

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF BIG RIVERS ELECTRIC	)	
CORPORATION FOR APPROVAL OF ITS 2012	)	
ENVIRONMENTAL COMPLIANCE PLAN, FOR	)	
APPROVAL OF ITS AMENDED ENVIRONMENTAL	)	CASE NO. 2012-00063
COST RECOVERY SURCHARGE TARIFF, FOR	)	
CERTIFICATES OF PUBLIC CONVENIENCE AND	)	
NECESSITY, AND FOR AUTHORITY TO	)	
EXTABLISH A REGULATORY ACCOUNT	)	

COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION 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 ten copies of the following information, with a copy to all parties of record. The information requested herein is due on or before June 1, 2012. 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. Refer to the Application, page 7, which states that Big Rivers is requesting authority to establish a regulatory account. The Application states, “[a]s explained further in Mr. Hite’s testimony, Big Rivers has incurred costs in developing this Application, and it will incur additional costs to prosecute this case. These costs primarily stem from the retention of experts in the legal, regulatory, and engineering professions.” Provide the actual costs incurred to date by type and vendor. Consider this an ongoing request to be updated by the 15<sup>th</sup> of the month, to report the prior month’s expense, for each month up to and including the month of the hearing in this case.

2. Refer to page 13 of the Direct Testimony of Robert W. Berry (“Berry Testimony”), lines 17-20. It states, “[i]n 2016, when the projects in the 2012 Plan should be complete, total billings to the rate classes will increase by approximately 6.9% relative to projected 2016 billings absent the 2012 Plan, and by approximately 7.8%

relative to projected 2012 billings.” Also refer to Exhibits Wolfram-5 and Wolfram-6, of the Direct Testimony of John Wolfram (“Wolfram Testimony”).

a. Exhibit Wolfram-6 shows the 6.9 percent and 7.8 percent increases to be for the Rural class. State whether the percentages apply only to the Rural class or to the system as a whole.

b. Provide the projected completed forms from Exhibit Wolfram-5 which support the 6.9 percent and 7.8 percent projected 2016 billing.

c. Provide the calculations that support the amounts shown in columns 1, 2 and 3 of Exhibit Wolfram-6.

3. Refer to page 18 of the Berry Testimony at lines 17-19. How will Big Rivers replace the demand and energy that would normally be provided by Wilson Unit 1 during the three-year period from 2013 through 2016 when the new flue gas desulfurization, or scrubber, system is being fabricated and constructed?

4. Refer to page 20 of the Berry Testimony. Project 6 is the completion of the Reid Unit 1 conversion of the boiler’s coal burners to natural gas. KRS 278.183(1) provides, in relevant part, as follows:

[A] utility shall be entitled to current recovery of its costs of complying with the Federal Clean Air Act as amended and those federal, state, or local environmental requirements which apply to coal combustion wastes and by-products from facilities utilized for production of energy from coal in accordance with the utility’s compliance plan . . . .

a. Provide the basis of how the costs of Project 6 can be recovered through an environmental surcharge in light of the language of KRS 278.183(1).

b. If Project 6 could not be reflected in the monthly environmental cost recovery mechanism, provide the effect this would have on any testimony and/or exhibits filed in this proceeding.

c. Starting at line 9, Mr. Berry states that four of the boiler's eight coal burners were converted to natural gas in 2004 but that the burners were never permitted, tested or put into service. Mr. Berry also states that Project 6 "will provide the maintenance, testing and other necessary tasks to complete the existing natural gas conversion that was started in 2004."

(1) State whether the four converted burners are currently recorded in plant in service on Big Rivers' books or if they are recorded in another account for plant not in service.

(2) State whether the investment of the 2004 conversion is being recovered through Big Rivers' base rates.

(3) Provide Big Rivers' plan with regard to the four coal burners.

d. State whether there is an adequate supply of gas to serve a converted Reid Unit 1.

e. At lines 15-17 of the Berry Testimony on page 20, Mr. Berry states that "[n]atural gas firing will reduce SO<sub>2</sub> and NO<sub>x</sub> emissions for CSAPR, and exempt [Reid Unit 1] from MATS." Explain how the conversion to natural gas would exempt Reid Unit 1 from the MATS requirements.

