COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY POWER COMPANY d/b/a AMERICAN ELECTRIC POWER TO ASSESS A SURCHARGE UNDER KRS 278.183 TO RECOVER COSTS OF COMPLIANCE WITH THE CLEAN AIR ACT AND THOSE ENVIRONMENTAL REQUIREMENTS WHICH APPLY TO COAL COMBUSTION WASTE AND BY-PRODUCTS	)))))))	CASE NO. 96-489

O R D E R

IT IS ORDERED that Kentucky Power Company, d/b/a American Electric Power ("Kentucky Power") shall file an original and 10 copies of the following information with this Commission, 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. The information requested herein is due no later than January 27, 1997.

1. Refer to page 4 of the Application. Explain why Kentucky Power proposed to adopt procedures similar to those used for the fuel adjustment clause rather than procedures used for the other environmental surcharges authorized by the Commission.

2. Refer to Kentucky Power's proposed Tariff E.S. Define the term "customer sector" as used in the proposed tariff.

3. Concerning the base period described in the proposed tariff:

a. Does the base period reflect a one month period, a twelve month period, or some other period of time?

b. Identify the base period proposed by Kentucky Power.

4. KRS 278.183(2) provides that the recovery of environmental compliance costs that are not already included in existing rates shall be by surcharge.

a. Is the base period included in Tariff E.S. supposed to reflect the costs included in existing rates? If no, what is the base period intended to reflect?

b. Does Kentucky Power define the rates established in Case No. 91-066[1] as its existing rates for purposes of the surcharge?

c. Why were the rates as of the period selected considered reflective of existing rates?

5. Refer to the Direct Testimony of John M. McManus, page 5. He states that American Electric Power Company, Inc. ("AEP") determined that efficiencies in design and manufacture of low NOx burners would be achieved if all five 800 megawatt units were retrofitted at the same time.

a. Identify the four other 800 megawatt units retrofitted along with Big Sandy Unit 2. Indicate which AEP company owns the unit.

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[1] Case No. 91-066, Application for Adjustment of Electric Rates of Kentucky Power Company.

b. Describe the analysis performed which indicated these efficiencies in design and manufacture were possible. Provide copies of the analysis.

c. What was the estimated cost of the Big Sandy Unit 2 low NOx burners retrofit if done for that unit only?

d. Would Kentucky Power have proceeded with the retrofit in 1994 if the design and manufacturing efficiencies had not been available? Why?

e. What was the estimated total cost savings from retrofitting the five 800 megawatt units together?

f. Was the estimated savings for each affected unit essentially the same or did some units experience greater savings than others? If so, explain why.

6. Refer to the Direct Testimony of John M. McManus, page 6. It is stated that the allowance "inventory is required to assure that the companies will have adequate allowances to comply with Title IV and the Interim Allowance Agreement." Does AEP believe that it is appropriate to recover through the environmental surcharge the costs of complying with the Interim Allowance Agreement ("IAA") even if these costs do not reflect Kentucky Power's costs of complying with Title IV?

7. Refer to McManus Direct Testimony, page 6. Indicate Kentucky Power's final decision concerning the early election for Big Sandy Unit 2.

8. Identify the specific air emission fees Kentucky Power pays in Kentucky and Indiana. Indicate whether the fee is levied by federal, state, or local authorities.

9. Refer to McManus Direct Testimony, Exhibit JMM-1. Concerning Project No. 1 - Low NOx Burners at Big Sandy Unit 2:

a. Describe the procedures and criteria used and the analyses performed to select the vendor that installed the low NOx burners at Unit 2 in 1994.

b. Describe the process of installing low NOx burners and the actual equipment and facilities that were installed at Unit 2 in 1994.

c. Describe the range of low NOx burner equipment and technologies that was available at the time Kentucky Power installed the low NOx burners at Unit 2.

d. Explain why Kentucky Power did not apply for a Certificate of Public Convenience and Necessity for the installation of low NOx burners at Unit 2.

e. Did the installation of these burners result in the retirement of existing burners or associated equipment for Unit 2?

f. If yes, provide the following information:

(1) The date the original burners or associated equipment were placed in service.

(2) The book cost of the original burners or associated equipment.

(3) The annual depreciation expense for the original burners or associated equipment.

(4) The accumulated depreciation for the original burners or associated equipment as of the retirement date.

