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March 30, 2015

RECEIVED

MAR 31 2015

PUBLIC SERVICE
COMMISSION

VIA OVERNIGHT DELIVERY

Mr. Jeff Derouen
Executive Director
Kentucky Public Service Commission
211 Sower Blvd
Frankfort, KY 40601

RE: Administrative Case No. 387 – Annual Load/Demand Forecast Report

Dear Mr. Derouen:

Enclosed please find the 2014 redacted responses to the Commission data requests filed annually, as ordered in Administrative Case No. 387, paragraph 2, dated October 7, 2005. These updated responses are being filed separately from the Annual Reporting of Duke Energy Kentucky upon request.

We have included the unredacted and highlighted responses in a separate envelope to be filed under seal. Also enclosed is a Petition for Confidential Treatment for your consideration in the above referenced matter.

Please date-stamp the two copies of the letter data requests and return to me in the enclosed envelope. Should you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Rocco D'Ascenzo
Associate General Counsel

Enclosures

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

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MAR 31 2015

PUBLIC SERVICE
COMMISSION

A Review of The Adequacy of)
Kentucky's Generation Capacity and) Administrative
Transmission System) Case No. 387

**DUKE ENERGY KENTUCKY, INC.'S
PETITION FOR THE CONFIDENTIAL TREATMENT OF INFORMATION FILED
FOR CALENDAR YEAR 2014**

1. 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 responses to Data Request Nos. 6 and 11, as requested by Commission Staff ("Staff"). The information that Staff seeks, and for which Duke Energy Kentucky now seeks confidential treatment ("Confidential Information"), includes the internal, proprietary policies, procedures and guidelines Duke Energy Kentucky has in place with regard to price elasticity estimates used as part of the Company's forecasting process,¹ and planned outage and retirement schedules by plant.² In support of this Motion, Duke Energy Kentucky further 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

¹ Supplemental Data Request No. 6.

² Data Request No. 11.

the information identified herein would, in fact, prompt such a result for the reasons set forth below.

2. The public disclosure of the Company's internal price elasticity standards, protocols or policies would reveal the information that is, quite obviously, highly sensitive, commercially valuable and strictly proprietary. This information, if disclosed, will reveal Duke Energy Kentucky's underlying assumptions of the energy markets that are used as part of its internal resource planning and pricing estimation processes. The public disclosure of this information would potentially also harm Duke Energy Kentucky's competitive position in the marketplace, to the detriment of Duke Energy Kentucky and its customers in that potential counter parties would have access to Duke Energy Kentucky's underlying resource model and planning assumptions.

3. The above information, if openly disclosed, would grant competitors a distinct advantage in that they would be able to anticipate Duke Energy Kentucky generation costs. With this information, a competitor could take actions that in the absence of this information it would not take. Such actions might include adjusting its prices, either to win contracts on which Duke Energy Kentucky may also be bidding — business the competitors otherwise would not be in a position to win, or to set its prices artificially high to take advantage of such knowledge, the latter action obviously forcing consumers to pay higher prices for power.

4. Similarly, the list of projected outages, as contained in response to Data Request No. 11, will grant vendors a distinct advantage in that they would be able to anticipate Duke Energy Kentucky's maintenance schedules. Duke Energy Kentucky submits that the following information, if openly disclosed, could present antitrust issues by giving its competitors access to competitively sensitive, confidential information, which in turn could cause energy prices to

consumers to be above competitive rates, and would permit competitors of Duke Energy Kentucky to gain an unfair competitive advantage in the marketplace:

- a. Scheduled outages or retirements of generating capacity during the current year and the following four years.

5. The information for which Duke Energy Kentucky is seeking confidential treatment is not known outside of Duke Energy Corporation.

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

7. 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*, 904 S.W.2d 766, 768 (Ky. 1995).

8. 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.

9. 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.

10. 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 30th day of March 2015:

Kentucky Public Staff
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky, 40601



Rocco D'Ascenzo

VERIFICATION

STATE OF OHIO)
)
COUNTY OF HAMILTON) SS:

The undersigned, Tim Abbott, being duly sworn, deposes and says that he is the Director of System Operations Services, and 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.

