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PUBLIC SERVICE  
COMMISSION

Mr. Jeff DeRouen  
Executive Director  
Kentucky Public Service Commission  
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Frankfort, Kentucky 40601

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March 30, 2012

**Re: An Investigation of the Reliability Measures of Kentucky's  
Jurisdictional Electric Distribution Utilities;  
Case No. 2011-00450**

Dear Mr. DeRouen:

Enclosed please find and accept for filing the original and ten (10) copies of Louisville Gas and Electric Company and Kentucky Utility Company's Joint Response to the Commission Staff's Second Request for Information dated March 15, 2012 in the above referenced docket.

Should you have any questions please contact me at your convenience.

Sincerely,

Rick E. Lovekamp

cc: Parties of Record

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**AN INVESTIGATION OF THE RELIABILITY            ) CASE NO.**  
**MEASURES OF KENTUCKY'S JURISDICTIONAL        ) 2011-00450**  
**ELECTRIC DISTRIBUTION UTILITIES                 )**

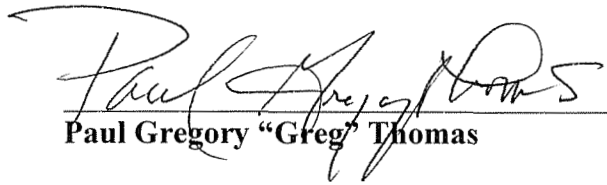
**RESPONSE OF**  
**LOUISVILLE GAS AND ELECTRIC COMPANY**  
**AND**  
**KENTUCKY UTILITIES COMPANY**  
**TO STAFF'S SECOND REQUEST FOR INFORMATION**  
**DATED MARCH 15, 2012**

**FILED: MARCH 30, 2012**

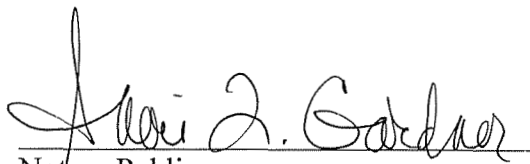
VERIFICATION

COMMONWEALTH OF KENTUCKY )  
 ) SS:  
COUNTY OF JEFFERSON )

The undersigned, Paul Gregory "Greg" Thomas, being duly sworn, deposes and says that he is Vice President, Energy Delivery – Distribution Operations for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

  
Paul Gregory "Greg" Thomas

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 29<sup>th</sup> day of March 2012.

  
Notary Public (SEAL)

My Commission Expires:

SHERI L. GARDNER  
Notary Public, State at Large, KY  
My commission expires Dec. 24, 2013



LOUISVILLE GAS AND ELECTRIC COMPANY  
and  
KENTUCKY UTILITIES COMPANY

CASE NO. 2011-00450

Response to Staff's Second Request for Information  
Dated March 15, 2012

Question No. 1

Witness: Paul Gregory (Greg) Thomas

- Q-1. The following questions relate to the use of a five-year average of System Average Interruption Duration Index ("SAIDI"), System Average Interruption Frequency Index ("SAIFI"), and Customer Average Interruption Duration Index ("CAIDI") on a circuit basis as a benchmark to determine the relative reliability of an individual circuit.
- a. In your opinion, is it reasonable for the Commission to require each utility to develop and report a five-year average (SAIDI) on a circuit-by-circuit basis as a benchmark for comparison purposes? Explain your answer.
  - b. In your opinion, is it reasonable for the Commission to require each utility to explain why a particular circuit has a higher SAIDI than the utility's five-year average SAIDI for that circuit? Explain your answer.
  - c. In your opinion, is it reasonable for the Commission to require each utility to explain the planned corrective measures for the circuit with a higher SAIDI than the five-year average? Explain your answer.
  - d. In your opinion, is it reasonable for the Commission to require each utility to develop and report a five-year average SAIFI on a circuit-by-circuit basis as a benchmark for comparison purposes? Explain your answer.
  - e. In your opinion, is it reasonable for the Commission to require each utility to explain why a particular circuit has a higher SAIFI than the utility's five-year average SAIDI for that circuit? Explain your answer.
  - f. In your opinion, is it reasonable for the Commission to require each utility to explain the planned corrective measures for the circuit with a higher SAIFI than the five-year average? Explain your answer.

- g. In your opinion, is it reasonable for the Commission to require each utility to develop and report a five-year average CAIDI on a circuit-by-circuit basis as a benchmark for comparison purposes? Explain your answer.
  - h. In your opinion, is it reasonable for the Commission to require each utility to explain why a particular circuit has a higher CAIDI than the utility's five-year average SAIDI for that circuit? Explain your answer.
  - i. In your opinion, is it reasonable for the Commission to require each utility to explain the planned corrective measures for the circuit with a higher CAIDI than the five-year average? Explain your answer.
- A-1.
- a. Yes. It is reasonable for the utilities to develop and report a five-year average (SAIDI) on a circuit-by-circuit basis. The use of this data as a benchmark comparison however is questionable. Circuit level SAIDI, SAIFI, and CAIDI are highly variable performance measures, driven largely by a combination of varying annual controllable and uncontrollable events, a main driver being intensities of storm events. While a five-year average tends to normalize these variables, comparison of one year's circuit performance against a five-year average circuit performance would not provide an effective tool for measuring circuit performance.