5. Refer to page 21 of the Berry Testimony. Starting at line 6, Mr. Berry states that the estimated capital cost for Reid Unit 1 conversion is \$1.2 million and that ongoing operation and maintenance expenses are not expected to increase. He also

states that “[h]owever, anticipated increases in fuel cost will most likely cause this unit to continue to be used for peaking service in the future.”

a. Confirm that the type of “fuel cost” to which Mr. Berry is referring is natural gas. If not, provide the type of fuel cost referred to.

b. Is Reid Unit 1 currently used for peaking purposes? If yes, explain why a coal unit such as Reid Unit 1 is not used for baseload purposes.

6 Refer to page 21 of the Berry Testimony at lines 7-9, which refers to anticipated increases in fuel costs that would likely result in Reid Unit 1 being used as a peaking unit after its conversion to natural gas. When does Big Rivers anticipate such an increase in fuel costs will occur that would render Reid Unit 1 to be a peaking unit after being converted to natural gas?

7. Refer to page 22 of the Berry Testimony. Starting at line 12, Mr. Berry states that the portion of the 2012 Environmental Compliance Plan (“2012 Plan”) related to Station Two is currently under review by Henderson Municipal Power and Light (“HMP&L”). Provide the status of the Station Two review being conducted by HMP&L and the timeframe for a response from HMP&L.

8. Refer to page 23 of the Berry Testimony at lines 19-20. Does Big Rivers plan to accomplish the two years of fabrication and construction related to Projects 8, 9 and 10 during planned outage schedules?

9. Refer to page 28 of the Berry Testimony at lines 19-20 in which it is noted that although the Sargent & Lundy study included consideration of the U.S. Environmental Protection Agency’s (“EPA”) proposed regulation concerning coal combustion residuals and the EPA’s rules relating to impingement mortality and

entrainment under Section 316(b) of the Clean Water Act, Big Rivers did not include the potential costs of compliance with these rules in analyzing the cost effectiveness of the alternatives considered for inclusion in its 2012 Plan.

a. What impact would compliance with these potential regulations have on the operations of the affected plants?

b. How would compliance with these regulations affect the economic feasibility of Big Rivers' 2012 Plan?

10. Refer to Exhibit Berry-3, pages 1-2.

a. Provide the age of each of the units listed on Tables 1-2 and 1-3.

b. Provide the most recent life extension studies performed on each of the units listed on Tables 1-2 and 1-3.

11. Refer to Exhibit Berry-3, page 1 of 3, at footnote 2.

a. For each of the three Coleman Units, provide the actual average SO<sub>2</sub> emissions of the three highest years during the 2006-2010 time period.

b. Explain why an annual average emission rate of 0.25 lb/MMBtu was used.

12. Refer to page 4 of the Direct Testimony of William DePriest ("DePriest Testimony") wherein Mr. DePriest provides the total capital and operation and maintenance costs associated with Project 7, the upgrades at HMP&L Units 1 and 2, as well as Big Rivers' share of those costs. Provide the basis for the allocation of costs between Big Rivers and HMP&L or state where in the Application it can be found.

13. Refer to page 15 of the DePriest Testimony, lines 3-7 concerning the conversion of Reid Unit 1 to natural gas.

a. What is the expected impact of the Reid Unit 1 conversion on the unit's heat rate and generating capability?

b. Explain whether Big Rivers considered retiring Reid Unit 1 and repowering the unit with a natural gas combined cycle unit.

c. Explain whether Big Rivers considered retiring Reid Unit 1 and purchasing power on the wholesale market.

14. Refer to page 16 of the DePriest Testimony, lines 16-25.

a. Did Sargent & Lundy consider the replacement of the electro-static precipitators ("ESP") with a fabric filter?

b. Does Big Rivers have a strategy if the ESP performance is inadequate?

15. Refer to Exhibit DePriest – 2, Sargent & Lundy study, at page ES-1. What are the current plans to update the environmental compliance study to reflect the new Mercury and Air Toxins Standard, or MATS rule?

16. Refer to page 1-3 of the Exhibit DePriest – 2, Table 1-1. For each of the economic parameters listed, provide the source of the data and, where appropriate, any supporting calculations and documentation.

17. Refer to page 1-3 of the Exhibit DePriest – 2, Table 1-1. The Sargent & Lundy study used a natural gas forecast of \$4.50/MMBtu.

a. Recognizing that the current cost of natural gas is \$2.00/MMBtu, what is the impact of a continued low natural gas price forecast on the proposed environmental compliance decisions?

b. Has any sensitivity analysis been performed relative to a range of natural gas price forecasts?

