

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

2011 INTEGRATED RESOURCE PLAN) CASE NO.
OF DUKE ENERGY KENTUCKY, INC.) 2011-00235

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

Duke Energy Kentucky, Inc. ("Duke Kentucky"), pursuant to 807 KAR 5:001, is to file with the Commission the original and 10 copies of the following information, with a copy to all parties of record. The information requested herein is due no later than September 13, 2011. 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 pages 6-7 of Duke Kentucky's 2011 Integrated Resource Plan ("IRP"). Duke Kentucky states that Miami Fort 6 will be retired January 1, 2015. Provide the date on which ownership of the unit was transferred to Duke Kentucky, the price paid for the unit, and whether the unit is fully depreciated. If not fully depreciated, provide the net book value remaining and describe the anticipated accounting treatment of the remaining amount to be depreciated.

2. Refer to page 7 of the IRP at the paragraph headed "Recessionary Impacts on the Projected Load Forecast." The text reads, "Between 2007 and 2009 the actual peak load dropped 113 MWs and the peak energy dropped 519 GW-hrs due to the recessionary impacts on the economy."

a. Provide the drop in peak load and peak energy by year and by customer class.

b. Explain how much of the drop in peak energy and demand is attributed to Duke Kentucky's Demand Side Management ("DSM") and Energy Efficiency ("EE") programs and how much is attributed to the weak economy.

c. Provide a monthly comparison of actual peak loads and peak energy sales in the years 2007 through 2010.

3. Refer to pages 8-9 and Appendix B, pages 91-97, of the IRP. Explain how the effects of existing and future DSM and EE programs have been modeled and incorporated into the load and peak demand forecasts.

4. Refer to page 9 and Appendix B, pages 133-134, of the IRP.

a. Explain whether and how the potential effects of the Carbon Constrained Future and the Clean Energy Future scenarios were incorporated into the load forecast risk analysis.

b. Explain whether there are any energy pricing changes that significantly affect employment and energy demand in the load forecast in either the Carbon Constrained Future or the Clean Energy Future.

5. Refer to page 9 of the IRP. The recommended capacity replacement option for Miami Fort 6 is the installation or purchase of 140 MW of combined cycle generation capacity in 2015.

a. With the potential for increased demand for gas-fired generating capacity, explain when Duke Kentucky believes it must make a decision whether to proceed with this option. Include in the explanation the approximate length of time from contract to completion of construction of a combined cycle unit of this size.

b. Explain whether Duke Kentucky is aware of existing combined cycle capacity available from another Duke Energy subsidiary or from other sources.

6. Refer to page 16, Tables 3-A and 3-B, of the IRP. Explain whether existing and future DSM programs are already included in the growth rates and whether the tables are meant to illustrate the incremental effects of EE programs only. If DSM programs are not included, explain why not.

7. Refer to page 21 of the IRP.
 - a. Describe and quantify any differences resulting from Duke Kentucky's change in developing its appliance stock variable by relying more on data from Itron, Inc. for estimates of historical appliance efficiency.
 - b. The text referring to Table 3-C states that data is "(after demand response program impacts)" and a footnote to the table states: "All numbers are after energy efficiency." Results presented throughout the IRP do not always appear to be consistent in the inclusion of DSM generally and demand response ("DR") programs specifically. Explain whether EE, DSM, and DR programs are used interchangeably throughout the forecast.
8. Refer to page 23 of the IRP. The impacts of the DSM programs discussed in the first paragraph do not appear to match those shown in Table 4-A. Explain the discrepancies and provide any necessary corrections.
9. Refer to the note at the bottom of page 23 of the IRP. Explain what is meant by "monthly seasonal maximum."
10. Refer to the last paragraph on page 24 of the IRP regarding environmental protection measures.
 - a. Identify and describe the procedures Duke Kentucky has in place to ensure environmental controls at coal-fired plants are operating in accordance with design specifications and will operate in accordance with design specifications over the projected economic life of the environmental controls.

b. Explain what recourse Duke Kentucky has if the environmental controls at coal-fired plants do not operate within design specifications or if the controls become inoperable before the end of their projected economic lives.

11. Refer to page 26 of the IRP. In 1999, a program of availability outages was instituted aimed at addressing potential summer reliability. These outages are for short periods of time, less than nine days.

a. At what time of year do these availability outages typically occur?

b. Explain whether availability outages ever occur during the peak summer months.

12. Refer to the "Propane" section on page 28 of the IRP. The text reads, "Woodsdale can pull propane from storage owned by Duke Energy Kentucky, where 48,000 barrels of propane storage space is available or use up to 40,000 barrels of propane from TEPPCO on loan for replacement within 45 days." Explain how the propane that was used is replaced and at what cost per barrel.

