COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

CITY OF HENDERSON, KENTUCKY, CITY OF HENDERSON UTILITY COMMISSION, AND BIG RIVERS ELECTRIC CORPORATION APPLICATION FOR CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND TO FILE PLAN FOR COMPLIANCE WITH CLEAN AIR ACT AND IMPOSE ENVIRONMENTAL SURCHARGE	)	CASE NO. 93-065

O R D E R

IT IS ORDERED that Big Rivers Electric Corporation ("Big Rivers") shall file the original and 12 copies of the following information with the Commission no later than January 28, 1994, with a copy to all parties of record. Each copy of the data requested should be placed in a bound volume with each item tabbed. When a number of sheets are required for an item, each sheet should be appropriately indexed, for example, Item 1(a), Sheet 2 of 6. Include with each response the name of the witness who will be responsible for responding to questions relating to the information provided. Careful attention should be given to copied material to ensure that it is legible. Where information requested herein has been provided along with the original application, in the format requested herein, reference may be made to the specific location of said information in responding to this information request.

1. What are the costs of substituting the Green Plant into Phase I of the Clean Air Act Amendments of 1990 ("CAAA") and

"overscrubbing" by increasing the removal efficiency of the existing scrubber?

a. Estimate the dollar cost per ton SO_2 removed of this option using a methodology similar to that presented in the Reassessment Study (Exhibit DS-1). As minimum support for this calculation, provide the cost of any capital investment required, increases in fixed operating and maintenance ("O&M") costs, increases in variable operating or maintenance expenses broken down by category of cost (e.g., reagent), the fuel type to be burned, the capacity factor assumed, the heat rate assumed, the tons of SO_2 removed per year, financial assumptions, and the year dollars of any costs provided. Provide per unit costs and total dollar costs.

b. How will the lawsuit against the U. S. Environmental Protection Agency ("EPA") regarding award of substitution allowances and EPA's decision to authorize award of allowances for only one year of Phase I affect the decision to pursue substitution at the Green Plant. What actions would Big Rivers take in Phase I if these allowances are not authorized?

2. What are the costs of "overscrubbing" at the Wilson Plant by increasing the removal efficiency of the flue gas desulfurization system ("FGD" or "scrubber")? Estimate the dollar cost per ton SO_2 removed of this option using a methodology similar to that presented in the Reassessment Study (Exhibit DS-1). As minimum support for this calculation, provide the cost of any capital investment required, increases in fixed O&M costs, increases in variable operating or maintenance expenses broken down

by each category of cost (e.g., reagent), the fuel type to be burned, the capacity factor assumed, the heat rate assumed, the tons of SO_2 removed per year, financial assumptions, and the year dollars of any costs provided. Provide per unit costs and total dollar costs.

3. What are the "other expenses" referenced in the testimony of Gregory Black ("Item 2") on page 54 of 57, lines 1-2?

4. Did Big Rivers consider switching fuels at its currently scrubbed units? Why or why not? If yes, provide the economic analysis which supports the decision not to pursue this option.

5. Big Rivers does not present an analysis of wet scrubbing technologies other than wet lime FGDs for the Coleman and Station Two Plants. Did Big Rivers evaluate other wet scrubbing technologies such as limestone forced oxidation or limestone inhibited oxidation? If not, why not? How do the costs of these technologies compare to the cost of the wet lime FGD chosen for these units (particularly the Coleman Plant where lime handling facilities can not be shared)?

6. Reference the testimony of Paul Schmitz ("Item 1") on page 15 of 36. Summarize the assumptions, methods, and conclusions of Big Rivers' analysis of early unit retirement as a compliance method.

7. Reference Item 1, page 16 of 36. Summarize the assumptions, methods, and the conclusions of Big Rivers' analysis of pre-combustion sulfur removal from high-sulfur coals as a

compliance method. What technologies are capable of pre-combustion removal?

8. Did Big Rivers analyze a blend of Powder River Basin coal and low-sulfur Appalachian coal? If no, why not? If yes, provide this analysis. What investments would be required to burn a coal blend of this type? Explain any technical or plant constraints that would prevent using such a blend.

