conditions in order to optimize the dispatch instructions that seek to provide the least-cost solution to meet the RTO's load. This is beneficial to customers because it ensures that the lowest cost units are prioritized to serve the load.

Q. DOES PJM PLACE ANY OBLIGATIONS ON THE AVAILABILITY OF GENERATING UNITS?

A. Yes. The first obligation is that any generating unit that is a capacity resource must offer its energy into the Day-Ahead energy market. Specifically, if a generating unit either sells its capacity through the PJM capacity auctions or supplies capacity through a Fixed Resource Requirement plan, it must offer its energy every day in the Day-Ahead energy market.

The second obligation is that all scheduled generating unit outages must be approved by PJM before the units are allowed to be taken out of service. This includes taking units out of service for either a planned or maintenance outage. PJM also explicitly prohibits planned outages during PJM Peak Period Maintenance Season, which runs from the 24th Wednesday through the 36th Wednesday of each year in order to ensure reliability during the summer season. Although not scheduled, a generator is also required to report forced outages to PJM.

Q. DO THE KENTUCKY POWER GENERATING UNITS SUPPLY CAPACITY THROUGH THE CAPACITY AUCTION OR FIXED RESOURCE REQUIREMENT PLAN?

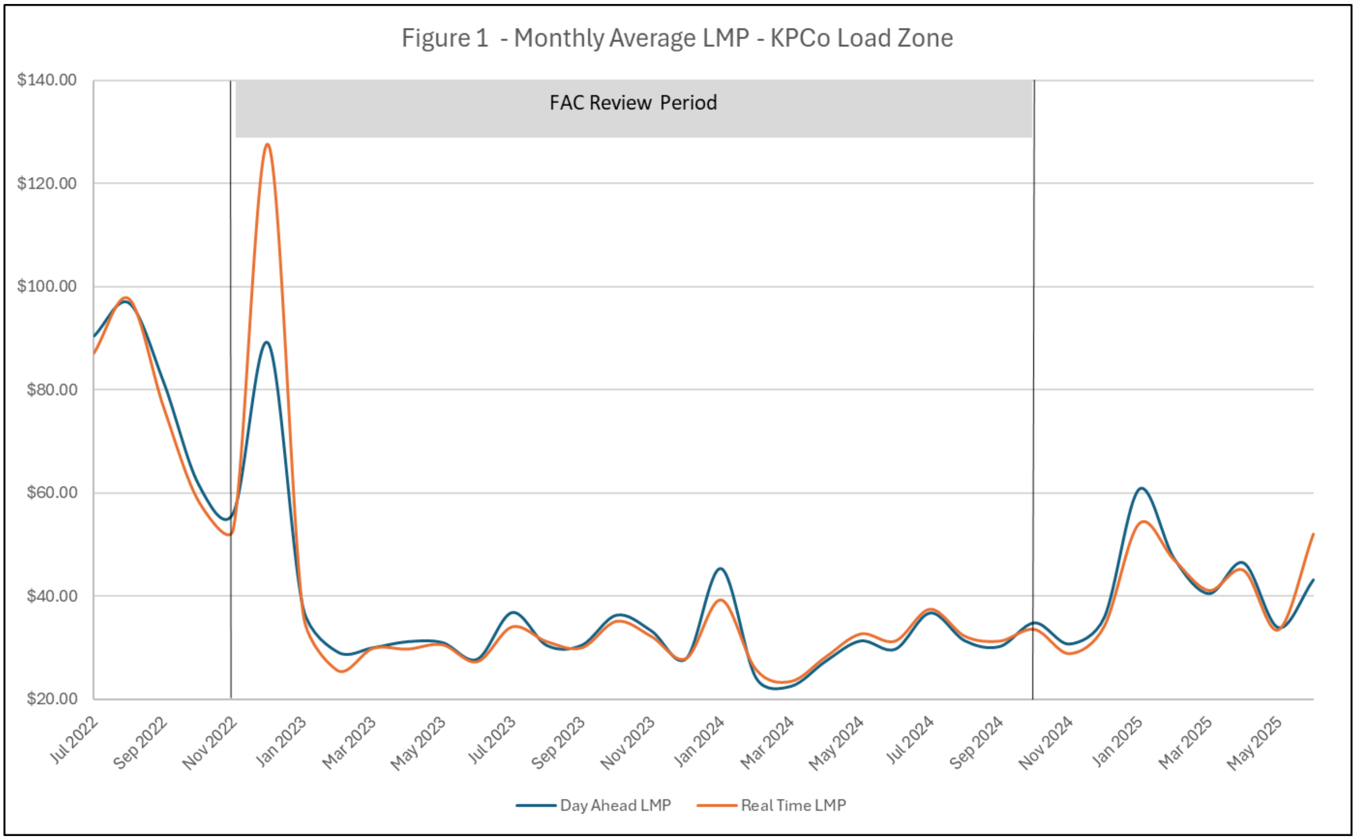
A. Kentucky Power, along with its affiliates Appalachian Power Company, Indiana Michigan Power Company, and Wheeling Power Company, satisfy their capacity obligations in PJM through a Fixed Resource Requirement Plan ("FRR Plan") that meets the total capacity obligation for the four companies.[1] Both Big Sandy and Kentucky Power's share of the Mitchell Generation Station are committed in the combined FRR Plan.

