COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

An Examination Of The Application Of The Fuel Adjustment Clause Of Kentucky Power Company From November 1, 2021 Through April 30, 2022	))))	Case No. 2022-00263

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 BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND.

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.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.

A. 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, I was promoted to Manager of Regulatory Pricing and Analysis where I managed the team

that supports the fuel-related and purchased-power related filings across AEP's eleven retail jurisdictions. I was recently promoted into my current position.

Q. WHAT ARE YOUR PRINCIPAL AREAS OF RESPONSIBILITY AS DIRECTOR OF REGULATORY SERVICES?

A. I am responsible for managing the team that supports all regulatory activities that affect AEP's investments in its generation portfolio across all of its operating companies.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY REGULATORY AGENCIES?

A. Yes. I submitted written testimony before the Public Service Commission of Kentucky in Case Nos. 2013-00197, 2014-00396, and 2020-00174. I appeared at the hearing before this Commission in Case No. 2020-00174. I also have filed testimony on behalf of Kentucky Power Company's ("Kentucky Power" or "Company") affiliates in Arkansas, Indiana, Michigan, Ohio, Oklahoma, Texas, and West Virginia and appeared before the Commissions in Michigan, Ohio, and Texas.

III. PURPOSE OF TESTIMONY

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

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

a) Provide an overview of PJM and how Kentucky Power participates in it;

b) Recent trends in the wholesale electric power markets; and

c) The reasonableness of Kentucky Power's commercial operations practices during the review period.

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 designation, 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. 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 those units. 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 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 a 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. DOES PJM PLACE ANY REQUIREMENTS ON THE AVAILABILITY OF FUEL FOR GENERATING UNITS?

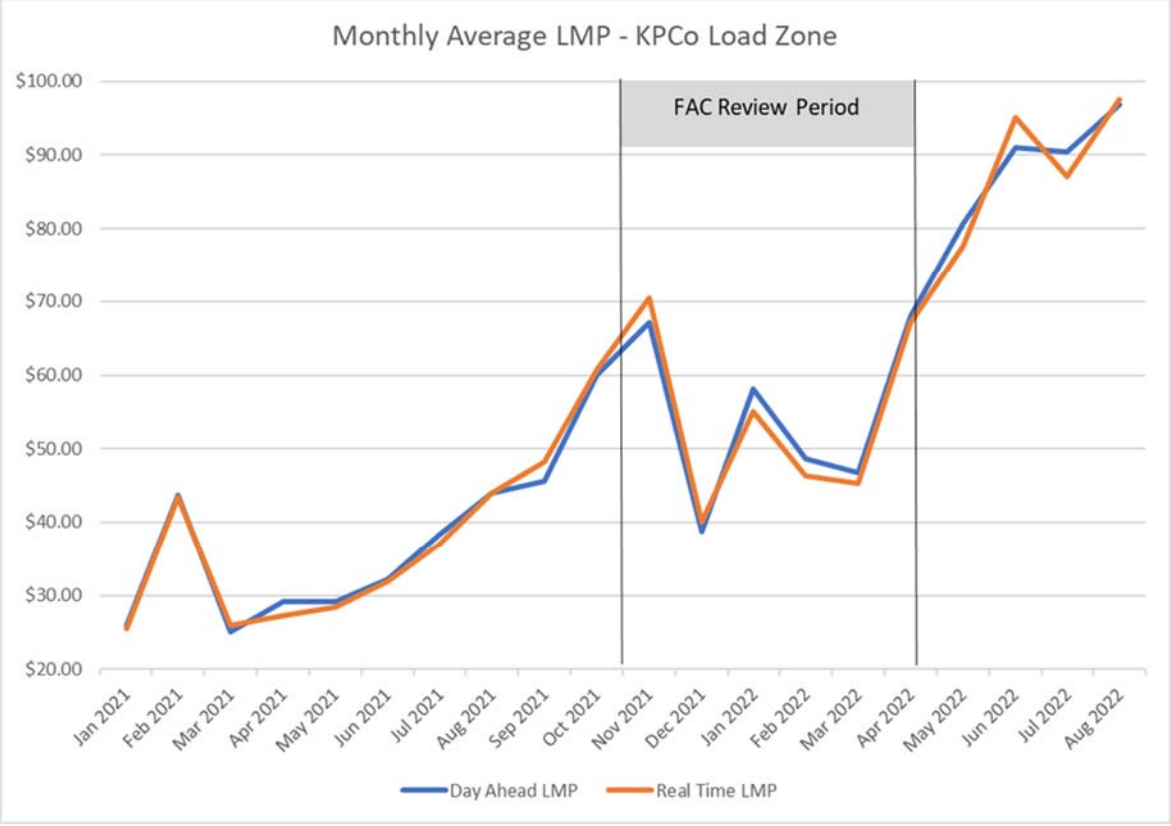
A. Yes. In October 2021, PJM focused on the importance of coal and reagent inventories for coal-fired plants located within the RTO. In a revision to PJM Manual 13, PJM stated that it now has the ability to request a generating unit with less than ten days of coal move to a Maximum Emergency status until its coal inventory exceeds 21 days. This means that any unit below that 10-day limit may be forced to shut down and remain offline until its inventory reaches 21 days or the unit is required for a PJM Emergency Event. In such a case, the unit could be forced to forgo market revenues during a period when it may be highly profitable to operate or, if it denied PJM's request and subsequently ran out of fuel or the reagents needed to manage its emissions, the unit may be subject to performance penalties if a market performance event occurred.