9. Federal acid rain regulations do not require Big Rivers to switch to 1.15 lbs. SO_2 per MMBtu coal in the fuel switch-low sulfur coal plan (Plan 5). It could switch to a "near-compliance" coal of approximately 1.6 lbs. SO_2 per MMBtu which could be less expensive. Analyze this fuel switching option and explain why Big Rivers did not evaluate it in the Reassessment Study or earlier studies. Explain any technical or economic reasons why Big Rivers could not utilize this type of coal.

10. Reference Item 1, page 24 of 36. What reasons did the City of Henderson provide to Big Rivers for its earlier decision to reject sharing facilities for the Station Two scrubber?

11. Reference the testimony of David Schultz and David Spainhoward ("Item 4"), page 10 of 20:

a. What information on emission allowance values was obtained from experts in the field? What experts were consulted?

b. What range of allowance values was supported by the sources researched by Big Rivers? Where in this range does Big Rivers' assumption of $250 per ton fall?

12. Reference Item 4, page 10 of 20. Compare Big Rivers' forecast and growth rates for fuel to RDI's forecast for the range of sulfur contents of coal considered in Big Rivers' economic analysis.

13. One of the key factors that could affect a decision to scrub rather that switch fuel is the sulfur premium (i.e., difference in price between high and low-sulfur coal). Did Big Rivers analyze a range of fuel prices and sulfur premiums in its economic analysis? If not, why not? If so, provide this analysis.

14. Provide 2 copies (electronic or hard copy) of all UPLAN model runs that were used to analyze Plans 1-7 of the Reassessment.

15. Describe the purpose of each of the spreadsheet models used in the analysis of Plans 1-7 referred to in Item 4, pages 12 and 13 of 20. Provide 2 copies (electronic or hard copy) of these spreadsheets.

16. Reference Item 4, page 13 of 20. Big Rivers' allowance price estimate is $250 per ton as escalated with inflation. Did Big Rivers use this value in the economic analysis of Plan 1? If no, what value was used? If yes, why was this value used when Big Rivers sold allowances at approximately $190 per ton.

17. In the economic analysis of the 7 alternative plans, allowances are bought and sold to result in a constant allowance bank. What is the size of the allowance bank? Expand the table in Exhibit DS-1, page 29 of 39, to include, for each plan and each year of the study period, the allowances purchased, sold, and held in the emission allowance bank.

18. Reference Exhibit DS-1, page 5 of 39. What technologies did Burns & McDonnell dismiss from further review? Provide any written report (or relevant excerpts) where Burns & McDonnell concludes that wet lime FGD is more economical than a wet limestone FGD for the Coleman and Station Two Plants.

19. Reference Exhibit DS-1, page 9 of 39. Economic dispatch can be adjusted to recognize the opportunity cost of emission allowances. Was this adjustment made for the economic analysis of Plans 1-7? Was the adjustment made only for the analysis presented on Attachment D of Exhibit DS-1, page 7 of 7?

20. Reference Big Rivers' 1993 Integrated Resource Plan ("IRP"), Appendix 3, Exhibit 1, page A3EX2-15, Table 4. Provide an update to this table.

21. For the Station Two FGD:

a. How many and what size absorber modules does the design include? What level of redundancy was selected for other key components of the scrubber and related systems?

b. What are the byproduct quality and disposal techniques?

c. What are the coal quality design specifications? Include the maximum and minimum sulfur content.

d. What are the source and transportation method for lime?

e. What are the ESP outlet particulate loadings assumed in the design?

f. What is the maximum capacity of Station Two after installation of the scrubber?

g. What is the estimated reliability of the scrubber?

h. What is the flue gas flow rate?

i. What is the calcium to sulfur molar ratio?

j. Will the scrubber treat 100 percent of the flue gas or will a portion bypass the system?

k. How much unused capacity remains at Big Rivers' existing waste disposal sites? Does Big Rivers have its own waste disposal sites? Does Big Rivers contract for waste disposal?

l. What guarantees or warranties have been given for the scrubber equipment?

m. How similar is this design to other existing wet lime FGD designs of Big Rivers? How similar is this designed to those of other utilities?

