COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR APPROVAL OF A STATISTICAL METER SAMPLING PLAN FOR RESIDENTIAL GAS METERS PURSUANT TO 807 KAR 5:022, SECTION 8(5)(c) OF THE COMMISSION'S REGULATIONS	)	CASE NO. 94-046

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 with a copy to all parties of record within 20 days from the date of this Order. LG&E shall furnish with each response the name of the witness who will be available to respond to questions concerning each item of information should a public hearing be scheduled.

IT IS FURTHER ORDERED that an informal conference will be held on May 12, 1994, at 10 a.m., Eastern Daylight Time, in Hearing Room 2 of the Commission's offices at 677 Comanche Trail, Frankfort, Kentucky to discuss the responses requested herein.

1. Refer to Section A, Introduction, page 2, of the application.

a. Explain why LG&E imposed the sampling program design restriction that the annual random sample size equal 5 percent of the control group.

b. Under LG&E's plan, is it possible for a residential meter to remain untested for 30 years?

c. LG&E stated "The primary purpose of the program is the detection and removal at the earliest possible date of any group of meters not meeting prescribed performance standards." To accomplish this purpose, has LG&E considered:

(1) Applying the sampling plan to each group of meters in the first year the meters are in service?

(2) Employing a universal program for all meters in service including commercial meters?

2. Refer to Exhibit A-3.

a. Explain why control group sampling begins in the tenth rather than the first year of service.

b. Explain why meters tested in year 11, for example, are not included in randomly selected meters in year 12.

c. Under LG&E's plan, it appears that a tested meter (either new or repaired) re-entering LG&E's system, but not the control group population, in year 11 will not be eligible for testing for at least 20 years. Explain how the sampling plan picks up tested meters in subsequent years.

d. Why is LG&E opposed to Mary Kay Rayens' suggestion for the selection of a sample size according to the formula shown on page 4?

e. Is it possible to include the commercial meters in the sampling test if the sample size is modified for a smaller control group size?

f. In Section A, page 1, LG&E stated that when the sampling plan applied to smaller populations, the sampling plan was not as powerful as LG&E would have liked. What is the criteria of a powerful plan in LG&E's judgement?

g. What is the average homogeneous control group size in LG&E's commercial meter population?

h. What will be the maximum size of the control group in LG&E's proposed plan?

i. Explain the rationale for limiting the meter lives to 30 years.

j. Provide statistical records and bar graphs for meter testing for the past 30 years or for as many as available.

k. Does LG&E agree with the equation on pages 2 and 3? If no, explain.

l. Does Dr. Rayens' recommendation on Page 5 conflict with LG&E's plan?

m. What is the finite population correction used by LG&E?

3. How does LG&E plan to combine control groups?

4. Why was a performance standard of 80 percent chosen while the records in Section C of LG&E's application show the meter performance records higher than 90 percent? Will LG&E consider a higher performance standard? Explain.

5. LG&E proposes to test a second sample group when the first sample fails the test. Does the second test indicate a lack of confidence in the sampling plan? Explain.

6. Define the term "defective meter" as used in the proposed sampling plan.

7. Refer to Section A(7) A, B, and C. Describe the procedure and the plan for testing meters in service one to nine years. Illustrate the plan with examples.

8. Refer to Section A(8).

a. When is a group classified for accelerated early removal?

b. Describe the plan for accelerated early removal.

9. Will LG&E introduce an incentive plan to control those groups with samples performing at 95+ percent accuracy level? Explain and provide examples.

10. Will LG&E introduce a tightened plan for meters performing at low accuracy level but within the standard performance criteria? Explain and provide examples.

11. Refer to A(9).

a. Describe the additional sampling plan referred to in this response.

b. Provide a sample of the annual report of the sampling test and meter performance records which LG&E will provide to the Commission under the proposed plan.

12. Refer to the statistical technique used to determine population characteristics. Provide an example from Table A-5 to verify the calculated Z.

13. Refer to Section C and Section E, Subsection 3, wherein LG&E states that certain Rockwell meters do not perform as well as American Gas meters.

a. Does LG&E currently purchase Rockwell meters? Explain.

b. Explain why Rockwell meters were not included in the sampling plan.

c. Under LG&E's plan, is it possible for the less efficient Rockwell meters to be replaced at a faster rate than savings are realized from the sampling plan? Explain.

d. Would the Rockwell meters be replaced or repaired at a faster rate if they were included in the sampling plan? Explain.

e. What percentage of meters currently in use are Rockwell manufactured meters?