10. Refer to McManus Direct Testimony, Exhibit JMM-1. Concerning Project No. 2 - Low NOx Burners at Big Sandy Unit 1:

a. Describe the procedures and criteria that will be used and the analyses that will be performed in order to select the vendor that will install the low NOx burners at Unit 1 in 1998.

b. Describe the range of low NOx burner equipment and technologies that will be available at the time Kentucky Power plans to install the low NOx burners at Unit 1.

c. Will Kentucky Power file an application for a Certificate of Public Convenience and Necessity for the installation of low NOx burners at Unit 1?

d. Will the installation of these burners result in the retirement of existing burners or associated equipment for Unit 1?

e. If yes, provide the following information:

(1) The date the original burners or associated equipment were placed in service.

(2) The book cost of the original burners or associated equipment.

(3) The annual depreciation expense for the original burners or associated equipment.

(4) The estimated accumulated depreciation for the original burners or associated equipment as of the expected retirement date.

11. Refer to McManus Direct Testimony, Exhibit JMM-1. Concerning Project No. 3 - Continuous Emission Monitors ("CEMs") at Big Sandy Plant:

a. Describe the procedures and criteria used and the analyses performed to select the vendor that installed the CEMs at Big Sandy Plant.

b. Describe the process of installing CEMs and the actual equipment and facilities that were installed at Big Sandy in 1994.

c. Describe the range of CEM equipment and technologies that was available at the time Kentucky Power installed the CEMs at Big Sandy.

d. Did the installation of the CEMs result in the retirement of existing equipment?

e. If yes, provide the following information:

(1) The date the original equipment was placed in service.

(2) The book cost of the original equipment.

(3) The annual depreciation expense for the original equipment.

(4) The accumulated depreciation for the original equipment as of the retirement date.

12. Refer to McManus Direct Testimony, Exhibit JMM-1. Concerning Project No. 7 - CEMs at Rockport Plant:

a. Describe the procedures and criteria used and the analyses performed to select the vendor that installed the CEMs at Rockport Plant.

b. Describe the process of installing CEMs and the actual equipment and facilities that were installed at Rockport Plant in 1994.

c. Describe the range of CEM equipment and technologies that was available at the time Kentucky Power installed the CEMs at Rockport Plant.

d. Did the installation of the CEMs result in the retirement of existing equipment?

e. If yes, provide the following information:

(1) The date the original equipment was placed in service.

(2) The book cost of the original equipment.

(3) The annual depreciation expense for the original equipment.

(4) The accumulated depreciation for the original equipment as of the retirement date.

13. Refer to McManus Direct Testimony, Exhibit JMM-1. Concerning Project Nos. 6 and 8 - Kentucky and Indiana Air Emissions Fees, prepare a schedule showing the amount of fees paid in each state annually for the years 1990 through and including 1996.

14. Refer to McManus Direct Testimony, Exhibit JMM-1. Concerning Project No. 4 - Scrubbers at Gavin Plant:

a. Describe all federal and state regulatory approval processes and proceedings involved with the Gavin scrubbers.

b. Describe all viable alternatives to the Gavin scrubbers considered by AEP as part of or during the regulatory approval processes and proceedings or as part of AEP's pre-approval compliance planning process.

c. Describe the methodologies used, the analyses performed, and the decision-making process relied on by AEP in determining that the AEP Clean Air Act compliance plan, that includes the Gavin scrubbers, is the most cost-effective and reasonable compliance plan.

15. Provide a copy of AEP's current Clean Air Act Compliance Plan.

16. Refer to the Direct Testimony of Matthew D. Kyle. Was the AEP Interconnection Agreement ("Interconnection Agreement") modified due to the Gavin scrubbers going into service? If yes, identify the specific sections of the Interconnection Agreement which were modified and describe the modifications.

17. Explain how the Gavin scrubbers reflect Kentucky Power's cost of compliance with the Federal Clean Air Act. For example, quantify the sulfur dioxide emissions liability Kentucky Power would have incurred if Gavin emissions were not scrubbed.

18. Provide the Member Load Ratios for the AEP companies for each month of 1996.

19. Refer to Kyle Direct Testimony, page 4. Four categories of costs are identified as associated with the Gavin scrubbers, a portion of which will be charged to Kentucky Power through the weighted average capacity rate.

a. Describe the terms and conditions relating to the referenced lease payment. Explain how the lease payment reflects a cost recoverable under KRS 278.183(1).

b. Describe the components of waste disposal cost. Identify the wastes resulting from the Gavin scrubber operation.

c. Does the scrubber waste include marketable by-products, such as gypsum? Does AEP attempt to sell any scrubber by-products? If yes, describe this activity.

d. Describe what costs are included in scrubber maintenance.

e. Expand Exhibits MDK-3 and MDK-4 to reflect the monthly costs for each month the Gavin scrubbers have been in service, through December 1996 or the most recent month available.