22. For the Station Two FGD, break out the capital investment into the following categories. Indicate the year dollars of the costs provided. Provide costs per unit and total dollar costs. Indicate if the costs provided represent the total costs or Big Rivers' share of the costs.

a. Reagent Feed System

b. SO_2 Removal System

c. Flue Gas Handling System

d. Solids Handling System

e. General Support Equipment

f. Additional Equipment

g. Total Process Capital

h. General Facilities

i. Engineering and Home Office Fees

j. Project Contingency

k. Process Contingency

l. Total Plant Cost

m. Allowance for Funds Used During Construction

n. Other Capital Costs (not covered by above categories)

23. For the fixed and variable operating costs of the Station Two scrubber, complete the following table. Indicate the year dollars of the costs provided. Provide costs per unit and total dollar costs. Indicate if the costs provided represent the total costs or Big Rivers' share of the costs.

Fixed Operating Costs
Operating Labor
Maintenance Labor and Materials
Administration and Support Labor
Other

Total Fixed Operating Costs

Variable Operating Costs
Lime
Disposal
Water
Power
Other

Total Variable Operating Costs

24. Reference Exhibit DS-1, page 14 of 39.

a. In the screening analysis discussed, what was the baseline fuel cost used to develop cost per ton SO_2 removed?

b. Do the fuel costs reflect existing contracts, the market cost of coal if a new contract is signed, or a combination of both?

c. If levelized fuel costs over the study period are used, what fuel cost is used after existing contracts expire.

25. Do all of the 7 plans include "overscrubbing" at the Wilson Plant during Phase II? What other Phase II compliance options are included in Plans 1-7?

26. Reference Exhibit DS-1, page 17 of 39. Why did Big Rivers change its capital cost treatment from its earlier analyses? What effect does changing this treatment have on the economic analysis?

27. Reference Exhibit DS-1, page 18 of 39. Why did the capital cost of the scrubber increase? What factors could cause the cost of the Station Two scrubber to increase further? Does the City of Henderson's contract with Wheelabrator Air Pollution Control provide any protection against further cost increases?

28. Reference Exhibit DS-1, page 20 of 39. What types of coal are used to analyze the blended coal option? Provide the source, the energy content, and sulfur content of each coal, and the resulting sulfur content of the blend. Would these coals be blended on site or purchased as a blend? If they are to be blended on site, did Big Rivers include costs to blend? What are the costs to add on-site blending capability?

29. What is the annual rate impact, relative to a base case with no CAAA compliance, for each of the 7 plans analyzed by Big Rivers both in cost per kWh and percent increase or decrease?

30. What is the estimated transportation rate to deliver Powder River Basin coal to Big Rivers' generating units? What sources were used to estimate the transportation rate? Describe the routing of the coal. Provide an estimated transportation rate for delivery by barge and delivery by rail.

31. What is the estimated transportation rate to deliver low-sulfur Appalachian coal (1.15 lbs. SO_2 per MMBtu) to Big Rivers' generating units? What sources were used to estimate the transportation rate? Provide an estimated transportation rate for delivery by barge and delivery by rail.

32. Provide the average cost per ton Big Rivers paid in 1993 for coal transportation. Provide the approximate transportation component for the coals listed on Attachment A to Exhibit DS-1, page 1 of 8.

33. Refer to Exhibit DS-1, pages 24 and 25 of 39. Explain why the coal burned with the scrubber is different between Plans 1 and 3?

34. Reference Exhibit DS-1, page 37 of 39. Has the Station Two scrubber been designed to produce a by-product of commercial value such as gypsum? If so, do the cost estimates consider the value of selling this byproduct?

