

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter Of:

ELECTRONIC EXAMINATION OF THE)	
APPLICATION OF THE FUEL ADJUSTMENT)	
CLAUSE OF KENTUCKY POWER COMPANY)	CASE NO. 2017-00001
FROM NOVEMBER 1, 2014 THROUGH)	
OCTOBER 31, 2016)	

DIRECT TESTIMONY OF

AMY E. JEFFRIES

ON BEHALF OF KENTUCKY POWER COMPANY

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**DIRECT TESTIMONY OF
AMY E. JEFFRIES, ON BEHALF OF
KENTUCKY POWER COMPANY
BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY
CASE NO. 2017-00001**

I. INTRODUCTION

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

2 A. My name is Amy E. Jeffries, and I am employed by American Electric Power
3 Service Corporation (“AEPSC”), a subsidiary of American Electric Power
4 Company, Inc. (“AEP”) in the regulated Commercial Operations organization as
5 Natural Gas and Fuel Oil Manager. My business address is 1 Riverside Plaza,
6 Columbus, Ohio 43215.

II. BACKGROUND

7 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND.**

8 A. I earned a Master of Business Administration from The Ohio State University in
9 2000 and a Bachelor of Science in Business Administration with a major in
10 Procurement and Materials Management from Bowling Green State University in
11 1993.

12 **Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.**

13 A. My professional background in energy began in 1998 as an Account Manager at
14 Clinton Energy Management Services, a natural gas marketing company. In
15 2000, I joined AEP in a rotational program before obtaining the role of Fuel
16 Procurement Coordinator with responsibilities for the procurement of coal for a
17 number of AEP’s coal-fired power plants. I transferred to the role of Energy

1 Trader in 2004, with responsibilities for optimizing AEP’s emission allowance
2 credits and renewable energy credits. In 2010, I was promoted to Manager –
3 Structuring, providing analytical support for the Fuel, Emissions and Logistics
4 (“FEL”) group. I was promoted to Natural Gas Manager on January 1, 2014, as
5 the FEL organization and the Commercial Operations organization were
6 consolidated to become the Regulated Commercial Operations organization. Fuel
7 oil procurement was added to my area of responsibility in early 2015.

8 **Q. WHAT ARE YOUR PRINCIPAL AREAS OF RESPONSIBILITY AS**
9 **NATURAL GAS AND FUEL OIL MANAGER FOR AEP?**

10 A. I am responsible for the natural gas and fuel oil procurement and contract
11 management of AEP’s regulated operating companies, including Kentucky Power
12 Company (“Kentucky Power” or “Company”), Southwestern Electric Power
13 Company (“SWEPCO”), Public Service Company of Oklahoma (“PSO”), Indiana
14 & Michigan Power Company (“I&M”), and Appalachian Power Company
15 (“APCo”).

16 **Q. HAVE YOU TESTIFIED BEFORE ANY REGULATORY AGENCIES?**

17 A. Yes. I have testified before the Public Service Commission of West Virginia. I
18 have also submitted testimony to the Virginia State Corporation Commission on
19 behalf of APCo and to the Oklahoma Corporation Commission on behalf of PSO.

III. PURPOSE

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

1 A. The purpose of my testimony is to address the following areas for the review
2 period from November 2014 through October 2016 (“the review period”):

3 a) Natural Gas suppliers’ adherence to contract delivery schedules during the
4 review period;

5 b) Kentucky Power’s efforts to ensure natural gas suppliers’ adherence to
6 contract delivery schedules during the review period;

7 c) Kentucky Power’s efforts to maintain the adequacy of its natural gas
8 supplies in light of any suppliers’ inability or unwillingness to make
9 contract natural gas deliveries;

10 d) Any changes in natural gas market conditions that occurred during the
11 review period or that the Company expects to occur within the next two
12 years that have significantly affected or will significantly affect Kentucky
13 Power’s natural gas costs or natural gas procurement practices; and

14 e) The reasonableness of Kentucky Power’s fuel procurement practices
15 during the review period.

IV. CONTRACT DELIVERIES

16 **Q. WOULD YOU PLEASE SUMMARIZE KENTUCKY POWER’S**
17 **NATURAL GAS SUPPLIERS’ ADHERENCE TO CONTRACT**
18 **DELIVERY SCHEDULES DURING THE REVIEW PERIOD?**

19 A. Kentucky Power began recovering natural gas purchases for Big Sandy Plant Unit
20 1 through the Fuel Adjustment Clause on June 1, 2016. Therefore, the discussion
21 of whether Kentucky Power’s natural gas suppliers adhered to contract delivery
22 schedules only pertains to the period of June 1, 2016 to October 31, 2016.

