COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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	)))))))	CASE NO. 94-332

O R D E R

IT IS ORDERED that Louisville Gas and Electric Company ("LG&E") shall file the original and 12 copies of the following information with the Commission no later than November 23, 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. The Prepared Testimony of Martin Blake, at page 10, explains that LG&E is not seeking recovery of any operation and maintenance ("O&M") expenses at present because it does not expect

a significant increase in O&M expenses due to the implementation of the five projects described in its environmental compliance plan.

a. Does LG&E currently expect changes in the level of its environmental compliance related O&M expenses?

b. If LG&E were to experience decreases in its environmental compliance related O&M expenses, would those decreases be reflected in the determination of the Environmental Cost Recovery Surcharge Factor ("Surcharge Factor")?

2. Explain in detail how LG&E will identify and track environmental compliance related O&M expenses in its accounting system.

3. Blake's testimony, at page 11, states that LG&E received $232,599 in proceeds from the United States Environmental Protection Agency's ("EPA") 1993 and 1994 auctions of emission allowances. Of this total, LG&E subsequently paid $9,003 to the Illinois Municipal Electric Agency ("IMEA") and the Indiana Municipal Power Agency ("IMPA") for their shares of the allowance revenues, based upon their respective ownership shares of the Trimble County generating plant ("Trimble"). For each year:

a. Prepare a schedule showing, by generating unit, the number of emission allowances withheld by the EPA.

b. Do the proceeds from the EPA auctions represent gross or net proceeds? If net, include the calculations and workpapers showing how the net proceeds were determined.

c. Provide the workpapers and calculations which show how the allowances sold and the proceeds received were allocated

between LG&E, IMEA, and IMPA. If LG&E was allocated Trimble allowances or proceeds at a level different than 75 percent, explain the determination of the allocation factor.

4. Explain how LG&E proposes to treat the proceeds from future EPA auctions or its own sale of emission allowances in determining the Surcharge Factor. Will these be the gross or net proceeds?

5. Provide a schedule showing the emission allowances LG&E expects to receive each year during Phase I and Phase II. Identify the types of allowances received and the number of allowances associated with each generating unit.

6. Provide copies of any policies, plans, or procedures LG&E has developed which address the management of its emission allowance inventory. If no such documents have been developed:

a. Explain LG&E's current strategy concerning the management of the emission allowance inventory.

b. Explain why LG&E has not developed formal policies, plans, or procedures.

7. Blake Exhibits 2 and 3 contain report formats similar to those prescribed by the Commission in Case Nos. 93-465[1] and 94-032.[2] In both Orders, the Commission required the utilities to

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[1] Case No. 93-465, The Application of Kentucky Utilities Company to Assess a Surcharge Under KRS 278.183 to Recover Costs of Compliance with Environmental Requirements for Coal Combustion Wastes and By-Products, final Order dated July 19, 1994, Appendix B.

[2] Case No. 94-032, Application of Big Rivers Electric Corporation to Assess a Surcharge Under KRS 278.183 to Recover Costs of Compliance with Environmental Requirements of the Clean Air Act, final Order dated August 31, 1994, Appendix B.

file all monthly surcharge reports ten days prior to the month the surcharge was to go into effect.[3] Blake has stated that the information contained on the formats in Exhibit 3 would be filed 45 days following the end of the current expense month.

a. Explain in detail why LG&E cannot file the information that would be contained on the formats in Exhibit 3 at the same time it files the Exhibit 2 formats; i.e., ten days before the surcharge takes effect.

b. Since LG&E's proposed filing schedule differs from those ordered in other environmental surcharge proceedings, explain why LG&E's proposal should be accepted.

8. In Case No. 93-465, Kentucky Utilities Company ("KU") proposed that the Commission Staff perform on-site audits of the environmental surcharge every six months. LG&E's application makes no reference to on-site Staff audits. Explain LG&E's position concerning the performance of on-site audits.

9. Provide the following information concerning the report formats shown in Blake Exhibit 3:

a. Page 1 of 6 - Indicate the types of inventories LG&E proposes to include in the rate base calculations.

b. Page 1 of 6 - Identify the supplies accounts LG&E proposes to include in rate base.

