**OWEN** Electric



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# Administrative Case No. 2011-00450

IN THE MATTER OF: AN INVESTIGATION OF THE RELIABILITY MEASURES OF KENTUCKY'S JURISDICTIONAL ELECTRIC DISTRIBUTION UTILITIES

> OWEN ELECTRIC COOPERATIVE INC 8205 Hwy 127 N PO Box 400 Owenton, KY 40359 502-484-3471



February 3, 2012

Mr. Jeff Derouen Executive Director Public Service Commission of Kentucky 211 Sower Boulevard Frankfort, KY 40602

Subject: Administrative Case No. 2011-00450

Dear Mr. Derouen

Please find enclosed the original and 10 copies of the information requested in the Appendix of Administrative Case No. 2011-00450, an Investigation of the Reliability Measures of Kentucky's Jurisdictional Electric Distribution Utilities dated January 11, 2012.

Should you need additional information concerning this filing, please feel free to contact me.

Sincerely,

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Mark A. Stallons President & CEO

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Enclosures

#### COMMONWEALTH OF KENTUCKY

#### BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN INVESTIGATION OF THE RELIABILITY MEASURES OF KENTUCKY'S JURISDICTIONAL ELECTRIC DISTRIBUTION UTILITIES

ADMINISTRATIVE CASE NO. 2011-00450

#### <u>ORDER</u>

Upon its own motion, the Commission initiates this investigation to review the measures used by Kentucky's jurisdictional electric utilities to assess the reliability of their distribution systems. In addition, the Commission will review the manner in which those measures are reported to the Commission.

In Case No. 2006-00494,<sup>1</sup> the Commission found that the outage reporting requirements did not provide sufficient information for the Commission to judge the adequacy of service. The Commission directed each jurisdictional electric utility to submit annual reports that identify System Average Interruption Duration Index ("SAID!"), System Average Interruption Frequency Index ("SAIFI"), and the Customer Average Interruption Duration Index ("CAIDI"). Further, the Commission directed that the reporting be based on the criteria and definitions set forth in the Institute of Electrical and Electronics Engineers ("IEEE") standard number 1366-2003, "Guide for Electric Power Distribution Reliability Indices" ("IEEE Standard"). The Commission also directed that each annual report include the system-wide SAIDI, SAIFI and CAIDI indices for

<sup>&</sup>lt;sup>1</sup> Case No. 2006-00494, An Investigation of the Reliability Measures of Kentucky's Jurisdictional Electric Distribution Utilities and Certain Reliability Maintenance Practices (Ky. PSC Oct. 26, 2007) at 6.

each of the preceding five 12-month periods. Finally, the Commission directed that each utility provide a list of the ten worst-performing circuits for each index and identify the major outage category that contributed to the performance of those ten circuits.<sup>2</sup>

In a January 2011 letter scheduling an informal conference to discuss reporting issues, the Commission stated its concerns that the efforts had not been "[a]s meaningful as originally contemplated."<sup>3</sup> The February 23, 2011 informal conference and the comments filed in response to the conference clearly indicate that most of the jurisdictional electric distribution utilities have concerns regarding the annual reliability reporting requirements as well. At the request of the Commission,<sup>4</sup> many utilities provided comments regarding the relevance of the current information they are required to submit annually; the manner in which they assess system reliability; and the need for the Commission to require evaluation of every circuit. In addition, many of those utilities submitted recommendations for change. Based on the February 23, 2011 informal conference and the written comments submitted in and near April 2011, the Commission has determined that a need exists to further consider the reporting requirements set forth in the previous administrative case.

As we stated in Case No. 2006-00494, all utilities are required by statute to furnish adequate, efficient, and reasonable service. Adequate service is generally defined as having sufficient capacity to meet maximum demand "and to assure such

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<sup>&</sup>lt;sup>2</sup> Id. at 6-9.

<sup>&</sup>lt;sup>3</sup> Executive Director's Letter of January 28, 2011 sent to each jurisdictional electric distribution utility.

<sup>&</sup>lt;sup>4</sup> Executive Director's Letter of April 23, 2011 sent to each jurisdictional electric distribution utility.

customers of reasonable continuity of service."<sup>5</sup> KRS 278.042 addresses service adequacy and safety standards, referring to the National Electrical Safety Code ("NESC") as published by the IEEE. Paragraph (2) of the statute says:

Except as otherwise provided by law, the commission shall, in enforcing service adequacy and safety standards for electric utilities, ensure that each electric utility constructs and maintains its plant and facilities in accordance with accepted engineering practices as set forth in the commission's administrative regulations and orders and in the most recent edition of the NESC.

