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 FROM NOVEMBER 1, 2020 THROUGH OCTOBER 31, 2022	)))))	Case No. 2023-00008

DIRECT TESTIMONY OF

CLINTON M. STUTLER

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 Clinton M. Stutler, and I am employed by American Electric Power Service Corporation ("AEPSC"), a subsidiary of American Electric Power Company, Inc. ("AEP") in the regulated Commercial Operations organization as the Natural Gas and Fuel Oil Manager. My business address is 1 Riverside Plaza, Columbus, Ohio 43215.

II. BACKGROUND

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. I earned a Bachelor of Science in Business Administration degree, with a major in Transportation & Logistics and Marketing, from The Ohio State University in 2002, and a Master's degree in Business Administration from Bowling Green State University in 2007.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.

A. I have over 21 years of energy-industry experience in fuel procurement, logistics, marketing, scheduling, and transportation. My professional background began in 2002 as a Scheduler with Marathon Petroleum Company. In 2008, I joined AEPSC in the Fuel, Emissions, and Logistics organization as a Coal Buyer, with responsibilities for the procurement of coal for Ohio Power Company. In 2014, I joined AEP Generation Resources, with responsibilities for purchasing natural gas,

coal, urea, and fuel oil, in addition to marketing fly ash and flue gas desulfurization gypsum. In 2016, I accepted a position in the regulated Commercial Operations organization as a Coal Buyer and became responsible for the procurement of coal for Kentucky Power Company ("Kentucky Power" or "Company"), Appalachian Power Company ("Appalachian Power"), and Southwestern Electric Power Company ("SWEPCO"). In May of 2018, I was promoted to my current position and became responsible for the procurement and delivery of natural gas and fuel oil to AEP's regulated generating fleet.

Q. WHAT ARE YOUR PRINCIPAL AREAS OF RESPONSIBILITY AS THE NATURAL GAS AND FUEL OIL MANAGER?

A. I am responsible for the procurement and delivery of natural gas and fuel oil to AEP's regulated generating fleet, which includes regulated power plants owned and/or operated by Kentucky Power and other affiliated operating companies.

Q. HAVE YOU TESTIFIED BEFORE ANY REGULATORY AGENCIES?

A. Yes. I have submitted testimony and testified before the Kentucky Public Service Commission on behalf of Kentucky Power, before the Public Service Commission of West Virginia on behalf of Appalachian Power and Wheeling Power Company ("Wheeling Power") and before the Oklahoma Corporation Commission on behalf of Public Service Company of Oklahoma ("PSO"). Furthermore, I have filed testimony before the Public Utility Commission of Texas on behalf of SWEPCO and before the State Corporation Commission of Virginia on behalf of Appalachian Power.

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) Any changes in natural gas market conditions that occurred during the Review Period, or that the Company expects to occur within the next two years that have significantly affected or will significantly affect Kentucky Power's natural gas costs or natural gas procurement practices;

b) Natural Gas suppliers' adherence to contract delivery schedules during the review period from November 2020 through October 2022 (the "Review Period");

c) Kentucky Power's efforts to ensure natural gas suppliers' adherence to contract delivery schedules during the Review Period;

d) Kentucky Power's efforts to maintain the adequacy of its natural gas supplies in light of any suppliers' inability or unwillingness to make contract natural gas deliveries; and

e) The reasonableness of Kentucky Power's natural gas procurement practices during the Review Period.

IV. NATURAL GAS PROCUREMENT STRATEGY

Q. PLEASE DESCRIBE KENTUCKY POWER'S NATURAL GAS PROCUREMENT STRATEGY DURING THE REVIEW PERIOD.

A. Due to fluctuating natural gas requirements associated with the variable operation of natural gas-fired power plants such as Big Sandy Unit 1, the Company requires

flexibility in its natural gas supply and transportation arrangements. In order to meet PJM dispatch requests, Kentucky Power needs instantaneous, hourly, and daily flexibility in the delivery flow of natural gas. To meet these needs, during the Review Period, Kentucky Power relied on daily spot market natural gas purchases. The natural gas arrangements Kentucky Power utilized provided the required flexibility necessary to reliably operate Big Sandy Unit 1, while minimizing overall total fuel costs.