Timothy A. Abbott
Tim Abbott, Affiant

Subscribed and sworn to before me by Tim Abbott, on this 23rd day of February, 2015.

ADELE M. FRISCH
Notary Public, State of Ohio
My Commission Expires 01-05-2019

Adele M. Frisch
NOTARY PUBLIC

My Commission Expires: 1/5/2019

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STAFF-DR-01-003

REQUEST:

Actual and weather-normalized monthly coincident peak demands for the just completed calendar year. Demands should be disaggregated into (a) native load demand (firm and non-firm) and (b) off-system demand (firm and non-firm).

RESPONSE:

Actual and weather-normalized monthly coincident peak native load demands for 2014 are provided in the table below. Duke Energy Kentucky does not have any off-system firm demands. The table does provide off-system non-firm demands. Weather normal values for the off-system demands are not available.

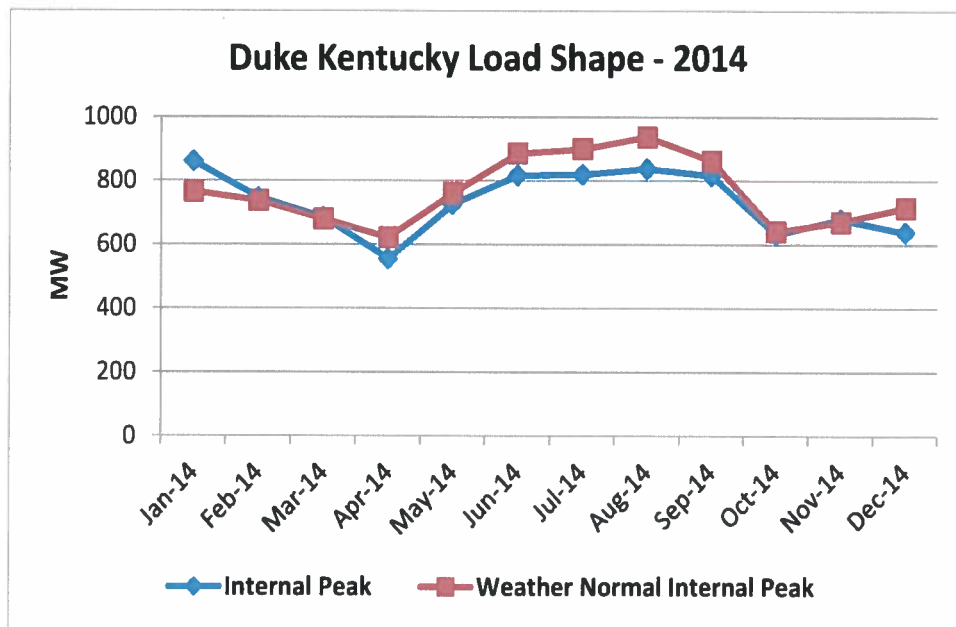
| Duke Energy Kentucky Electric Energy Demands - MW | | | | | | |
|---|-------------|-----------------|---------------|------------------------------|---------------------|-----------|
| | 1 | 2 | 3 = 1 + 2 | 4 | 5 | 6 = 3 + 5 |
| | Native Peak | Demand Response | Internal Peak | Weather Normal Internal Peak | Off-System Non-Firm | Total |
| Jan-14 | 860 | | 860 | 765 | | 765 |
| Feb-14 | 746 | | 746 | 737 | | 737 |
| Mar-14 | 684 | | 684 | 678 | | 678 |
| Apr-14 | 554 | | 554 | 620 | | 620 |
| May-14 | 726 | | 726 | 760 | | 760 |
| Jun-14 | 816 | | 816 | 885 | | 885 |
| Jul-14 | 819 | | 819 | 899 | | 899 |
| Aug-14 | 837 | | 837 | 937 | | 937 |
| Sep-14 | 815 | | 815 | 861 | | 861 |
| Oct-14 | 632 | | 632 | 640 | | 640 |
| Nov-14 | 680 | | 680 | 671 | | 671 |
| Dec-14 | 638 | | 638 | 715 | | 715 |

PERSON RESPONSIBLE: Leon Brunson

REQUEST:

Load shape curves that show actual peak demands and weather-normalized peak demands (native load demand and total demand) on a monthly basis for the just completed calendar year.