13. Refer to page 29 of the IRP. Duke Energy uses a long-term fundamental forecast of fuel prices that is a propriety forecast developed by Wood Mackenzie, a leading energy consulting firm. Duke Kentucky has 577 MW of coal-fired capacity and 500 MW of gas-fired capacity for a total installed net summer capacity of 1,077 MW. Duke Kentucky's coal comes primarily from Ohio, Kentucky, and Pennsylvania, with 70 to 80 percent of its annual requirements under long-term coal supply requirements.

a. Explain how Duke Kentucky benefits from this propriety forecast.

b. Explain whether the Duke Energy/Progress Energy merger will affect this propriety forecast.

c. Explain whether Duke Kentucky purchases any coal from Illinois.

14. Refer to the third paragraph under the heading “Efficiency” on page 30 of the IRP. The text reads, “This loss of capability must be replaced by newly acquired resources, by off-system purchased power, or by the increased operation of less efficient units.”

a. Describe Duke Kentucky’s expectations and plans for purchasing power if a majority of other utilities are in a similar situation and a significant amount of existing coal-fired generation is retired.

b. Explain whether less efficient units will be compliant as to the environmental regulations and able to operate.

15. Refer to pages 33 and 34 of the IRP. Identify and describe any impacts that Duke Kentucky’s transfer from the Midwest Independent System Operator (“MISO”) to PJM Interconnection Regional Transmission Organization (“PJM”) is expected to have on pooling and bulk power operations.

16. Refer to page 40 of the IRP. Under “Baseload Technologies,” explain what is meant by “1-Stage Carbon Monoxide Shift” and “2-Stage Carbon Monoxide Shift.”

17. Refer to page 41 of the IRP and Figure A-2 of Appendix A. For “Peak and Intermediate Screening,” describe in more detail the 460 MW identified as “Unfired.”

18. Refer to page 42 of the IRP and Figure A-3 of Appendix A. Provide a comparison, based on their availability to supply peak load, of the three Renewable Technologies that were considered.

19. Refer to page 43 of the IRP. Provide estimated lead times for modeling and construction of wind, photovoltaic solar and woody biomass renewable technology power resources.

20. Refer to page 45 of the IRP.

a. Describe the impacts the July 2011 Cross-State Air Pollution Rule (“CSAPR”) will have on Duke Kentucky’s generation assets.

b. Describe, generally, the impact on Duke Kentucky of all differences between the August 2010 proposed replacement for the Clean Air Interstate Rule and CSAPR.

21. Refer to page 50 of the IRP, which references Duke Energy’s 2010/2011 Sustainability Report. For 2010, this report shows that Duke Energy’s average number of outages was 1.11 versus a target of 1.10 and the average outage duration was 144 minutes versus a target of 139 minutes.

a. For the first six months of 2011, provide Duke Kentucky’s actual average number of outages versus its target.

b. For the first six months of 2011, provide Duke Kentucky’s actual average outage duration versus its target.

22. Refer to pages 51 and 52 of the IRP. Explain whether Duke Kentucky has considered or investigated a commercial use for fly ash or gypsum.

23. Refer to pages 54 and 55 of the IRP. Provide separate estimates of the cost of compliance with each of the proposed regulations/issues listed for Miami Fort Unit 6 and East Bend.

24. Refer to page 62 of the IRP. Provide the basis for the renewable energy portfolio standard assumptions.

25. Refer to page 63 of the IRP.

a. Provide the basis for the fuel price variability sensitivities.

b. Explain why, when considering fuel price variability, that the possible higher price percentage considered for coal exceeds the percentage considered for natural gas.

26. Refer to page 65 of the IRP. At the bottom of the page, the discussion indicates a need for long-term resources if there is no renewable portfolio and the dates are 2027 to 2022. Explain whether these dates are in error.

27. Refer to Appendix A, Table A-2 at page 81 of the IRP. Explain why, in the annual allowance price forecast, the CO₂ Base Cost is higher than the CO₂ High Cost until 2027.

28. Refer to Appendix B, at pages 92-94 of the IRP.

a. The various models do not appear to use the same price of electricity. Describe the price of electricity in models (1) - (7) and explain the reasons for the pricing variable variations.

b. If not already explained above, specifically describe the derivation of the marginal electric price variable in models (4) and (7) and explain how this compares to the energy charge on a customer's bill, if at all.

c. Explain why the price of electricity relative to the price of natural gas is not relevant in the residential or commercial models. Do Other Public Authority (OPA) structures have the ability to alternate between electric and gas heat quickly?

29. Refer to Appendix B, page 99, of the IRP. Explain whether the last sentence in the first paragraph should read, “[t]he rate of growth in local employment expected over the forecast will be slightly above that of the nation: 1.3 percent locally versus 0.7 percent nationally.”

30. Refer to Appendix B, page 100 of the IRP.

a. Discuss the effectiveness of the inverted block pricing on residential energy usage.

b. Provide an estimate of how much residential customer usage has actually moderated and how this behavior is incorporated into the residential sector forecast.

c. Has Duke Kentucky seen any changes in customer participation in DR or EE programs? If yes, how have increases in participation been incorporated into the forecasts?

31. Refer to Appendix B, 110-130 of the IRP. It appears that in many of the model equations, service area variables are composed of data taken from Indiana, Ohio and Kentucky. If this is true, explain how specific forecasts for the Kentucky service area and ultimately Kentucky customer classes are derived from the larger service area forecasts.