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[3] Case No. 93-465, July 19, 1994 Order, at 18, and Case No. 94-032, August 31, 1994 Order, at 21.

c. Page 6 of 6 - Explain why LG&E did not separate its total revenue -

(1) Between base revenues, fuel adjustment clause ("FAC") revenues, and demand-side management ("DSM") revenues.

(2) Between jurisdictional and non-jurisdictional revenues.

10. Blake Exhibit 3, page 4 of 6, presents the determination of the monthly incremental O&M expense for the surcharge calculation. The determination of the monthly incremental O&M expense utilizes the concept of a baseline level of environmental compliance related O&M expenses. LG&E's application does not present any information concerning the development of such a baseline amount.

a. Explain in detail how LG&E proposes to determine and utilize an O&M expense baseline.

b. Identify the baseline LG&E proposes to use in its surcharge calculations.

11. Provide a calculation of the total environmental compliance costs included in LG&E's current rates. Include all supporting workpapers and assumptions.

12. Blake Exhibit 3, page 5 of 6, lists 10 O&M expense subaccounts which LG&E proposes to include in its surcharge calculations.

a. Explain how LG&E determined these subaccounts were the only items that should be included in the surcharge calculation.

b. Provide a detailed description of each subaccount.

13. The Prepared Testimony of John Voyles, at page 12, states that LG&E's annual permit fees for all coal-fired generating stations will be approximately $892,000.

a. Are the permit fees of $892,000 per year entirely due to Title V of the Clean Air Act Amendments of 1990 ("CAAA") or is a portion due to state or local requirements?

b. Has LG&E historically paid any permit fees? If yes, explain.

c. Prepare a schedule separately showing the federal, state, and county portions of the permit fees.

d. For any permit fees related to Trimble, explain how the fees will be allocated between LG&E, IMEA, and IMPA. Indicate who will be responsible for paying the Trimble related permit fees.

14. The Prepared Testimony of William Gilbert discusses several environmental compliance related projects undertaken at LG&E's Mill Creek, Cane Run, and Trimble stations. For each project discussed, provide all accounting entries made to LG&E's books where the project to date has involved the replacement or retirement of utility plant in service. Also indicate the amount of any book or tax losses experienced due to the replacement or retirement of environmental compliance related utility plant in service.

15. On pages 10 through 12 of Gilbert's testimony, Continuous Emission Monitoring Systems and Nitrogen Oxide Emission Control

projects are discussed. For each of the projects, provide the following:

a. The actual capital expenditures as of September 30, 1994, showing each affected generating unit separately. Present the total amounts for Trimble.

b. A breakdown of the total estimated cost by generating unit. Present the total amounts for Trimble.

c. For the Trimble portion of each project, indicate the allocation of the actual and estimated capital expenditures between LG&E, IMEA, and IMPA. Explain the basis for the allocations. Describe how LG&E is accounting for the allocations.

16. The Prepared Testimony of M. Lee Fowler, at page 3, states that the five projects LG&E proposes to recover through the surcharge are not included in base rates, since all expenditures occurred after the April 30, 1990 test year in its last general rate case. This incremental approach is similar to that proposed by KU in Case No. 93-465. Explain why LG&E believes the incremental approach is the most appropriate method to utilize in determining LG&E's proposed surcharge, including a discussion of the particular circumstances supporting this decision.

17. In Case Nos. 93-465 and 94-032, the Commission considered, and in Case No. 94-032 adopted, an approach which determines the environmental costs included in the utility's base rates and compares those costs to the current level of environmental costs to determine the surcharge amount.

a. Explain why a similar approach would not be appropriate for LG&E's surcharge.

b. Explain why LG&E cannot determine the base amount of environmental compliance costs included in existing rates.

c. Explain what consideration LG&E gave to using this approach and why LG&E decided not to do so.

18. In its Order dated July 19, 1994 in Case No. 93-465, the Commission accepted KU's incremental approach to determine the surcharge for the first two years, and decided that in subsequent years a comparison between base and current environmental costs would be used.[4] What approach would LG&E propose to use in determining the surcharge amounts in the years after the first two years. Explain the reasons supporting LG&E's position.

19. Fowler's testimony, at page 5, states that while the environmental rate base will include, among other items, inventories, supplies, cash working capital, and deferred investment tax credits, the rate base calculation currently does not include amounts for these items. Fowler states that these items will either experience no significant increases or will reflect zero balances.

a. If LG&E does not expect these items to increase significantly, why should they be included in the environmental rate base calculation?

b. Explain how LG&E defines "significant" increases.

