

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

JOINT APPLICATION OF LOUISVILLE GAS AND )  
ELECTRIC COMPANY AND KENTUCKY UTILITIES )  
COMPANY FOR A CERTIFICATE OF PUBLIC )  
CONVENIENCE AND NECESSITY AND SITE )  
COMPATIBILITY CERTIFICATE FOR THE )  
CONSTRUCTION OF A COMBINED CYCLE ) CASE NO.  
COMBUSTION TURBINE AT THE CANE RUN ) 2011-00375  
GENERATING STATION AND THE PURCHASE OF )  
EXISTING SIMPLE CYCLE COMBUSTION TURBINE )  
FACILITIES FROM BLUEGRASS GENERATION )  
COMPANY, LLC IN LAGRANGE, KENTUCKY )

FIRST INFORMATION REQUEST OF COMMISSION STAFF TO  
LOUISVILLE GAS AND ELECTRIC COMPANY AND  
KENTUCKY UTILITIES COMPANY

Pursuant to 807 KAR 5:001, Louisville Gas and Electric Company (“LG&E”) and Kentucky Utilities Company (“KU”) are to file with the Commission the original and 10 copies of the following information, with a copy to all parties of record. The information requested herein is due no later than November 9, 2011. Responses to requests for information shall be appropriately bound, tabbed and indexed. Each response shall include the name of the witness responsible for responding to the questions related to the information provided.

Each response shall be answered under oath or, for representatives of a public or private corporation or a partnership or association or a governmental agency, be accompanied by a signed certification of the preparer or person supervising the preparation of the response on behalf of the entity that the response is true and accurate to the best of that person’s knowledge, information, and belief formed after a

reasonable inquiry.

LG&E and KU shall make timely amendment to any prior response if they obtain information which indicates that the response was incorrect when made or, though correct when made, is now incorrect in any material respect. For any request to which LG&E and KU fail or refuse to furnish all or part of the requested information, LG&E and KU shall provide a written explanation of the specific grounds for their failure to completely and precisely respond.

Careful attention should be given to copied material to ensure that it is legible. When the requested information has been previously provided in this proceeding in the requested format, reference may be made to the specific location of that information in responding to this request. When applicable, the requested information shall be separately provided for total company operations and jurisdictional operations.

1. In Case No. 2009-00198,<sup>1</sup> LG&E was granted a Certificate of Public Convenience and Necessity to construct a new landfill at its Cane Run Generating Station ("Project 22"). Construction of Project 22 was to be done in four phases, with the first phase to be completed in 2015. Provide the status of this project and explain how this project would be impacted should LG&E receive approval to construct a combined cycle combustion turbine ("CCCT") unit and retire Cane Run 4, 5, and 6.

2. Refer to page 6 of the application. The cost of the proposed Cane Run natural gas combined cycle combustion turbine facility ("CR7") is \$583 million, and the cost of the proposed Bluegrass Generation acquisition is \$110 million. Based upon the

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<sup>1</sup> Case No. 2009-00198, Application of Louisville Gas and Electric Company for a Certificate of Public Convenience and Necessity and Approval of its 2009 Compliance Plan for Recovery by Environmental Surcharge (Ky. PSC, December 23, 2009).

ownership percentages shown on paragraph 11 of page 6 of the application, it appears that KU's and LG&E's shares of the total cost of the two proposed projects will be approximately \$489 million and \$204 million, respectively. The cost of the expected electric transmission improvements is included in the totals.

a. Explain whether the costs for required electric transmission improvements at each facility unit are to be allocated solely by the ownership percentages of the facility.

b. Explain whether the improvements will benefit existing Cane Run units or any potential future units at Cane Run.

3. Refer to page 7 of the Direct Testimony of Paul W. Thompson where Mr. Thompson discusses future employee staffing at the Cane Run, Green River, Tyrone, and LaGrange facilities.

a. Will there be a cumulative gain or loss of permanent full-time employees at the conclusion of the facility work contained in this filing?

b. Explain whether the Bluegrass Station will be operated by relocated, permanent LG&E/KU employees.

c. What is the Bluegrass Station's anticipated staffing level and how does it compare to the current levels within the plant?

d. Describe permanent, full-time staffing for a peaking unit and how it compares to an intermediate or base-load plant.