AEPSC, on behalf of the Company, pursued spot market purchase opportunities through a competitive bidding process. For daily market purchases, the natural gas buyer received a forecast from AEPSC's Day-Ahead Market Operations team each morning and discussed the expected operation and estimated natural gas requirements for Big Sandy Unit 1, for that day, and each of the subsequent six days. Then, the natural gas buyer gathered market information from the various natural gas market areas and hubs accessible to the Company. The buyer also obtained pricing and volume information from numerous natural gas suppliers, as well as real-time natural gas market data from platforms, such as the Intercontinental Exchange ("ICE"), to locate and optimize purchases in the spot natural gas market.

Once the buyer analyzed the relevant information, purchases were made for the necessary spot natural gas supplies from the most economical and reliable sources available at the time. The natural gas buyer then made the necessary nominations and scheduling arrangements with Columbia Gas Transmission[1] to

[1] Columbia Gas Transmission is an interstate natural gas pipeline that is connected to, and is utilized, to deliver natural gas supply to Big Sandy Unit 1 via a firm natural gas transportation agreement.

deliver the natural gas supplies to Big Sandy Unit 1, as appropriate, and monitored deliveries throughout the day. Every afternoon, the natural gas buyer reviewed the units that received a day-ahead award from PJM and, depending on the results, made adjustments through additional purchases or sales, as necessary.

V. MARKET OVERVIEW

Q. PLEASE EXPLAIN THE CHANGES IN THE NATURAL GAS MARKET THAT OCCURRED DURING THE REVIEW PERIOD WHICH HAVE SIGNIFICANTLY AFFECTED, OR WILL SIGNIFICANTLY AFFECT, THE COMPANY'S NATURAL GAS PROCUREMENT PRACTICES.

A. During the first half of calendar year 2020, the natural gas market was heavily influenced by mild winter weather and the COVID-19 pandemic. These two factors caused noticeable decreases in both domestic and global demand for natural gas, causing extremely low natural gas prices. Prompt month[2] New York Mercantile Exchange ("NYMEX")[3] pricing settled below $2.00 per MMBtu from February 2020 through August 2020. To add perspective, from January 2014 through that point in 2020, there were only a total of four months where the prompt month NYMEX price settled below $2.00 per MMBtu. Due to very low demand and pricing, producers were forced to scale back on natural gas production.

In the second half of calendar year 2020, as the global economy began to recover from the COVID-19 pandemic, the market became somewhat apprehensive regarding the lack of natural gas production. Many analysts were of the opinion that

[2] The "Prompt Month" refers to the first calendar month that occurs in the future.
[3] The Henry Hub Natural Gas futures contract, on the New York Mercantile Exchange ("NYMEX"), is widely used as a national benchmark price, and from which, the pricing of all other natural gas market hubs is derived.

a resurgence of export demand and normal winter weather could create a rather tight market in the winter and subsequent months. In response, the NYMEX forward curve started to become stronger and approached the $3.00 per MMBtu mark in the fourth quarter of 2020. A mild October 2020 and November 2020 moderated forward prices, but as the global economy began to recover, liquefied natural gas ("LNG") export demand was robust for the entire month of December 2020, continuing into 2021.

In January 2021, total U.S. natural gas storage began the year at a surplus when compared to the five-year average. However, with domestic natural gas production continuing to lag, coupled with increased demand, aggressive withdrawals from storage[4] began to erode the storage surplus. By the end of February 2021, U.S. natural gas storage was at a deficit when compared to the five-year average. However, even with a few spot market price spikes due to cold weather events, as well as several massive storage withdrawals, prompt month NYMEX settlement pricing remained relatively low throughout the winter and spring, staying under $3.00 per MMBtu.

In the second half of 2021, the market began to further recognize that the natural gas supply and demand balance would remain tight for the foreseeable future. Continued strong demand and the lack of natural gas production growth began to spur higher market prices. The July 2021 NYMEX contract settled at

[4] "Withdrawal Season", where natural gas inventory is withdrawn from storage is typically between the months of November and March. Conversely, "Injection Season", where natural gas is injected into storage, is typically between the months of April and October.

