

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

2014 JOINT INTEGRATED RESOURCE PLAN ) CASE NO.  
OF DUKE ENERGY KENTUCKY, INC. ) 2014-00273

COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION TO  
DUKE ENERGY KENTUCKY, INC.

Duke Kentucky Energy Kentucky, Inc. ("Duke Kentucky"), pursuant to 807 KAR 5:001, is to file with the Commission the original and ten copies of the following information, with a copy to all parties of record. The information requested herein is due no later than September 30, 2014. Responses to requests for information shall be appropriately bound, tabbed and indexed. Each response shall include the name of the witness responsible for responding to the questions related to the information provided.

Each response shall be answered under oath or, for representatives of a public or private corporation or a partnership or association or a governmental agency, be accompanied by a signed certification of the preparer or the person supervising the preparation of the response on behalf of the entity that the response is true and accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry.

Duke Kentucky shall make timely amendment to any prior response if it obtains information which indicates that the response was incorrect when made or, though correct when made, is now incorrect in any material respect. For any request to which Duke Kentucky fails or refuses to furnish all or part of the requested information, it

shall provide a written explanation of the specific grounds for its failure to completely and precisely respond.

Careful attention shall be given to copied material to ensure that it is legible. When the requested information has been previously provided in this proceeding in the requested format, reference may be made to the specific location of that information in responding to this request.

1. Refer to Table 1-A on page 10 of Duke Kentucky's 2014 Integrated Resource Plan ("IRP"). In the column titled "DSM (EE&DR)," the cells for years 2015, 2028, and 2032 contain a negative number. Explain why these cells contain a negative number.

2. Refer to page 12 of the IRP where it states, "The cost for emitting 1 ton of CO<sub>2</sub> is assumed to be \$17/ton in 2020, increasing to \$53/ton in 2034." Explain how the cost per ton of CO<sub>2</sub> was determined for each year in the specified timeframe.

3. Refer to Tables 3-A and B on page 15 of the IRP. The industrial sector shows no change in the annual growth rate "after EE" is recognized in Table 3-B.

a. Explain why the annual growth rate for the industrial sector is the same in Table 3-B "after EE" as in Table 3-A "before EE."

b. Identify and describe what actions Duke Kentucky has taken to include the industrial sector in its energy-efficiency ("EE") portfolio since its last IRP.

c. State whether Duke Kentucky has been approached by industrial customers seeking EE programs.

d. Identify any industrial customers represented on Duke Kentucky's demand-side management ("DSM") Collaborative.

4. Refer to Table 3-C on page 18 of the IRP. Confirm that the actual energy and internal peak amounts shown herein have not been weather-adjusted.

5. Refer to pages 18 and 80 of the IRP.

a. Clarify whether both sentences, or just the first sentence in the first paragraph under the heading “Changes in Methodology” on page 18 represent changes in Duke Kentucky’s forecast methodology.

b. The first sentence under the heading “Forecast Methodology” on page 80 indicates that Duke Kentucky’s methodology is essentially the same as that presented in past IRPs. Confirm whether the change(s) identified on page 18 are the only changes since the last IRP.

6. Refer to page 20 of the IRP, Table 4-A, regarding projected DSM impacts.

a. Provide a table that shows, by DSM program, EE Impacts per MWh and per MW for the years 2014 through 2029.

b. Refer to the Power Share column. Explain why the Power Share “DR Impacts – MW” decreases from 21.3 MW in 2014 to 14.7 MW in 2015.

7. Refer to the first paragraph under the heading “Existing Pooling and Bulk Power” on page 28 of the IRP. Provide information on the process Duke Kentucky undergoes reviewing the Fixed Resource Requirement versus Reliability Pricing Model selection within PJM.

8. Refer to the discussion of non-utility generation on page 29 of the IRP. Explain whether any Duke Kentucky customers have made use of its cogeneration tariffs.