35. Reference Attachment A of Exhibit DS-1, page 8 of 8, second row labeled "Station Two":

a. What do the contract numbers labeled 1995, 1996, 2000 mean?

b. Why is the information for some contracts repeated in the bottom half of the table, particularly if the contract is listed as having expired in the top half of the table?

c. What is meant by "IN 1995", "IN 2000" etc. as listed in the table? To what information on the table do these labels apply?

d. In what year dollars is the fuel cost information provided in this table?

36. Reference Attachment A of Exhibit DS-1, page 1 of 8. In what year dollars are the fuel prices listed? In what years would the new supplies be available? Are these the prices for the new contracts that appear on Attachment A of Exhibit DS-1, page 8 of 8?

37. Big Rivers has concluded that precipitator equipment would need to be replaced if it switched to low-sulfur coal.

a. What are the remaining lives of the precipitator equipment at the Coleman and Station Two Plants? If there had been no amendments to the Clean Air Act, when would investment to replace or upgrade precipitator equipment have been required?

b. What are the current conditions of the existing precipitator equipment at the Coleman and Station Two Plants? Are there signs of corrosion?

c. Provide a measure(s) of the size of the existing precipitators at the Coleman and Station Two Plants such as the surface collection area.

d. Why did Burns & McDonnell conclude that the precipitators would need to be replaced rather than upgraded?

38. Reference Table A-1a and Table B-1a of the Burns & McDonnell analysis.

a. One of the effects of switching to low sulfur Western coal is that systems (such as pulverizers) may not be able to achieve their rated capacity resulting in a MW derate of the generating unit. What derate is assumed in the analysis of switching to Western coal? Which of the listed costs could be avoided if Big Rivers accepted this derate?

b. What types of costs are included in the "Steam Generation" category of these tables?

c. What items are covered by the coal handling cost category?

d. How much of the switching costs is due to precipitator investments?

e. What is the approximate range of market values for the portion of Big Rivers' capacity not needed to meet its system load?

39. Reference Exhibit DS-1, page 21 of 39. For each of the options analyzed for the Station Two and Coleman Plants, complete the table shown in Appendix A to this Order to support the calculation of dollars per ton SO_2 removed. Also complete this table for the wet lime system at the Coleman Plant and for any wet limestone FGD systems analyzed by Big Rivers. Describe Big Rivers'

methodology for incorporating the economic value of the energy penalty and derate associated with SO_2 removal options.

40. If levelized fuel costs are used in the screening analysis to develop the dollar cost per ton SO_2 removed shown in Exhibit DS-1, page 21 of 39, provide for one SO_2 removal option and one generating station, all calculations used to derive the levelized annual fuel cost. For each year of the study period state:

a. The fuel cost in $ per MMBtu.

b. Whether the fuel price represents a market rate or a contract rate or a blend of both.

c. The MMBtus of fuel consumed.

d. The levelization factor.

e. The discount rate used to develop the levelization factor.

f. The year dollars of all costs provided.

41. Provide the existing coal quality specifications (minimum and maximum) for each of Big Rivers' generating units for the following quality parameters:

a. Volatility (percent)

b. Grindability (measured by the Hardgrove Index)

c. Energy content (Btu per lb.)

d. Sulfur content

e. Ash content (%)

42. Provide the wellhead cost of natural gas used to evaluate gas co-firing, the estimated transportation cost to deliver natural

gas to Big Rivers, and the escalation rate for natural gas if different than the -2 percent real rate used for coal prices. What are the delivery constraints on the amount of natural gas that can be delivered? How far must a gas pipeline be extended to deliver gas to Big Rivers' generating units?

43. For each type of coal that was considered as part of Big Rivers' most recent Reassessment study, provide the assumed energy content (in Btu per lb.).

44. Were economy sales included when modeling the alternative plans presented in the Reassessment study?

45. Table 8.(3).2 on page 8-39 of the 1993 IRP provides the net rating in MWs of Big Rivers generating units. Is the rated capacity in the summer is different than in the winter? If yes, provide both the summer and winter rated capacity.

46. Provide the minimum capacity (in MWs) of each of Big Rivers' generating units. Minimum means the portion of the generating unit that would be kept in continuous operation to avoid start-up costs.

