

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of an Examination of the)
Application of the Fuel Adjustment Clause of) Case No. 2016-00005
Duke Energy Kentucky, Inc. From May 1,)
2015 Through October 31, 2015)

PETITION OF DUKE ENERGY KENTUCKY, INC.
FOR CONFIDENTIAL TREATMENT OF INFORMATION
CONTAINED IN ITS RESPONSES TO COMMISSION STAFF'S
SECOND SET OF DATA REQUESTS ISSUED MARCH 1, 2016

Duke Energy Kentucky, Inc. (Duke Energy Kentucky or Company), pursuant to 807 KAR 5:001, Section 13, respectfully requests the Commission to classify and protect certain information provided by Duke Energy Kentucky in its response to Data Request No. 2 Second Set, as requested by Commission Staff (Staff) in this case on March 1, 2016. The information that Staff seeks through discovery and for which Duke Energy Kentucky now seeks confidential treatment (Confidential Information) includes Duke Energy Kentucky's confidential calculations of its thermal performance factor coefficient (TPF) of the heat rate equation that is adjusted seasonally to account for change in the ambient air temperature and details regarding its dispatch and costs.

More specifically, the data contained in the response and Confidential Attachments to Data Request No. 2 contain sensitive information, the disclosure of which would injure Duke Energy Kentucky and its competitive position and business interest. The sensitive information contained in the response and attachments to Data Request 2 include confidential fuel policies and procedures information including, but not limited to, Duke Energy Kentucky calculation of its TPF used to calculate the Heat Rate of the Company's Woodsdale Generating Units

and the unit heat rates at specific loads. Releasing this information will give potential counterparties who may sell power to Duke Energy Kentucky access to operational characteristics of Duke Energy Kentucky's generating assets for purposes of making procurement decisions.

In support of this Petition, Duke Energy Kentucky states:

1. The Kentucky Open Records Act exempts from disclosure certain commercial information. KRS 61.878(1)(c). To qualify for this exemption and, therefore, maintain the confidentiality of the information, a party must establish that disclosure of the commercial information would permit an unfair advantage to competitors of that party. Public disclosure of the information identified herein would, in fact, prompt such a result for the reasons set forth below.

2. The public disclosure of the information described in No. 2 and its Attachments would damage Duke Energy Kentucky's competitive position and business interests. If the Commission grants public access to the information requested in Data Request No. 2, potential future power suppliers would have access to Duke Energy Kentucky's valuation of its own generation assets, unit heat rates and pricing thereby allowing them to potentially manipulate the market and undermine Duke Energy Kentucky's ability to manage its costs. Moreover, competitors to potential power sale agreements would have access to Duke Energy Kentucky's pricing information thereby placing the Company at a commercial disadvantage in winning such bids.

3. The information in response to Data Request No 2 was developed internally by Duke Energy Corporation and Duke Energy Kentucky personnel, is not on file with any public agency, and is not available from any commercial or other source outside Duke

Energy Kentucky. The aforementioned information is distributed within Duke Energy Kentucky only to those employees who must have access for business reasons, and is generally recognized as confidential and proprietary in the energy industry.

4. Duke Energy Kentucky does not object to limited disclosure of the confidential information described herein, pursuant to an acceptable protective agreement, the Staff or other intervenors with a legitimate interest in reviewing the same for the purpose of participating in this case.

5. This information was, and remains, integral to Duke Energy Kentucky's effective execution of business decisions. And such information is generally regarded as confidential or proprietary. Indeed, as the Kentucky Supreme Court has found, "information concerning the inner workings of a corporation is 'generally accepted as confidential or proprietary.'" *Hoy v. Kentucky Industrial Revitalization Authority*, Ky., 904 S.W.2d 766, 768 (Ky. 1995).

6. In accordance with the provisions of 807 KAR 5:001, Section 13(3), the Company is filing one copy of the Confidential Information separately under seal, and one copy without the confidential information included.

7. Duke Energy Kentucky respectfully requests that the Confidential Information be withheld from public disclosure for a period of ten years. This will assure that the Confidential Information – if disclosed after that time – will no longer be commercially sensitive so as to likely impair the interests of the Company or its customers if publicly disclosed.

8. To the extent the Confidential information becomes generally available to the public, whether through filings required by other agencies or otherwise, Duke Energy

Kentucky will notify the Commission and have its confidential status removed, pursuant to 807 KAR 5:001 Section 13(10)(a).