32. Refer to Appendix B, page 133 of the IRP. It appears that the potential effects of new environmental air and water quality rules of the U.S. Environmental Protection Agency (“EPA”) have not been incorporated into the base case, peak demand or range of forecasts. Does this mean that the possible economic effects of new and pending rules will have no impact on electric prices, employment, participation

levels in DSM, DR and EE programs, or the demand for electricity? Explain how the effects of the new and pending EPA environmental rules will impact the various load forecasts.

33. Refer to Appendix C, page 163 of the IRP. Explain whether DSMore uses plant specific performance information to generate avoided CO₂ estimates, and if so, whether those estimates are considered when screening for the cost-effectiveness of individual DSM programs. If avoided CO₂ estimates are not recognized by DSMore, explain whether avoided CO₂ is recognized and how it is recognized.

34. Refer to Appendix C, page 165 of the IRP. For each of the DSM programs, explain the procedures Duke Kentucky uses to make customers aware of the programs.

35. Refer to Appendix C, page 166 of the IRP. Describe the National Energy Audit Tool and explain how it is used by field auditors in the Tier Two Services of the Residential Conservation and Energy Education program.

36. Refer to Appendix C, pages 168 and 169 of the IRP, which discuss the Residential Home Energy House Call program. At no cost, the customer receives a kit containing several energy-saving measures, including a low-flow showerhead, two aerators, outlet gaskets, and three compact fluorescent bulbs. Explain whether Duke Energy has considered including a water heater wrap as part of this program.

37. Refer to Appendix C, page 171 of the IRP. The IRP states, "Kenton County's latest project is the new Turkey Foot Middle School, designed to be a net-zero energy school with the installation of the required number of solar panels and other energy conservation and efficiency features."

a. Explain whether the Turkey Foot Middle School has achieved the target of being a net-zero energy school.

b. If the answer to part a. of this request is no, explain what else may be needed to achieve this goal.

c. Describe how the students of Turkey Foot Middle School have been instructed regarding the school's target of being a net-zero energy school and their efforts to achieve that goal.

38. Refer to Appendix C, page 171 of the IRP. Describe the terms and purpose of an energy-saving performance contract.

39. Refer to Appendix C, page 172 of the IRP. List the energy-saving measures that are promoted in a Saving Energy at Home and School Kit.

40. Refer to Appendix C, page 173 of the IRP. In the discussion of the Program Administration, Development, and Evaluation, the IRP states "that all programs must undergo impact evaluation scrutiny and review at least once every two to three years."

a. Describe the factors that could change the evaluation of a program.

b. Describe the factors that could change the evaluation of Program 4.

c. Explain how customers find out about the Payment Plus program.

41. Refer to Appendix C, page 176 of the IRP. Explain why slightly over 500 of the 2,400 Cannon load control devices were not performing properly and had to be replaced. Include in the explanation, whether there were any instances in which switches failed and caused inadvertent outages at customer premises.

42. Refer to Appendix C, page 177 of the IRP.

a. The IRP states, "Duke Energy Kentucky customers received a coupon mailer with four coupons, each offering \$3 off the purchase of two GE CFL two-packs." Provide the wattage of the CFL replacement bulbs and the equivalent wattage of the incandescent bulb the CFL replaces.

b. Under "Energy Efficiency Website, On-line Energy Assessment" the IRP states, "Participants receive an immediate online, printable Energy Efficiency report (EE report) and also are sent a package of six, free Compact Fluorescent Light (CFL) bulbs." Explain how Duke Kentucky follows-up with customers that participate in the online assessment to determine their actual savings.

43. Refer to Appendix C, page 180 of the IRP. Describe High Bay, T-8, and T-5 lighting fixtures.

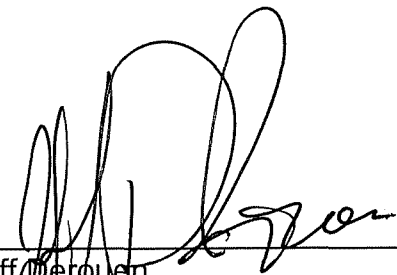
44. Refer to Appendix C, page 183 of the IRP. Identify the impacts Duke Kentucky's move from MISO to PJM is expected to have on the Power Share program.

45. Refer to Appendix C, page 184 of the IRP. Provide the basis for the small monthly fee PowerShare 2010 customers are charged to participate in the program.

46. Refer to Appendix D, page 211 of the IRP. Explain how the 7.5 percent after-tax discount rate was determined.

47. Refer to Appendix E, page 220 of the IRP. Explain how it was determined that using a Heating Degree Day base of 59 degrees and a ten-year "normal" produced a more accurate forecast than using a base of 65 degrees and a thirty-year "normal."

48. Describe any impacts Duke Energy Corporation's proposed merger with Progress Energy, Inc. is expected to have on existing and future Duke Kentucky DSM programs.



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