47. Refer to Big Rivers' response to Item 5 of the Kentucky Industrial Utility Customers' ("KIUC") first request for information in Case No. 93-341[1]. Provide the MWhs that correspond to these O&M costs in Items a, b, and c of that request.

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[1] Case No. 93-341, A Review Pursuant to 807 KAR 5:058 of the 1993 Integrated Resource Plan of Big Rivers Electric Corporation.

48. For each of Big Rivers' generating units, provide the availability factor for each month of 1991 and 1992.

49. Provide the NO_x emission rates, in lbs. NO_x per MMBtu, for each fuel type considered for acid rain compliance and for Big Rivers' existing fuel.

50. For each of the 7 plans, what percentage of medium-sulfur coal and high-sulfur coal would be bought from local sources (e.g., Western Kentucky). How do Big Rivers' selected plan or any of the other plans result in fuel diversity?

51. Provide the remainder of the study report (Exhibit DS-1) written by Burns & McDonnell to document its findings in the Reassessment Study.

52. The EPA's Integrated Air Pollution Control System ("IAPCS") computer model used by Burns & McDonnell is not commonly used by other utilities to evaluate SO_2 removal costs. What efforts did Big Rivers make to determine that this model was adequate and reasonable for its evaluations?

53. Big Rivers recently sold allowances for approximately $190 per ton. If adjusted for an inflation rate of 4 percent per year, this price would be approximately $205 per ton versus Big Rivers' 1995 allowance price estimate of $250 per ton. Why did Big Rivers use an allowance price estimate of $250 per ton when it sold allowances at only $205 per ton?

54. Comment on the following statement. A utility may experience lower fuel price risk if a utility switched fuel during Phase I and delays the construction of a scrubber. If low-sulfur

coal prices prove to be high over this period, the utility may still install a scrubber. Delay of the scrubber enhances flexibility because it delays an irreversible capital commitment while leaving room to avoid future "high" low-sulfur coal prices.

55. Is it possible to mitigate the risk of fuel price uncertainty by signing long-term contracts? Did Big Rivers consider this approach? How would this approach affect the rankings on this criterion presented in the Reassessment Study?

56. Item 1, page 9 of 36, notes that "to the extent appropriate and as requested by Big Rivers . . . surcharge amounts can be incorporated into existing base rates." (emphasis added) Is it Big Rivers' understanding that incorporation of surcharge amounts into base rates is optional? Under what circumstances would Big Rivers not wish to include surcharge amounts in base rates?

57. Reference the testimony of John West ("Item 3"), page 6 of 42. Why does Big Rivers propose a different accounting treatment through the surcharge for extension and transfer allowances than for allowances generated over the Phase I period which it has sold? What accounting principles support this treatment?

58. What accounting principles permit Big Rivers to deduct the value of emission allowance proceeds to reduce the capital investment associated with the Station Two scrubber. Why does Big Rivers deduct only the value of the extension and transfer allowances and not the proceeds of the entire sale? Is this

appropriate when Big Rivers has already received the full proceeds of the sale?

59. How would the present value of revenue requirements ("PVRR") change if Big Rivers used all of the allowance proceeds to offset the cost of the scrubber rather than amortizing $10 million of the proceeds over time?

60. Does Big Rivers intend the surcharge to cover all increases in costs of environmental compliance that are not in base rates or only costs associated with new activities? Explain Big Rivers' reasoning for its selected approach. Explain the incentives for efficiency under both approaches.

61. Why is Big Rivers proposing to wait until July 1995 to activate the Surcharge?

62. What timetable does Big Rivers propose to follow to implement the Surcharge? Include the completion date of the 1992 "baseline."

63. If the Surcharge is not be activated until July of 1995, but Surcharge-related costs are incurred and monitored by Big Rivers after December 31, 1992, does Big Rivers propose to recover the Surcharge-related costs incurred between December 31, 1992 and July 1995 (Item 3, Page 17)? If yes, how?

64. Referring to Point 2 on Page 4 of Item 3, a debt service component will be included in the Surcharge calculation even if the pollution control equipment is internally financed (Item 3, Page 16). Explain why a debt service component should be included if projects are internally financed.