4. Refer to the Direct Testimony of Davis S. Sinclair ("Sinclair Testimony") at page 4 which indicates a 1.5 percent growth rate before the impact of Demand Side

Management (“DSM”). What is the projected growth rate after the impact of DSM is taken into consideration?

5. Refer to the table on page 4 of the application and the Sinclair Testimony, page 5, lines 14-16.

a. Confirm that LG&E’s and KU’s forecasts show that their weather-normalized peak load, after peak reductions, is projected to increase by a compound growth rate of 0.72 percent over the five-year period of 2012-2016.

b. Explain why the weather-normalized compound growth rate for the 2012-2016 forecast period exceeds the 0.4 growth rate for the five years from 2006-2010. Provide all calculations and workpapers to support the explanation.

c. Explain whether the potential de-rating of any units due to environmental remediation was considered in calculating the reserve margins. If not reflected in the reserve margins, provide the potential effects that de-rating units may have on the reserve margins.

6. Refer to pages 4-5 of the Sinclair Testimony in which Mr. Sinclair discusses how the joint load forecast compares to LG&E’s and KU’s historic load growth.

a. Provide, for LG&E and KU individually, and on a combined basis, the 2006 forecasted coincident peak load for the years 2007 through 2013.

b. Provide, for LG&E and KU individually, and on a combined basis, the 2007-2010 actual and weather-normalized coincident peak loads.

7. On page 5 of the Sinclair testimony, it is stated that energy forecasting is based on sales and the quantification of various variables. Explain whether off-system sales are considered as one of the energy forecasting variables.

8. Refer to the Sinclair Testimony at pages 7-8 and 15.

a. Provide a detailed description of the assumptions and inputs used in the 2012 joint load forecast.

b. Provide a detailed comparison of the assumptions and inputs used in the LG&E/KU 2011 Integrated Resource Plan ("IRP") and those used in the 2012 joint load forecast.

c. Explain whether the increased price of electricity, as a result of LG&E and KU passing on environmental compliance costs to ratepayers, was factored into the load forecast analysis and whether this had any effect on the results.

d. The U.S. Energy Information Administration ("EIA") in its Annual Energy Outlook is forecasting the price of natural gas to be fairly low relative to historical estimates, and the current price of gas is also low. Provide a chart which shows the natural gas price forecasts used in the 2011 IRP, the 2012 load forecast and those published by the EIA.

e. Given the current and forecasted low prices of natural gas, provide, both from LG&E's and KU's and from the ratepayer's perspective, detailed explanations and cost-benefit analyses of whether it would be more advantageous for LG&E to encourage its customers (residential, commercial or industrial) to replace electric heating technology with natural gas furnaces, etc. on a going-forward basis. In addition to any other factors, the response should include which gas price forecast was used,

consideration of the increased price of electricity due to environmental compliance, and the reduction in electric demand as a result of fuel switching.

9. Refer to the Sinclair Testimony at pages 8-9 and 15.

a. Provide an explanation of whether LG&E's natural gas sales and marketing department is aggressively pursuing a fuel-switching or dual-fuel technology or any aggressive growth strategy.

b. Provide an explanation of whether any fuel-switching or dual-fuel strategies were considered as viable demand mitigation strategies and, if not, why not.

10. Refer to pages 9 and 15 of the Sinclair Testimony and the table on page 4 of the application that references a target reserve margin of 16 percent.

a. Provide the documentation supporting the development of the target 16 percent reserve margin.

b. Provide the required reserve margins for planning purposes for LG&E and KU as if they were stand-alone utilities, along with supporting documentation for those reserve margins.

c. Describe the extent to which LG&E and KU looked at multiple reserve margins higher and lower than 16 percent.

d. Provide the required reserve margins for LG&E and KU as members in the Southwest Power Pool ("SPP").

11. On page 16 of the Sinclair Testimony, it is stated that an energy and capacity Request for Proposal ("RFP") was sent to 116 potential energy suppliers. Explain how the suppliers were selected and by whom.

