

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN EXAMINATION OF THE APPLICATION OF)	
THE FUEL ADJUSTMENT CLAUSE OF DUKE)	CASE NO.
ENERGY KENTUCKY, INC. FROM MAY 1, 2015)	2016-00005
THROUGH OCTOBER 31, 2015)	

ORDER

Pursuant to 807 KAR 5:056, the Commission established this case on February 5, 2016, to review and evaluate the operation of the Fuel Adjustment Clause (“FAC”) of Duke Energy Kentucky, Inc. (“Duke Kentucky”) for the six-month period that ended on October 31, 2015. As part of this review, Duke Kentucky responded to three requests for information and the Commission held a formal hearing in this matter on April 7, 2016. On May 3, 2016, Duke Kentucky filed its response to requests made at the hearing. Duke Kentucky filed a post-hearing brief on May 17, 2016.

The Commission has previously established Duke Kentucky’s base fuel cost as 29.117 mills per kWh.¹ A review of Duke Kentucky’s monthly FAC filings shows that the fuel cost billed for the six-month period under review ranged from a low of 24.64 mills in September 2015 to a high of 28.73 mills in July 2015, with a six-month average of 26.85 mills.

¹ Case No. 2014-00454, *An Examination of the Application of the Fuel Adjustment Clause of Duke Energy Kentucky, Inc. from November 1, 2012 Through October 31, 2014* (Ky. PSC Aug. 11, 2015).

Highest-Cost Unit Calculation Methodology

In FAC Orders issued in May 2002,² the Commission stated as follows:

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. Costs for non-economy energy purchases that are not recoverable through an electric utility's FAC are considered "non-FAC expenses" and, if reasonably incurred, are otherwise eligible for recovery through base rates.

In FAC Orders issued in 2015,³ the Commission affirmed its 2002 decision that recovery through the FAC of non-economy power purchases is limited to a utility's own highest-cost generating unit available for dispatch during the month. During this review period, the Commission examined the methodologies used by the six jurisdictional generators in calculating their highest-cost units. For Duke Kentucky, its six Woodsdale units are its highest-cost units.⁴ These units are identical natural gas combustion turbine ("CT") units, each having a capacity range of 77–94 MW, depending on the season.⁵

² Case No. 2000-00495-B, *An Examination by the Public Service Commission of the Application of the Fuel Adjustment Clause of American Electric Power Company from May 1, 2001 to October 31, 2001* (Ky. PSC May 2, 2002), Final Order at 5; and Case No. 2000-00496-B, *An Examination by the Public Service Commission of the Application of the Fuel Adjustment Clause of East Kentucky Power Cooperative, Inc. from May 1, 2001 to October 31, 2001* (Ky. PSC May 2, 2002), Final Order at 5.

³ See Case No. 2014-00226, *An Examination of the Application of the Fuel Adjustment Clause of East Kentucky Power Cooperative, Inc. from November 1, 2013 Through April 30, 2014* (Ky. PSC July 10, 2015); and Case No. 2014-00229, *An Examination of the Application of the Fuel Adjustment Clause of Duke Energy Kentucky from November 1, 2013 Through April 30, 2014* (Ky. PSC July 10, 2015).

⁴ Duke Kentucky's response to Commission Staff's Second Request for Information ("Staff's Second Request"), Item 2.a.

⁵ Duke Kentucky's response to Commission Staff's Third Request for Information ("Staff's Third Request"), Items 8.

For the highest-cost unit calculation, Duke Kentucky assumes a minimum load level of operation and uses the highest monthly natural price.⁶ Duke Kentucky states that it “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.”⁷ The minimum load level of the units is 5 MW.⁸ During the review period, the heat rates used in the calculation ranged from [REDACTED] btu/kWh and the \$/MWh rates produced by the calculation ranged from [REDACTED].⁹

Duke Kentucky is a member of the PJM Interconnection, LLC (“PJM”) regional transmission operator. As such, PJM dispatches Duke Kentucky’s generating units. Duke Kentucky states that PJM can, and does, order the Woodsdale units to operate at minimum load. Although PJM does not fully disclose the reasons for dispatching specific units, Duke Kentucky states that the reasons include: transmission constraints; managing congestion; and, to meet reliability needs.¹⁰ Duke Kentucky contends that the highest-cost generating unit available to be dispatched is any of its Woodsdale CTs dispatched at minimum load and that calculating the cost of a unit at a load level other than minimum load results in something other than highest cost.¹¹

⁶ Duke Kentucky’s response to the Commission’s February 5, 2016 Request for Information, Item 27, and Staff’s Second Request, Item 2.c.