RESPONSE:



PERSON RESPONSIBLE: Leon Brunson

REQUEST:

Based on the most recent demand forecast, the base case demand and energy forecasts and high case demand and energy forecasts and high case demand and energy forecasts for the current year and the following four years. The information should be disaggregated into (a) native load (firm and non-firm demand) and (b) off-system load (both firm and non-firm demand).

RESPONSE:

Base case native load demand and energy forecasts and high case native load demand and energy forecasts are provided in the table below. Duke Energy Kentucky does not have any off-system firm energy sales or demands. The second table provides forecasts of off-system non-firm energy. A forecast of off-system non-firm demands is not available.

| Duke Energy Kentucky - Native Load Forecast | | | | |
|--|--------------------|-------------|---------------------|-------------|
| | Demand - MW | | Energy - MWH | |
| | Base | High | Base | High |
| 2015 | 887 | 932 | 4,321,991 | 4,558,825 |
| 2016 | 893 | 943 | 4,369,493 | 4,611,935 |
| 2017 | 897 | 948 | 4,382,399 | 4,631,511 |
| 2018 | 900 | 951 | 4,396,749 | 4,654,109 |
| 2019 | 903 | 954 | 4,411,606 | 4,678,376 |

| Duke Energy Kentucky - Non-Firm Electric Forecast | | | | |
|--|-------------|------|--------------|------|
| | Demand - MW | | Energy - MWH | |
| | Base | High | Base | High |
| 2015 | n/a | n/a | n/a | n/a |
| 2016 | n/a | n/a | n/a | n/a |
| 2017 | n/a | n/a | n/a | n/a |
| 2018 | n/a | n/a | n/a | n/a |
| 2019 | n/a | n/a | n/a | n/a |

PERSON RESPONSIBLE: Leon Brunson

**PUBLIC STAFF-DR-01-006
SUPPLEMENTAL**

REQUEST:

Due to the increasing impact that price elasticity will have on electric utility sales and revenues, provide a detailed discussion of the consideration given to price elasticity in the forecasted demand, energy and reserve margin information provided with the annual Admin 387 resource assessments.

RESPONSE:

CONFIDENTIAL PROPRIETARY TRADE SECRET

Energy:

Duke Energy Kentucky's energy sales forecast models were prepared at the Kentucky regional level for the Fall 2014 projection, which is the basis for the information herein. The forecast for Duke Energy Kentucky was determined by using historical actual regional sales for the residential, commercial, industrial, governmental and street lighting customer segments.

The price for electricity is an input to the Ohio-Kentucky energy sales forecast models. From an economic theory perspective, the price of electricity should be included as a forecast input because it is one of the factors that determines the level of electricity consumption in the long run.

Price elasticity is the projected percentage change in energy sales given a 1 percentage increase in electricity prices. Holding all other variables constant, if the price of electricity increases, energy sales are expected to decline. The Kentucky energy sales and peak demand projections include the impact of future electricity prices. The reported

price elasticity reflects a 50/50 probability or a value that has a 50% chance of being lower or higher. The price elasticities are calculated based on the historical relationship between sales, electricity prices and other variables such as weather, population, income, employment and industrial production. The historical period used in the energy sales model estimation ranges between 10 and 20 years and it varies by customer class.

Based on the Fall 2014 econometric model specification, the estimated price elasticities for Duke Energy Kentucky are: residential [REDACTED], commercial [REDACTED], industrial [REDACTED] and governmental [REDACTED].

Demand:

The peak demand projection is a function of weather variables and weather normal retail sales. The Duke Energy Kentucky peak demand forecast does not use the price of electricity as a direct forecast input.

Since the price of electricity is an input to the retail sales projection, it indirectly influences the peak demand growth projection in the long run. Based on Duke Energy's current forecast methodology, the price of electricity is not a material driver of peak demand in the short run.