12. On page 17 of the Sinclair Testimony, it is stated that Phase I selection criteria included selecting the top candidates in each technology. Explain the reasons for weighing different technologies when the cost of the supplied power is the primary consideration.

13. Refer to the Sinclair Testimony on page 17, which states, “[e]ach configuration had a different amount of duct-firing capacity. The 605 MW unit has 45 MW of duct-firing capacity.” Explain what is meant by “duct-firing capacity.”

14. Refer to page 17 of the Sinclair Testimony. Provide a brief explanation of why a coal unit was not considered in LG&E’s and KU’s 2011 IRP analysis.

15. Refer to pages 18-19 of the Sinclair Testimony. Explain why the Penile Road location was selected as the interconnection point with Texas Gas Transmission.

16. On page 19 of the Sinclair Testimony, there is discussion concerning the positives of purchasing the Bluegrass CTs. What are the estimated remaining service lives of the three generating units?

17. Refer to the 2011 Resource Assessment, Section 5 at page 17-18, and Appendix B-Key Assumptions.

a. Provide, in chart form, the cost item data used in the PROSYM model listed on page 17.

b. If not provided above, provide the gas price forecasts and the source used in the analysis.

c. Provide a discussion of the sensitivity of the results to a lower return on equity. Assuming a return on equity was 10 percent, explain whether any of the rankings of the various options, including the self-build option, would change.

d. The Percentage of Debt in Capital Structure is listed at 46.52 percent. If LG&E and KU are going to issue debt to finance any build options, explain the source of new equity that must also be provided in order to keep the capital structure unchanged.

18. Refer to the 2011 Resource Assessment, Table 12, at page 18. Several of the options in the table appear to have a combination of alternatives grouped together. Explain why such options were grouped in this manner.

19. Refer to the 2011 Resource Assessment at pages 19-22.

a. Explain what economy market purchases mean in the context of the analysis.

b. Provide the source of base case scenario natural gas and electricity prices and explain how these prices are different from those provided by CERA.

c. Explain why off system sales were not allowed in the analysis.

d. Provide a detailed explanation and the results of the analysis that demonstrate why LS Power's simple cycle combustion turbine ("SCCT") options go forward into the final phase analysis and LS Power's CCCT are a higher cost than the CCCT self-build option. Include in the discussion the specific factors that pushed the analysis results toward the self-build option.

e. In Table 16, of the four least-cost options, the 640 MW option is lower cost than either the 690 MW option or the 605 MW option. Explain the differences between these options, i.e., if the production cost savings associated with the 690 MW option do not outweigh its additional capital and gas transportation costs as compared



to the 640 MW option, explain why the same does not hold true for the 640 MW option versus the 605 MW option.

f. Table 16 lists Purchased Power Agreements (“PPAs”) starting in 2015, but sales beginning in 2012. Explain to what extent beginning the PPAs in 2012 makes a difference in the cost analysis.

20. Refer to the 2011 Resource Assessment on page 24.

a. In addition to discounting the purchase price of the SCCT units, explain whether LS Power would have been willing to discount the purchase price of its CCCT units and whether LG&E approached LS Power with this option if proper terms could be achieved.

b. Provide a detailed explanation and list of the factors and factor values that changed to produce a lower capital cost estimate for the 640 MW CCCT units.

21. Refer to the 2011 Resource Assessment at pages 22-25. The reduced capital costs associated with the 640 MW self-build option listed in Table 18 do not seem to apply to the other self-build options. Provide a detailed explanation of why the Present Value Revenue Requirement for the other self-build options listed in Table 19 appear to be more expensive (i.e., shows a wider spread) than those listed in Table 16.