The Commission has established regulations that further refine these requirements for electric utilities. All electric utilities are required to provide adequate service according to their tariffs on file at the Commission.<sup>6</sup> They are required to "make all reasonable efforts to prevent interruptions of service, and when such interruptions occur shall endeavor to reestablish service with the shortest possible delay."<sup>7</sup>

Utilities are required by regulation to report to the Commission any loss of service for "four (4) or more hours to ten (10) percent or 500 or more of the utility's customers, whichever is less."<sup>8</sup> While this level of monitoring provides the Commission with information about major outages and is useful in times of emergency operations, it does not provide information regarding the day-to-day reliability experienced by ratepayers.

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<sup>&</sup>lt;sup>5</sup> Case No. 2006-00494, An Investigation of the Reliability Measures of Kentucky's Jurisdictional Electric Distribution utilities and Certain Reliability Maintenance Practices (Ky. PSC Oct. 26, 2007) at 1.

<sup>&</sup>lt;sup>6</sup> 807 KAR 5:041, Section 2.

<sup>&</sup>lt;sup>7</sup> 807 KAR 5:041, Section 5(1).

<sup>&</sup>lt;sup>8</sup> 807 KAR 5:006, Section 26(1)(c), excepting a natural gas utility.

In this administrative case, the Commission will investigate the adequacy of the current reporting requirements, including the ability of the electric distribution utilities to submit on-line or electronic reports. The Commission will also investigate the utilities' corrective action measures and the timeliness of their completion. The Commission seeks suggestions, comments, and best practices on reporting requirements, pertinent provisions of the NESC, and other matters relating to electric utility distribution reliability.

After the responses to the attached information request have been received, the Commission will issue a procedural schedule for this case.

IT IS THEREFORE ORDERED that:

1. An investigation of the reliability measures and certain reliability practices of Kentucky's jurisdictional electric distribution utilities is instituted. All jurisdictional electric distribution utilities shall be parties to this proceeding.

2. Each jurisdictional electric distribution utility shall file an original and 10 copies of its response to each item in the information request contained in the attached Appendix within 30 days of the issuance of this Order.

3. Responses to requests for information shall be appropriately bound, tabbed and indexed and shall include the name of the witness responsible for responding to the questions related to the information provided, with copies to all parties at or before the time of filing.

4. 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

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accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry.

5. Each jurisdictional electric distribution utility shall make timely amendment to any prior response if it obtains information which indicates that the response was incorrect when made or, though correct when made, is now incorrect in any material respect.

6. For any request to which a jurisdictional electric distribution utility fails or refuses to furnish all or part of the requested information, it shall provide a written explanation of the specific grounds for its failure to completely and precisely respond.

7. Motions for extensions of time with respect to the responses due herein shall be made in writing and will be granted only upon a showing of good cause.

By the Commission



ATTEST:

Fephanic Bell + AM Drom Executive Director

Administrative Case No. 2011-00450

#### APPENDIX

#### APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN ADMINISTRATIVE CASE NO. 2011-00450 DATED JAN 1 1 2012

1. The following questions relate to the data maintained by each utility.

a. Identify the number of circuits currently maintained by the electric utility.

b. Does the utility calculate separate SAIDI, SAIFI and CAIDI indices
 for each circuit? If no, explain why not and explain the degree to which the utility tracks
 the following:

- (1) SAIDI;
- (2) SAIFI; and
- (3) CAIDI.

c. Identify any other reliability indicator or measure the utility uses to assess reliability. Explain the significance of each indicator or measure used. Does the utility maintain these indicators or measures for each circuit?

2. The following questions refer to the manner in which each utility calculates and tracks the SAIDI, SAIFI and CAIDI indices.

a. Identify the manner in which the indices are calculated and tracked;
 i.e., manually (Excel spread sheet), or an electronic or mechanized (outage reporting) system.

b. If the response to Item 2.a. above is electronic or mechanized, provide a description of the system and explain whether it was developed internally or

purchased from a third-party vendor. If purchased from a third-party vendor, provide the name of the vendor and an estimate of the original cost of the system.

c. If the response in Item 2.a. above is manually, provide a description of the elements tracked. Discuss in detail any inquiry made into the internal development of an electronic or mechanized system or any consideration of the purchase of a system from a third-party vendor.