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[4] Case No. 93-465, July 19, 1994 Order, at 9 and 13.

c. If LG&E experiences significant increases in these items or expenses actually occur, when would LG&E propose to include the amounts in the calculation of the surcharge?

20. Provide the following information for the environmental compliance related capital investments and expenses included in the test year of LG&E's last general rate case:

a. An environmental compliance rate base, using the format contained in Blake Exhibit 3, page 1 of 6. List each inventory and supplies account included in the calculation.

b. The 12-month subaccount balances for the 10 subaccounts shown on Blake Exhibit 3, page 5 of 6.

c. The 12-month balances for depreciation expense, insurance expense, and taxes other than income.

d. Permit fees, showing the amounts related to federal, state, and county jurisdictions separately.

e. The average interest rate on LG&E's Pollution Control Bonds for the test year. Show the determination of the average interest rate.

21. Provide the following information for the environmental compliance related capital investments and expenses estimated for March 1995. Provide the estimates even if LG&E has not proposed to include the item in its proposed surcharge.

a. An environmental compliance rate base, using the format contained in Blake Exhibit 3, page 1 of 6. List each inventory and supplies account included in the calculation.

b. The March 1995 subaccount balances for the 10 subaccounts shown on Blake Exhibit 3, page 5 of 6.

c. The March 1995 balances for depreciation expense, insurance expense, and taxes other than income.

d. The March 1995 permit fees, showing the amounts related to federal, state, and county jurisdictions separately.

e. The monthly average revenue computation for March 1995, using the format contained in Blake Exhibit 3, page 6 of 6. Segregate total revenue into base revenues, FAC revenues, and DSM revenues.

22. On page 6 of Fowler's testimony, LG&E proposes to use the current Pollution Control Bond rate, calculated to be 5.60 percent. Explain why this rate should be used rather than the base rate of 5.45 percent.

23. When does LG&E expect to submit its next general rate case?

24. Provide the overall rate of return ("ROR") as authorized by the Commission in LG&E's last general rate case and the debt and equity components that make up this ROR.

25. LG&E proposes to use a project specific rate of return on capital costs in the environmental surcharge. Are there any other LG&E projects that apply a project specific rate of return?

26. Blake's testimony, at pages 8-12, describes the proposed cost recovery surcharge factor. Provide the following information in support of the proposed mechanism:

a. Using the billing analysis for the test year in Case No. 90-158[5] and the electric rates approved in that case, provide:

(1) LG&E's calculated electric revenues for that test year per individual rate schedule.

(2) The total of all such calculated test year revenues.

(3) Revenues per individual rate schedule stated as a percentage of total electric revenues.

b. For each of the calendar years 1991, 1992, and 1993 provide:

(1) LG&E's annual electric revenues per individual rate schedule.

(2) Total electric revenues for each of the three calendar years.

(3) Revenues per individual rate schedule stated as a percentage of total electric revenues.

27. If LG&E has performed an electric cost-of-service study since Case No. 90-158, provide:

a. Summary results of the study including the required level of revenues for each rate schedule based on equalized rates of return for all customer classes.

b. The actual revenues by rate schedule for the period covered by the study shown in comparative form with the required revenues, by rate schedule.

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[5] Case No. 90-158, Adjustment of Gas and Electric Rates of Louisville Gas and Electric Company.

28. In the Agreed Order 1-92 between LG&E and the Air Pollution Control District of Jefferson County ("APCDJC") discussed in Voyles's testimony at pages 5-6 and shown in Voyles Exhibit 3, LG&E agreed to a set of improvements to the existing scrubber equipment at Mill Creek.

a. What alternatives to these improvements were considered?

b. Why were these alternatives rejected in favor of the plan in the Agreed Order?

c. Provide all economic and engineering studies completed by Black and Veatch, LG&E, or others related to improvements to the air quality systems at Mill Creek.

d. Provide the management briefing or other documentation that was provided to senior management in order to obtain internal authorization for this project.

e. Provide any briefing documents that were submitted to the APCDJC with respect to obtaining approval for this project.