V. MARKET OVERVIEW

Q. PLEASE DESCRIBE THE PJM ENERGY MARKETS DURING THE REVIEW PERIOD.

A. The average Day Ahead locational marginal price ("LMP") for the Kentucky Power load zone during the Review Period was $35.11 per Megawatt-hour ("MWh"), while the Real Time LMP average was $36.15 per MWh. However, as shown in Figure 1 below, this average is heavily impacted by the elevated prices experienced in November 2022 as the post COVID economic recovery caused a rise in gas prices in the second half of 2022 and reached extreme levels during Winter Storm Elliott in December 2022. Prices fell dramatically in January 2023 and remained low for the remainder of the Review Period. Company Witness Stutler provides detailed information on the natural gas market during the Review Period. In fact, when November and December 2022 are excluded, the average Day Ahead LMP and the average Real Time LMP were $31.67 and $31.16 per MWh, respectively.

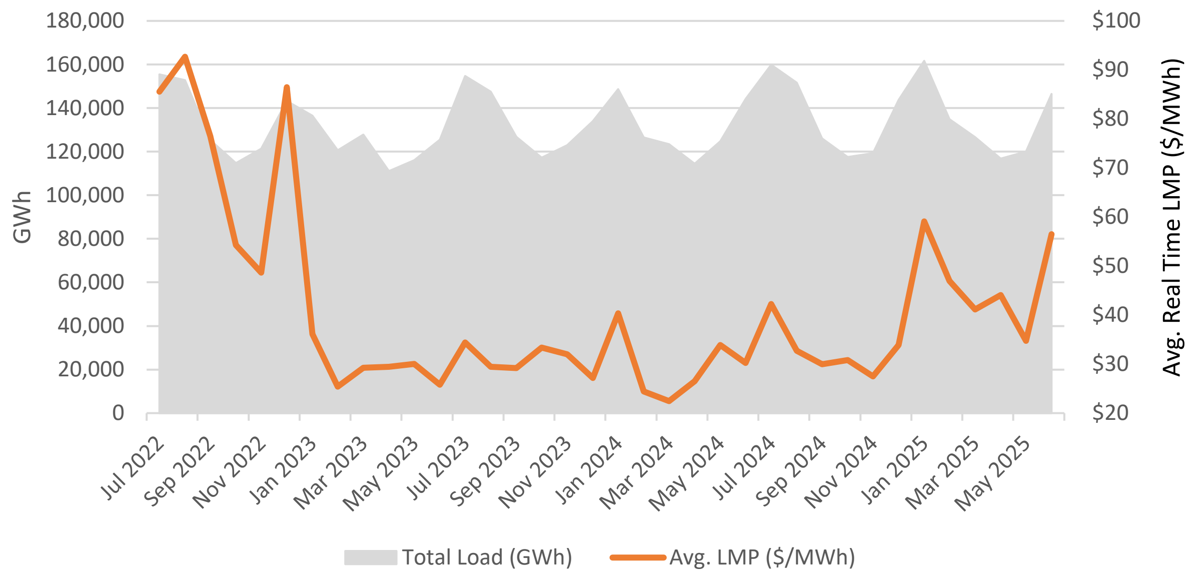
[1] Kentucky Power files with the Commission each year notice of its FRR/RPM election with PJM in the post-correspondence files of Case No. 2017-00179, which filing can be discussed in further detail, if necessary, by Company Witness Kahn.



