

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

2010 INTEGRATED RESOURCE PLAN OF BIG) CASE NO.
RIVERS ELECTRIC CORPORATION) 2010-00443

COMMISSION STAFF'S SECOND INFORMATION REQUEST TO
BIG RIVERS ELECTRIC CORPORATION

Big Rivers Electric Corporation ("Big Rivers"), 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 February 28, 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.

Big Rivers 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 Big Rivers 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. 807 KAR 5:058, Section 8, Resource Assessment and Acquisition Plan, requires a utility to discuss improvements to and more efficient utilization of existing utility generation, transmission, and distribution facilities. In addition, in its Unwind Transaction testimony, Big Rivers stated that as the owner, it would be able to operate its generation more effectively and improve the efficiency of its generating units.

a. Describe in detail the actions Big Rivers has undertaken to operate its generation more efficiently since the completion of the Unwind Transaction.

b. Describe in detail any actions or plans to operate its generation more efficiently during the 15 year period covered by the Integrated Resource Plan (“IRP”).

c. Describe in detail any actions or plans to improve the efficiency of each generating unit during the 15 year period covered by the IRP.

d. To the extent not covered in the response to part a. of this request, describe Big Rivers’ efforts since the completion of the Unwind Transaction, and the results of those efforts, to improve the availability of its generating units.

e. To the extent not covered in the response to part b. of this request, describe Big Rivers' planned efforts over the 15 years of the IRP, and the results expected therefrom, to improve the availability of its generating units.

2. To the extent that Big Rivers has any distribution facilities, discuss any efforts to improve the efficient utilization of such facilities as directed by 807 KAR:058, Section 8(2)a.

3. Refer to Big Rivers' 2010 IRP, Executive Summary at ii, which indicates that the 14 percent reserve margin criteria Big Rivers has used in its resource assessment analysis is based on the North American Electric Reliability Council's ("NERC") suggested 15 percent reserve margin target.

a. Explain in detail the basis for using the NERC 15 percent reserve margin and whether the NERC target was based on a specific study of Big Rivers' planning needs. If not based on a Big Rivers-specific study, identify the other factors upon which the NERC target was based.

b. Explain in detail the basis for using a 14 percent reserve margin and whether it was based on a specific study of Big Rivers' planning needs. If not based on a Big Rivers-specific study, identify the other factors upon which the 14 percent reserve margin was based.

4. Refer to Big Rivers' 2010 IRP, Executive Summary at iv. Big Rivers indicates that the 4.5 percent reserve margin ("MISO Reserve Margin") used in the "MISO Case" is the Midwest Independent System Transmission Operator's ("MISO") Non-Coincident Load Based Planning Reserve margin. Explain in detail the basis for the 4.5 percent MISO Reserve Margin and whether the 4.5 percent reserve margin was

based on a specific study of Big Rivers' planning needs. If not based on a Big Rivers-specific study, identify the other factors upon which the 4.5 percent MISO Reserve Margin was based.

5. If none of the reserve margins cited in the responses to the two previous requests are based on a specific study of its planning needs, explain why Big Rivers believes it is appropriate to use the 14 percent reserve margin and the 4.5 percent MISO Reserve Margin for planning purposes.

a. Explain whether Big Rivers has performed a specific study of its reserve margin criteria within the past 10 years.

b. Explain whether Big Rivers intends to perform a specific study of its reserve margin criteria for its next integrated resource plan.

6. Describe the planning reserve margin requirements with which Big Rivers must comply as a MISO member.

a. Describe the impact such requirements will have on Big Rivers' future IRPs.

b. Explain whether Big Rivers anticipates any increase in generation efficiency as a result of MISO's economic generation dispatch. If yes, state the annual increase in efficiency anticipated over the 15 year period covered by the IRP.

7. Refer to Big Rivers' 2010 IRP, Executive Summary at iii. The first bulleted paragraph states "The DSM analysis conducted as part of the 2010 IRP evaluation includes screening of demand response ("DR") programs. The DR programs analyzed were not cost effective in the DSM screening analysis. Big Rivers will continue to monitor the cost effectiveness of DR programs." On page 58 of the GDS Associates,

Inc.'s report ("GDS Report"), there is a listing of Total Resource Cost ("TRC") Test evaluations. The TRCs of 15 programs are shown, some of which are greater than 1.0. Explain whether Big Rivers has considered bundling any of these programs so that programs could be grouped together with bundled TRCs being greater than 1.0, and whether there would be adequate participation for these programs.

8. Describe the consideration given by Big Rivers to cogeneration in its resource analysis.

9. Provide the number of net metering customers and the amount of energy they provide on the system of each of Big Rivers' three member-owners.

10. Refer to section 5 on page 5-12 of Big Rivers IRP. Provide a schedule of the timeframes for the evaluation of existing and planned demand side management ("DSM") programs.

