VERIFICATION

The undersigned, John A. Rogness III being duly sworn, deposes and says he is the Director Regulatory Services for Kentucky Power Company, that he has personal knowledge of the matters set forth in the forgoing responses for which he is the identified witness and that the information contained therein is true and correct to the best of his information, knowledge and belief

John A Rogness III

COMMONWEALTH OF KENTUCKY)
) Case No. 2017-00001
COUNTY OF FRANKLIN)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by John A Rogness III, this the 3rd day of April, 2017.

Notary Public Judy K Kasquist

Notary ID: 571144

My Commission Expires: January 23, 2021

Case No. KPSC 2017-00001
Commission Staff's Third Set of Data Requests
Item No. 1

Witness: John A. Rogness

Q - 1 Refer to Kentucky Power's response to the Commission Staff's Second Request for Information ("Staff's Second Request"), Item 1. Explain the "certain modifications" that Kentucky Power states are not relevant to this response.

A - 1 The "certain modifications not relevant to this response" refers to the allocation of fuel costs, including natural gas reservation fees, associated with the operation of Big Sandy Unit 1 as a natural gas-fired unit, and discussed with Staff at the July 12, 2016 informal conference. Big Sandy Unit 1 was not operating as a gas-fired unit at the time paragraph 11(e) was approved.

Please see page 11 of KPCO_R_KPSC_3_1_Attachment1.pdf. The attachment is the handout distributed at the informal conference.

Q - 2 Refer to Kentucky Power's response to Staff's Second Request, Item 2.

a. The response states that the actual price paid by Kentucky Power is not practicable to use in the peaking unit equivalent calculation because the calculation is made hourly and uses a daily determined gas price.

(1) State whether Kentucky Power performs this "hourly calculation" in real time or at month end . If at month end, explain why Kentucky Power should not be directed to use either the average price or the highest price paid for natural gas during the month for each hourly calculation of its peaking unit equivalent. If in real time, explain why Kentucky Power should not be directed to use either the average price or the highest price paid for natural gas during the prior month for each hourly calculation of its peaking unit equivalent.

b. The response states that if a change to the peaking-unit-equivalent calculation is ordered by the Commission, "the methodology should be modified to include all associated costs to deliver gas to a peaking unit in addition to using, as is the current practice, the Platts Gas Daily Columbia Gas Appalachian price for natural gas."

(1) List the "associated costs" referenced in the response.

(2) State whether Kentucky Power is suggesting that it be allowed to include both the actual price paid for natural gas plus the Platts Gas Daily price. If not, explain what is meant by the reference to using "in addition ... as is the current practice, the Platts Gas Daily Columbia Gas Appalachian price for natural gas." If so, explain why this would be reasonable.

(3) For each month of the review period, starting with the month Big Sandy unit 1 began operation as a natural gas unit, provide a comparison of: 1) the Platts price used in the peaking unit equivalent calculation; 2) each price paid for natural gas purchased for Big Sandy unit 1; and 3) each delivered price of natural gas purchased for Big Sandy unit 1. Include detailed supporting calculations for the delivered prices used in the comparison.

A - 2 The peaking unit equivalent calculations are performed at month end. The Company uses in each hourly calculation of the peaking unit equivalent the daily midpoint price of natural gas for Columbia Gas, Appalachia as published in Platts Gas Daily.

The use of the average or the highest price paid for natural gas during a month for Big Sandy Unit 1 in the peaking unit equivalent calculation is less than optimal because it may yield non-representative results.

The peaking unit equivalent currently is calculated using a single daily gas price (the daily midpoint price of natural gas for Columbia Gas, Appalachia as published in Platts Gas Daily) for each hour of each day of a month.[1] Inter-daily gas prices can vary markedly. In February 2017 the highest daily midpoint price of natural gas for Columbia Gas, Appalachia as published in Platts Gas Daily[2] ($2.96) was 26% higher than the lowest February price ($2.28). The inter-day price changes also can vary markedly between two adjacent days. For example, the daily midpoint price for gas on February 21, 2017 ($2.50) was almost nine percent higher than the gas price on February 22, 2017 ($2.28).

The use in the peaking unit equivalent calculation of the average or highest price for natural gas burned at Big Sandy Unit 1 during a month likely would mask this variability and would tend to produce results that less accurately reflect the price of fuel on the day the energy is purchased.

Conversely, using a metric that is available daily, and that typically changes daily, results in a peaking unit equivalent value that more closely approximates the cost of fuel associated with purchased power on the day of the purchase.

More specifically, using the average or highest price for natural gas burned at Big Sandy Unit 1 during a month presents three disadvantages. First, the average or high price of natural gas burned at Big Sandy Unit 1 is available for use in the peaking unit equivalent calculation only if Big Sandy Unit 1 runs during a month. If during a month the unit is down for a planned or forced outage, or does not run because it is not economic, or does not operate during a month because of some combination of the two reasons, the Company would lack natural gas prices to use in the peaking unit equivalent calculation.

Second, even if the unit runs during the month, the natural gas price on the day(s) Big Sandy Unit 1 operates may not reflect the price of natural gas (and hence the cost of fuel) on the days power is purchased. For example, if gas were purchased for Big Sandy Unit 1 only on February 2, 2017 when the price of gas was at the monthly high, and energy was purchased on February 22, 2017 and February 23, 2017, when gas was at the monthly low of $2.47 (inclusive of the Columbia Gas Park and Lend rate), the resulting peaking unit equivalent ($32.76.MWh) would be approximately 28% higher than if calculated using the present methodology that employs the daily midpoint price of natural gas on the day of purchase ($25.688/MWh). The converse is also true.