$3.617 per MMBtu, which was the highest prompt month settlement price since December 2018.

As the 2021 summer months wore on, export demand for LNG continued to be very strong. Global natural gas storage was down significantly, which caused panic-buying (on an international level) in an effort to build inventory ahead of the high-demand winter months. This caused LNG export prices to reach (then) record levels on several occasions. In the domestic market, storage injections were below historical averages. In other words, because demand for natural gas was high, there was less supply available to inject into storage. In addition, in early September 2021, while the market was still experiencing warm temperatures that boosted demand for electricity, domestic producers also had to contend with Hurricane Ida, which shut-in more than 38 billion cubic feet ("Bcf") of natural gas production over a period of four weeks. Specifically, natural gas production operations ceased in areas that were impacted by the hurricane, which caused 38 Bcf of natural gas supply to be removed or become unavailable in the market. As a result of all of these factors, the October 2021 and November 2021 NYMEX contracts settled at $5.841 per MMBtu and $6.202 per MMBtu, respectively, which were the highest prices seen since early 2009.

During the months of November 2021 and December 2021, U.S. natural gas production began to increase. Producers were finally able to justify the economics of ramping up output prior to the heating season in an effort to capture perceived record prices in the approaching winter months. However, the month of December 2021 was mild, with residential and commercial heating demand at its lowest level

in six years, which put downward pressure on natural gas prices. This also caused only modest withdrawals from storage, with total storage staying very close to the five-year-average. The January 2022 NYMEX contract settled at $4.024 per MMBtu, which was significantly below the prior three months.

In January 2022 and February 2022, cold winter temperatures throughout the country resulted in natural gas storage withdrawals which surpassed the five-year average level by 28 percent. At the same time, demand for U.S. LNG exports continued to increase. For instance, on February 18, 2022, feedgas for U.S. LNG export facilities surged to a new record of approximately 13.4 Bcf. On February 24, 2022, Russia invaded Ukraine, which added further instability to an already volatile energy market and put more pressure on U.S. LNG exports, particularly to Europe. In early March 2022, global LNG prices[5] spiked to near $60 per MMBtu.

In April 2022, as the U.S. natural gas market transitioned from withdrawal season to injection season, natural gas inventory was about 17 percent below the five-year average level. With storage much below average, weaker injections, and stagnant production, natural gas prices began a steep upward climb. The May 2022 NYMEX contract settled at $7.267 per MMBtu, while the June 2022 NYMEX contract settled at $8.908 per MMBtu. The last time prompt month contracts settled in this range was during calendar year 2008. During the first week of June 2022, the July 2022 NYMEX contract was trading above $9.50 per MMBtu. Then, on

[5] LNG pricing differs from NYMEX pricing in that NYMEX pricing is indicative of the domestic natural gas market, while LNG pricing is indicative of the global natural gas market. With that said, demand in the global market has an effect on domestic prices. Approximately 13% of domestic production can be exported as LNG. Therefore, if there is a lack of global LNG demand, that gas will instead be sold domestically, which will cause domestic prices to decrease (i.e. supply and demand).

June 8, 2022, there was an explosion and fire at the Freeport LNG terminal, which is located in Texas. This facility exports the equivalent of 2 Bcf per day of natural gas, which equates to approximately 2 percent of total domestic dry gas production. After about a week, it was determined that due to the damage, the facility would be in an outage until late 2022, which meant that 2 Bcf per day of natural gas would be backed into the domestic market providing additional supply. This caused the July 2022 NYMEX contract to retreat into the $6 per MMBtu range, ultimately settling at $6.551 per MMBtu.