65. Although the proposed cost of debt for the environmental surcharge is 8 percent, Big Rivers is confident that it can refinance debt with REA at 6 percent. Should the debt service component be based on an embedded debt value or the cost of new borrowing?

66. Referring to Point 1 on Page 4 of Item 3, how are the capital-related revenue requirements calculated? If a revenue requirement-type model is used, discuss the model and assumptions used.

67. Referring to Point 4 on Page 4 of Item 3, what accounting changes under the Uniform Systems of Accounts have been made (Item 3, Page 21) by Big Rivers to track O&M expenses for the pollution control facilities?

68. How will the portion of Administrative & General expenses related to environmental compliance be estimated?

69. Referring to Point 5 on Page 4 of Item 3, the cost of the emission allowances will be included in the Surcharge calculation. On page 24 of Item 3, the cost of the allowances is book value, plus or minus the amortization of losses or gains from allowances sold by Big Rivers.

a. How will the book value of allowances be determined?

b. Is the book value different from the purchase or sale price of an allowance? If yes, why?

c. What is the amortization period used to distribute allowance losses or gains?

d. Does the amortization period begin on the date of allowance sale? If no, why not?

70. Provide all support for Big Rivers' assertion that the lifetime of pollution control investments is shorter than that of generating unit equipment and that the appropriate period is 20 years. Referring to Page 13 of Item 3, provide a status report on the depreciation and amortization study for pollution control equipment.

71. Prior to the most recent amendments to its contracts with the City of Henderson, Big Rivers paid Station Two costs through its contract payments to the City which was responsible for financing the scrubber. Why did Big Rivers agree to amend its contracts to become directly responsible for financing a portion of the scrubber installation?

72. Reference "Big Rivers Electric Corporation's Application for Approval of Amendments to its Contracts with the City of Henderson, KY and City of Henderson Utility Commission and Big Rivers Plan for Compliance with the Federal Clean Air Act as Amended" filed with the Commission on July 2, 1993. In Exhibit 1, (page 11) under Joint Facilities Agreement, Big Rivers proposes a mechanism to allocate the cost of the joint facilities utilized by both Green and the Station Two scrubbers between Big Rivers and the City of Henderson.

a. Explain the cost allocation method and its selection. What methods did Big Rivers explore and reject?

b. How was the 11.5 percent carrying charge developed? Does it represent Big Rivers' carrying cost or the City of Henderson's carrying cost? Why is 11.5 percent the appropriate rate to use?

c. Would the formula proposed in the contract amendments be appropriate if carrying costs were to decline or increase?

d. Indicate any areas where the allocation method under the contract amendments will be different from the current allocation method.

73. How did Big Rivers determine that: (1) 154,386 was the appropriate number of allowances to sell; (2) the appropriate price for the sale; and (3) the appropriate timing for the sale?

74. Refer to Item 3, page 10. Explain the statement that $3.2 million of associated retirements of existing equipment can be used to reduce the estimated net capital additions. Does this statement refer to the estimated salvage value of the retirement being an offset to the estimated $39.3 million in capital additions?

75. Item 1, pages 32 and 33 of 36, provides the criteria applied by Big Rivers during its reassessment of the compliance plan. One criterion was the compatibility of Big Rivers' plan with that of the City of Henderson. Describe any areas where Big Rivers' plan was not compatible with the City of Henderson's. Explain how these areas of incompatibility have been resolved.

76. Concerning the Station Two scrubber, explain the procedures that will be used to allocate capital expenditures and operating and maintenance costs between Big Rivers and the City of Henderson. Identify and describe the basis for the allocations that will be used.

77. Item 2, page 6 of 57, indicates that Big Rivers proposes to include only qualifying capital expenditures incurred after December 31, 1992 in its surcharge. Explain the significance of this date and how Big Rivers determined that it was appropriate.