V. MARKET OVERVIEW

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

A. As shown in Figure 1 below, the energy price for Kentucky Power's load zone, like the rest of PJM, experienced volatility. Prices were highest in November 2021, which followed the trend of increasing prices that began in mid-2021 as part of the economic resurgence of the economy following the COVID-19 pandemic and resulting economic downturn in 2020. Market prices fell in December 2021, primarily due to mild weather but increased in January 2022 due to colder weather. Prices fell in February and March 2022 before beginning to climb in April and have continued climbing through the end of August 2022.

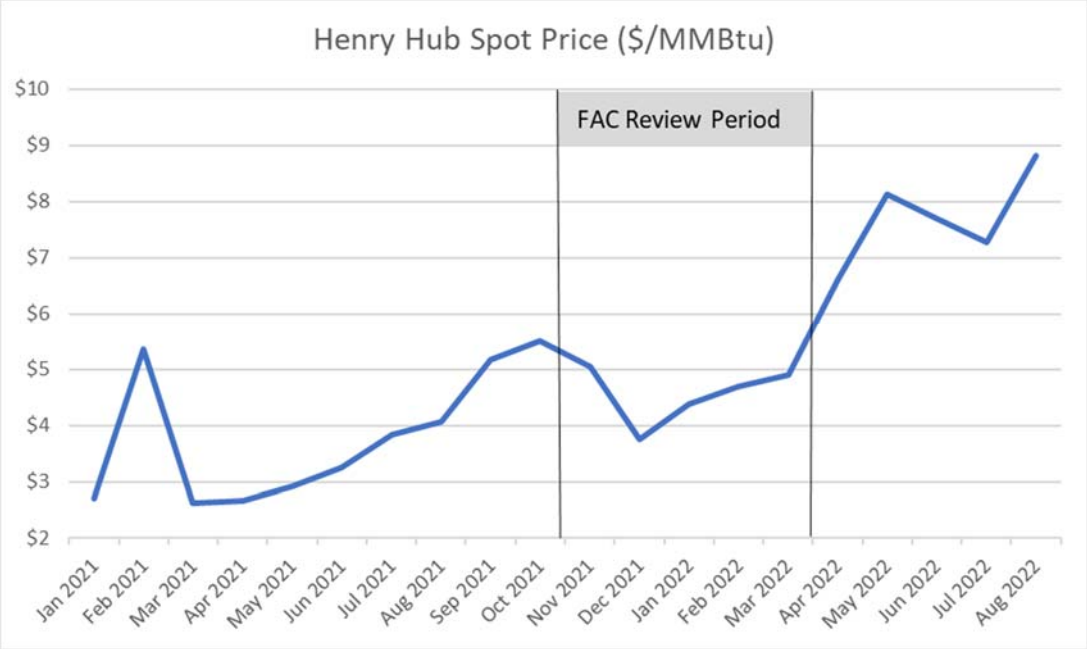
Figure 1



Q. IS THERE ANY UNDERLYING FACTOR THAT HAS CAUSED THE RISE IN PJM ENERGY MARKET PRICES?

A. Yes, the rise in prices is largely due to the rise in prices in the natural gas markets. Figure 2 below provides the monthly average spot market price of natural gas at the Henry Hub. The shape of the graph in Figure 2 looks very similar to the one in Figure 1, providing visual evidence of the correlation between natural gas prices and PJM energy market prices.