22. Refer to the 2011 Resource Assessment, Tables 20-21 at pages 26-27.

a. If CERA and PIRA data and the explanations regarding those data are not provided for examination, explain why the analysis should be accepted in this proceeding.

b. Explain whether or not CERA and PIRA and Wood MacKenzie provide any explanation and description of assumptions supporting the forecast data provided to the companies. If so, provide the written descriptions.

c. If the forecasts are significantly different than those published by the EIA or those used in the 2011 IRP, provide a detailed explanation of why LG&E and KU believe that these forecasts are materially more accurate than (1) what they used previously, or (2) forecasts from other published sources.

d. LG&E and KU used base case scenario natural gas prices in addition to the CERA and PIRA prices. Provide an update to Tables 20 and 21 with the base case scenario prices included.

e. Explain whether the natural gas prices used in the analysis are city gate prices or Henry Hub prices.

23. Refer to the 2011 Resource Assessment at page 26.

a. Provide a detailed explanation of how Aurora models the supply and demand for electricity, the manner in which Aurora estimates electricity prices, and what other estimates are derived using that model.

b. Provide a description of the inputs used to obtain the electricity forecasts.

c. Provide a detailed explanation of how electricity price forecasts were used in the evaluation of RFP response options.

24. Refer to the 2011 Resource Assessment at page 27 and Tables 20 and 21.

a. For high-sulfur coal price forecasts, explain whether Table 20 or Table 21 contains LG&E's and KU's contracted short-term positions. Also, explain why coal prices increase in Table 21.

b. Explain why natural gas prices appear to decrease in Table 21.

c. Explain why electricity prices increase in Table 21.

d. For Table 21 and in the discussion relating to that table, LG&E and KU state "[t]he electricity prices for 2011 Wood Mac/PIRA and 2011 CERA forecasts were developed in Aurora." Explain how those companies use the electricity forecasts developed by LG&E in its Aurora model.

25. Refer to the 2011 Resource Assessment at page 28.

a. What is the relationship between Table 22 and Table 21? Was the data in Table 21 used in the evaluation of the final Phase II analysis?

b. The natural gas price forecasts that appear in Tables 21 and 22 appear to be significantly lower than the natural gas price forecasts provided by LG&E and KU in Case Nos. 2011-00161<sup>2</sup> and 2011-00162<sup>3</sup> on September 1, 2011 as an update to a previous response in those cases. Provide an explanation of the apparent discrepancies.

26. Refer to page 31 of the 2011 Resource Assessment. It states, "[b]y utilizing the emissions from the existing Cane Run 4-6 to be shut down, the new CCCT

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<sup>2</sup> Case No. 2011-00161, Application of Kentucky Utilities Company for Certificates of Public Convenience and Necessity and Approval of its 2011 Compliance Plan for Recovery by Environmental Surcharge (Ky. PSC filed Sep. 1, 2011).

<sup>3</sup> Case No. 2011-00162, Application of Louisville Gas and Electric Company for Certificates of Public Convenience and Necessity and Approval of its 2011 Compliance Plan for Recovery by Environmental Surcharge (Ky. PSC filed Sep 1, 2011).

was able to 'net out' of the Prevention of Significant Deterioration permitting requirements."

a. Provide the allocated emissions allowance for the proposed new CCCT beginning in 2016 and beyond and explain how it was determined.

b. Explain whether LG&E and KU will receive more SO<sub>2</sub> and NO<sub>x</sub> allowances for the new CCCT unit because it is located on an existing generation site.

27. Refer to the 2011 Resource Assessment, Appendix G, at page 44. For the top four options in the No Economy Sales category, the Production Costs and the Capital costs and the Gas Transmission costs for the 605 MW self-build option do not appear to be in line with the costs for the 640 MW and the 690 MW self-build options. Explain why the 605 MW option costs appear to be high relative to the 640 MW and 690 MW options.

28. Refer to page 5 of the Direct Testimony of John N. Voyles, Jr. ("Voyles Testimony") where it is stated that the air quality in Jefferson County fails to meet SO<sub>2</sub> requirements and that the new Natural Gas Combined Cycle ("NGCC") plant will help meet the National Ambient Air Quality Standards ("NAAQS") for SO<sub>2</sub>. With the retirement of the Cane Run coal-fired plants and the completion of the Cane Run NGCC facility:

a. Will Jefferson County meet the NAAQS standards?

b. If not, what, if any, further contributions are projected from LG&E?

c. Are there current or anticipated penalties ascribed to LG&E if

Jefferson County fails to meet the NAAQS standards after the Cane Run NGCC has been completed?