29. Are the Mill Creek scrubber improvements expected to lower SO_2 emissions? If yes:

a. Provide an estimate of the change in annual SO_2 emissions attributable to this project.

b. Indicate whether LG&E has considered substituting the Mill Creek units into Phase I of Title IV of the CAAA. If yes, what is the status of this substitution. If no, explain why such a substitution was not considered.

c. Provide any economic studies of Phase I substitution for Mill Creek.

30. Describe the procurement process for the Mill Creek scrubber project.

a. What vendors were considered?

b. Was the project competitively bid?

c. What criteria were used to select vendors and make design decisions?

d. What guarantees regarding scrubber availability have been provided by vendors?

e. Provide the bid specification that was released to vendors. If the bid specification is too voluminous, provide any summary chapters and the table of contents.

31. Provide a detailed capital cost estimate for the Mill Creek scrubber project, by, at minimum, the following categories:

a. Capital investment by system including chemical feed systems, thickener dewatering, stack gas reheat, recycle spray, and sludge stabilization.

b. Engineering and home office costs.

c. Project and process contingency.

d. Allowance for Funds Used During Construction ("AFUDC").

e. General facilities or site costs.

Provide any tracking reports which monitor the cost of the project relative to budgeted costs.

32. Describe in detail the study referred to in Voyles Exhibit 4, page 1, which showed the Mill Creek Station as the most significant source of the reactive particles in the vicinity of Mill Creek. Provide a detailed description of the "Phase II report" also referenced.

33. In the Agreed Order 7-92 between LG&E and the APCDJC discussed in Voyles' testimony at pages 6-7 and shown in Voyles Exhibit 4, LG&E agreed to the Mill Creek reactive particle emission control project.

a. What alternatives to these improvements were considered?

b. Why were these alternatives rejected in favor of the plan in the Agreed Order?

c. Provide all economic and engineering studies completed by Black and Veatch, LG&E, or others related to the reactive particle project.

d. Provide the management briefing or other documentation that was provided to senior management in order to obtain internal authorization for this project.

e. Provide any briefing documents that were submitted to the APCDJC with respect to obtaining approval for this project.

34. Describe the procurement process for the reactive particle emission control project.

a. What vendors were considered?

b. Was the project competitively bid?

c. What criteria were used to select the vendor and make design decision?

35. Provide a detailed capital cost estimate for the reactive particle emission control project, by, at minimum, the following categories:

a. Capital investment due to improvement to mist removal and wash systems.

b. Engineering and home office costs.

c. AFUDC.

d. General facilities or site costs.

Provide any tracking reports which monitor the cost of the project relative to budgeted costs.

36. Describe the procurement process for Continuous Emission Monitors ("CEM"):

a. What vendors were considered?

b. Was the project competitively bid?

c. What criteria were used to select vendors and make design decisions?

37. Describe the performance guarantees provided by the vendor.

38. What level of redundancy is planned for the monitoring equipment? Explain.

39. Provide a break-down of the CEMs capital cost included in the compliance plan including values for:

a. Stack probes.

b. Analyzers.

c. Sample conditioning equipment.

d. Computer data acquisition hardware and software.

e. General facilities and site costs.

f. Engineering and home office costs.

g. AFUDC.

40. Provide the engineering specification provided to vendors. If the engineering specification is too voluminous, provide summary chapters and the table of contents.

41. Explain the statement in Voyles' testimony at page 9 that: "[T]he Cane Run 4 electrostatic precipitator . . . could no longer meet the particulate removal requirements under full load conditions."

a. What is LG&E's definition of "full load" for this unit?

b. Did LG&E consider the generally low capacity factor of this unit when evaluating the decision to install a new precipitator versus other options?

c. What particulate removal requirements must be met by this unit?

42. Referring to the new Cane Run 4 precipitator:

a. Describe its performance.

b. Provide its surface collection area (measured as the ratio of plate area in feet squared to gas volume in cubic feet per second), collection efficiency, and expected opacity values.

43. Referring to the old Cane Run 4 precipitator:

a. Provide its surface collection area (measured as the ratio of plate area in feet squared to gas volume in cubic feet per second), collection efficiency, and expected opacity values.

b. Provide its particulate emission rate measured in lbs. SO_2/MMBtu.