The Commission's current focus of system level performance combined with monitoring worst performing circuit performance is an effective strategy.

- b. No. Assuming a normal distribution and consistent performance over time, there is an equal chance that the current year will fall above or below the five-year average. Assuming that half fall above the five-year average, this would mean that the company would have to review and explain approximately half of the total circuits in the system.
- c. No. Similarly, based on the same statistical argument noted in subpart (b), benchmarking against an individual circuit's five-year performance would not be an effective prioritization process in allocating funding for planned corrective measures.
- d. See response to a.
- e. See response to b.
- f. See response to c.
- g. See response to a.
- h. See response to b.
- i. See response to c.



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**Question No. 2**

**Witness: Paul Gregory (Greg) Thomas**

- Q-2. KRS 61.870 through KRS 62.884 address open records of public agencies and 807 KAR 5:001, Section 7, pertains to confidential material submitted to the Commission. Do you anticipate that some information submitted concerning the utility's circuits, whether with regard to SAIDI, SAIFI, CAIDI, or other reporting, could contain confidential, proprietary, or critical infrastructure information for which a petition for confidential information may also be submitted? Explain your answer. In your answer, provide examples of the type of information for which you may seek confidential protection.
- A-2. No, however, reliability data reported at the circuit level may create an unintended burden on the utilities and the Commission to respond to various inquiries. The Companies recommend that the current reliability reporting requirements continue to the Commission.





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**Question No. 3**

**Witness: Paul Gregory (Greg) Thomas**

- Q-3. Please describe your utility's current capacity to compose electronic documents.
- a. Is the utility familiar with or currently using Microsoft Office products such as MS Word or Excel? If so, include the name and version(s) of the software currently used.
  - b. Describe your utility's current internet connectivity status, including connection speed.
  - c. Is the utility familiar with the Commission's website?
  - d. Has your utility registered on the PSC website and does it have a valid username and password? (This registration would currently be used for Electronic Case Filing, Annual Reports, and Tariff Filings).
  - e. If recommended, would your utility have technical staff available to interface with the PSC Information Services Team to assist in the design and implementation of an automated process for uploading data to the Commission?
- A-3.
- a. Yes. The Companies utilize Microsoft Office 2007 suite of products including MS Word and Excel.
  - b. The Companies have 100Mbps Ethernet connectivity that is burstable to 250Mbps at data centers located in Louisville and Simpsonville.
  - c. Yes, the Companies are familiar with the Commission's website.
  - d. Yes, the Companies have registered on the Commission's website for a valid username and password.
  - e. Yes. The Companies technical staff would be made available to assist in the design and implementation of an automated process for uploading data to the Commission.



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Question No. 4

Witness: Paul Gregory (Greg) Thomas

- Q-4. The following questions relate to the manner by which the utility tracks SAIDI, SAIFI, and CAIDI as stated in response to Items 2. (a) and (b) of the Commission's Order of January 11, 2012.
- a. This question applies to Kentucky Power Company ("Kentucky Power"), Big Sandy Rural Electric Cooperative Corporation, Blue Grass Energy Cooperative Corporation, Clark Energy Cooperative, Inc., Duke Energy Kentucky, Inc. ("Duke"), Farmers Rural Electric Cooperative Corporation, Fleming-Mason Energy Cooperative, Inc., Grayson Rural Electric Cooperative Corporation, Inter-County Energy Cooperative Corporation, Jackson Energy Cooperative Corporation, Jackson Purchase Energy Corporation, Kenergy Corp., Kentucky Utilities Company ("KU"), Louisville Gas and Electric Company ("LG&E"), Meade County Rural Electric Cooperative Corporation, Nolin Rural Electric Cooperative Corporation, Owen Electric Cooperative, Inc., Salt River Electric Cooperative Corporation, Shelby Energy Cooperative, Inc., South Kentucky Rural Electric Cooperative Corporation, and Taylor County Rural Electric Cooperative Corporation all of which reported that they tracked SAIDI, SAIFI, and CAIDI using an outage management system or an outage management system in conjunction with an Excel spreadsheet.
    - 1) Does your utility have the ability to export (or upload) the data to another data base or data system (including an Excel spreadsheet) maintained by the Commission? If not, explain why.
    - 2) If not identified elsewhere, identify the file formats to which your utility has the ability to export data.
  - b. This question applies to Cumberland Valley Electric, Inc. and Licking Valley Rural Electric Cooperative Corporation, who reported that they tracked SAIDI, SAIFI, and CAIDI manually. Does your utility have the ability to

export (or upload) the data to another data base or data system (including an Excel spreadsheet) maintained by the Commission? If not, explain why.

- A-4. a.1) Yes, the Companies have the ability to export data to another system maintained by the Commission.
- a.2) The Companies typically send data via File Transfer Protocol (“FTP”) using CSV format but can also provide information via Web Services (WSDL files).