11. Refer to the narrative discussion about the more efficient utilization of transmission facilities on page 6-3 of the IRP.

a. Explain whether Big Rivers foresees exporting more power than it imports.

b. Identify and describe the factors Big Rivers considers when evaluating the option of purchasing power versus adding generation capacity.

c. Identify and describe any restrictions on the amount of power that can be imported or exported on the 13 mile 161kV line from the Wilson switchyard to the tap point on the Hardinsburg to Paradise 161 kV interconnection.

d. Identify and describe any restrictions on the quantity of power that can be imported or exported through the recently constructed Daviess County EHV substation.

12. Refer to the Section titled Transmission System on pages 6-3 and 6-4 of the IRP regarding more efficient utilization of transmission facilities. The narrative discussion addresses several actions taken from 2005 through August 2010, but does not address any actions planned during the 15 year period covered by the IRP. Table 6-2 identifies several planned transmission system additions.

a. Describe any transmission constraints that may limit Big Rivers ability to import or export power.

b. Provide a discussion of the manner in which the additions listed in Table 6-2 will improve the efficiency of the transmission system.

c. Identify and describe any other actions, beyond system additions, Big Rivers plans to undertake with respect to its transmission system during the 15 year period covered by the IRP.

13. Refer to Table 8.5 on page 8-9 of the IRP.

a. When is the Southeastern Power Administration ("SEPA") capacity provided from the Cumberland System expected to be in a firm dependable status?

b. Describe the impacts the recently announced extension of time to complete the dam repair on the Cumberland System will likely have on the timeframe for when this supply source will be in a firm dependable status.

c. Provide the impact this delay will have on the assumptions and conclusions in the IRP.

14. Refer to Table 8.16 on page 8-18 of the IRP and page 7 of Appendix B, Demand Side Management: Big Rivers Final Potential Study. Explain why there are no avoided transmission or distribution costs.

15. Refer to Table 4.1 and 4.2 on page 18 of Appendix B, Demand Side Management: Big Rivers Final Potential Study. Explain why the current load forecast does not predict growth in the large commercial/industrial sector, either in customers or the forecasted sales.

16. Refer to Appendix B, the “Demand-Side Management (DSM) Potential Report for Big Rivers Electric Corporation,” page 57 of the GDS Report. The first paragraph under the heading 8.5 Demand Response Programs Evaluated states “Programs not included initially, but that could have been considered if further analysis was warranted include, but are not limited to: dual fuel heat pumps, electric thermal storage (“ETS”) heating units for residences, ETS cooling units for commercial buildings, direct control of swimming pools pumps, and direct control of agricultural applications such as irrigators and grain dryers.” Explain whether Big Rivers is aware of the approximate number of customers or participants that may currently exist for each of these potential demand response programs and how it might market these programs to potential participants.

17. Refer to tables Electric Measure Assumptions (Initial Assumptions & Levelized Costs) in Appendix 2 (Residential Measure Descriptions, Assumptions and Sources) and Commercial and Industrial Measure Assumptions and B/C Test Results in Appendix 3 of Appendix B, Demand Side Management: Big Rivers Final Potential Study. Provide electronic copies of the tables in an Excel spreadsheet with all formulas

intact. For columns that have numbers resulting from a computation, if the formula for the computation is not in the spreadsheet, provide a written explanation as to how the computation was derived.

18. Provide the dispatch order of the Big Rivers' generating units.

19. Provide contract termination dates and any contract extension provisions of the generation available from Henderson Municipal Power and Light and the Southeastern Power Administration.

20. As to any pending federal environmental regulations, explain whether Big Rivers anticipates the need to accelerate the retirement of existing coal fired units. If so, identify the most likely units to be retired.

21. Explain whether Big Rivers currently has the human resources necessary to implement the current and planned DSM programs listed in the IRP. If the human resources do not exist, explain whether the new resources would be dedicated solely to DSM projects or be shared with other utility services.

22. Refer to the last paragraph on page 13 of Appendix B, Demand Side Management: Big Rivers Final Potential Study and Big Rivers' response to Item 28 of Commission Staff's First Information Request ("Staff's First Request").

a. Provide, as a percentage, the ratio of Big Rivers' annual investment in DSM relative to its annual electric sales revenue for the years 2011 through 2025.

b. Provide, as a percentage, the ratio of Big Rivers' annual energy efficiency savings relative to its total electric sales for the years 2011 through 2025.

c. Describe how the responses to parts a. and b. of this request compare with the findings in the top energy efficiency states.

23. Refer to the response to Item 2 of Staff's First Request.

a. State whether the proposed new two-way radio system is to be capitalized or leased.

b. If the proposed new two-way radio system is to be leased ---

(1) Explain whether the lease agreement will be for a capital or operating lease.

(2) Provide the terms of the lease, including the length of the lease, interest rate and buyout or termination provisions.