1 Kentucky Power purchased natural gas during this timeframe from eleven
2 different suppliers. Approximately 3,900,000 MMBtu were contracted for and
3 only 584 MMBtu were not delivered, for a delivery rate of over 99.98%.

4 **Q. WOULD YOU PLEASE SUMMARIZE KENTUCKY POWER'S EFFORTS**
5 **TO ENSURE NATURAL GAS SUPPLIERS' ADHERENCE TO**
6 **CONTRACT DELIVERY SCHEDULES DURING THE REVIEW**
7 **PERIOD?**

8 A. Kentucky Power continually monitors the performance of its natural gas
9 suppliers' deliveries compared to the contracted volumes. A majority of natural
10 gas purchases made on behalf of Big Sandy are short term, or spot, purchases.
11 These purchases normally take place the day before the flow period of the deal
12 begins. The flow period is usually one day, but can be anywhere from two to five
13 days if the period includes a weekend or a holiday, or both. After the flow period
14 commences, Kentucky Power monitors reports made available by Columbia Gas
15 Transmission (the interstate pipeline that delivers to Big Sandy) which display
16 actual volumes delivered to the agreed upon custody point during the most recent
17 nomination cycle. Columbia Gas Transmission runs these reports for the five
18 nomination cycles per flow day that are prescribed in its operational tariff. If
19 Kentucky Power finds any supplier has not delivered 100% of the contracted
20 volume for any cycle, the supplier is contacted for information as to why the
21 contract flow was reduced and to obtain assurance that the error will be corrected
22 for the subsequent cycle. This process is repeated for the remaining cycles if
23 necessary. If the delivery reduction is not resolved for the final delivery cycle,

1 Kentucky Power will contact the supplier and request deferred delivery of
2 reduced volumes for another gas day if this deferred delivery benefits Kentucky
3 Power and its customers. Deferred delivery may not be desirable if Big Sandy
4 consumed less gas than was originally estimated for the gas day during which the
5 reduction occurred, or if other remedies such as better pricing or pipeline
6 balancing services, discussed in more detail below, are available.

7 **Q. WOULD YOU PLEASE DISCUSS KENTUCKY POWER'S EFFORTS TO**
8 **MAINTAIN THE ADEQUACY OF ITS NATURAL GAS SUPPLIES IN**
9 **LIGHT OF ANY SUPPLIER'S INABILITY OR UNWILLINGNESS TO**
10 **MAKE CONTRACT DELIVERIES?**

11 A. Instances of Kentucky Power's natural gas suppliers' inability to make contracted
12 deliveries during the review period were minimal, and the volumes involved were
13 not material. In the event of greater delivery reductions were realized, and the
14 remaining supply for the day needed to be supplemented, Kentucky Power would
15 either seek new supply in the intraday market or rely on balancing services that
16 may be available via Columbia Gas Transmission pipeline.

17 These services, if available, that carry a cost that first would be compared
18 to the cost of the intraday supply. Balancing services, such as a loan service, may
19 not be always available. In particular, because the services typically rely on
20 storage owned by the pipeline, they may not be available on days of high system
21 consumption that typically occur with extreme weather.

22

V. NATURAL GAS PROCUREMENT STRATEGY

1 **Q. PLEASE DESCRIBE KENTUCKY POWER'S NATURAL GAS**
2 **PROCUREMENT STRATEGY.**

3 A. Due to the fluctuating natural gas requirements associated with the variable
4 operation of natural gas-fired power plants, the Company requires flexibility in its
5 natural gas supply and transportation arrangements. In order to meet PJM
6 dispatch requests, Kentucky Power needs instantaneous, hourly, and daily
7 flexibility in the delivery flow of natural gas volumes. To meet these needs,
8 Kentucky Power relies predominantly on daily spot market natural gas purchases.
9 The natural gas arrangements utilized by Kentucky Power provide the required
10 flexibility necessary to reliably operate the Company's system, while minimizing
11 overall total fuel costs.