9. Refer to pages 39-40 of the IRP which indicate that parts of three counties in the Cincinnati area and “parts of two counties in Kentucky” were designated as nonattainment areas.

a. Explain whether the five counties are considered to be in the same zone by the federal Environmental Protection Agency.

b. The discussion of the two Kentucky counties on page 40 states, “Neither designation is expected to impact Duke Energy Kentucky operations.” Explain why the Kentucky counties which were designated as nonattainment are not expected to impact Duke Kentucky’s operations.

10. Refer to page 52 of the IRP where it states, “This IRP assumes that 5% of retail sales would be met with renewable energy sources beginning in 2019, increasing 0.5% annually through 2028.” Explain how the timing for the beginning of the renewable energy resources requirement, the initial 5 percent of retail sales level for renewable energy resources, and the 0.5 percent annual increment of additional renewable energy resources were determined.

11. Refer to page 55 of the IRP regarding Sensitivities. Explain how the range of 15 percent higher to 15 percent lower than current cost was developed for coal and gas prices.

12. Refer to the “Peak Load” paragraph on page 84 of the IRP. Explain how 90 degrees and 10 degrees, respectively, were selected as the threshold temperatures used to determine which days will be included in the summer and winter peak models.

13. Refer to the "Pricing Policy" paragraph on page 88 of the IRP. Identify when (1) an inverted rate structure was mandated for residential customers and (2) a time-of-day rate was mandated for all large commercial and industrial customers.

14. Refer to the first paragraph under the "Energy and Peak Models" heading on page 90 of the IRP, which indicates that local weather data are obtained from the National Oceanic and Atmospheric Administration ("NOAA").

a. For how long has Duke Kentucky used NOAA as its source for local weather data.

b. NOAA published 30-year weather "normals" every 10 years, with the most recent covering the 30 years ending in 2010. Explain whether Duke Kentucky relies on NOAA or develops internal weather data to update these normals.

c. Identify the number of years of weather data Duke Kentucky uses to develop weather-adjusted or weather-normalized energy sales and peak demands and describe what consideration, if any, has been given to using a different number of years for this purpose.

15. Refer to the "Appliance Saturation and Efficiency" paragraph on page 91 of the IRP. Explain how often Company Appliance Saturation Surveys are performed and state when the most recent such survey was performed.

16. Refer to the "Methodology Enhancements" section on pages 94-95 of the IRP. The first sentence reads, "The Company changed its approach regarding the development of its appliance stock variable to rely more completely on information from Itron, Inc. for estimates of historical appliance efficiency." Describe how the appliance stock variable was developed previously.

17. Refer to the table on page 97 of the IRP. Explain what accounts for the load factor improvement in the year 2013.

18. Refer to Figure B-1 on page 99 of the IRP. Explain why the levels of “Losses and Unaccounted For” in Column (8) are consistently and substantially greater in the forecast years than the levels in the historical years.

19. Refer to the table on page 109 of the IRP. Explain why the number of industrial customers is projected to decline by more than 10 percent over the forecast period ending 2034.

20. Refer to page 120 of the IRP, Table C-1. Explain whether environmental costs were considered in the cost-effectiveness test results, as recommended on page 18 of the Staff Report on Duke Kentucky's prior IRP in Case No. 2011-00235.<sup>1</sup>

21. Refer to the first full paragraph on page 122 of the IRP concerning the Residential Smart Saver® lighting program. Beginning with the third sentence, it reads, “The program offers a variety of CFLs and LEDs including: Reflectors, Globes, Candelabra, 3 ways, Dimmables and A-line type bulbs. The incentive levels vary by bulb type and the customer pays the difference, including shipping.” Describe the level of acceptance by customers of purchasing various specialty lighting, in particular, light emitting diodes (“LED”), from The Savings Store versus a big box store.

22. Refer to page 126 of the IRP, specifically concerning the Low Income Service Program – Weatherization. For the period 2010 to 2013, based on the number of participants by year and local economic conditions, explain whether the interest in, or demand for, this program was greater than the program funds could meet.