Figure 2



Q. WHAT EFFECTS, IF ANY, RESULT FROM THE RISE IN NATURAL GAS PRICES?

A. The rise in natural gas prices should result in an increase in coal generation across PJM as those generating units become more economic in light of the trend in PJM energy market prices that has occurred following the COVID-19 pandemic. In general, when natural gas prices rise, coal units become more economic and are more likely to be dispatched by PJM,

especially as the price of natural gas causes the costs of natural gas-fired units to exceed that of coal-fired units. However, as discussed by Company Witness Chilcote, the coal supply in the United States is constrained. As a result, coal-fired generation units were, and continue to be, subject to tightened supply and rising prices which limits the benefits of coal-fired generation in relation to the rise in natural gas prices.

VI. KENTUCKY POWER'S PARTICIPATION IN ENERGY MARKETS

Q. HAVE CURRENT MARKET CONDITIONS CREATED CHALLENGES FOR KENTUCKY POWER?

A. Yes. While the rise in energy market prices has increased the need for Kentucky Power's generating units to supply energy into the market, the tightening of coal supply described by Company Witness Chilcote has resulted in challenges procuring coal to replace consumption. These challenges have required the Company to implement a strategy that allows it to participate in PJM energy markets per its obligations but also recognize the risk in securing adequate coal supply.

Q. WHY IS THIS SIGNIFICANT FOR KENTUCKY POWER?

A. Kentucky Power is a winter peaking utility which means that its demand and energy consumption will be high in months when natural gas demand for residential heating in the PJM footprint will also be high. As I stated above, with its daily obligation to purchase its load in PJM, the Company would be exposed to market prices without the offsetting of the generation of its own resources.

Q. HOW HAS THE COMPANY ADDRESSED THESE CHALLENGES?

A. The Company has included an adder associated with fuel supply risk to the market offer curves it submits to PJM to address its concerns with coal supply. As a hypothetical

example, assume the Company had a generating unit that was currently online and capable of producing energy at a price of $40 per Megawatt-hour (MWh). If the Company's market forward price was expected to average $40/MWh in the off-peak hours while reaching $80/MWh in the peak hours, adding an increment to price the unit above $40/MWh would ensure the unit was not dispatched in the off-peak hours but still available to generate in the higher priced peak hours. In this example, the increment is ensuring that the limited coal supply is consumed when it can produce the most economic benefit.

Q. PLEASE IDENTIFY THE MARKET OFFER CURVES THAT THE COMPANY SUBMITS TO PJM EACH DAY.

A. As mentioned above, the Company provides offer curves for each of its generating units that cover the range of output from a unit's economic minimum output to its economic maximum output. Furthermore, the Company submits two offer curves for each unit, a market-offer curve and a cost-based offer curve. Both PJM and FERC have set maximums on the cost that a company may offer for a unit's output included in its market-offer curve but have otherwise allowed participants to develop their own means to determine those curves. In contrast, the cost-based offer curve is subject to a detailed set of rules established by PJM in PJM Manual 15.

Q. ARE THE INCREMENTS INCLUDED IN BOTH OFFER CURVES?

A. No, they are only included in the market-offer curve. As stated above, the calculation of the cost-based offer curves is subject to the rules and framework established in PJM Manual 15.

Q. PLEASE EXPLAIN HOW THE COMPANY DETERMINED THE INCREMENTS TO INCLUDE IN ITS MARKET OFFER CURVES.

A. Each month, in order to provide customers with the most economic benefit from the Company's generation portfolio, members of Kentucky Power Regulatory, AEPSC Commercial Operations, AEPSC Fuel Procurement, various generation personnel, and AEPSC Regulatory Services meet to review the current inventory levels at each coal-fired generating unit, the expected deliveries of coal, expected electricity demand, and market forward prices in order to forecast future coal inventory levels. This meeting also includes a discussion of scheduled outages, scheduled equipment testing, and potential market events such as a transmission outage that may require PJM to commit the unit. The final result is the determination of a pricing increment needed to manage each unit's coal inventory based on the information available.