18. Refer to page 1-4 of the Exhibit DePriest – 2.

a. Describe the “minimal-contracts approach to project execution” used in the development of the environmental compliance study.

b. How much would the inclusion of owner’s cost add to the estimated cost?

19. Refer to page 4-15 of the Exhibit DePriest – 2. At the bottom of the page it is stated that “[r]eturning the Coleman scrubber back to as-designed operation conditions and lime produces a reduction of approximately 2,630 tpy when compared to the baseline output.” Explain how and why the Coleman scrubber is not currently operating as designed. Include in your response the cost to return the scrubber back to as-designed operations.

20. Refer to Exhibit DePriest – 2, the second page after Page A-1 of Appendix 1. This page includes a chart labeled “Technology Selection & Results – NAAQS/CSAPR & MACT.” For each of the Coleman units, the Capital Cost for SO<sub>2</sub> is shown as \$3.93 million. Identify the project(s) related to this investment.

21. Refer to Exhibit DePriest – 2, the first page after Page A-3 of Appendix 3. Provide this schedule electronically with the formulas intact and unprotected.

22. Refer to page 9 of the Direct Testimony of Thomas L. Shaw (“Shaw Testimony”), lines 5-6. Discuss the basis for the belief that the Cross-State Air Pollution Rule will be imposed in a form substantially similar to its current form.



23. Refer to page 16 of the Shaw Testimony. Starting at line 4, Mr. Shaw discusses the proposal to add a Dry Sorbent Injection system at the Coleman, Wilson, and Green units for acid gas removal. Regarding this proposal, Mr. Shaw states that, “[i]t is *anticipated* that the combination of Dry Sorbent Injection and the necessary reductions to meet the 2014 CASPR allocations will result in unit SO<sub>2</sub> emission rates below 0.20 lb/MMBtu, which will allow for use of SO<sub>2</sub> emissions data as a surrogate for demonstrating compliance with the acid gas provisions of the MATS rule.” (Emphasis added). Is there uncertainty as to whether this proposal will make Big Rivers compliant with the MATS rule? If yes, explain.

24. Refer to page 6 of the Direct Testimony of Mark A. Hite (“Hite Testimony”), lines 19-21.

a. Why was a 15-year study period used in the financial model?

b. Refer to page 1-3 of the Exhibit DePriest – 2, Table 1-1. One of the design basis values and assumptions for the Sargent & Lundy study listed on the Table, Operating Life of the Facility, is assumed to be 20 years. Why was a 15-year period used for the financial model instead of the assumed operating life of 20 years?

25. Refer to page 7 of the Hite Testimony, lines 11-15, at which Mr. Hite discusses the use of Big Rivers’ 2010 cost of capital, 7.93 percent, as the discount rate for net present value purposes. Mr. Hite states that a discount rate of 7.93 percent was also used for the Sargent and Lundy study. Explain how it was determined that 7.93 percent was reasonable for the purpose of net present value calculations.

26. Refer to page 10 of the Hite Testimony. A discussion of a sensitivity analysis pertaining to the loss of the Smelter load is provided.

a. Describe any analysis performed to determine the physical and economic feasibility of selling the capacity and energy that results from the loss of the Smelter load.

b. Identify and provide the results of any other sensitivity or risk analyses performed by Big Rivers relating to the economic feasibility of its proposed 2012 Plan.

27. Refer to page 14 of the Hite Testimony. Beginning at line 13, Mr. Hite states that “[a]ny gain or loss will be booked to the Accumulated Depreciation Reserve Account.”

a. Confirm that Big Rivers is aware that neither a gain nor a loss is recorded on the retirement of a plant asset but that the difference between the original cost and accumulated depreciation for the asset is recorded in the accumulated depreciation reserve account.

b. Explain whether there will be any sale of equipment that is retired from service.

28. Refer to page 19 of the Hite Testimony, lines 9-14, at which Big Rivers requests authority to establish a regulatory asset for costs related to this case, to amortize the costs over three years, and to recover them through the environmental surcharge. Is Big Rivers aware of any other environmental compliance case in which the Commission has approved a similar request?

29. Refer to Exhibit Hite-3, page 1 of 3. Just past the middle of the page, the Exhibit shows an interest rate of 5.5 percent for 2012 Plan capital financing. On page

17, line 18, of the Hite Testimony, the rate is estimated to be 5.78 percent to 6.16 percent. Explain the discrepancy in interest rate estimates.

30. Refer to Exhibit Hite-3, page 3 of 3, the "Build" assumptions. Listed in this section is the statement "Member Rate Stability Mechanism adjusted to accommodate new ES allocation method." Explain this assumption and state whether any adjustment would be necessary to the Member Rate Stability Mechanism tariff.