20. Provide Kentucky Power's monthly total capacity settlement charges corresponding to each month the Gavin scrubbers have been in service, through December 1996 or the most recent month available.

21. Provide copies of the IAA that was accepted by the Federal Energy Regulatory Commission ("FERC"), along with any amendments issued since the FERC acceptance of the IAA on January 1, 1995.

22. a. Prepare a summary of the IAA terms explaining how the number of allowances to be purchased by Kentucky Power is determined.

b. Include the calculations used to determine the purchase for December 1996.

c. Are the allowances purchased by Kentucky Power under the terms of the IAA assigned specifically to the Big Sandy units? If yes, explain how the allocation to the Big Sandy units is determined.

23. Prepare a schedule reflecting Kentucky Power's allowance inventory, reflecting current and future years. The schedule should include the following information:

a. The number of allowances awarded by the Environmental Protection Agency ("EPA") to Kentucky Power, by vintage year. These amounts should be net of the allowances withheld by EPA.

b. The number of allowances withheld by EPA from Kentucky Power, by vintage year.

c. The number of allowances, by vintage year, actually purchased by Kentucky Power under the terms of the IAA. List each purchase separately. Include the weighted average cost per vintage year for each purchase and the calculations which support the weighted average cost utilized.

d. The number of allowances, by vintage year, Kentucky Power expects to purchase under the terms of the IAA through 1999. List each purchase separately. Include the expected weighted average cost per vintage year for each purchase and the calculations which support the weighted average cost utilized.

24. a. What impact, if any, does the IAA have on the Kentucky Power allowances withheld by EPA?

b. Are the sales revenues from those allowances Kentucky Power's to use as it sees fit?

c. Provide the amounts received from the sale of EPA withheld allowances, for each calendar year sale proceeds were received.

25. The IAA is styled as an interim arrangement.

a. Does AEP intend to develop a permanent arrangement?

b. If yes, what is the status of that document?

c. If no, is the IAA in fact the permanent arrangement?

26. Refer to Kyle Direct Testimony, page 6. Provide the calculations used to determine the allowance inventory of $2,371,856. The calculations should show the allowance vintage years and weighted average cost per vintage year utilized.

27. Section 4.5 of the IAA requires that in December of each year, an estimate will be made of each member's allowance requirements for the following twenty years. Provide these estimates for December 1995 and 1996, separately identifying allowance requirements for each of the twenty years included in both estimates. Include all supporting calculations, such as the derivation of member load ratios and the liability for sulfur dioxide emissions.

28. Will Kentucky Power be able to enter into a new Rockport agreement upon expiration of the current agreement in 2004? If so, what impact would renewal of the agreement have on Kentucky Power's allowance requirements as defined in Section 4.5 of the IAA?

29. The Interconnection Agreement requires that Kentucky Power, when it is deficit, be assessed a portion of the costs of the Gavin scrubbers based upon its member load ratio. Exhibit MDK-4 identifies a cost of $599,448 for the twelve months ending September 30, 1996. Explain how the Gavin allowances associated with this capacity settlement are allocated to Kentucky Power and identify the amount of these allowances.

30. Describe the method used in the IAA to allocate emissions liability and allowance transfers associated with primary and economy energy transactions with AEP system member companies.

31. Describe the method used in the IAA to allocate emissions liability and allowance transfers associated with power and energy sales to non-affiliated companies.

32. Refer to the Direct Testimony of Bruce M. Barber, page 6. Explain your statement on line 12 that, "As the utility business is subjected to greater competitive pressures, the risk of utility capital increases and higher returns are required."

33. Is Mr. Barber aware that the Commission's authorized returns in the environmental surcharge cases previously approved were based on cost of debt only?

34. Explain the circumstances unique to Kentucky Power which would support the use of both debt and equity cost in determining the environmental surcharge.

35. Provide the bond ratings for each of the AEP System operating companies.

36. For Kentucky Power and AEP, provide a schedule showing the amount of all bonds outstanding, describing each class separately, and showing the date of issue, face value, rate of interest, date of maturity and how secured, and interest paid during the most recent 12 months.

37. For Kentucky Power and AEP, provide a schedule showing the amount of notes outstanding, giving date of issue, amount, date of maturity, rate of interest, in whose favor, and interest paid during the most recent 12 months.

38. Provide any publications, notices or other printed materials which form the basis for Mr. Barber's belief that FERC ceased publishing its Generic Rate of Return statistics due in part to the inaccurate results of its formula.

39. Provide any articles, analyses, research papers, publications or references describing the two alternatives to the "conventional" discounted cash flow method. Are these methods widely employed? Explain.

