

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF LOUISVILLE GAS AND)	
ELECTRIC COMPANY TO MODIFY ITS)	
CERTIFICATE OF PUBLIC CONVENIENCE)	CASE NO.
AND NECESSITY AS TO THE MILL CREEK)	2012-00469
UNIT 3 FLUE-GAS DESULFURIZATION UNIT)	

RESPONSE OF
LOUISVILLE GAS AND ELECTRIC COMPANY
RESPONSE TO THE
INFORMATION REQUESTED IN HEARING
DATED JANUARY 3, 2013

Updated Response filed January 18, 2013

FILED: January 18, 2013

LOUISVILLE GAS AND ELECTRIC COMPANY

Case No. 2012-00469

**Response to Information Requested in Hearing
dated January 3, 2013**

Updated Response filed January 18, 2013

Question No. 3

Responding Witness: John N. Voyles, Jr.

Q-3. Please provide the name of the contractor who is conducting the flow modeling studies referenced in LG&E's response to Question No. 6 to the Commission Staff's First Request for Information.

- a. What is the price of the modeling contract?
- b. What is the schedule for the referenced modeling?
- c. Please provide an update on the status of the modeling activities.

A-3. The full implementation of the Mill Creek ECR Project 26 has a number of critical path elements that run in parallel, one of which is flow modeling. The testimony at the hearing shows the Company has a firm price quote from Babcock Power for the new WFGD at Mill Creek 3. The Babcock Power firm price quote is based on firm price quotes from a number of its suppliers. The supplier's firm price quotes will begin to expire in early February, 2013.

With respect to the name of the contractor who is conducting the flow modeling studies, various contractors are responsible for flue gas flow modeling on the Mill Creek Project. Clyde Bergemann, the supplier of the baghouse equipment, is contractually responsible for flue gas flow modeling from the boiler outlet to the baghouse outlet. BPEI, the supplier of the WFGD equipment, is responsible for the flue gas flow modeling from the outlet of the new fans to the outlet of the WFGD. Zachry is responsible for the modeling of the entire flue gas modification path which incorporates the areas by Clyde Bergemann and BPEI. Clyde Bergemann has contracted with Air Flow Sciences. Zachry and BPEI have contracted with NELS Consulting Services Inc.

- a. The modeling for each unit varies based upon scope. LG&E cannot determine an exact cost for modeling service because the three contractors are responsible for different aspects of the flow modeling and because BPEI and Clyde Bergemann Equipment Purchase Agreements are lump sum contracts. That notwithstanding, LG&E estimates that the total modeling for each unit will cost approximately \$250,000.
- b. The full construction schedule sequence for Mill Creek Station begins with Unit 4, followed by Units 1 and 2, and then ends with Unit 3. At times, all units will be in some form of detailed design and modeling at the same time over the next four to six months. This engineering work (i.e., detailed ductwork design and flow modeling) is one of the first critical activities in the implementation of the Unit 3 WFGD and baghouse. This work establishes the final design of ductwork which allows the engineering of the entire system (including foundation locations and structural steel design). Completion of the engineering of the system is required to begin the procurement phase of purchasing the ductwork, structural steel and contracts for insulation, lagging, and other components of installation.

The process used in air flow models starts with ductwork location and its associated geometry. Once approval is granted on the Unit 3 compliance plan option, detailed engineering can be completed on the exact location of the ductwork (including foundations to grade). When this detailed engineering is completed to the point of having confidence of exact ductwork geometry, the design can be given to the flow modeling firms to begin their computer modeling (Computational Fluid Design) and physical modeling (a physical scaled model) of the exact ductwork. The modeling outputs identify the internal modifications or additions to the ductwork design needed to be incorporated in the final design that will reduce pressure drop, improve the continuity of flue gas throughout the ductwork, and maximize PAC and sorbent injection effectiveness while balancing the minimization of pressure drop in the entire system.

Modeling for Unit 3 has not yet begun due to the uncertainty whether to build a new WFGD or to rehabilitate Unit 4's existing WFGD for Unit 3's use. Pending the disposition of LG&E's application in this case, the Company has focused on modeling Unit 4 and Units 1 and 2. This approach is based on the expectation that an order from the KPSC establishing final plans for Unit 3 will be received in January, 2013.

- c. Please see responses above.

Updated Response filed January 18, 2013:

Through continued negotiations with Babcock Power (the WFGD technology provider) and Zachry (the EPC contractor), the firm price quotes that would begin to expire in early February, 2013 have been extended until the end of February, 2013. Confirmation of the firm price extension was received January 17, 2013. LG&E requests that a final Order be issued no later than February 15, 2013 to allow sufficient time to complete the transactions.