

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

INTEGRATED RESOURCE PLANNING REPORT) CASE NO.
OF KENTUCKY POWER COMPANY TO THE) 2013-00475
KENTUCKY PUBLIC SERVICE COMMISSION)

COMMISSION STAFF'S SECOND REQUEST FOR INFORMATION
TO KENTUCKY POWER COMPANY

Kentucky Power Company ("Kentucky Power"), 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 by March 21, 2014. Responses to requests for information shall be appropriately bound, tabbed and indexed. Each response shall include the name of the individual responsible for responding to 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.

Kentucky Power 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 Kentucky Power 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. When applicable, the requested information shall be separately provided for total company operations and jurisdictional operations.

1. Refer to page ES-2 of the Executive Summary and page 98, Section 3.5.2 of Kentucky Power's 2013 Integrated Resource Plan ("IRP").

a. Provide a copy of the study which leads to the assumption that utility-scale solar power will begin to be economical.

b. Explain whether the underlying factors that drive the viability for utility-scale solar power are technology improvements in solar panels, generation price differentials, installation costs, or something different.

c. Explain where the solar installation will be located.

2. Refer to page ES-2 of the Executive Summary regarding a carbon tax of \$15-\$20 per metric ton of CO₂, page ES-3, third paragraph stating "... and reflecting emerging preference for, and the viability of customer self-generation" and page 13, Section 1.6 of Kentucky Power's 2013 IRP.

a. Explain the effects on electricity demand and energy prices for each customer class when the tax is applied.

b. Explain how the tax revenue is used by Kentucky Power in its modeling, including, but not limited to, whether it is used to fund specific Energy

Efficiency (“EE”) or Demand-Side Management (“DSM”) programs that could have a longer-lasting impact on demand.

c. Explain whether the sensitivity of large commercial and industrial customer classes to energy prices is such that customers may leave the service area or fail to invest in additional expansion projects or new facilities if a carbon tax were to be imposed.

d. If known, provide the tipping point at which the carbon tax becomes too high and elicits a significant reduction in electricity demand, including the secondary loss effects from business activity and employment losses.

e. Explain whether the sensitivity of large commercial and industrial customer classes is such that they would undertake to self-generate all or a portion of their power requirements, i.e., combined heat and power (“CHP”).

3. Refer to page ES-5 of the Executive Summary of Kentucky Power’s 2013 IRP.

a. Since it self-supplies its power in PJM Interconnection, L.L.C. (“PJM”), explain how and the extent to which PJM energy market volatility affects Kentucky Power.

b. Explain how the addition of non-traditional energy resources, especially higher-cost biomass and utility-scale solar, is a suitable cost-effective hedge against that volatility.

4. Refer to footnotes (F) and (G) in Table ES-1 at page ES-7 of the Executive Summary. Explain why PJM and Kentucky Power recognize only 13 percent

of wind nameplate MW rating for Installed Capacity (“ICAP”) purposes, but recognize solar nameplate MW rating at 38 percent.

5. Refer to page 7, Section 1.4, of Kentucky Power’s 2013 IRP. A key assumption supporting the forecast is the slow decline in service-area population.

a. Provide the percentage of Kentucky Power’s overall load (capacity and energy) that is contributed by coal mining and related industries.

b. Explain how the recent decline in coal mining and related industries and the loss of business activity and employment generally in eastern Kentucky have affected Kentucky Power, if at all.

6. Refer to page 9, Section 1.4, of Kentucky Power’s 2013 IRP.

a. Explain why Kentucky Power’s interruptible load is assumed to be not available for interruption at the time of seasonal peaks.

b. Explain when the interruptible load is available.

c. Identify and describe the advantages to Kentucky Power of having an interruptible tariff if the interruptible load is not available during times when power prices are presumably very high.

d. Explain whether Kentucky Power has had to go to the market to make power purchases at a time when the interruptible load was not available.

7. Refer to page 13, Section 1.6, Table 5, of Kentucky Power’s 2013 IRP.

a. Explain the cause of the drop in peak demand in 2017.

b. Examining peak demand beginning in 2022, it does not appear that the carbon tax of \$15-\$20 per metric ton of CO₂ has any effect. Explain whether the tax has an appreciable effect on demand levels, peak or otherwise.

c. What is the price elasticity of demand used in modeling demand levels, peak or otherwise?

d. Explain whether Kentucky Power modeled the effects of a carbon limit implemented in a non-tax form, such as a CO₂ rate or mass-emission limit, and, if so, explain how that affected peak demand.