WHEREFORE, Duke Energy Kentucky, Inc., respectfully requests that the Commission classify and protect as confidential the specific information described herein.

Respectfully submitted,

DUKE ENERGY KENTUCKY, INC.



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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing filing was served on the following via overnight mail, this 11th day of March, 2016:

Larry Cook
The Office of the Attorney General
Utility Intervention and Rate Division
1024 Capital Center Drive
Frankfort, Kentucky 40601
larry.cook@ag.ky.gov



Rocco D'Ascenzo

VERIFICATION

STATE OF NORTH CAROLINA)
)
COUNTY OF MECKLENBURG) **SS:**

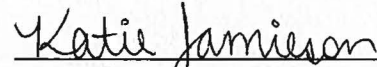
The undersigned, Brett Phipps, Managing Director – Fuel Procurement, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.



Brett Phipps, Affiant

Subscribed and sworn to before me by Brett Phipps on this 2 day of March,
2016.





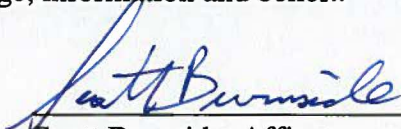
NOTARY PUBLIC

My Commission Expires: June 14, 2016

VERIFICATION

STATE OF NORTH CAROLINA)
) **SS:**
COUNTY OF MECKLENBURG)

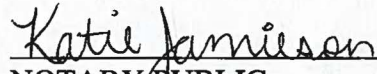
The undersigned, Scott Burnside, Manager of Post Analysis & Regulatory Support, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief..



Scott Burnside, Affiant

Subscribed and sworn to before me by Scott Burnside on this 2nd day of March, 2016.





NOTARY PUBLIC

My Commission Expires: June 14, 2016

KYPSC CASE NO. 2016-00005
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**Duke Energy Kentucky
Case No. 2016-00005
Staff Second Set Data Requests
Date Received: March 1, 2016**

STAFF-DR-02-001

REQUEST:

State whether Duke Kentucky leases or owns any barges, railcars, or other assets related to the transportation of coal. If so, provide the following:

- a. The date each purchase/lease was entered into;
- b. The reason for entering into each purchase/lease. Including the cost benefit;
- c. The types of costs associated with the lease/ownership that are recovered through the fuel adjustment clause ("FAC");
- d. By month, the amount of each cost identified in part c. above recovered through the FAC during the period under review; and
- e. The advantages and disadvantages of the lease/ownership compared to not leasing/owning.

RESPONSE:

Duke Kentucky does not lease or own barges, railcars or other assets related to the transportation of coal.

PERSON RESPONSIBLE: Brett Phipps

REQUEST:

Refer to Duke Kentucky's response to the Commission's February 5, 2016 Request for Information, Item 27, the attachment filed with a petition for confidentiality.

- a. Explain why the average heat rate was calculated based on the minimum load.
- b. Explain why the average heat rate varied between two different amounts for the six months of the review period and provide supporting calculations for both average heat rates.
- c. Provide the source for the maximum monthly gas price and explain why the maximum is used in the calculation.
- d. Explain why the amounts in the column "PJM Purchase Cost \$/MWh" are not exactly the amounts in the column "PJM Purchase Cost (\$)" divided by the amounts in column "PJM Purchase Quantity (MWh)."
- e. State for each month of the review period the highest level at which any of the Woodsdale combustion turbines operated.
- f. During a month when any Woodsdale unit operates at a level higher than the minimum load, explain why the calculation of the highest-cost unit should not take into account the higher level of operation, or use the maximum level, rather than use the minimum load.

- g. For each month of the review period, recalculate the highest-cost unit using the highest level at which any Woodsdale unit operated and provide the amounts of power purchases that would have been excluded using this calculation.
- h. For each month of the review period, recalculate the highest-cost unit using the maximum level at which the Woodsdale units can operate and provide the amounts of power purchases that would have been excluded using this calculation.

RESPONSE:

CONFIDENTIAL PROPRIETARY TRADE SECRET

- a. Duke Energy Kentucky calculates its highest cost unit that is available to be dispatched in any given month as part of its FAC in accordance with the Commission's May 2, 2002 Order in Case No. 2000-00495-B1 and May 2, 2002 Order in Case No. 2000-00496-B2 in which the Commission stated in pertinent part that: "We interpret Administrative Regulation 807 KAR 5:056 as permitting an electric utility to recover through its FAC only the lower of the actual energy cost of the non-economy purchased energy or the fuel cost of its highest cost generating unit available to be dispatched to serve native load during the reporting expense month."