44. In the Agreed Order 1-92 discussed in Voyles' testimony at page 9 and shown in Voyles Exhibit 3, LG&E agreed to install a new precipitator at Cane Run Unit 4:

a. What alternatives to a new precipitator were considered? Specifically, were additions to plate area or flue gas conditioning alternatives evaluated?

b. Why were these alternatives rejected in favor of a new precipitator?

c. Provide all economic and engineering studies completed by Sargent and Lundy, LG&E, or others used to support the decision to install a new precipitator.

d. Provide the management briefing or other documentation that was provided to senior management in order to obtain internal authorization for this project.

e. Provide any briefing documents that were submitted to the APCDJC with respect to obtaining approval for this project.

f. Were potential air toxics regulations considered when making the decision to replace the Cane Run 4 precipitator? If so, what conclusions were reached?

g. Were potential repowering/life extension projects for this unit considered when making the decision to replace the Cane Run 4 precipitator? If so, what conclusions were reached?

45. Describe the procurement process for the Cane Run 4 precipitator:

a. What vendors were considered?

b. Was the project competitively bid?

c. What criteria were used to select vendors and make design decisions?

d. What performance guarantees have been provided by vendors?

e. Provide the bid specification that was released to vendors. If the bid specification is too voluminous, provide summary chapters and the table of contents.

46. On page 4 of Voyles Exhibit 3, the Agreed Order 1-92, LG&E agreed to change the location of opacity monitors for Cane Run Units 5 and 6. Were these measures completed? Why were these measures not included in the environmental compliance plan?

47. With respect to the regulatory requirements of Title I of the CAAA:

a. What guidance has EPA or the APCDJC given to LG&E regarding the definition of Reasonably Available Control Technology ("RACT") for Title I nitrogen oxide ("NO_x") compliance?

b. What deadline has been set for compliance with Title I?

c. How was uncertainty in the Title I requirements considered when developing the Title I compliance plan?

48. Has the APCDJC approved LG&E's NO_x compliance plan? Explain the approval process and status of required approvals.

49. Has LG&E completed any air quality modeling to obtain approval of its NO_x compliance plan? If so, what were the major conclusions of this modeling?

50. Provide the RACT study prepared by Sargent and Lundy referred to on page 5 of Voyles Exhibit 1. Provide all other economic and engineering studies that support LG&E's NO_x compliance plan.

51. Describe the NO_x compliance evaluation process:

a. What were the objectives of LG&E's compliance study?

b. What decision criteria were used to select the compliance plan?

c. Which company personnel participated in the study and the management oversight of the compliance process?

d. What technology and cost studies were undertaken? What was the timing of these studies?

e. Provide a list of the control options considered such as natural gas, selective catalytic reduction, and low-NO_x burner technologies.

f. Describe the technology screening process, screening criteria and results of technology screening.

g. Describe the economic models or methods utilized in the compliance evaluation process.

h. How was uncertainty considered in the modeling and decision process?

i. Describe the regulatory scenarios or assumptions which were used to develop the NO_x compliance plan.

52. With respect to the potential for NO_x emission averaging for NO_x compliance:

a. Has LG&E considered this potential when developing its compliance plan?

b. Would the state permit NO_x emission averaging for compliance with RACT requirements?

c. Provide LG&E's studies of NO_x emission averaging. If none exist, indicate why LG&E has not studied this issue.

53. Provide a detailed capital cost estimate for each NO_x technology to be installed at each unit, by, at minimum, the following categories:

a. Capital investment for equipment.

b. Engineering and home office costs.

c. Project and process contingency.

d. AFUDC.

e. General facilities or site costs.

Provide any tracking reports which monitor the cost of the project relative to budgeted costs.

54. What are the expected NO_x emission removal percentages and resulting emission rates for each unit following installation of NO_x control technology?

55. Provide the management briefing or other documentation that was provided to senior management in order to obtain internal authorization for these NO_x emission control projects.

56. Provide any briefing documents that were submitted to the APCDJC with respect to obtaining approval for the NO_x compliance plan.

57. Why is the low-NO_x burner being tested for Mill Creek Unit 1 considered to be a new design as discussed on page 12 of Gilbert's testimony?

Done at Frankfort, Kentucky, this 9th day of November, 1994.

PUBLIC SERVICE COMMISSION

For the Commission

ATTEST:

Executive Director