8. Refer to pages 16 and 19, Sections 1.7 and 1.9.2, of Kentucky Power's 2013 IRP.

a. Explain whether Kentucky Power has held discussions of EE programs with its industrial customers.

b. Explain whether CHP could be considered an EE program.

c. Explain whether there is any reason why Kentucky Power could not spend a portion of its \$6 million annual budget by 2016, in conjunction with its industrial customers' funds, to implement EE programs that may otherwise not be considered by industrial customers individually.

9. Refer to pages 20-21, Section 1.9.2, of Kentucky Power's 2013 IRP. The Supreme Court is considering questions regarding the United States Environmental Protection Agency's ("EPA") authority to regulate Greenhouse Gases ("GHG") currently. Decisions in those cases are expected by the summer of 2014.

a. Explain what options are available to Kentucky Power if GHG regulations go into effect and existing sources are limited to 1,100 pounds of CO₂ per MWh.

b. If these options were to be put into effect, and if Kentucky Power has modeled the question, provide the cost impact on Kentucky Power's various customer classes.

10. Refer to pages 14-15, Section 1.6, Tables 5 and 6, and page 72, Section 2.13, Exhibit 2-18, of Kentucky Power's 2013 IRP. Explain the discrepancy in summer peak forecasts in Table 5 and Exhibit 2-18.

11. Refer to page 93, Section 3.4.1.5, of Kentucky Power's 2013 IRP and the response to Item 24 of the Commission Staff's Initial Request for Information ("Staff's First Request"). Explain how the Distributed Generation ("DG") technologies were evaluated, i.e., were the analyses based upon and inclusive of the cost to induce customers to install and use the technology or based upon the simple installation and operation and maintenance costs?

12. Refer to page 97, Section 3.5.2, of Kentucky Power's 2013 IRP. Kentucky Power states, "DG resources were evaluated using a solar PV resource, as this is likely the primary distributed resource." Explain how Photo Voltaic compares to CHP as a DG resource in terms of cost, capacity and energy.

13. Refer to page 98, Section 3.5.5, of Kentucky Power's 2013 IRP. Kentucky Power states, in part, "Resources were constructed with the following cost profiles (Stated in "cost first-year savings"). . . ." Explain whether "first-year savings" means the first year of the DSM program implementation, the first year of resource installation, or something different.

14. Refer to page 125, Section 4.3.4.2, pages 136-137, Section 4.3.4.5, of Kentucky Power's 2013 IRP and the response to Item 40 of Staff's First Request.

Kentucky Power's discussion takes as a premise that CHP would be aggressively pursued only when there would be a need for additional capacity, and that its avoided costs have been lower than the cost of energy from CHP.

a. Explain why this line of reasoning (business model) is appropriate for CHP, when utility-scale wind and solar are not priced on a similar basis.

b. Explain whether the American Electric Power operating companies ("AEP companies") take advantage of the 3,400 MW of potential CHP in their service territories, and if so, to what degree.

c. If the AEP companies take advantage of CHP in their service territories, provide the locations, the industry type (refining, chemical, etc.) and whether the state is a traditional utility regulation or a deregulated state.

d. Explain why a business model that approaches CHP as a part of a utility's investment in supply-side resources on par with other more traditional options is not valid.

e. From an industrial customer point of view, the CHP business case analysis will be different. In a traditional utility-regulation state, investing in CHP will be undertaken predominately to avoid large current and anticipated utility energy bills. Considering the impact of the loss of its two largest industrial loads, Big Rivers Electric Corporation has had to take drastic actions and is in the process of implementing large rate increases. Explain whether Kentucky Power has calculated the impact to itself and its remaining ratepayers of the loss of a large industrial load to CHP. If not, explain why it would not be prudent to model this type of loss scenario as part of its risk analysis.

f. Provide an analysis of the impact to Kentucky Power and resulting ratepayer impact if a large industrial customer in its service territory were to decide to generate its own power, resulting in a 10 percent loss of load.

g. If wind is only evaluated at a 13 percent useful-capacity factor and utility-scale solar has approximately a 38 percent capacity factor, and both are either being either evaluated or anticipated by Kentucky Power, explain the business-case rationale for not pursuing CHP.

h. Explain whether there is any reason why Kentucky Power could not be a partner/investor in a CHP project.