Woodsdale combustion turbines (CTs) are capable of dispatch at minimum load, and are available to be dispatched as such by PJM, except when units experience an outage, derate, or other operational issue. PJM does dispatch Woodsdale CTs at minimum load when they are both available and needed. Thus, they are typically the highest cost units available to be dispatched to serve native

load in any reporting expense month. Using some other assumption about the load on the generating unit, would be contrary to the Commission's directive establishing the "highest cost generating unit available to be dispatched to serve native load during the reporting expense month," and would result in something less than the Company's highest cost unit available for dispatch.

- b. The heat rate is impacted by changes in ambient air temperature. The thermal performance factor coefficient (TPF) of the heat rate equation is adjusted seasonally to account for change in the ambient air temperature.

The average heat rate curve for Woodsdale is described by a second order polynomial function with design coefficients A, B, C plus a thermal performance factor (TPF) coefficient which adjusts the design coefficients to actual.

$$\text{Average heat rate (Btu/kWh)} = 1000 * (A + Bx + Cx^2) * \text{TPF} / x$$

where: x = Net electric generation in MW

TPF = thermal performance factor coefficient

1000 = constant to convert from MMBtu/MWh to Btu/kWh

A through C are coefficients that define the relationship between MW loading and heat rate.

The May and October 2015 coefficients at Woodsdale were as follows.

[REDACTED]

[REDACTED]

The June, July, August and September 2015 coefficients at Woodsdale were as follows.

[REDACTED]

[REDACTED]

- c. Duke Energy Kentucky does not have firm transportation gas contracts for its Woodsdale CT units because the units were designed to supply energy and/or operating reserve requirements at peak load. Therefore gas is purchased to meet a day-ahead award, a real-time commitment, or when prices are high enough to warrant economically dispatching those units. The Company only purchases natural gas from the day ahead or intraday natural gas markets on a delivered basis. The natural gas market changes daily. This price of gas is the same number that forms the basis for the Company's offers to PJM, which creates a financially binding commitment with PJM. The Company updates this price daily for the day-ahead and as necessary for the real-time markets.

The Company believes its use of the maximum monthly gas price is consistent with the Commission's directive in its May 2, 2002 Order in Case No. 2000-00495-B1 and May 2, 2002 Order in Case No. 2000-00496-B2 permitting an electric utility to recover through its FAC only the lower of the actual energy cost of the non-economy purchased energy or the fuel cost of highest cost generation available to be dispatched during a given month.

Gas prices used represent the expected delivered price of natural gas to Woodsdale. The Company bases the prices paid for actual delivered natural gas upon observed gas prices on the Intercontinental Exchange (ICE), or independent market quotes for bilateral natural gas delivered to Woodsdale Station. The process Duke Energy Kentucky uses to procure gas and make offers into PJM was developed with and through input of the PJM Independent Market Monitor.

- d. The amounts in the column "PJM Purchase Cost \$/MWh" are not exactly the amounts in the column "PJM Purchase Cost (\$)" divided by the amounts in column "PJM Purchase Quantity (MWh)" because the "PJM Purchase Cost (\$)" and "PJM Purchase Quantity (MWh)" were rounded for presentation but contain decimal places internal to the calculation. Please see STAFF-DR-02-002(d) Confidential Attachment for a presentation containing the decimal places needed to reconcile the calculation of "PJM Purchase Cost \$/MWh".
- e. Objection. The term "level" is undefined, confusing and ambiguous and the question cannot be answered without speculation. Without waiving said objection, and to the extent discoverable, the Company states that the term "level" could mean either the highest cost unit or the highest MegaWatt (MW) production per month and thus states as follows:
- The highest cost unit operated during the month of May 2015 was Woodsdale 2 which operated at minimum load on 5/21/15 hour ending (HE) 10:00 EST.
 - The highest MW production during the month of May 2015 was 79 MW at Woodsdale unit 3 on 5/17/15 HE 16:00 EST and 17:00 EST, which neither

reflects the highest cost unit available to be dispatched during the expense month, nor the highest cost unit actually dispatched during the expense month.