⁷ *Id.*

⁸ Duke Kentucky’s response to Staff’s Third Request, Item 3.b.

⁹ Duke Kentucky’s response to the Commission’s February 5, 2016 Request for Information, Item 27.

¹⁰ Duke Kentucky’s response to Staff’s Third Request, Item 3.b.

¹¹ *Id.*, Item 3.a.

In its post-hearing brief, Duke Kentucky states that its methodology for determining the amount of power purchases that are recoverable through the FAC is consistent with Commission precedent and should be approved.¹² Duke Kentucky argues that neither the actual costs incurred nor the quantity of energy generated during a month influences the recoverability of power purchases through the FAC. According to Duke Kentucky, “the applicable threshold for determining recoverability of purchase power is the next MW of company-owned generation that could be, but has not already been, dispatched (i.e. available).”¹³ Duke Kentucky avers that to utilize inputs other than the units' highest heat rate and highest observed monthly fuel price in the highest-cost unit calculation would yield unreliable results.¹⁴ Duke Kentucky states that requiring it to use an average fuel cost and the average of the minimum and maximum load heat rate in the calculation would result in an inaccurate reflection of its true cost of dispatchable generation.¹⁵ Finally, Duke Kentucky claims that there are limitations to the Commission's authority as reflected in KRS 278.160, commonly referred to as the filed rate doctrine, and that if the Commission was to adopt a more restrictive interpretation of the FAC regulation, the Commission would be restricted from enforcing that interpretation retroactively.¹⁶

¹² Duke Kentucky's Post Hearing Brief at 6.

¹³ *Id.* at 7.

¹⁴ *Id.* at 8.

¹⁵ *Id.*

¹⁶ *Id.* at 4 and 12.

DISCUSSION

Duke Kentucky's highest-cost unit rates are considerably higher than those calculated by the other jurisdictional generating utilities. Although East Kentucky Power Cooperative, Inc. ("EKPC") is a member of PJM, like Duke Kentucky, and uses the same methodology for calculating its highest-cost unit, its calculation results in a highest-cost unit rate that is considerably smaller than that calculated by Duke Kentucky.¹⁷ The primary reason for this is the difference in the minimum loads used by the two utilities in their calculations. The minimum load for EKPC's J.K. Smith CTs is 50 MW,¹⁸ while the minimum load for Duke Kentucky's Woodsdale CTs is 5 MW. The heat rate range of [REDACTED] btu/kWh calculated by Duke Kentucky using a 5-MW load significantly exceeds the heat rate of 16,034 btu/kWh used by EKPC in its highest-cost unit calculation.¹⁹

When the Commission issued its FAC Orders in 2002 stating that recovery of power purchases through the FAC was limited to "the lower of the actual energy cost of the non-economy purchased energy or the fuel cost of its highest cost generating unit

¹⁷ Case No. 2016-00002, *An Examination of the Application of the Fuel Adjustment Clause of East Kentucky Power Cooperative, Inc. from May 1, 2015 through October 31, 2015* (filed Mar. 28, 2016), EKPC's response to Staff's Third Request, Item 3.

¹⁸ *Id.*, Items 3.e., 3.f., and 3.g. The 50 MW applies to EKPC's J.K. Smith Units 1, 2, and 3.

¹⁹ See Duke Kentucky's response to the Commission's February 5, 2016 Request for Information, Item 27; and Case No. 2016-00002, *East Kentucky Power Cooperative, Inc.* (filed Mar. 28, 2016), EKPC's response to Staff's Third Request, Item 3.b.

available to be dispatched”²⁰ Duke Kentucky did not own any generation²¹ and none of the jurisdictional generators were a member of PJM. The Commission would not have been able to anticipate that: 1) Duke Kentucky would acquire generation with a 5-MW minimum load; 2) PJM would dispatch the units at minimum load; and 3) Duke Kentucky would use the highest cost at which its highest-cost unit could operate for calculating the threshold for power purchase recovery through the FAC.

While Duke Kentucky and EKPC use the same calculation methodology, Duke Kentucky’s calculation produces a cost that is approximately [REDACTED] [REDACTED] which had the second highest-cost threshold compared to Duke Kentucky’s during the review period.²² When the Commission limited the recovery of power purchases through the FAC to the cost of the highest-cost unit available to be dispatched, it did not state that the limitation would be the highest absolute cost at which the highest-cost unit could be dispatched.²³ Although the Woodsdale units are capable of operating at minimum load, they are also

²⁰ Case No. 2000-00495-B, *American Electric Power Company* (Ky. PSC May 2, 2002), Final Order at 5; and Case No. 2000-00496-B, *East Kentucky Power Cooperative, Inc.* (Ky. PSC May 2, 2002), Final Order at 5.