The Duke Energy models predict that sales volumes would be approximately 1% higher than the reference case if prices were held constant in real terms. The reference case projection assumes an electricity price forecast that does not stay constant in real terms.

| Duke Energy Kentucky - Native Load Forecast | | | | |
|--|--------------------|--------------------|---------------------|--------------------|
| | Demand - MW | | Energy - MWH | |
| | Base | Fixed Price | Base | Fixed Price |
| 2015 | 887 | 896 | 4,321,991 | 4,365,211 |
| 2016 | 893 | 902 | 4,369,493 | 4,413,188 |
| 2017 | 897 | 906 | 4,382,399 | 4,426,223 |
| 2018 | 900 | 909 | 4,396,749 | 4,440,717 |
| 2019 | 903 | 912 | 4,411,606 | 4,455,723 |

Notes:

- MWH energy reflects load at generation level or after adding back line losses.
- Fixed price MW demand and MWH energy show how much load would have been, if retail rates did not increase from historical levels after accounting for inflation.

The projected growth in electricity prices is obtained from internal company records. This information is consistent with the financial planning assumptions used by Duke Energy Kentucky.

Since the long-term growth rate for peak demand is expected to mirror that of energy sales, changes in sales growth associated with price moves will eventually impact the peak demand forecast. Therefore, the peak demand projection would also be approximately 1% higher than the reference case if prices were assumed to stay constant in real terms.

Planning Reserve Margin:

Duke Energy Kentucky's 2015 *planning* reserve margin of 13.8% is based on the PJM Forecast Pool Requirement. This is determined from PJM and Duke Energy Kentucky equivalent forced outage rates and installed load capacities, and is independent of Duke Energy Kentucky's load forecast. The *forecasted* reserve margin is based on the base case load forecast. All else being equal, and given negative long term price elasticities, the forecasted reserve margin varies directly with the price of electricity. For

example, assuming that the price of electricity increases, then load decreases due to the negative price elasticity. Since the reserve margin calculation measures the difference between generation capacity and peak load, lower loads increase the reserve margin.

PERSON RESPONSIBLE: Energy/ Demand- Leon Brunson
Reserve Margin- Scott Park

STAFF-DR-01-007

REQUEST:

The target reserve margin currently used for planning purposes, stated as a percentage of demand. If changed from what was in use in 2001, include a detailed explanation for the change.

RESPONSE:

The planning reserve margin used for 2015 resource planning is 13.8%. The IRP models utilize the full capacity of the unit ratings to perform dispatch, so the reserve margin needs to be developed on an installed capacity rating, calculated as follows:

1. The PJM Forecast Pool Requirement (FPR_{UCAP}) is calculated using the PJM equivalent demand forced outage rate ($EFOR_d^{PJM}$) and the PJM installed reserve margin (RM_{ICAP}^{PJM}). The Forecast Pool Requirement is 9.09%.
2. FPR_{UCAP} is translated to a Duke Energy Kentucky (DEK) installed-capacity-basis reserve margin ($RM_{ICAP}^{COINCIDENT}$) using the 5-year average $EFOR_d^{DEK}$ (8.36%). Based on this calculation, $RM_{ICAP}^{COINCIDENT}$ is 19.0%.
3. For long range planning, PJM's forecast assumes that the Duke Energy Ohio-Kentucky zone is 95.6% coincident with the PJM peak. Applying this coincidence factor to DEK's 19.0% $RM_{ICAP}^{COINCIDENT}$ results in a planning reserve margin of 13.8%.

PERSON RESPONSIBLE: Scott Park

**Duke Energy Kentucky
Administrative Case No. 387**

STAFF-DR-01-008

REQUEST:

Projected reserve margins stated in megawatts and as a percentage of demand for the current year and the following 4 years. Identify projected deficits and current plans for addressing these. For each year identify the level of firm capacity purchases projected to meet native load demand.

RESPONSE:

The projected reserve margins for Duke Energy Kentucky (DEK) are shown below:

| Year | Projected Reserves (MW) | Projected Reserve Margin (%) |
|------|-------------------------|------------------------------|
| 2015 | 212 | 24 |
| 2016 | 208 | 24 |
| 2017 | 208 | 24 |
| 2018 | 208 | 24 |
| 2019 | 213 | 24 |

This plan is based on the expected 2015 retirement of the 163 MW Miami Fort Unit 6. Duke Energy Kentucky completed the purchase of the remaining 186 MW interest in East Bend Unit 2 in December 2014, increasing its ownership from 414 MW to 600MW.