- The highest cost unit operated during the month of June 2015 was Woodsdale 3 which operated at minimum load on 6/3/15 HE 9:00 EST.
- The highest MW production during the month of June 2015 was 73 MW at Woodsdale 1 on 6/10/15 HE 14:00 EST and 73 MW at Woodsdale 3 on 6/11/15 HE 14:00 EST, which neither reflects the highest cost unit available to be dispatched during the expense month, nor the highest cost unit actually dispatched during the expense month.
- The highest cost units operated during the month of July 2015 were Woodsdale 2, 3, 4, 5 and 6 which operated at minimum load on 7/18/15 HE 13:00 EST and HE 14:00 EST and again on 7/27/15 HE 19:00 EST.
- The highest MW production during the month of July 2015 was 81 MW at Woodsdale 1 on 7/30/15 HE 11:00 EST, which neither reflects the highest cost unit available to be dispatched during the expense month, nor the highest cost unit actually dispatched during the expense month.
- The highest cost units operated during the month of August 2015 were Woodsdale 1, 2, 3 and 4 which operated at 11 MW on 8/19/2015 HE 16:00 EST, which does not reflect the highest cost unit *available* to be dispatched during the expense month because Woodsdale units were *available* to be dispatched at minimum load.
- The highest MW production during the month of August 2015 was 83 MW at Woodsdale 2 on 8/11/15 HE 14:00 EST and 83 MW at Woodsdale 4 on

8/11/15 HE 12:00 EST, which neither reflects the highest cost unit available to be dispatched during the expense month nor the highest cost unit actually dispatched during the expense month.

- The highest cost units operated during the month of September 2015 were Woodsdale 1, 2 and 3 which operated at 6 MW on 9/17/15 HE 18:00 EST, which does not reflect the highest cost unit *available* to be dispatched during the expense months because Woodsdale was *available* to be dispatched at minimum load.
 - The highest MW production during the month of September 2015 was 72 MW at Woodsdale 4 on 9/6/15 HE 17:00 EST, which neither reflects the highest cost unit available to be dispatched during the expense month, nor the highest cost unit actually dispatched during the expense month.
 - The highest cost unit operated during the month of October 2015 was Woodsdale 2 which operated at minimum load on 10/15/15 HE 14:00 EST.
 - The highest MW production during the month of October 2015 was 68 MW at Woodsdale 2 on 10/19/15 HE 7:00 EST and 68 MW at Woodsdale 5 on 10/19/15 HE 7:00 EST, and neither reflects the highest cost unit available to be dispatched during the expense month, nor the highest cost unit actually dispatched during the expense month.
- f. Duke Energy Kentucky's own highest cost generation can only be correctly calculated when the heat rate is based on minimum load. This is consistent with the Commission's previous FAC orders quoted above. Because of the flexibility in operational characteristics afforded by the six individual Woodsdale CTs,

including quick start up times and fast ramp rates, PJM will dispatch these units individually and at varying levels each month, including at times, minimum load.

The Woodsdale CTs are always capable of dispatch at minimum load, and are therefore available to be dispatched as such by PJM, (except when units experience an outage, derate, or other operational issues.) Woodsdale CT's at minimum load are factually Duke Energy Kentucky's highest cost units available to be dispatched to serve native load in any reporting expense month.

Additionally, assuming a dispatch cost of the Woodsdale CTs at the "highest" MW load for Woodsdale is impractical and inconsistent with the Commission's FAC rules. It is rare, if ever, that all 6 units of Woodsdale would be operating at the same time, let alone all at their maximum load. If any unit is operating at something less than maximum load, then the Company's \$/MWh actual cost of dispatch for that unit would be greater than any unit that was also operating at maximum load. Moreover, even if all six Woodsdale units were operating at the "maximum" levels, then there would be no additional "available generation" to be dispatched.

Purchase power often helps Duke Energy Kentucky to *avoid* running Woodsdale CTs when there are less expensive market alternatives. Using actual MWs generated by Duke Energy Kentucky's assets to determine the average heat rate does not correlate with generation MWs potentially avoided. Nor does it truly reflect Duke Energy Kentucky's highest cost unit available to be dispatched. Economy purchased power does not occur only if the Company has exhausted its own resources, but occurs primarily where its own resources are more expensive

than what is available in the market. Calculating the threshold for recoverability of purchased power expense at something other than minimum load creates a perverse situation where the utility is penalized for purchasing a MW of power at a lower \$/MWh than what the Company could generate that same MW.

