KyPSC Case No. 2021-00057
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Duke Energy Kentucky
Case No. 2021-00057
STAFF Second Set Data Requests
Date Received: April 5, 2021

STAFF-DR-02-001

REQUEST:

Refer to the Direct Testimony of Brad Daniel, pages 10-11. Compare and contrast how Duke Kentucky would operate and participate in PJM's energy, capacity and ancillary service markets if it were to change its designation to a Reliability Pricing Model versus its current participation as a Fixed Resource Requirement company.

RESPONSE:

There are no foreseen changes to operations or participation in the PJM energy or ancillary markets for Duke Energy Kentucky if it were to change its capacity designation to a Reliability Pricing Model (RPM) versus its current participation as a Fixed Resource Requirement (FRR) company.

The capacity market participation would change given that RPM and FRR are different market constructs. Under Duke Energy Kentucky's FRR construct, the Company self-supplies its own generation capacity to meet its load obligation. Also, FRR offers a physical option to cure any Capacity Performance penalties after-the-fact by adding required additional capacity in its FRR plan for the subsequent year, which would allow the Company to avoid paying Capacity Performance penalties. RPM does not offer this physical cure option. Also, under FRR, Duke Energy Kentucky is not subject to PJM's Minimum Offer Price Rule (MOPR) because of its self-supply obligation. Under RPM, in the event Duke Energy Kentucky were to build a new generating asset, this unit would be forced to comply with the MOPR rules which would potentially reduce the amount of

capacity revenue Duke Energy Kentucky would receive. Finally, under FRR, in the event Duke Energy Kentucky has surplus capacity not utilized in its FRR plan, it is required to hold back 3% additional capacity for planning purposes before offering this excess in the PJM capacity auctions.

PERSON RESPONSIBLE: Brad Daniel
John Swez

Duke Energy Kentucky
Case No. 2021-00057
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STAFF-DR-02-002

REQUEST:

Refer to the Direct Testimony of Brett Phipps (Phipps Testimony), page 5. Provide a detailed step-by-step explanation of how the Fleet Analytics Stochastic Tool functions.

RESPONSE:

The stochastic model uses historic weather information to simulate numerous scenarios of future weather and commodity prices. For each of these scenarios, system load and commodity prices (gas, coal, oil and power) are all calculated in a correlated manner using historical correlations with each other and with weather. The resulting forecasts of this stochastic model gives the Company not only expected fuel burns, but also the range of fuel burns and the probability associated with each range.

PERSON RESPONSIBLE: Brett Phipps

Duke Energy Kentucky
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STAFF-DR-02-003

REQUEST:

Refer to the Phipps Testimony, page 6. Explain whether Duke Kentucky has terminated the contract with the Company in bankruptcy.

RESPONSE:

Duke Energy Kentucky did not terminate the contract with the Company in bankruptcy. Rather, the contract expired.

PERSON RESPONSIBLE: Brett Phipps

Duke Energy Kentucky
Case No. 2021-00057
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STAFF-DR-02-004

REQUEST:

Refer to the Phipps Testimony, page 6. Because Duke Kentucky does not maintain firm gas pipeline capacity and buys gas on the spot market, explain how Duke Kentucky would operate Woodsdale units during an extreme cold weather event such as recently experienced in Texas. In other words, explain whether pipeline capacity or gas will be available for purchase, and whether the units would be able to operate and to participate in PJM markets.

RESPONSE:

Limited, constrained, or uneconomic gas supply does not typically limit the availability of the Woodsdale units due to the addition of the backup fuel oil system at the station in 2019. Woodsdale targets 72 full load burn (FLB) hours of inventory and currently holds 76 hours at the site, enough to run the station at full load on fuel oil for over 3 days without additional deliveries. In reality, due to Woodsdale's typical dispatch at lower output levels, the units would be able to be operated for greater than 3 days without additional fuel deliveries.

During the week of February 13-20, natural gas prices were generally above the price of fuel oil at Woodsdale Station. As noted, Duke Energy Kentucky does not contract for firm gas transportation and relies on the spot natural gas market to serve the units and as such, natural gas availability was limited or at times unavailable to the station during this week. Duke Energy Kentucky was able to offer the Woodsdale units to PJM on fuel oil during this time. PJM then selected the Woodsdale units to operate on fuel oil and the

units successfully came on-line and ran on fuel oil at this time in additional to clearing for PJM operating reserves. Finally, note that fuel oil tanks allow for recirculation of the fuel oil to help keep the fuel at proper temperatures and ensure flow during cold weather events.

PERSON RESPONSIBLE: Brett Phipps
John Swez

Duke Energy Kentucky
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STAFF-DR-02-005

REQUEST:

Refer to the Phipps Testimony, page 8, line 1-17. Explain whether Duke Kentucky currently has rescheduled coal deliveries with any of its current contracted coal suppliers.