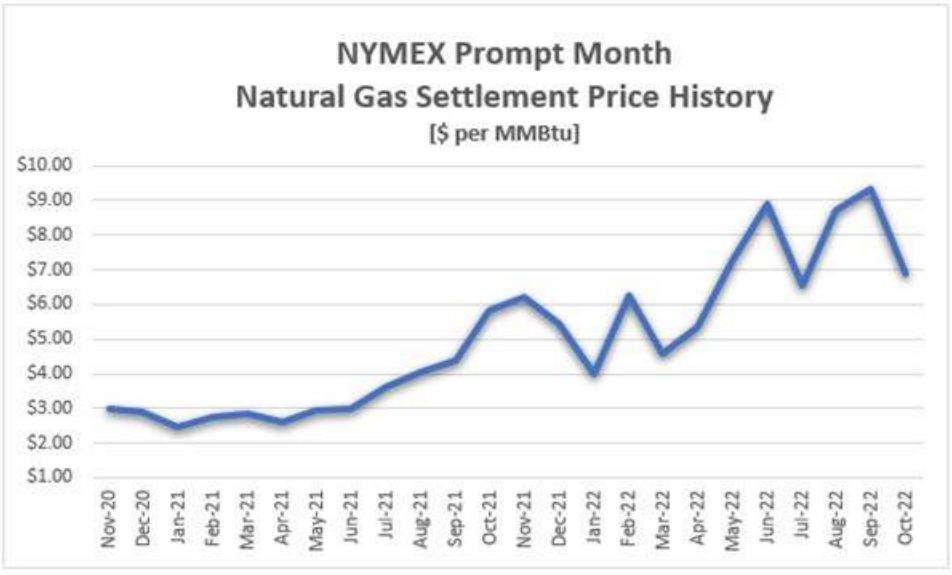
Entering the peak summer months of July 2022 and August 2022, natural gas production began to trend higher. In addition, despite the elevated prices, natural gas demand from domestic power generators remained at record levels throughout the summer. The August 2022 NYMEX contract settled at $8.687 per MMBtu, while the September 2022 NYMEX contract settled at $9.353 per MMBtu. At that particular point in injection season, injections to storage were about 6 percent less than the five-year average, which was not helpful considering total domestic inventory was low at the outset. In the international market, global demand for LNG was still very high, with record prices assessed above $70 per MMBtu.

During the month of September 2022, storage injections started to become stronger. The market began seeing weekly injections outpacing the five-year average, making the total storage deficit smaller. This, in turn, caused natural gas forward market and spot market prices to decrease. The October 2022 NYMEX

contract settled at $6.868 per MMBtu, which was a decrease of about 27 percent from the prior month.

Strong storage injections, as well as record natural gas production, continued into October 2022. By mid-October 2022, there was a run of four consecutive triple digit storage injections (which means that each weekly injection as reported by the Energy Information Association ("EIA") was greater than 100 Bcf). This was a streak that had only been observed twice in the last decade. By the end of the month, the storage deficit compared to the five-year average had shrunk to under 4 percent. This is quite an accomplishment considering that injection season began at a 17 percent deficit compared to the five-year average.

The graph below illustrates the volatility of the NYMEX Prompt Month Settlement, over the course of the Review Period.



Q. DOES KENTUCKY POWER EXPECT ANY MARKET CHANGES THAT WILL SIGNIFICANTLY AFFECT THE COMPANY'S NATURAL GAS

PROCUREMENT PRACTICES TO OCCUR WITHIN THE NEXT TWO YEARS?

A. Natural gas price volatility is expected to continue into the future. The Company cannot reasonably say whether market changes will occur that may affect natural gas procurement practices within the next two years. With that being said, beginning in January 2023, Kentucky Power began purchasing a portion of expected natural gas requirements at a fixed price, in advance of the month of flow ("physical hedging"). This reasonable and prudent strategy modification will subdue volatility to an extent, and will provide additional surety of natural gas cost.

VI. CONTRACT DELIVERIES

Q. WOULD YOU PLEASE SUMMARIZE KENTUCKY POWER'S NATURAL GAS SUPPLIERS' ADHERENCE TO CONTRACT DELIVERY SCHEDULES DURING THE REVIEW PERIOD?

A. Kentucky Power received all purchased natural gas supply during the Review Period. All suppliers adhered to contract delivery schedules.