PERSON RESPONSIBLE: Scott Park

STAFF-DR-01-012

REQUEST:

Identify all planned base load or peaking capacity additions to meet native load requirements over the next 10 years. Show the expected in-service date, size and site for all planned additions. Include additions planned by the utility, as well as those by affiliates, if constructed in Kentucky or intended to meet load in Kentucky.

RESPONSE:

There are no planned large scale base load or peaking capacity additions needed to meet native load requirements over the next 10 years. DEK is planning for the possible enactment of a federal or state renewable energy portfolio standard and has included in its recently filed 2014 IRP the addition of 2 to 7 MW of renewable energy resources per year starting in 2019.

PERSON RESPONSIBLE: Scott Park

**Duke Energy Kentucky
Administrative Case No. 387
March 27, 2015**

STAFF-DR-01-013

REQUEST:

The following transmission energy data for the just completed calendar year and the forecast for the current year and the following four years:

- a. Total energy received from all interconnections and generation sources connected to the transmission system.
- b. Total energy delivered to all interconnections on the transmission system.
- c. Peak load capacity of the transmission system.
- d. Peak demand for summer and winter seasons on the transmission system.

RESPONSE:

a.

| Net Mwh | | Collection Name | Member Name | |
|-------------|-----------|-----------------------|----------------------------|-------------|
| | | Duke Energy Kentucky | Duke Energy Kentucky Total | Grand Total |
| Year | Month | DEK Transmission Load | | |
| 2014 | January | 438,996 | 438,996 | 438,996 |
| | February | 371,893 | 371,893 | 371,893 |
| | March | 363,814 | 363,814 | 363,814 |
| | April | 306,676 | 306,676 | 306,676 |
| | May | 347,979 | 347,979 | 347,979 |
| | June | 398,508 | 398,508 | 398,508 |
| | July | 391,749 | 391,749 | 391,749 |
| | August | 419,371 | 419,371 | 419,371 |
| | September | 350,654 | 350,654 | 350,654 |
| | October | 319,496 | 319,496 | 319,496 |
| | November | 347,942 | 347,942 | 347,942 |
| | December | 375,653 | 375,653 | 375,653 |
| 2014 Total | | 4,432,731 | 4,432,731 | 4,432,731 |
| Grand Total | | 4,432,731 | 4,432,731 | 4,432,731 |

DEK load: Includes the load of Longbranch and excludes the load of EKP Smith & Downing. The load included for Williamstown does not include losses.

- b. Since Duke Energy Kentucky does not have any generation connected to its transmission system and since the transmission system is planned, designed and operated to primarily serve the area load, and since the only interconnection to another utility (aside from Duke Energy Ohio) is operated normally open, there is no energy delivered from Duke Energy Kentucky to the interconnection.
- c. Neither Duke Energy Kentucky nor the electric utility industry has defined a term “peak load capacity of the transmission system.” There is no single number that defines the capacity of a transmission system due to the interconnected nature of the electric grid. Duke Energy Kentucky does perform assessments of its transmission system to ensure all firm loads can be served in a reliable manner. This ensures that the transmission system has the “capacity” required to reliably serve the load.

d. **SUMMER PEAK**

| Date | Hour | MW's |
|-----------------|-------------|-------------|
| August 27, 2014 | 16 | 837 |

WINTER PEAK

| Date | Hour | MW's |
|-----------------|-------------|-------------|
| January 6, 2014 | 20 | 860 |

PERSON RESPONSIBLE:

- a - Tim Abbott
- b, c - Ed Kirschner
- d - Tim Abbott

**Duke Energy Kentucky
Administrative Case No. 387
March 27, 2015**

STAFF-DR-01-014

REQUEST:

Identify all planned transmission capacity additions for the next 10 years. Include the expected in-service date, size and site for all planned additions and identify the transmission need each addition is intended to address.

RESPONSE:

There are no transmission capacity additions planned at this time.

PERSON RESPONSIBLE: Ed Kirschner