78. Item 3, beginning at page 5 of 42, discusses the sale of emission allowances by the City of Henderson and Big Rivers. Concerning the sale of the 154,384 emission allowances:

a. Identify the generating plants to which the emission allowances relate.

b. How many allowances were owned by the City of Henderson and how many were owned by Big Rivers?

c. Explain the method used to distribute the City of Henderson's allowances.

d. Prepare a breakdown of the total emission allowances sold, showing vintage year of the allowances, the associated plant, and the number of allowances associated with each year.

e. Prepare a breakdown of the total emission allowances sold, classifying the allowances as either base, extension, transfer, or bonus.

f. Explain the effect the sale of these allowances will have on Big Rivers' ability to comply with the CAAA over the next 10 years.

79. Provide all entries made by Big Rivers to account for the receipt and sale of the emission allowances. Include account numbers, account titles, transaction descriptions, and the cost used when recording receipt of the emission allowances.

80. Has the Rural Electrification Administration ("REA") issued any guidelines or instructions concerning the accounting for emission allowances. If yes, provide copies.

81. Are there any differences between the Federal Energy Regulatory Commission ("FERC") prescribed accounting treatment for emission allowances and the treatment applied by Big Rivers? If yes, explain for each difference why Big Rivers used the particular treatment.

82. Item 3, page 6 of 42, discusses how accounting for the sale of emission allowances would affect the surcharge. Provide the accounting entries which demonstrate the effects described in the testimony. Does this accounting treatment conform to FERC accounting requirements for emission allowances?

83. Provide the calculations and workpapers which show the current weighted average debt rate to be approximately 8 percent.

84. Item 3, page 17 of 42, discusses Big Rivers' proposal for a "baseline" of operating and maintenance expenses for existing pollution control equipment for the year ended December 31, 1992,

with expenses above or below the established "baseline" reflected in the calculation of the surcharge.

a. Explain why Big Rivers believes it is appropriate to establish a "baseline" of operating and maintenance expenses. Include a discussion of the reasoning behind this proposal.

b. Explain why the year ended December 31, 1992 was selected for the "baseline" period.

c. Explain why Big Rivers advocates the "baseline" approach, rather than tracking specific operating and maintenance expenses which would be eligible to include in the surcharge.

85. Item 3, page 19 of 42, discusses administrative and general expenses which Big Rivers proposes to include in the surcharge.

a. Explain the cost allocation procedures Big Rivers has in place to segregate administrative and general expenses related to environmental compliance activity eligible for cost recovery under KRS 278.183.

b. Why is it necessary to identify these potential surcharge costs through the "baseline" approach, rather than through specific cost tracking mechanisms.

86. Item 3, pages 17 and 19 of 42, indicates that the 1992 "baseline" expenses which Big Rivers intends to use to determine expenses recoverable through the surcharge will be submitted to the Commission for review prior to the operation of the surcharge.

a. Explain why Big Rivers did not submit the "baseline" information with this application.

b. Provide a detailed schedule of the 1992 "baseline" expenses referenced on pages 17 and 19. Identify the expense, account number and title where the expense is recorded, and the amount to be included in the "baseline".

87. Under KRS 278.183, a utility is entitled to the current recovery of compliance costs not included in existing rates through an environmental surcharge to existing rates imposed as a positive or negative adjustment to customer bills in the second month following the month in which costs are incurred. Item 3, page 20 of 42, indicates that Big Rivers will recover only incremental pollution control operating expenses incurred after 1992. In its December 21, 1993 Order, the Commission held that Big Rivers could not assess its surcharge until it received Commission approval or May 21, 1994, whichever occurred first.

a. In light of the statute and the potential effective date of the surcharge, is Big Rivers of the opinion that it can recover any pollution control operating expenses incurred before the end of the suspension period in 1994? Explain the basis for Big Rivers' position.

b. Does Big Rivers contend that it may accumulate returns on compliance construction and related capital expenditures during 1993 and recover these amounts after the surcharge becomes effective? Explain the basis for Big Rivers' position.

88. Big Rivers has stated that it will not activate the environmental surcharge until July 1995. If the surcharge becomes effective in mid-1994, would Big Rivers activate the mechanism to

recover eligible operating and maintenance costs and returns on eligible plant investments before July 1995?