Q. PLEASE DESCRIBE THE SIGNIFICANCE OF THE DRAMATIC DROP IN ENERGY MARKET PRICES.

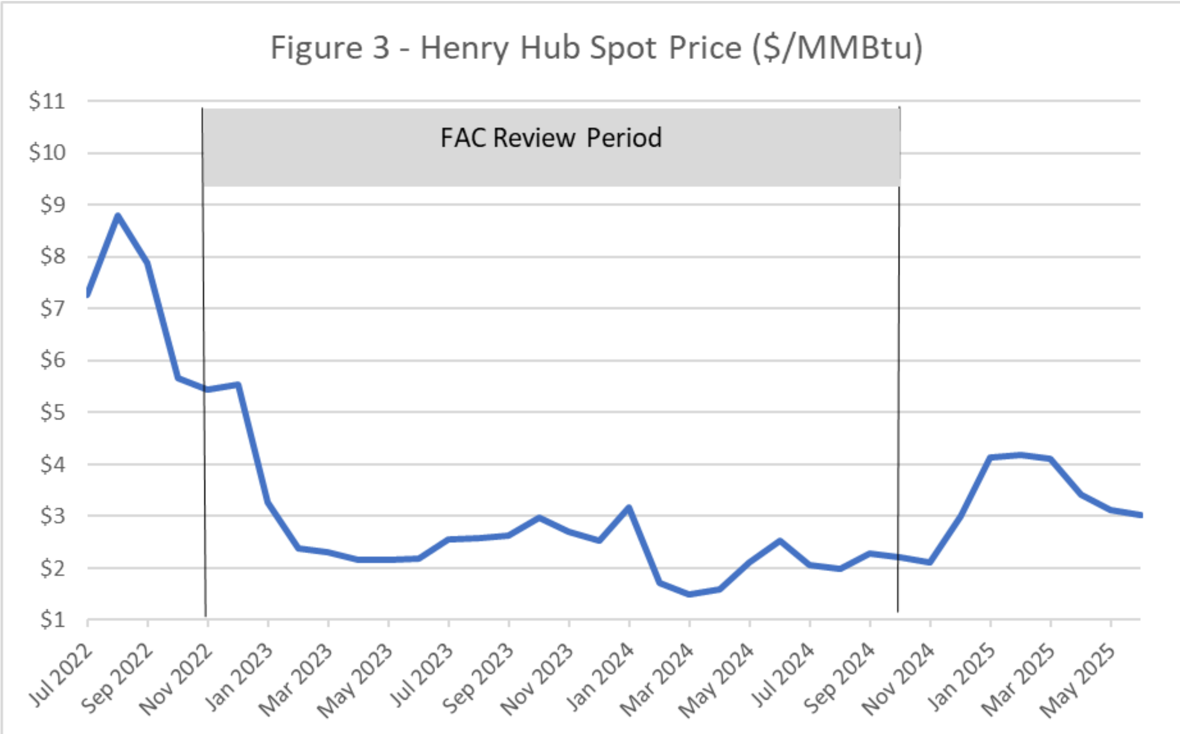
A. As shown in Figure 2 below, the drop in prices occurred without a major drop in load. While prices did experience some seasonality, as can be seen in the small peaks seen in July 2023 and January 2024 in both Figure 1 and Figure 2, as shown in Figure 2, these seasonal peaks did not cause PJM energy market prices to rise to the level seen in the second half of 2022.

Figure 2 - Total PJM Load and Monthly Average Real Time LMP's



Q. WHAT CAUSED THE DROP IN ENERGY MARKET PRICES?

A. The primary cause was the drop in natural gas market prices. Figure 3 below shows the trend in monthly average natural gas prices at the Henry Hub were approximately $5.45/MMBtu and $5.53/MMBtu in November 2022 and December 2022, respectively. The average price fell dramatically, falling to $2.38/MMBtu by February 2023, a 56% decrease and remained below $3.00/MMBtu for the remainder of the Review Period, except for January 2024 when the average price was $3.18/MMBtu. This significant drop was unexpected.



Q. WHAT EFFECTS, IF ANY, RESULT FROM THE FALL IN NATURAL GAS PRICES FROM THE ELEVATED LEVEL EXPERIENCED AT THE BEGINNING OF THE REVIEW PERIOD?