29. Page 7 of the Voyles Testimony discusses bid and regulatory approval timelines. Explain whether LG&E and KU will have pre-qualified the majority of potential bidders prior to receiving regulatory approval.

30. Refer to pages 9 and 12 of the Voyles Testimony where the annual operating costs of CR7 and Bluegrass Generation are discussed. Explain how much weight the operating costs of the proposed facilities were given to arrive at the proposed ownership percentages. Provide all calculations and workpapers necessary to support the answer.

31. Page 11 of the Voyles Testimony includes discussion concerning the number of starts each Westinghouse generator has.

a. How many starts are these generators reliably expected to provide in their respective service lives?

b. Can it, and in the future will it, be feasible to rebuild the Bluegrass generators?

c. What is the maintenance cycle of the Westinghouse peaking units?

32. On page 13 of the Voyles Testimony, it is stated that the transmission interconnection study which LG&E and KU requested be performed by SPP is not complete. When will the final study results be available?

33. Refer to page 14 of the Voyles Testimony. Explain whether LG&E and KU anticipate needing any further transmission approvals from the Commission.

34. Refer to page 3 of the Direct Testimony of Lonnie E. Bellar ("Bellar Testimony") where he states that some portion of the financing costs for both proposed projects could be loans from affiliates via the money pool. Explain the structure and

operation of the money pool arrangement. Include a description of the means by which interest rates are set for money pool transactions.

35. Refer to page 6 of the Bellar Testimony where he discusses the rate impacts of the proposed construction and acquisition.

a. The expected rate impact for KU is 4 percent. Explain whether the timing of KU's need for a rate case will be affected by KU's proposal to acquire generation in this case.

b. Mr. Bellar states LG&E's share of its ownership in the CR7 and Bluegrass Generation will have little impact on LG&E base rates. LG&E's share of the ownership will exceed an estimated \$200 million. Explain why this expenditure is not expected to affect rates.

36. Refer to page 6 of the Bellar Testimony where Mr. Bellar discusses the plan to perform a depreciation study based on December 31, 2011 data.

a. Explain whether LG&E and KU plan to use a December 31, 2015 retirement date in the study for the generating units.

b. Provide the retirement date used for these six generating units in the most recent LG&E/KU depreciation study.

c. Provide LG&E's and KU's current position on how the net book value of the generating units that have been proposed to be retired will be addressed in the first rate cases following the retirement dates.

d. Provide the following information for the generating units that are planned to be retired in 2015, as of September 30, 2011:

Unit Name	Installed Cost (Col. 1)	Accumulated Depreciation (Col. 2 )	Net Book Value (Col. 1 – Col. 2) (Col. 3)
Cane Run 4			
Cane Run 5			
Cane Run 6			
Green River 3			
Green River 4			
Tyrone 3			
Total			

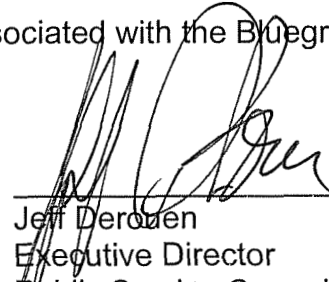
37. On page 6 of his testimony, Mr. Bellar states that, when rate impact estimates were provided in connection with the environmental recovery press release, the estimates were based upon the assumption that LG&E would own 100 percent of CR7 and KU would own 100 percent of the Bluegrass Generation assets. However, upon further study, LG&E and KU determined that the joint ownership now proposed is the most appropriate.

a. Provide the major factors influencing the decision to share ownership in the units.

b. Explain whether the likelihood of either utility relying upon the new generation for base load needs, rather than intermediate or peak load needs, influenced the decision on joint ownership in any way.

38. Refer to the Direct Testimony of Gary H. Revlett (“Revlett Testimony”) at page 11. Will the construction of the facilities described in the application permit the Jefferson County non-attainment designation to be lifted?

39. Refer to the Revlett Testimony at page 13. Will there be any anticipated issues in transferring control of the permits associated with the Bluegrass Station?



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cc: Parties of Record



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