Q. PLEASE SUMMARIZE KENTUCKY POWER'S NATURAL GAS PURCHASING METHODOLOGY FOR BIG SANDY UNIT 1 DURING THE REVIEW PERIOD.

A. Kentucky Power continually monitored the performance of its natural gas suppliers' deliveries compared to contracted volumes. During the Review Period, all natural gas purchases made for Big Sandy Unit 1 were spot purchases. Spot purchases normally take place the day before the flow period of the agreement begins. The flow period is usually one day, but can extend from two to five days if

the period includes a weekend or a holiday, or both. After the flow period commences, Kentucky Power monitors reports made available by Columbia Gas Transmission that display actual volumes delivered to the agreed upon custody point during the most recent nomination cycle. Columbia Gas Transmission provides these reports for the five nomination cycles per flow day that are prescribed in its operational tariff.

Q. WHAT ACTION DOES KENTUCKY POWER TAKE IF A SUPPLIER FAILS TO DELIVER THE CONTRACTED AMOUNT OF NATURAL GAS?

A. If Kentucky Power finds that any supplier has not delivered 100% of the contracted volume for any of the five nomination cycles, the Company contacts the supplier for information as to why the contract flow was reduced and to obtain assurance that corrections will be made in the subsequent nomination cycle. For example, if gas supply was cut (due to any reason), the supplier would make scheduling adjustments in subsequent nomination cycles to meet the total daily requirement. This process is repeated for the remaining nomination cycles if necessary. If the delivery reduction is not resolved by the final nomination cycle, Kentucky Power will contact the supplier and request deferred delivery of undelivered volumes for another gas day (if such deferred delivery would benefit Kentucky Power and its customers).

Q. PLEASE DISCUSS WHAT ACTIONS KENTUCKY POWER WOULD TAKE TO MAINTAIN THE ADEQUACY OF ITS NATURAL GAS

SUPPLIES, IF A SUPPLIER FAILED TO MAKE CONTRACT DELIVERIES ON ANY GIVEN DAY.

A. If delivery reductions occurred and the remaining supply for the day needed to be supplemented, Kentucky Power would either seek new supply in the intraday market, or rely on balancing services that may be available via the Columbia Gas Transmission pipeline. For example, if required, the Company may enter into a loan agreement with the pipeline if the Company is significantly short on any given day. Likewise, the Company may enter into a park agreement, if it is significantly long on any given day. The cost of balancing services, if available, would be compared to the cost of intraday supply. Balancing services, such as a loan service, may not be always available. In particular, because balancing services typically rely on storage owned by the pipeline, may not be available on days of high system consumption that typically occur with extreme weather.

VII. CONCLUSION

Q. WERE KENTUCKY POWER'S NATURAL GAS PROCUREMENT PRACTICES DURING THE REVIEW PERIOD REASONABLE?

A. Yes. Kentucky Power procures and manages its natural gas supplies and transportation costs appropriately to provide a reliable supply at the lowest reasonable cost.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

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E-Signature Summary

E-Signature 1: Clinton M. Stutler (CMS)
October 04, 2023 05:59:49 -8:00 [33C17D74704B] [167.239.221.104]
cmstutler@aep.com (Principal) (Personally Known)

E-Signature Notary: Marilyn Michelle Caldwell (MMC)
October 04, 2023 05:59:49 -8:00 [B9CA213E6802] [167.239.221.107]
mmcaldwell@aep.com
I, Marilyn Michelle Caldwell, did witness the participants named above electronically sign this document.

VERIFICATION

The undersigned, Clinton M. Stutler, being duly sworn, deposes and says he is the Natural Gas and Fuel Oil 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 after reasonable inquiry.

Clinton M. Stutler

Clinton M. Stutler

Commonwealth of Kentucky)
)
County of Boyd)

Case No. 2023-00008

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Clinton M. Stutler, on October 4, 2023.

Notary Public

MARILYN MICHELLE CALDWELL
ONLINE NOTARY PUBLIC
STATE AT LARGE KENTUCKY
Commission # KYNP71841
My Commission Expires May 05, 2027

Notarial act performed by audio-visual communication

My Commission Expires May 5, 2027

Notary ID Number KYNP71841