40. Provide a list of all subsidiaries and operating units of the AEP System. Include a brief description of the activities of each, the year formed, and revenues contributed for the last fiscal year.

41. Provide the criteria used to select the six companies chosen for the Comparable Earnings analysis.

42. Refer to Barber Direct Testimony, page 19, line 2. Explain why a higher return should be allowed.

43. Is the risk premium the same for all utilities?

44. Refer to Barber Direct Testimony, page 25. It is indicated that the AEP System is slightly more risky than the average electric utility company. Explain.

45. What is the return on equity inherent in the rates established in Case No. 91-066? Provide all workpapers, calculations, and assumptions used to derive this inherent return on equity.

46. Refer to the Direct Testimony of Errol K. Wagner, page 3. Describe the operation of the system sales clause and the impact the clause will have on the calculation of Kentucky Power's environmental surcharge.

47. Refer to Wagner Direct Testimony, page 8. Mr. Wagner states that Kentucky Power's proposal will not allocate any environmental costs to system sales customers because the AEP System does not design and build its system to meet any

level of system sales, only full requirement customers' needs. In Case No. 94-332[2] the Louisville Gas and Electric Company ("LG&E") had argued that its generating facilities were installed to meet the needs of its retail customers, so all cost of environmental improvements should be borne by those customers. The Commission stated:

> The Commission rejects this argument. LG&E's generating facilities are currently used to make off-system sales and, thus, the cost of environmental improvements should be allocated to both retail and off-system sales.[3]

a. Was Kentucky Power aware of the Commission's decision in the LG&E case?

b. Explain the circumstances that are unique to Kentucky Power which would support exempting system sales customers from bearing a portion of an environmental surcharge.

48. Refer to Wagner Direct Testimony, page 8. It is indicated that one reason for not allocating environmental costs to system sales customers is because AEP does not design and build its system to meet any level of system sales. Assuming that the energy is generated from coal-fired units, is it AEP's belief that sulfur dioxide or nitrogen oxide emissions will not be produced along with the energy generated to make these sales?

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2 Case No. 94-332, The Application of Louisville Gas and Electric Company for Approval of Compliance Plan and to Assess a Surcharge Pursuant to KRS 278.183 to Recover Costs of Compliance with Environmental Requirements for Coal Combustion Wastes and By-Products, final Order dated April 6, 1995.

3 Id., at 22.

49. Refer to Wagner Direct Testimony, page 8. It is stated that the environmental costs Kentucky Power is seeking to recover through the surcharge are not variable costs, except for air emission fees, scrubbers' lime cost, and lime disposal costs. Explain why the scrubber maintenance cost would not be a variable cost.

50. Refer to Wagner Direct Testimony, Exhibit EKW-6, page 1 of 12. What percentage of the Total Costs to be Recovered, shown in column 3, are variable costs (air emission fees, scrubbers' lime cost, and lime disposal costs)? Include the calculations performed to determine the percentage.

51. Refer to Wagner Direct Testimony, pages 8 and 9. It is stated that if the environmental costs are assigned to opportunity sales, it could increase the cost of those sales so high that it could be uneconomical to make any system sales.

a. Provide the total opportunity or system sales made by Kentucky Power in 1995 and 1996, in both Kwh sales and revenues.

b. What percentage of total Kwh sales did opportunity or system sales represent for Kentucky Power in 1995 and 1996?

c. What percentage of total revenues did opportunity or system sales represent for Kentucky Power in 1995 and 1996?

d. Has Kentucky Power performed any analyses to determine how much in environmental costs opportunity or system sales could bear and still be economical? If yes, what was the result of those analyses? If no, what is the basis for Kentucky Power's argument?

52. Kentucky Power has proposed an environmental surcharge factor based on Kwh sales. While the use of Kwh sales was considered in the three environmental surcharges, the environmental surcharge factors authorized by the Commission were based on revenues.

a. Was Kentucky Power aware that the three authorized surcharges used billing factors based on revenues rather than Kwh sales?

b. Did Kentucky Power consider using revenues instead of Kwh sales?

(1) If yes, why was a revenues-based approach rejected?

(2) If no, why wasn't a revenues-based approach considered, given the fact the other authorized surcharge mechanisms are based on revenues?

c. Should the billing factor used for the surcharge reflect reasonable cost causation? If yes, how does the use of Kwh sales accomplish a reasonable cost causation? If no, explain why.

d. Explain why it is appropriate for Kentucky Power's surcharge billing factor to be based on Kwh sales.