Q. PLEASE EXPLAIN HOW PRICING INCREMENTS ARE IMPLEMENTED.

A. The Company uses a proprietary software package to calculate the cost at each segment of its market offer curve. As part of this process, the Company has the capability to include an adjustment in any segment in that offer curve. If an adjustment is included, the market offer curve submitted to PJM will be the final values that include that adjustment.

Q. ARE PRICING INCREMENTS ONLY ESTABLISHED IN THIS MONTHLY MEETING?

A. No, the effects of pricing increments are reviewed daily and updated if new information warrants a modification. For example, a decline in the forward price curve may result in a decrease to the pricing increment or the delay of a scheduled coal delivery may result in an increase to the pricing increment.

Q. HOW DOES THIS STRATEGY BENEFIT KENTUCKY POWER'S CUSTOMERS?

A. The Company's approach benefits customers by ensuring, to the extent reasonably possible, the Company is providing lower-cost generation when market prices are expected to be high. With limited fuel, the Company must make a choice of when to provide generation and has chosen to do so in a manner that ensures generation is available when its customers are most exposed to market prices, the winter and summer seasons. Hypothetically speaking, the Company could provide generation when prices are $100 per megawatt (MW) or provide it when prices are $200/MW. By covering internal load with generation when prices are higher in the summer and winter, the customer is benefitted by the margin of the differences in the cost of the energy. If Kentucky Power generated energy during a lower market cost period instead and subsequently fell below PJM's 10-day inventory limit, the overall cost of service would be higher because the Company would be forced to meet its native load energy requirements through increased energy purchases from the PJM energy market.

Q. IS THIS APPROACH CONSISTENT WITH THE REQUIREMENTS FOR OPERATING WITHIN THE PJM MARKET?

A. Yes. Kentucky Power continues to comply with the rules and regulations established by PJM.

Q. DOES KENTUCKY POWER CONTINUE TO EVALUATE THE NEED FOR PRICING INCREMENTS?

A. Yes.

Q. DOES KENTUCKY POWER KNOW IF INCREMENTS IN ITS MARKET OFFERS WILL BE USED IN THE FUTURE?

A. No. Pricing strategies will be considered and evaluated as a viable approach on an as-needed basis.

Q. ARE THE COMPANY'S CUSTOMERS PROTECTED IN THE EXISTING CALCULATION OF RATES IN THE FAC?

A. Yes, the Peaking Unit Equivalent calculation ensures that customers are protected from periods when the market price exceed the level of that calculation.

VII. CONCLUSION

Q. WERE THE COMPANY'S PROCUREMENT PRACTICES REASONABLE DURING THE REVIEW PERIOD?

A. Yes. Especially given market conditions, the Company has operated in PJM in manner that tries to maximize the long-term benefit provided by its generating units to its customers. The Company will continue to evaluate this strategy as the availability of coal and PJM energy market prices change.

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September 29, 2022 09:15:30 -8:00 [F126E3379AA2] [167.239.221.107]
jmstegall@aep.com (Principal) (Personally Known)

E-Signature Notary: Jennifer Young (JAY)
September 29, 2022 09:15:30 -8:00 [8DD26D3A8E52] [167.239.221.106]
jayoung1@aep.com
I, Jennifer Young, did witness the participants named above electronically sign this document.

VERIFICATION

The undersigned, Jason M. Stegall, being duly sworn, deposes and says he is the Regulated Pricing & Analysis Manager 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.

Jason M. Stegall
Signed on 2022/09/29 09:15:30 -8:00

Jason M. Stegall

Commonwealth)
)
County of Boyd)

Case No. 2022-00263

Subscribed and sworn before me, a Notary Public, by Jason M. Stegall this 29th day of September, 2022.

Signed on 2022/09/29 09:15:30 -8:00

Notary Public

JENNIFER A. YOUNG
ONLINE NOTARY PUBLIC
STATE AT LARGE KENTUCKY
Commission # KYNP31964
My Commission Expires Jun 21, 2025
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