89. Concerning the cost of preparing and submitting this surcharge application:

a. Provide a detailed estimate of the cost to prepare, and pursue this case. Identify any outside professional services used (accountants, engineers, attorneys, consultants, etc.), the estimated hours of each service, the hourly rate for each service, the cost of notices, materials and supplies, and other related costs.

b. As of the date for response to this Order, provide the actual costs incurred related to this proceeding, supported by invoices or other documentation. The costs related to outside professional services should show the hours billed and the hourly rate charged.

c. Provide updates on March 17, 1994 and May 2, 1994 of the costs actually incurred relating to this proceeding. All costs should be supported by invoices or other documentation. The costs related to outside professional services should show the hours billed and the hourly rate charged.

90. Concerning the role of the REA in the development and implementation of Big Rivers' compliance plan:

a. State whether Big Rivers has requested REA approval of any feature of its compliance plan. Indicate the status of these requests as of the date for response to this Order.

b. Describe REA's role as it relates to the sale of emission allowances. Include the status of any request for REA approval of the allowance transactions.

c. Describe REA's role in the construction and financing of the Station Two scrubber. Include the status of any request for REA approval concerning the construction and financing of the scrubber.

91. In Big Rivers' Compliance Plan Reassessment, one of the alternative plans considered was limited to buying allowances to achieve compliance (Attachment C of Exhibit DS-1, page 2 of 6).

a. Explain why Big Rivers considered this approach only and did not model a mixture of fuel switching and allowance purchases.

b. Explain why Big Rivers considered the purchase of allowances as the only realistic alternative to its base case plan.

92. In the notes to its 1992 Annual Report, Big Rivers states that it records as a liability the portion of the principal payments it must pay as fixed costs under its contract with the City of Henderson, based on estimates of its allocated portion of Station Two capacity, and records as an asset a like amount for the right to purchase its allocated portion of the output.

a. Describe the effects the City of Henderson's and Big Rivers' compliance with the CAAA will have on the carrying value recorded for this asset and this liability on Big Rivers' books.

b. Provide the accounting entries to Big Rivers' books which would reflect these impacts.

Done at Frankfort, Kentucky, this 14th day of January, 1994.

PUBLIC SERVICE COMMISSION

For the Commission

ATTEST:

Executive Director

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 93-065 DATED January 14, 1994

General:
List SO_2 removal option _____
List generating unit _____
List year dollars _____
(nominal or ___ year dollars)
Year in which option implemented _____
Inflation rate (%/year) _____
Discount rate (%) _____
Fixed charge rate (%) _____

Item and Units	Baseline	SO_2 Removal Option
Fuel Type Name Sulfur content (lbs. SO_2/MMBtu) Energy content (MMBtu/ton)		
Heat rate of unit (Btu per kWh)		
Capacity factor of unit (% per year)		
Capacity of unit (MW)		
Energy consumption (mWhs per year)		
SO_2 removed per year (tons)		
Capital investment Total investment ($ millions) Annual investment ($ millions)		
Fuel Cost ($/MMBtu) ($ millions per year) (indicate if 1st year or levelized cost used)		

General:
List SO_2 removal option _____
List generating unit _____
List year dollars _____
(nominal or ___ year dollars)
Year in which option implemented _____
Inflation rate (%/year) _____
Discount rate (%) _____
Fixed charge rate (%) _____

Item and Units	Baseline	SO_2 Removal Option
Fixed O&M ($/KW-Year) (Escalation % per year) (Annual $ million) (indicate if 1st year or levelized cost used)		
Variable O&M ($ per mWh) (Escalation % per year) (Annual $ millions) (indicate if 1st year or levelized cost used)		
Value of Replacement Capacity ($ million) ($ per kW)		
Value of Replacement Energy ($ million) ($ per mWhr)		
Annual Cost of SO_2 Removal Option ($ millions)		
Annual SO_2 tons removed		
Dollars per ton SO_2 removed		