53. Refer to Wagner Direct Testimony, Exhibit EKW-6.

a. Explain why Kentucky Power is proposing to allocate its total environmental surcharge costs between residential, commercial, and industrial customers.

b. Explain why Kentucky Power is proposing that there be a monthly over- or under-recovery component in its surcharge.

c. Explain how the annual property tax rate used in the surcharge calculations was determined. If based on an actual tax bill, provide copies of the appropriate bill.

d. Does Kentucky Power propose to adjust the Member Capacity Deficit, shown on page 5 of 12, every month if necessary, or will it remain fixed for a set period? If fixed, explain why and indicate for how long.

e. Does Kentucky Power propose to recalculate the weighted average cost of capital, shown on pages 8 and 11 of 12, every month, or will the weighted average cost of capital remain fixed for a set period? If recalculated monthly, explain why a monthly recalculation is reasonable. If fixed, indicate for how long. Explain why the same basis is not used for all calculations.

f. Explain why Kentucky Power is proposing to use average capitalization, shown on page 8 of 12, rather than end of the month actual capitalization when determining the weighted average cost of capital.

g. Explain why property taxes are excluded from the Rockport calculations, shown on page 9 of 12.

h. Explain why Kentucky Power is proposing in the Rockport calculations to use prior month capitalization, shown on page 11 of 12, rather than end of the month actual capitalization when determining the weighted average cost of capital.

54. Refer to Wagner Direct Testimony, Exhibit EKW-6. Explain why Kentucky Power proposed the adoption of a weighted average cost of capital that includes both

debt and equity rather than debt only as was used for the other environmental surcharges authorized by this Commission.

55. Refer to Wagner Direct Testimony, Exhibit EKW-6. Explain the circumstances unique to Kentucky Power which would support the use of both debt and equity cost in determining the environmental surcharge.

56. Refer to Wagner Direct Testimony, Exhibit EKW-6, page 1 of 12. Kentucky Power has proposed to allocate the monthly environmental costs to be recovered to its different customer classes on the basis of revenues and calculate the environmental billing factor on the basis of Kwh sales. The Kentucky Jurisdictional Allocation Factor proposed by Kentucky Power is also based on Kwh sales.

a. Explain why revenues was chosen as the basis for the customer class allocation.

b. Explain why it is reasonable to base the customer class allocation on revenues while basing the jurisdictional allocation and environmental surcharge billing factors on Kwh sales. Explain why the same basis is not used for all calculations.

57. Refer to Wagner Direct Testimony, Exhibit EKW-7.

a. Explain why the Kentucky Jurisdictional Allocation Factor is based on Kentucky Peak - Maximum Load.

b. Kentucky Power has indicated the methodology used to determine the Kentucky Jurisdictional Allocation Factor was the same as was used in its most recent rate case. Is Kentucky Power referring to Case No. 91-066, in which the

Commission accepted a unanimous settlement negotiated by the parties? Explain your response.

c. Exhibit EKW-7 shows that system sales are included in the Kentucky Jurisdictional Allocation Factor. Explain why it is reasonable to include system sales in the allocation factor, but inappropriate to assign a portion of the environmental surcharge costs to those sales.

58. Provide a 12-month average jurisdictional allocation factor based on revenues. Use the same months as shown in Exhibit EKW-7.

59. In the three environmental surcharge mechanisms authorized by the Commission, the utility is required to offset the monthly surcharge amount by revenues received from the sale of allowances, either on the open market or from EPA auctions.

a. Explain why Kentucky Power did not include such an offset in its proposal.

b. Does Kentucky Power agree that such an offset should be included in its surcharge mechanism? Explain your response.

60. What adjustments does AEP intend to make to the environmental surcharge if Kentucky Power becomes a surplus company, in terms of both the Interconnection Agreement (surplus capacity) and the IAA (surplus allowances)?

61. Explain how AEP proposes to reflect the costs or benefits associated with primary and economy energy transactions in the environmental surcharge.

62. Section 4.3 of the IAA assigns responsibility to the member companies for allowances consumed in power and energy sales to foreign, or non-affiliated, companies

based upon member load ratios. If environmental costs are not allocated to opportunity sales, explain why this would not be inconsistent with the terms of the IAA.

63. The IAA contains provisions that 50 percent of uncontrolled emissions will be used in lieu of actual emissions from the Gavin plant. If power and energy sales are made to non-affiliated companies, will the AEP member companies be assigned emissions liability, or allowances consumed responsibility, based upon the 50 percent uncontrolled emissions provision? If so, does this create an environmental variable cost to the member companies where none exists?

Done at Frankfort, Kentucky, this 13th day of January, 1997.

PUBLIC SERVICE COMMISSION

For the Commission

ATTEST:

Executive Director