RESPONSE:

Depending upon the nature of any missed scheduled shipments, Duke Energy Kentucky may consider rescheduling coal deliveries with any of its current contracted coal suppliers.

PERSON RESPONSIBLE: Brett Phipps

Duke Energy Kentucky
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STAFF Second Set Data Requests
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STAFF-DR-02-006

REQUEST:

Refer to the Direct Testimony of John D. Swez, page 6, lines 4-6. Explain whether Duke Kentucky has any bilateral capacity purchase contracts or plans to enter into such contracts, and if so, provide the identity of the contracted party and the amount and timing of the capacity purchase.

RESPONSE:

Duke Energy Kentucky does not currently have any bilateral capacity purchases. In addition, short term projections of Duke Energy Kentucky's capacity position, assuming forecasted customer demand, generation assets, and generation outage rates, projects that the Company will have a long position for the foreseeable future and thus, not have a need to engage in any bilateral capacity purchases in the next few years.

PERSON RESPONSIBLE: John Swez

Duke Energy Kentucky
Case No. 2021-00057
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STAFF-DR-02-007

REQUEST:

Refer to the Direct Testimony of Libbie S. Miller, page 4, lines 1-22, and page 5, lines 1-6. It appears that Duke Kentucky is choosing a base fuel rate such that it will refund money rather than charge additional money for fuel to its customers. Explain how volatility is reduced by choosing a base fuel rate that is higher than projected fuel rates.

RESPONSE:

As explained in my direct testimony, Duke Energy Kentucky's current base fuel rate has resulted in the monthly FAC rate being an increase to customer bills in 18 of the 24 months of the review period. In addition, Duke Energy Kentucky's current base fuel rate of $0.023837 $/kWh is close to the projected fuel rates for 2021 and 2022. For these reasons, Duke Energy Kentucky has proposed a base fuel rate based on actual historical fuel costs that better represents the expected actual monthly fuel costs in the next 2-year period. The Company expects the rate to more accurately predict expected fuel costs, not simply to refund money to customers rather than charge customers on a monthly basis. While volatility related to recovery of fuel costs in customer bills can never be eliminated totally, adjusting the base fuel rate to more representative levels should reduce the range of the FAC rate adjustment each month.

PERSON RESPONSIBLE: Libbie S. Miller

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STAFF-DR-02-008

REQUEST:

Refer to the Commission Staff's First Request for Information (Staff's First Request), Item 7. Explain how some but not all Woodsdale units could experience low gas pressure such that they would be removed from service.

RESPONSE:

Ultimately, all operating Woodsdale combustion turbine units would have approximately the same inlet gas pressure since they all receive natural gas from the same transmission pipeline. However, in the event that there is low gas pressure at the inlet to the combustion turbine(s), if one or more of the operating units is removed from service, the inlet pressure to the other operating turbines will typically increase. Thus, at times, the low gas pressure issue can be rectified by removing one or more of the operating units from service, potentially leaving others able to continue to operate with acceptable inlet gas pressure to the combustion turbine.

PERSON RESPONSIBLE: John Swez

Duke Energy Kentucky
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STAFF-DR-02-009

REQUEST:

Refer to the Staff's First Request, Item 11, pages 1-2, Coal b. Explain what "Native purchases may be allowed for forced outages" means, particularly the word "Native."

RESPONSE:

Native refers to the total electric demand of the Duke Energy Kentucky customers. Note that the sentence "Pending approval from KyPSC, native purchases may also be allowed for forced outages." will be deleted in the next update of the Duke Energy Kentucky regulated electric risk limit policy since this request was not approved.

PERSON RESPONSIBLE: John Swez

Duke Energy Kentucky
Case No. 2021-00057
STAFF Second Set Data Requests
Date Received: April 5, 2021

STAFF-DR-02-010

REQUEST:

Refer to the Staff's First Request, Item 15. Attachment Staff-DR-01-15 Attachment.xlsx. Explain whether taking the Woodsdale units off-line due to low gas pressure is considered an outage, and if so, where on the spreadsheet the Woodsdale units are taken off-line due to low gas pressure.

RESPONSE:

If Woodsdale units are either online and have to come offline due to low gas pressure or dispatched to come online and cannot do so due to low gas pressure *and are unavailable on fuel oil*, then the impacted unit(s) should not be coded as outage. In this situation, since the units were available on backup fuel oil, they were not shown as outage in STAFF-DR-01-15 Attachment.xlsx. The description for the cause of an outage or other event type is located in column K in STAFF-DR-01-015 Attachment under the header "Description".

PERSON RESPONSIBLE: Brad Daniel
John Swez