As shown above, during the month of May 2015 Woodsdale 2 operated at minimum load on 5/21/15 hour ending (HE) 10:00 EST which happens to also be the Company's highest production cost during the month of a unit available to be dispatched. By using Woodsdale's maximum level of operation, or something other than minimum load to establish the threshold of Duke Energy Kentucky's highest cost unit, would mean that any MWs that Duke Energy Kentucky was able to purchase at a \$/MWh less than production cost of Unit 2 at minimum load, but greater than the production cost of Unit 2 operating at either 79 MWs or some greater level (e.g. maximum load) would be disallowed from recovery. Power and fuel prices change daily. Because actual fuel costs are recoverable, excluding any power purchases during any hours where a cap is determined to be more than 5MWs (minimum load) but less than 79 (or the unit's maximum load) would actually suggest that Duke Energy Kentucky should have dispatched its own generation for each MW needed in any hour where the cost was greater than the \$/MWh production cost at 79 MWs (or the unit's maximum load).

Furthermore, it is typically not economic to dispatch a natural gas CT in any single hour where the \$/MWh cost of purchased power is less than the \$/MWh fuel cost of the CT because the CT also incurs significant start-up wear and tear and variable O&M costs. A commitment decision for starting a CT must include

not only fuel cost but also start-up wear and tear, amortized over an expected run time, variable O&M and NOx allowance cost.

Arbitrarily setting the threshold for disallowing purchased power at a Woodsdale unit's maximum load, or some level other than minimum load, is establishing a new threshold standard that is no longer reflective of the Company's actual costs or of its highest cost unit *available* to be dispatched. Such a determination is artificially establishing a much lower threshold for excluding economy purchased power that is not tied in any way to the Company's true costs of operating its owned generation on a monthly basis solely to disallow purchased power costs.

The Company does not understand how the Commission's previous directive of using the utility's "highest cost unit available to be dispatched" could in fact mean the utility's "highest MW load that its units actually generated during the dispatch month," because such an interpretation does not necessarily reflect the Company's highest cost unit *available* to be dispatched. The Company believes that the requested calculation is changing the Commission's directive to mean something else. The Company is unaware of any authority that has previously interpreted the FAC regulation in such a manner.

- g. Objection. The term "level" is undefined, confusing and ambiguous and the question cannot be answered without speculation. Without waiving said objection, and to the extent discoverable, please see STAFF-DR-02-002(g)-A Confidential Attachment for an analysis of purchased power cost versus Duke Energy Kentucky generation at the highest actual monthly MW loading. Please

see STAFF-DR-02-002(g)-B Confidential Attachment for an analysis of purchased power cost versus Duke Energy Kentucky's highest cost generation that actually ran during a month. Duke Energy Kentucky submits that neither of these requested analyses utilizing actual cost and actual MW loading are appropriate, reasonable, or consistent with the plain language of the FAC regulation. Further, such analysis does not comport with the Commission's May 2, 2002 Order in Case No. 2000-00495-B1 and May 2, 2002 Order in Case No. 2000-00496-B2 and do not reflect Duke Energy Kentucky's highest cost unit available to be dispatched. PJM can and does dispatch Woodsdale units at minimum load and a Woodsdale unit at minimum load is, in fact, the highest cost unit available to be dispatched. Using a calculation other than minimum load is arbitrary and establishes a benchmark that is based upon something other than Duke Energy Kentucky's highest cost unit that is available to be dispatched.

- h. Objection. The term "level" is undefined, confusing and ambiguous and the question cannot be answered without speculation. Without waiving said objection, and to the extent discoverable, the Company states please see STAFF-DR-02-002(h) Confidential Attachment for an analysis of purchase power cost vs. Woodsdale generation at maximum load. Duke Energy Kentucky submits that the requested analysis is inappropriate, unreasonable, does not comport with the Commission's May 2, 2002 Order in Case No. 2000-00495-B1 and May 2, 2002 Order in Case No. 2000-00496-B2 and does not reflect Duke Energy Kentucky's highest cost unit *available* to be dispatched. PJM can and does dispatch Woodsdale units at minimum load heat rate. A Woodsdale unit at minimum load

is, in fact, the highest cost unit available to be dispatched. Using any other calculation is arbitrary and establishes a benchmark that is based upon something other than Duke Energy Kentucky's highest cost generation unit that is *available* to be dispatched in an expense month.

PERSON RESPONSIBLE: Scott Burnside

CONFIDENTIAL

TREATMENT HAS BEEN

REQUESTED FOR

STAFF-DR-02-002(d) CONFIDENTIAL ATTACHMENT

STAFF-DR-02-002(g)-A CONFIDENTIAL ATTACHMENT

STAFF-DR-02-002(g)-B CONFIDENTIAL ATTACHMENT

STAFF-DR-02-002(h) CONFIDENTIAL ATTACHMENT