24. Refer to the attachment to the response to Item 4 of Staff's First Request, specifically, the column headed Reason for Not Including.

a. The reason provided for a number of programs is "Not widely applicable." Expand on what is meant by "Not widely applicable."

b. The reason provided for some programs is "Marginally cost effective." Describe how "marginally cost effective" was defined and how uniformly the definition was applied.

25. Refer to the response to Item 10 of Staff's First Request, which states that "[a]dministration costs are bundled and include program design, program implementation, reporting and tracking, marketing, and labor costs." Explain whether the resources that are to be expended for these administration costs are currently part of Big Rivers' base rates and, if yes, how these costs will be accounted for in the future.

26. Refer to the response to Item 14 of Staff's First Request.

a. Provide a schedule which shows the components that make up the estimated costs of retrofitting Green Units 1 and 2 with selective catalytic reduction devices (“SCRs”).

b. Item 14 of Staff’s First Request referred to Big Rivers’ coal-fired units requiring additional controls if mercury control was required on a unit-by-unit basis. If space limitations make it impossible to install SCRs on the Coleman units, explain whether the imposition of unit-by-unit mercury control would require that they be retired.

27. Refer to the last sentence of the response to Item 15 of Staff’s First Request. Identify the specific level of generation reduction that Big Rivers expects will be necessary if the first compliance date of the proposed Clean Air Transport Rule is January 1, 2012.

28. Refer to the response to Item 16 of Staff’s First Request. When they are known, provide the actual Rural System energy requirements and coincident peak demand for 2010.

29. Refer to the response to Item 22.a. of Staff’s First Request, which lists 10 regression models. These models were applied generally to each of the distribution cooperatives and the results are presented in Attachment 1 – 2011-01-28. However, the specification of each of the respective models as applied to the distribution cooperatives is not uniform. For each model as applied to each distribution cooperative provide a discussion and description of:

a. Each variable used in each model;

b. The ultimate choice of variables used in each of the distribution cooperatives model;

- c. The differences between each of the model specifications; and
- d. Why a calibration factor was applied to the models and whether the

calibration factor was only applied to the residential and small commercial models.

30. Refer to the response to Item 22 of Staff's First Request.

a. Provide a discussion of how each distribution cooperative derived its system peak model. Include in the discussion an explanation of how "annual energy and peak demand projections were broken down by month by applying average monthly load shapes to the annual forecasted amounts."¹

b. If a separate economic outlook report, including a load forecast, was prepared for each of the distribution cooperatives as a part of the IPR process, provide a copy of each report.

31. Refer to the response to Item 26 of Staff's First Request.

a. Identify and describe the base case assumptions that Big Rivers' management thought were the most likely to occur and explain the basis for those assumptions.

b. Explain how the optimistic and pessimistic views take into account local economic activity.

c. Identify and describe how the assumptions for each of the optimistic and pessimistic views each differ from the base case assumptions and explain the basis for those assumptions.

32. Refer to the response to Item 27 of Staff's First Request. Given the statement in the GDS report that "[t]he authors of this report emphasize that only energy

¹ Page 3 of 5 of the response, lines 10-12.

efficiency measures that cost less than new power supply resources are considered to be cost effective,” provide a more thorough explanation of how the authors of the GDS Report did not exclude from cost effectiveness the types of programs described in parts a. and b. of Item 27.

33. Refer to the response to Item 33 of Staff’s First Request and pages 62 to 64 of the GDS Report. The response indicates the Big Rivers’ staff performed a review of Kentucky’s five other electric generating utilities’ direct load control programs by visiting those utilities’ websites. The GDS Report reflects that for the screening analysis, assumed incentives were \$36 annually for “AC 33% cycling” and \$48 annually for “AC 50% cycling.” Three of the state’s other generating utilities, Kentucky Utilities Company, Louisville Gas and Electric Company, and East Kentucky Power Cooperative, Inc., offer air conditioning direct load programs with incentives of only \$20 annually. Provide a cost effectiveness analysis of the 33 and 50 percent cycling programs based on this lower incentive amount.

34. Refer to the response to Item 20 of the Attorney General’s (“AG”) initial data request.


a. Provide, for each year from 2003 through 2010, the number of compact fluorescent bulbs (“CFL”) distributed by its member-owners and Big Rivers’ costs of those CFLs.

b. Explain whether the CFL program was continued during 2010. If it was continued, provide the number of CFLs that was distributed.

35. Refer to the response to Item 22 of the AG's initial data request. Big Rivers states that DSM programs previously implemented were funded through base rates rather than the DSM mechanism as defined in KRS 278.285.

a. Explain whether Big Rivers and its member-owners have discussed possible recovery through a surcharge mechanism and whether all are in agreement concerning DSM cost recovery.

b. If it plans to use a surcharge mechanism to recover DSM costs, explain whether Big Rivers has considered annual or semi-annual filings for the recovery and true-up of DSM costs via a DSM factor.



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