

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

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In the Matter of:

AN INVESTIGATION AND REVIEW OF )  
LOUISVILLE GAS AND ELECTRIC COMPANY'S ) CASE NO. 9243  
CAPACITY EXPANSION STUDY AND THE NEED )  
FOR TRIMBLE COUNTY UNIT NO. 1 )

O R D E R

IT IS ORDERED that Louisville Gas and Electric Company ("LG&E") shall file an original and 12 copies of the following information with the Commission by February 22, 1985, 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 insure that it is legible. Where information requested herein has been provided, reference may be made to the specific location of said information in responding to this information request.

1. On page 12 of Volume II of the report by Stone and Webster ("S&W") there is some discussion of reliability criterion. It states that "a relationship between percent installed reserves and LOLP was developed."

- A. Provide a more detailed narrative discussion of how this relationship was developed.
  - B. Provide additional workpapers to support the result that a "20% reserve corresponds to a LOLP of 2.7% or 235 hours per year."
  - C. Is S&W recommending a LOLP of 2.7 percent as a desirable reliability criterion?
2. On page 13 of Volume II of the S&W study it is stated that the capacity and operating characteristics for combustion turbines were based on the General Electric H-Frame unit.
- A. Explain how this unit was chosen.
  - B. If other units were considered, provide their capacity and operating characteristics.
3. On page 14 of Volume II of the S&W study a joint ownership purchase of 200 MW from Big Rivers Electric Corporation's Wilson Unit 1 is discussed.
- A. Why was the purchase assumed to start in January 1985 instead of later when LG&E will more likely need capacity?
  - B. Were any other joint ownership purchases considered? If so, please provide the associated details of such a purchase and an explanation of why the Big Rivers option was chosen.

- C. This alternative assumed additional transmission costs of \$40 million. Provide support for this estimate.
4. On page 14 of Volume II of the S&W study a unit power purchase of 150 MW for 7 years from East Kentucky Power is discussed.
- A. Were any other unit power purchases considered? If so, please provide the associated details of such a purchase and an explanation of why the purchase from EKP was chosen over the other alternatives.
- B. How was the \$8 per kw-month value determined?
- C. Why does the purchase end in 1994?
- D. This alternative assumed additional transmission costs of \$35 million. Provide support for this estimate.
5. On page 14 of Volume II of the S&W study a limited-term power purchase at a cost of \$11.50 per kw-month is discussed. The capacity and energy costs for this purchase were based on information provided by Big Rivers. Were power purchases based on the capacity and energy costs for any other utility system considered for inclusion in this report? If so, provide the associated details and an explanation of why the costs provided by Big Rivers were chosen over any other alternative.

6. On page 15 of Volume II of the S&W study it states that the "actual available amount of cogeneration will depend on the avoided capacity and energy cost."
- A. However some cogenerators may choose to consume all of the power they generate instead of purchasing power from LG&E. In this case, the amount of cogeneration depends on the level of retail rates to the customer which are greater than the avoided costs. How was this possibility incorporated into the S&W study?
- B. The discussion indicates that a number of large industrial customers were interviewed concerning cogeneration. Which customers specifically were interviewed and by whom (LG&E or S&W) were they interviewed?
7. On page 21 of Volume II of the S&W study it states that future combustion turbines were assumed to be oil-fired, burning #2 oil, due to the uncertain long-term supply of natural gas.
- A. What is LG&E's view of the long-term supply of natural gas? What is S&W's view?
- B. Assuming natural gas would be available for use in future combustion turbines, provide an estimate of the cost per MMBtu and an estimate of the escalation in price.

- C. Provide support for the 1983 average of \$6.37 per MMBtu for #2 oil used in the S&W report.
8. On page 24 of Volume II of the S&W study it states that "incremental heat rates were developed to simulate the economic dispatch."
    - A. Provide a detailed explanation of how the incremental heat rates were developed.
    - B. Provide any workpapers available to support the development of the incremental heat rates.
  9. On page 25 of Volume II of the S&W study equivalent forced outage rates are provided.
    - A. Provide the workpapers to support the calculation of these rates. Indicate all instances where S&W exercised its judgment in determining these values.
  10. In determining the cost of money, a 12.5 percent rate of interest for long-term debt is assumed.
    - A. Provide support for this interest rate.
  11. On page 33 of Volume II of the S&W study, it states that "peaking turbines should be planned for about 5 to 10% capacity factors." Provide support for this statement.
  12. On page 55 of Volume II of the S&W study the strategic expansion plan recommends LG&E attempt to sell up to 25 percent from Trimble County

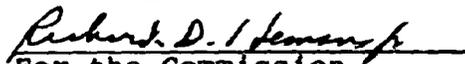
Unit 1 on a joint ownership basis and aggressively market additional capacity sales.

A. Has LG&E or S&W performed any analysis to determine what the potential market for capacity sales might be? If so, provide such analysis.

B. In the opinion of LG&E's management, what is the likelihood of selling up to 25 percent from Trimble County on a joint ownership basis?

Done at Frankfort, Kentucky, this 12th day of February,  
1985.

PUBLIC SERVICE COMMISSION

  
For the Commission

ATTEST:

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Secretary