31. Refer to page 11 of the Wolfram Testimony at lines 8-12 which state that Big Rivers' proposal to use a 1.24 TIER in the rate of return on rate base ("RORB") calculation is because it is limited to a 1.24 TIER as defined in the Smelter Agreements. Provide the TIER that Big Rivers is required to achieve by its debt covenants and explain why that TIER level would not be more appropriate for use in the RORB calculation.

32. Refer to page 13 of the Wolfram Testimony which states that Big Rivers is proposing to revise its current "per kWh" allocation of environmental costs to a "percentage of Total Adjusted Revenue" allocation method. For the year 2011, provide the total amount that was allocated to each member under the current allocation method and the total amount that would have been allocated to each member had the proposed allocation method been in place in 2011.

33. Refer to page 19 of the Wolfram Testimony, line 3, at which Mr. Wolfram states that Big Rivers' proposed forms are "generally" consistent with forms approved by the Commission for other electric utilities. Is Big Rivers aware of anything in the proposed forms that is not consistent with other forms approved by the Commission?

34. Refer to Revised Exhibit Wolfram-3.

a. Refer to page 5 of 6. Under the “Availability” section, it is stated that the “[t]he Environmental Surcharge (“ES”) is mandatory to all Standard Rate Schedules listed in Section 1 of the General Index . . . .” Section 1 of the General Index of Big Rivers’ tariff includes the following rate schedules: Rural Delivery Service, Large Industrial Customer, Cable Television Attachment, Cogeneration Small Power Production Purchase, Cogeneration Small Power Production Sales, and Large Industrial Customer Expansion. Explain why the ES should apply to the Cable Television Attachment and the Cogeneration tariffs.

b. Refer to page 6 of 6. Paragraph (3) states that “[t]he revenue  $R(m)$  is the average monthly revenue, including base revenues and automatic adjustment clause revenue less Environmental Cost Recovery Surcharge revenues . . . .”

(1) Explain why “automatic adjustment clause” is used rather than stating the specific adjustment clause(s) that would be included?

(2) Does the use of “automatic adjustment clause” refer only to the Fuel Adjustment Clause (“FAC”) and the Non-Smelter Non-FAC Purchase Power Adjustment? If no, explain.

(3) The phrase “automatic adjustment clause *revenue*” is used. (Emphasis added). Instead of the word “revenue,” should a different word or combination of words be used given that automatic adjustment clauses can result in a credit on member bills?

35. Refer to Exhibit Wolfram-5.

a. Refer to page 2 of 16, ES Form 1.10. This form shows  $E(m) = RORB + OE - BAS$  where RORB is identified as Rate Base times the Rate of Return. Exhibit Wolfram-3, pages 4 and 5, show  $E(m) = [RB/12](RORB) + OE - BAS$  where RORB is identified as the Rate of Return on Environmental Compliance Rate Base. Although the calculations would result in the same  $E(m)$ , explain why the formula in the ES form differs from that in the proposed tariff and why the definition of RORB differs in the exhibits.

b. Refer to page 3 of 16, ES Form 2.0. The first two sections on this form are identified as "RORB". Confirm that the first section should be identified as "RB" or explain why it is correct as shown.

36. Refer to Exhibit Wolfram-6, page 1 of 1. Provide this exhibit with the effects of Project No. 6, Converting Burners to Natural Gas, removed from the schedule.

37. State whether any of Big Rivers units will be taken offline during construction of the 2012 Plan projects. If yes, provide the projected shutdown dates by unit and state how Big Rivers plans to meet its load requirements during those times.

38. Provide the following operational information for all units proposed for pollution control retrofit:

- a. Commercial operation date;
- b. The number of normal cycles (stops and starts);
- c. The number of emergency trips and starts;
- d. Capacity Factor for the last five years;
- e. Heat Rate for the last five years; and

f. For the last 10 years, provide any and all major and minor outages, including the major projects completed during each outage.

39. Has Big Rivers considered the potential impact of CO<sub>2</sub> regulation or legislation being promulgated or enacted during the planning period studied? If so, discuss the impact. If not, explain why the potential CO<sub>2</sub> impact was not considered.

40. Provide a detailed description of the decision model used in the Sargent & Lundy study. Provide electronic versions of the models including all input and output files.



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DATED:     **MAY 21 2012**    

cc: Parties of Record

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