14. Provide the number and type of residential and commercial meters installed each year since 1964.

15. Refer to Section D of the application. Provide a breakdown of the costs included in the $7,497,698 in "Savings in Meter Purchase Costs - Residential." Include with this response copies of all workpapers, calculations, and assumptions (such as the rate of return on plant and any discount rates applied to the savings) used in deriving this number.

16. Provide a present value analysis of the anticipated savings resulting from the proposed statistical sampling plan and copies of all workpapers, calculations, and assumptions used in the analysis.

17. Refer to paragraph 4 of the application. Provide the following:

a. An estimate of the amount of the savings that will be used to enhance the customer safety education program.

b. LG&E's planned use of the savings not used in the customer safety education program.

18. Provide an analysis of number of times LG&E personnel find safety problems when inspecting a customer's premises as a part of change-out inspections.

19. Refer to Section B.

a. Page 2 under Other Safety Measures in Existence: What maintenance and other programs are directed towards safety, and how many visits to customers' premises are conducted annually?

b. Under Meter Reading. Will LG&E consider automatic meter reading in the near future? If yes, will such a plan eliminate the inspection by the meter readers of any unsafe condition that needs to be corrected?

c. On page 3, LG&E stated that customer service made 3,065,663 visits to its customers' premises in 1991. Are the 2,839,404 meter readings included in the customer service visits?

d. Provide the workout for the numbers given in the table captioned "Gas Meter Changes for 1993."

e. What is the anticipated cost of the Natural Gas Owner's Manual?

20. Refer to Section D, Replacement of Aging Meters.

a. Are meters removed on the basis of their poor performance or on the periodic testing schedule? Explain in detail.

b. If the 65,000 meters are showing poor performance, how does LG&E justify placing them in service for 20 more years?

21. Refer to Section E, Performance Control Plan vs. Periodic Test Schedule. The number of meters tested under the performance control program for the year 1993 is 5 percent of those included in periodic test schedule for the same year. Does this represent the meters in service since 1983 only? If yes, explain why the meters installed prior to 1983 were not included in the performance control program.

22. What is a priority to LG&E--the cost savings realized from the proposed plan, or the accuracy achieved in the measurement of gas delivered to LG&E's customers? Explain.

23. Refer to Section E.

a. Some tables show groups smaller than 2,000 as specified by LG&E's plan. Explain why. How will the smaller groups be tested?

b. Do the cost savings based on successfully testing 5 percent of the meters each year after 10 years in service contain any contingency costs for meters that fail the test and must be removed?

c. Has LG&E considered the costs for removing meters which have been in service for 30 years? If yes, explain and provide the estimated costs considered.

d. Provide a breakdown of costs for meter testing to include the cost of removing, testing, maintaining, and reinstalling a meter and the average cost of a new residential meter.

24. Will LG&E test the customer's piping and appliances for leaks as part of the sample testing program? Will LG&E consider introducing leak testing within the sampling plan? Explain.

25. Refer to Commission regulations 807 KAR 5:006, Section 25(5)(b) and (c). Each of these inspections must be performed at intervals not to exceed the periodic meter test interval.

a. With regard to the elapsed time between each inspection under LG&E's plan, could the interval of time increase to 30 years?

b. Under LG&E's sampling plan, would it agree to continue to perform each of these inspections at intervals not to exceed 10 years?

26. LG&E's Operating and Maintenance Plan does not specify the additional actions, if any, LG&E personnel perform at a customer service at the time of meter change-out.

a. Describe the actions performed by LG&E personnel on customer-owned facilities, such as customer piping and appliances, at the time of meter change-out. Provide a copy of any procedures LG&E has adopted.

b. Has LG&E adopted any of the National Fuel Gas Code (NFPA 54) procedures to be taken each time gas service is interrupted, such as at the time of meter change-out? Provide a copy of

any procedures LG&E has adopted which reference or include guidelines from NFPA 54.

c. Under LG&E's proposed plan, if a customer's meter is not tested for as long as 30 years, can the other actions performed by LG&E personnel on customer-owned facilities at the time of meter change-out also be postponed for 30 years?

Done at Frankfort, Kentucky, this 13th day of April, 1994.

PUBLIC SERVICE COMMISSION

For the Commission

ATTEST:

Executive Director