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**Question No. 8**

**Witness: Paul Gregory (Greg) Thomas**

- Q-8. Explain how the SAIDI, SAIFI, and CAIDI indices influence the allocation of capital for system improvement projects within the utility. For the Investor-Owned Utilities Kentucky Power, Duke, KU, and LG&E, explain the manner in which the parent company influences the amount and allocation of capital for system reliability improvements.
- A-8. SAIDI and SAIFI metrics are inputs used to prioritize capital projects in the budgeting process. CAIDI is not used to influence the allocation of capital. Allocation and amount of capital for system reliability improvements are not influenced by the parent company but are decided at the local level.





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**Question No. 9**

**Witness: Paul Gregory (Greg) Thomas**

- Q-9. Does the utility currently share other types of data with entities outside your organization? If yes, describe those other sharing systems and data, and with whom your utility shares the information.
- A-9. Yes. The Companies share system level reliability data with utility peer groups to benchmark performance. Peer groups include Edison Electric Institute (EEI), First Quartile, Public Service Electric and Gas (PSE&G), Southern Company, and South East Exchange (SEE). Data includes SAIDI, SAIFI, CAIDI (with and without major events), Customers Experiencing Multiple Interruptions ("CEMI"), number of customers, miles of line, number of circuits, and Outage Cause by Categories. The data is collected annually under a confidentially agreement via electronic spreadsheets or by interactive forms on a web site. The data is entered manually or interactively.



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**Question No. 10**

**Witness: Paul Gregory (Greg) Thomas**

Q-10. Identify any disadvantages to making the reliability index numbers available on the Commission's website.

A-10. The Companies do not see any disadvantages to making the system level reliability index numbers available on the Commission's website.

Reporting reliability index numbers at the circuit level may create an unintended burden on the utilities and the Commission to respond to various inquiries.



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**Question No. 11**

**Witness: Paul Gregory (Greg) Thomas**

Q-11. Identify any advantages to making the reliability index numbers available on the Commission's website.

A-11. The Companies do not see any advantages to making the reliability index numbers available on the Commission's website.



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**CASE NO. 2011-00450**

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**Question No. 12**

**Witness: Paul Gregory (Greg) Thomas**

- Q-12. In your opinion, what information would the utility's customers be most interested in having easily accessible? In your opinion, is it more appropriate to have this information available by circuit or system averages? How does your utility relay reliability information to your customers? Explain your answers.
- A-12. In our opinion, customers are most interested in their personal outage information; such as, what caused the outage and when power will be restored. Customers with multiple outages want to know what corrective action measures are planned.

Reliability information is relayed through personal contact with customers who have reliability concerns. This method allows the customer to ask questions, and receive direct and timely responses from a company representative. Customers have been very receptive to this type of communication.

For circuits with planned corrective work, an automated call is made to the customers on the circuit communicating that crews are working in the area to improve reliability.





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**Question No. 13**

**Witness: Paul Gregory (Greg) Thomas**

Q-13. If not identified elsewhere, describe the reliability information available for public review on your utility's website.

A-13. The Companies have Storm/Outage information, Power Quality and Reliability FAQs, and Vegetation Management FAQs on the website. Please see website links below. Reliability data such as SAIDI, SAIFI, and CAIDI is not available on the Companies' website.

Storm/Outage Information

<http://www.lge-ku.com/storm>

Outage Map

<http://stormcenter.lge-ku.com>

Vegetation Management Information

[http://www.lge-ku.com/rsc/lge/vegetation\\_management.asp](http://www.lge-ku.com/rsc/lge/vegetation_management.asp)

[http://www.lge-ku.com/rsc/ku/vegetation\\_management.asp](http://www.lge-ku.com/rsc/ku/vegetation_management.asp)

Outages

<http://www.lge-ku.com/rsc/lge/outages.asp>

<http://www.lge-ku.com/rsc/ku/outages.asp>

Power Quality and Reliability

[http://www.lge-ku.com/rsc/lge/outages\\_pqr.asp](http://www.lge-ku.com/rsc/lge/outages_pqr.asp)

[http://www.lge-ku.com/rsc/ku/outages\\_pqr.asp](http://www.lge-ku.com/rsc/ku/outages_pqr.asp)



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**Question No. 14**

**Witness: Paul Gregory (Greg) Thomas**

Q-14. If the utility's customer requests information from the utility on reliability measures, do you provide it? Explain your answer.

A-14. Yes. The Companies would review the customer's outage history specific to the service location and provide the frequency, duration, and cause data.

In addition, the Companies provide system level and circuit level SAIDI and SAIFI data to support confidential economic development inquiries.



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**Question No. 15**

**Witness: Paul Gregory (Greg) Thomas**

Q-15. Does the utility have a suggestion for a better or more efficient method or manner for reporting or providing reliability information to the public?

A-15. Reliability information is relayed through personal contact with the customers who have reliability concerns. This method allows the customer to ask questions, and receive direct and timely responses from a company representative. Customers have been very receptive to this type of communication.

Consistent with the current requirements the Companies recommend continued reporting of reliability data at the system level to the Commission in an annual report in an electronic format.