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<sup>1</sup> Case No. 2011-00235, 2011 Integrated Resource Plan of Duke Energy Kentucky, Inc. (Ky. PSC Feb. 21, 2013).



23. Refer to last paragraph on page 131 regarding the Residential Direct Load Control – Power Manager Program. The first sentence reads, “Through June 30, 2013, nearly 6,000 new devices had been installed since the inception of the replacement project; less than 90 of the older devices remained.” Refer also to page 132, the second paragraph, which reads, “There were a total of 8,956 air conditioners on the program as of the end of June, 2013; a net decline of 275 during the fiscal year. Despite improved operability driven by the replacement project, overall load reduction decreased by 0.2 MW (after losses) during this period.”

a. Explain whether there are more air conditioners on the program than load control devices.

b. Based on the net decline of 275 devices during the June 30, 2013 fiscal year, explain whether Duke Kentucky is concerned about program saturation or a decline in participants going forward.

c. The table at the bottom of page 132 indicates that on 08/28/2013, there was a test by PJM Interconnection L.L.C. (“PJM”) at 1600 (4:00 p.m.). Describe the test and provide its duration.

24. Refer to the second bulleted paragraph on page 140 of the IRP which reads, “For the 2012/13 and 2013/14 PowerShare programs associated with the fiscal year of this filing, there were three different enrollment choices for customers to select among. All three choices require curtailment availability for up to ten emergency events per PJM requirements for capacity participation. Economic events vary among the choices. Customers can select exposures of zero, five, or ten economic events.”

Explain, by number of exposures a customer may select, the incentive a customer might receive for each.

25. Refer to page 141 of the IRP, Table C-2. Explain whether any customers have enrolled in the QuoteOption product of the PowerShare program since the end of 2013.

26. In Case No. 2012-00085,<sup>2</sup> Duke Kentucky received Commission approval to implement a new portfolio of DSM programs that would synchronize its DSM programs with those offered by its corporate affiliate, Duke Energy Ohio, Inc.

a. Identify and describe the impacts that synchronization of programs between the companies has had in terms of cost savings, customer participation, and contractor participation.

b. Identify and describe what has been learned in terms of best practices as a result of the synchronization of the programs.

c. Identify and describe the negative impacts, if any, the companies have experienced as a result of the synchronization of the programs.

27. Refer to pages 174 and 175 of the IRP regarding the response to Staff's recommendation in the 2011 IRP Report that Duke Kentucky identify and explain all impacts to DSM resulting from changing its independent transmission operator from the Midcontinent Independent System Operator, Inc. to PJM.

a. On page 175 of the IRP, paragraph 3 states, "However, their process can be significantly different such as the registration process for participants,

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<sup>2</sup> Case No. 2012-00085, Application of Duke Kentucky Energy Kentucky, Inc. for an Energy Efficiency Cost Recovery Mechanism and for Approval of Additional Programs for inclusion in its Existing Portfolio (Ky. PSC June 29, 2012).



the capacity participation process, and operational information processes.” Discuss in detail, each of these differences.

b. Discuss what research, analysis, or actions Duke Kentucky has undertaken to evaluate participation in the demand response market.

c. Describe how the May 2014 decision by the U.S. Court of Appeals for the District of Columbia’s decision vacating Federal Energy Regulatory Commission (“FERC”) Order 745 impacts PJM’s demand response market.<sup>3</sup>

28. Refer to Appendix F, Section 8, Resource Assessment and Acquisition Plan, on page 183 of the IRP. The second sentence of the first paragraph indicates that loss reduction is a secondary goal to maintaining system reliability. Provide Duke Kentucky’s transmission loss levels for the years 2009 through 2013.



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DATED SEP 11 2014

cc: Parties of Record

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<sup>3</sup> *Electric Power Supply Ass’n v. FERC*, 11-1486 et al. (D.C. Cir. May 23, 2014); *Demand Response Compensation in Organized Wholesale Energy Markets*, Order No. 745, 134 FERC ¶ 61,187 (Mar. 15, 2011).

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