15. Refer to projected average heat rates (Btu/kWh) for Big Sandy Unit 1 after conversion listed in Exhibit 4-6, page 3 of 3, at page 267 in Volume D of Kentucky Power's 2013 IRP. Also refer to Kentucky Power's response to Item 10.c. of Commission Staff's Initial Information Request in Case No. 2013-00430¹ concerning the calculated full heat rate (summer) for Big Sandy Unit 1 after conversion. Explain any differences in the heat rate(s) in the two referenced documents.

16. Refer to the response to Item 3 of Commission Staff's First Request.

a. When was Kentucky Power's Automated Meter Reading ("AMR") system installed?

b. Describe Kentucky Power's long-term plans for continued operation of its AMR system.

¹ 2013-00430, The Application of Kentucky Power Company for (1) A Certificated of Public Convenience and Necessity authorizing Kentucky Power to Convert the Existing Big Sandy Unit 1 to be Exclusively Fueled by Natural Gas (2) for Declaratory Rulings; and (3) For All Other Required Approvals and Relief, filed Dec. 6, 2013.

c. Explain whether Kentucky Power intends to deploy smart meter technology in the future.

d. Provide the number of disconnections and reconnections in 2013 due to non-payment of the customer bill.

17. Refer to the response to Item 11 of Staff's First Request. Explain what is meant by "recent trends in estimated losses."

18. Refer to the response to Item 16 of Staff's First Request and Table 13 on page 108 of Kentucky Power's 2013 IRP.

a. Provide the amount and percentage of Kentucky Power's projected annual investment in DSM relative to annual retail electric sales revenue for the years 2014 through 2028.

b. Provide the amount and percentage of Kentucky Power's projected annual DSM/EE savings relative to total retail electric sales (in kWh) for the years 2014 through 2028.

19. Refer to the response to Item 29.c. of Staff's First Request. Kentucky Power states that as a Fixed Resource Requirement ("FRR") company in PJM, it has been held to a lower reserve margin requirement, not higher. As an FRR company, Kentucky Power is obligated to meet its winter peak, plus a reserve margin. As a Reliability Pricing Model ("RPM") company in PJM, it would be required to have enough capacity for a summer peak, plus a reserve margin. If it were to chose to participate in PJM as a RPM member, what does Kentucky Power estimate its PJM summer RPM capacity plus reserve margin would be, stated in MWs?

20. Kentucky Power's response to Item 30.a. of Staff's First Request provides the Commission with PJM's Installed Reserve Margin of 15.6 percent. Kentucky Power states that its peak that is coincident with the PJM peak is the relevant data point when considering its obligation. For the previous five years, provide the calendar dates of the relative data point used when considering Kentucky Power's obligation.

21. In response to Item 32 of Staff's First Request, Kentucky Power states that no FRR/RPM selection discussions occurred in the early time frame of the AEP east pool breakup. Provide records of any discussions, occurring after the early time period, concerning the future impacts the AEP east pool breakup would have on Kentucky Power's participation in the PJM market, specifically the choice to remain as a FRR participant or move to become a RPM participant.

22. Refer to the response to Item 14 of the Sierra Club's Initial Set of Data Requests.

a. In the electronic file submitted with the response, there is a worksheet titled "Confirmed Registrations 2013."

(1) State whether any of the customers listed on the worksheet are customers of Kentucky Power.

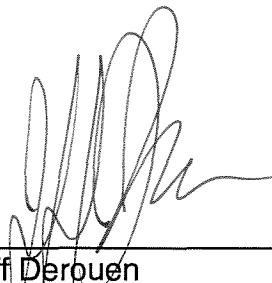
(2) If the response to Item (1) above is negative, identify the electric utility of which they are a customer.

(3) If the response to Item (1) above is negative, explain why Kentucky Power has provided information that is not germane to its operations.


b. Confirm that Kentucky Power has no customers that have opted for demand response other than the Load Control Program.

c. Explain what plans Kentucky Power has for performing an assessment of demand response.

23. Provide by month for 2013 the number of customers participating and renewable energy certificates purchased in Kentucky Power's Rider G.P.O. (Green Pricing Option Rider) tariff.



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ENTERED 
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KENTUCKY PUBLIC
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DATED _____

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