A. Dramatic shifts in energy market prices and natural gas prices create a situation where a coal fired generating unit may prepare for a level of coal consumption that does not materialize. Typically, natural gas prices and PJM energy market prices are highly correlated, and that correlation can be seen when comparing the graph of the Real Time LMP average in Figure 2 with the graph in Figure 3. As market prices fall, dispatch of coal-fired generation across PJM also falls, as those generating units become less economic compared to natural gas-fired generating units. In general, when natural gas prices fall, coal units become less economic and are less likely to be dispatched by PJM, especially as falling natural gas prices cause the costs of natural gas-fired units to fall below those of coal-fired generating units.

VI. KENTUCKY POWER'S PARTICIPATION IN ENERGY MARKETS

Q. DID THE PJM ENERGY MARKET CONDITIONS DURING THE REVIEW PERIOD CREATE CHALLENGES FOR KENTUCKY POWER?

A. Yes, but Kentucky Power managed the drastic change in market prices by employing different approaches to address different concerns. During the high-priced period of November 2022, the Company was concerned that a high price in a fall month would result in even higher prices during the winter, and the Company employed strategies to reduce the dispatch of the Mitchell units in order to conserve coal that could be used to run the units as much as possible during the winter months. When prices fell in 2023, that resulted in reduced dispatch of the Mitchell generating units during the Review Period compared to expectations only a few months earlier. When coal consumption declines but coal-fired generating units continue to receive coal from their suppliers, inventories increase and can approach or exceed storage limitations, which jeopardizes the safety of plant unit personnel. Safety risks, especially to plant personnel, arise when a plant operator tries to store more coal than the plant can safely store. The Company had to make decisions with the information available to it during a review period, which saw a historic drop in the energy markets.

Q. HOW DID KENTUCKY POWER RESPOND TO THESE MARKET CONDITIONS?

A. The Company actively managed its coal supply by monitoring existing inventories, monitoring deliveries, and monitoring current and forward PJM energy prices. When PJM energy prices were high in late 2022, the Company acted to maximize its coal inventory in advance of the start of the winter season. When PJM energy prices fell in 2023, Kentucky

Power actively engaged with coal suppliers to defer deliveries as discussed by Company Witness Chilcote. When necessary, the Company also used market strategies to increase or decrease coal consumption, based on the circumstances. During periods when the Company was concerned that resupply of coal would not replenish current consumption, its market strategies included pricing increments in its market offers. When the Company was concerned that its coal inventories would exceed safe storage, its market strategies included committing units with a Must Run commitment status and using a decrement in their market offers. The Company's active management strategy and its implementation were discussed internally on a consistent schedule, each month, and all factors were evaluated daily as new information became available and market conditions changed.

Q. HOW DO THESE MARKET STRATEGIES BENEFIT CUSTOMERS?

A. Price increments included in the Company's market offers to PJM reduced dispatch above each Mitchell unit's economic level of output to preserve coal for use during the winter season. It was reasonable to expect those prices to escalate during the winter months when load increased, potentially exposing customers to high cost purchased power. Therefore, the strategy was designed to deploy Mitchell generation to offset higher winter purchased power costs. By deploying market strategies to increase generation, the Company avoided paying for coal it could not receive, a cost that would have been incremental to the cost of not running the Mitchell units and purchasing energy from PJM instead.

Q. IN THE INSTANCE WHERE PLANNED OUTAGES EXTENDED BEYOND THEIR ESTIMATED OUTAGE TIME, DO ENERGY AND CAPACITY SHORTFALLS RESULT?

A. No. I am aware of only two scenarios, both associated with the Mitchell Plant, where outages nominally extended beyond their originally estimated outage time, as further discussed by Company Witness Snodgrass. As discussed earlier in this testimony, the Company does not dispatch its resources to its load obligations, it offers its resources into the PJM energy markets and simultaneously purchases its load from the same markets. If an outage of any sort is extended, the unit in question may or may not be economic to run during the extension time in question. Furthermore, through the Company's membership in PJM, as memorialized in PJM's governing documents, which include the Regulatory Assurance Agreement, the Open Access Transmission Agreement, and the Operating Agreement, the Company has access to the excess generation available in the wholesale energy market to serve its load as necessary. How the Company met its annual capacity requirements was not impacted by planned outages or the extension of any approved planned outage during the review period.