The use of the average natural gas price for the month, although limiting to some extent the divergence between the natural price used in the peaking unit equivalent calculation and the price of natural gas on the day of the purchase, may also produce non-representative results. For example, the average of the daily midpoint price of natural gas for

Columbia Gas, Appalachia as published in Platts Gas Daily for February 2017 was $2.65/MWh. The resulting peaking unit equivalent of $29.536/MWh calculated using the average price is approximately 10% lower, and 15% higher, than the peaking unit equivalent for the days with the highest and lowest gas prices in February 2017.

Third, because Big Sandy typically does not run every day of each month, calculated averages for a month may not be representative of the average cost of natural gas during the month. For the same reason, the highest price of purchased gas may not reflect the highest price of natural gas during a month.

Although these examples represent the extremes, the fact remains that using either the highest or average price of gas purchased for Big Sandy Unit 1 during a month is likely to result in peaking unit equivalent values that are less representative, and sometimes materially so, of the price of fuel on the days the power is purchased.

[1] Although calculated hourly, the peaking unit equivalent value is the same for each hour of a single day because a single gas price is used for each hour of that day.

[2] The Company understands the data request posits using the price paid for natural gas purchased for Big Sandy Unit 1 and not the daily midpoint price of natural gas for Columbia Gas, Appalachia used in the examples above. Nevertheless, Kentucky Power anticipates that the daily midpoint price of natural gas for Columbia Gas, Appalachia and the purchase price for gas burned at Big Sandy Unit are likely to move in tandem. Moreover, the use of the daily midpoint price of natural gas for Columbia Gas, Appalachia provides both a larger data set, and more completely illustrates variations in daily gas prices during a single month.

2.b.(1)

"Associated costs" include plant start-up costs, variable O&M costs, and the costs imposed by Columbia Gas Transmission (TCO) in connection with the delivery of natural gas to Big Sandy Unit 1. The costs imposed by TCO are:

- Firm Reservation Rate, per Big Sandy Agreement ($.20/MMBtu)
- Firm Surcharges, as stated in TCO tariff ($.0545/MMBtu)
- Firm Transportation Commodity Rate, as stated in TCOtariff ($0.0104/MMBtu)
- Transportation Retainage, as stated in the TCO tariff (1.893% or $0.058 on $3 gas)
- Park and Lend Rate, as stated in the TCO tariff ($0.1939 winter and $0.1327 summer)
- FERC Annual Charge Adjustment (ACA) ($0.0013/MMBtu)

Note: TCO defines Winter as November 1 thru March 31 and Summer as April 1 thru October 31

Total Winter TCO cost = $0.5181/MMBtu *10.4 Heat Rate = $5.39/MWH

Total Summer TCO Cost = $0.4569/MMBtu *10.8 = $4.93/MWH or *10.4 = $4.75/MWH non-summer power months

Start-up costs and variable O&M for the Company's hypothetical peaking unit used in the PUE calculation are estimated to be $28/MWh and $3.48/MWh, respectively, based on the experience of the Company's affiliates that operate combustion turbine peaking units.

2.b.(2) No. The Company is not suggesting that it use both the Platts Gas Daily prices and the price paid for natural gas for Big Sandy Unit 1 in calculating the peaking unit equivalent. The phrase "in addition to" refers to including the associated costs described above in addition to the Platts Gas Daily prices.

2.b.(3) Please see KPCO_R_KPSC_3_2_Attachment1.xlsx for the requested information.

Case No. KPSC 2017-00001
Commission Staff's Third Set of Data Requests
Item No. 3

Witness: John A. Rogness

Q - 3 Refer to Kentucky Power's response to Staffs Second Request, Item 4. State whether the .014 should be negative .014.

A - 3 The response to Item 4 of the Staff's Second Data Request contained a typographical error. The response should have stated negative 0.014.

Q - 4 Refer to Kentucky Power's response to Staffs Second Request, Item 8, which states, "Kentucky Power received an allocation of the virtual transactions based on the Power Coordination Agreement among KPCo and the other parties to the Power Coordination Agreement." For each month of the two-year review period, provide the amount of this allocation and the effect it had on Kentucky Power's System Sales Clause.

A - 4 For the purpose of this response, Kentucky Power assumes the data request uses the term "virtual transaction" consistently with the PJM definition of the term. PJM defines virtual transactions as bids and offers submitted to take financial positions in the Day-Ahead Market without the intent of delivering or consuming physical power in the Real-Time Market. Please see "Virtual Transactions in the PJM Markets" at http://www.pjm.com/~/media/committees-groups/committees/mc/20151019-webinar/20151019-item-02-virtual-transactions-in-the-pjm-energy-markets-whitepaper.ashx.

The Company's accounting records do not contain the detail necessary to identify virtual transactions or to make the requested calculations. Virtual transactions, along with other financial transactions allocated to Kentucky Power, are reflected in PJM billing line items 1200, 1205, 1210, 1215, 1220, and 1225 and are recorded by Kentucky Power in Account No. 4470010. Virtual transactions are not identified or otherwise segregated in Kentucky Power's accounting records.

Kentucky Power's Risk Management and Energy Scheduling group maintains its records in sufficient detail to provide the requested information. Please see KPCO_R_KPSC_3_4_Attachment1.xlsx for the requested information. Tab 1 ("Virt. Trans. Alloc. Amt.") provides on a monthly basis the Company's allocated share of virtual transaction activity. Tab 2 ("SSC Effect") provides the calculation of the effect of excluding virtual transaction activity from the monthly calculation of the system sales clause factor.