²¹ The Commission granted Duke Kentucky, then operating under the name of Union Light, Heat and Power Company, authorization to acquire generation in Case No. 2003-00252, *Application of the Union Light, Heat and Power Company for a Certificate of Public Convenience and Necessity to Acquire Certain Generation Resources and Related Property; for Approval of Certain Purchase Power Agreements; for Approval of Certain Accounting Treatment; and for Approval of Deviation from Requirements of KRS 278.2207 and 278.2213(6)* (Ky. PSC Dec. 5, 2003.)

²² EKPC’s highest-cost unit rate ranged from \$43.29 to \$51.79 and [REDACTED] [REDACTED] during the review period. See Case No. 2016-00002, *East Kentucky Power Cooperative, Inc.* (filed Mar. 28, 2016), EKPC’s response to Staff’s Third Request, Item 3.b.; and [REDACTED] [REDACTED]

²³ It should be noted that some of the jurisdictional generators use the maximum load level in their highest-cost unit calculations.

capable of operating, and do operate, at more efficient and less expensive levels of generation. While EKPC's use of a 50-MW minimum level of operation in the calculation produces a reasonable result, Duke Kentucky's use of a 5-MW minimum load does not produce a reasonable result.

Having reviewed Duke Kentucky's methodology for calculating its highest-cost unit and the calculation results, the Commission finds the calculation methodology to be unreasonable in that it produces an unreasonable result. Given that EKPC's minimum load is 50 MW for a 110-MW CT, the Commission believes it would be reasonable to require Duke Kentucky, on a prospective basis, to use an average of minimum and maximum load in its highest-cost unit calculation. Although doing so would still result in Duke Kentucky's highest-cost unit threshold significantly exceeding EKPC's,²⁴ it would set the threshold at a level similar to [REDACTED] and more in line with the levels of the other jurisdictional generating utilities.²⁵ The Commission finds that, beginning with the first FAC filing subsequent to the date of this Order, Duke Kentucky should calculate its highest-cost unit for the Woodsdale units by using an average of the minimum and maximum load level of operation. The Commission also finds that, until otherwise directed by the Commission, Duke Kentucky may continue to use the maximum monthly natural gas price.

²⁴ See calculation results provided in Duke Kentucky's response to Commission Staff's Post-Hearing Request for Information, Item 7; and Case No. 20016-00002, *East Kentucky Power Cooperative, Inc.* (filed Mar. 28, 2016), EKPC's response to Commission Staff's Third Request, Item 3.b.

²⁵ [REDACTED]

Coal District Numbers

During the course of this proceeding, the Commission sought information regarding the coal district numbers used by Duke Kentucky and the other generators when identifying the source of coal purchases in their monthly FAC backup filings. The coal district numbers used by Duke Kentucky differ from those used by the Mine Safety and Health Administration (“MSHA”). Duke Kentucky stated that it is using the coal district numbers that were required by the Federal Energy Regulatory Commission (“FERC”) when Duke Kentucky was required to file the Form 423 with FERC. The Form 423 was replaced in 2008 with the U. S. Energy Information Administration Form 923, which does not require a coal district number. At the hearing in this matter, Duke Kentucky stated that it was not aware of any reason why the MSHA coal district numbers should not be used in its monthly FAC backup filings. The Commission finds that Duke Kentucky should begin using the MSHA coal district numbers when identifying the source of its coal purchases in its monthly FAC backup filings.

The Commission, having considered the evidence of record and being otherwise sufficiently advised, finds no evidence of improper calculation or application of Duke Kentucky’s FAC charges or improper fuel procurement practices.

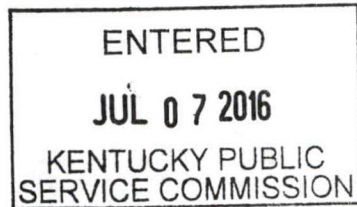
IT IS THEREFORE ORDERED that:

1. The charges and credits billed by Duke Kentucky through its FAC for the period May 1, 2015, through October 31, 2015, are approved.
2. Beginning with the first FAC filing submitted subsequent to the date of this Order, Duke Kentucky shall calculate its highest-cost unit for the Woodsdale units by using an average of the minimum and maximum load level at which the unit can be

dispatched. Until otherwise directed by the Commission, Duke Kentucky shall be allowed to use the maximum monthly natural gas price in its highest-cost unit calculation.

3. Beginning with the first FAC backup file submitted subsequent to the date of this Order, Duke Kentucky shall use the MSHA coal district numbers when identifying the source of its coal purchases.

By the Commission



ATTEST:


Acting Executive Director

Case No. 2016-00005

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