VII. ENERGY MARKET PRICE RISK

Q. HOW DOES KENTUCKY POWER MANAGE THE RISK ASSOCIATED WITH ENERGY MARKET PRICES?

A. As stated above, the Company offers all of its available generation resources into PJM's energy markets and purchases all of its load from those same energy markets. The risk associated with high energy market prices is limited to hours when the amount of energy purchased exceeds the generation sold from the Company's resources. Thus, the Company uses its generation resources to hedge against price increases in PJM.

Q. DOES THE COMPANY USE FINANCIAL HEDGES AS WELL?

A. Yes, but that use is limited. Following the Commission's rejection of the Company's proposed financial hedging program in its order in Case No. 2023-00159, the Company limits its use of financial hedges to months when one of its generating units is expected to be in an outage lasting ten days or more.

VIII. OFF SYSTEM SALES

Q. PLEASE DESCRIBE OFF SYSTEM SALES.

A. Off-system sales refer to the hours during the Review Period when Kentucky Power sold generation into the PJM energy markets in excess of the energy it purchased to satisfy its load.

Q. WHAT ARE THE COMPONENTS OF OFF SYSTEM SALES?

A. For reporting purposes, the Company separates the revenues it earns from off-system sales into revenues that recover the cost of making those sales and the margins in excess of those costs. The revenues that recover the Company's cost to provide those sales are credited back through the Fuel Adjustment Clause while the margins are credited to customers through Tariff System Sales Clause. It should be noted that a base level of off system sales margins is embedded in the Company's base rates and the System Sales Clause tracks the actual amount of margins above or below that base level.

Q. DID CUSTOMERS RECEIVE A BENEFIT FROM THE COMPANY'S OFF SYSTEM SALES DURING THE REVIEW PERIOD?

A. Yes, the total off-system sales margins produced during the Review Period were $5.0 million.

IX. PEAKING UNIT EQUIVALENT

Q. PLEASE BRIEFLY EXPLAIN THE PEAKING UNIT EQUIVALENT CALCULATION AND THE MODIFICATION TO THE PUE CALCULATION AS A RESULT OF THE SETTLEMENT IN CASE NO. 2023-00008.

A. The peaking unit equivalent ("PUE") calculation compares the cost of actual purchased power on an hourly basis to the cost of the Company's highest cost unit or the theoretical peaking unit equivalent and limits the amount of purchase power expense included in the FAC on a dollar per Megawatt-hour basis to that of the highest cost generating unit, either a Company-owned unit or a hypothetical or peaking unit equivalent. Following the Commission's January 18, 2018 Order in Case No. 2017-00179[2], the Company modified its PUE calculation to include $30/MWh in its hourly cost calculation to account for startup costs associated with the hypothetical peaking unit. However, in accordance with the Commission-approved Settlement Agreement in Case No. 2023-00008[3], the startup cost component in the hourly PUE calculation was prospectively changed to $4.62/MWh. This change was implemented in accordance with December 13, 2024, order for FAC-eligible costs incurred beginning January 1, 2025.

[2] Final Order dated January 18, 2018 in Case No. 2017-00179, pate 55
[3] Final Order dated December 13, 2024 in case no. 2023-00008, page 5.

X. COAL CONSUMPTION DURING A RESERVE SHUTDOWN

Q. WHAT IS A RESERVE SHUTDOWN?

A. A reserve shutdown refers to periods of time when a generating unit is available, offered to the PJM energy market, and not selected for commitment and dispatch, resulting in zero generation.

Q. COULD THE COMPANY RECORD COAL CONSUMPTION DURING A MONTH WHERE A UNIT WAS OFFLINE IN A RESERVE SHUTDOWN?

A. Yes. While the unit does not consume coal during a reserve shutdown, the Company may record coal consumption as a result of its semiannual coal inventory true up. If a true up is recorded during a month when the unit is offline, either in an outage or in reserve shutdown, that true up may result in a decrease in coal inventory, which would appear in Company reports as consumption. However, this did not happen during the Review Period.

XI. CONCLUSION

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

VERIFICATION

The undersigned, Jason M. Stegall, being duly sworn, deposes and says he is the Director of Regulatory Services for American Electric Power Service Corporation, that he has personal knowledge of the matters set forth in the foregoing testimony and the information contained therein is true and correct to the best of his information, knowledge, and belief after reasonable inquiry.

Jason M. Stegall

Jason M. Stegall

State of Ohio)
) Case No. 2025-00338
County Franklin)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Jason M. Stegall, on January 22, 2026.

Notary Public

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

My Commission Expires Has no expiration

Notary ID Number Ohio Atty # 0091229