12 AEPSC, on behalf of the Company, pursues spot market purchase
13 opportunities through a competitive bidding program. For daily market
14 purchases, the natural gas buyer receives a forecast from AEPSC's Regional
15 Transmission Organization Bid/Offer and Cost Development personnel each
16 morning and discusses the expected operation and estimated natural gas
17 requirements for the Company's power plants for the current and the following
18 six days. Then, the natural gas buyer gathers market information from the various
19 natural gas market areas and hubs accessible to the Company. The buyer also
20 obtains pricing and volume information from numerous natural gas suppliers as
21 well as real-time natural gas market data from platforms, such as the New York

1 Mercantile Exchange ("NYMEX") and the Intercontinental Exchange ("ICE"), to
2 locate and optimize purchases in the spot natural gas market.

3 Once the buyer analyzes relevant information, purchases are made for the
4 necessary spot natural gas supplies from the most economical and reliable sources
5 available at the time. The natural gas buyer then makes the necessary
6 nominations and scheduling arrangements with Columbia Gas Transmission to
7 deliver the natural gas supplies to Big Sandy, as appropriate, and monitors
8 deliveries throughout the day. After PJM releases its Day Ahead awards for the
9 next day, the natural gas buyer reviews the units that received an award and,
10 depending on the results, makes adjustments through additional purchases or
11 sales, as necessary.

12 If Big Sandy plant economics continue to be on the margin in PJM, supply
13 flexibility will continue to be vital for the plant. Having the firm transportation
14 contract with Columbia Gas Transmission, LLC will help ensure that gas
15 purchased after the PJM day ahead awards can be reliably delivered to Big Sandy.

VI. MARKET OVERVIEW

16 **Q. PLEASE EXPLAIN THE CHANGES IN THE NATURAL GAS MARKET**
17 **THAT OCCURRED DURING THE REVIEW PERIOD OR THAT**
18 **KENTUCKY POWER EXPECTS TO OCCUR WITHIN THE NEXT TWO**
19 **YEARS THAT HAVE SIGNIFICANTLY AFFECTED OR WILL**
20 **SIGNIFICANTLY AFFECT THE COMPANY'S NATURAL GAS**
21 **PROCUREMENT PRACTICES.**

1 A. The development of shale gas in the United States has created a fundamental shift
2 in the natural gas markets. In recent years, improvements in production
3 technologies have resulted in increased reserves that produce natural gas at a
4 faster rate and are more economical than previously achieved. Heading into
5 December 2014, natural gas storage levels across the U.S. were at five year lows;
6 however, as the winter progressed, U.S. production of natural gas hit all-time
7 record highs due to continued technological improvements. The growth in
8 production outweighed increases in demand which allowed storage levels to fill
9 more quickly (and to historically high levels) than originally anticipated. This
10 resulted in lower gas prices year over year. In the Marcellus and Utica shale gas
11 regions located mainly in the Appalachian region, production growth was
12 especially strong. However, although a myriad of pipeline projects were being
13 built to move this new supply to the broader, national market, the completed
14 pipeline capacity was not enough to meet the production growth, which kept
15 natural gas prices in much of the Appalachian regional market depressed
16 throughout most of the review period.

17 The low natural gas prices, along with the coal plant retirements, resulted
18 in an increase in electric generation demand for natural gas, which surpassed coal
19 as the leading source of electricity generation in the U.S. on a monthly basis for
20 the first time in April 2015, and remained the leading source of electricity
21 generation throughout the majority of 2015 and all but one month (January) of
22 2016. In 2016, the weather began slowly transitioning from an El Niño to a La
23 Niña, which resulted in a warm summer for most of the continental United States.

1 The higher than normal summer temperatures continued to result in increased
2 electric generation demand for natural gas. In late 2016 more pipeline projects
3 and gas-fired generation were brought online, which in turn increased the demand
4 for Marcellus and Utica shale gas. Also in 2016, due to low natural gas prices,
5 producers cut back production from its 2015 highs. Colder than average weather
6 in December 2016 led to significant storage withdrawals and provided an
7 indication that the market had rebalanced. This sign spurred an increase in natural
8 prices at the end of 2016.

9 There are no anticipated changes in the natural gas market expected within
10 the next two years that will significantly affect the Company's natural gas
11 procurement practices. As the demand for natural gas supply increases so will the
12 demand for natural gas transportation capacity. Thus, having supply flexibility
13 and the firm transportation contract with Columbia Gas Transmission, LLC will
14 be key to successfully procuring gas for Big Sandy.

VII. CONCLUSION

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

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

20 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

21 A. Yes.