3. Concerning SAIDI, SAIFI and CAIDI reporting: the Commission directed that the reporting be based on the criteria and definitions set forth in the IEEE Standard.

a. If the utility does not follow the IEEE standard, explain why not. Explain what standard(s) the utility does follow in its calculation of SAIDI, SAIFI and CAIDI.

b. Does the utility track and review SAIDI, SAIFI and CAIDI monthly, quarterly or annually?

c. Are SAIDI, SAIFI and CAIDI tracked on a rolling 12-month period or for a more discrete period of time; i.e., monthly, quarterly, or annually?

d. Currently, in each annual report submitted pursuant to the Final Order in Case No. 2006-00494, each utility provides system-wide SAIDI, SAIFI and CAIDI calculated for a calendar year. Identify any other preferred 12-month reporting parameter; i.e., calendar year, fiscal year, or some other 12-month method.

e. Does the utility review SAIDI, SAIFI, and CAIDI by any discrete fashion such as by division, district, region or some other method?

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4. The following questions relate to the requirement that each utility report the ten worst-performing circuits for each index in the annual report submitted pursuant to the Final Order in Case No. 2006-00494.

a. If the utility does not track SAIDI, SAIFI and CAIDI for each circuit, explain how the ten worst-performing circuits are identified.

b. Does the utility see benefit in expanding the reporting of the worstperforming circuits to the 15 or 20 worst-performing circuits for each index?

c. Identify any alternative to reporting the ten worst-performing circuits that the utility utilizes to determine system reliability.

5. The following questions relate to the identification of the ten worstperforming circuits for each index.

a. Provide an explanation of the actions taken by the utility once the ten worst-performing circuits for each index have been identified. Include the typical steps taken to correct the reliability issues relating to the ten worst-performing circuits for each index.

b. Provide a timeline of the typical steps taken to correct reliability issues relating to the ten worst-performing circuits for each index.

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Paul G Embs Clark Energy Cooperative, Inc. 2640 Ironworks Road P. O. Box 748 Winchester, KY 40392-0748

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Mark Stallons President Owen Electric Cooperative, Inc. 8205 Highway 127 North P. O. Box 400 Owenton, KY 40359

Michael Williams Senior Vice President Blue Grass Energy Cooperative Corp. 1201 Lexington Road P. O. Box 990 Nicholasville, KY 40340-0990 Ranie Wohnhas Managing Director Kentucky Power Company 101A Enterprise Drive, P.O. Box 5190 Frankfort, KENTUCKY 40602 Affiant, James Petreshock, states that the answers given by him to the foregoing questions are true and correct to the best of his knowledge and belief.

James Petreshock, Manger of System Operations

Subscribed and sworn to before me by the affiant, James Petreshock, this  $3^{rd}$  day of February, 2012.

Notary <u>Allesia K. Meale</u> State-at-Large My Commission expires <u>Up VII 14. 2015</u>.

- 1. The following questions relate to the data maintained by each utility.
  - a. Identify the number of circuits currently maintained by the electric utility.
    <u>Answer:</u> Currently Owen Electric maintains 111 circuits.
  - b. Does the utility calculate separate SAIDI, SAIFI and CAIDI indices for each circuit? If no, explain why not and explain the degree to which the utility tracks the following:
    - (1) SAIDI;
    - (2) SAIFI; and
    - (3) CAIDI.

## <u>Answer:</u> We calculate SAIDI, SAIFI and CAIDI indices on an annual basis in order to report the worst 10 circuits.

 c. Identify any other reliability indicator or measure the utility uses to assess reliability. Explain the significance of each indicator or measure used. Does the utility maintain these indicators or measures for each circuit?
 <u>Answer:</u> None

- 2. The following questions refer to the manner in which each utility calculates and tracks the SAIDI, SAIFI and CAIDI indices.
  - a. Identify the manner in which the indices are calculated and tracked; (i.e., manually (Excel spread sheet), or an electronic or mechanized (outage reporting) system.

# <u>Answer:</u> We calculate our indices electronically.

b. If the response to Item 2.a. above is electronic or mechanized, provide a description of the system and explain whether it was developed internally or purchased from a third-party vendor. If purchased from a third-party vendor, provide the name of the vendor and an estimate of the original cost of the system.

# <u>Answer:</u>

We utilize an internally developed MS Access Database interface with our Outage Management System's SQL database to analyze reliability data. Our OMS vendor is Milsoft Utility Systems and the initial cost of our system was \$45,000.00 in 2002 and annual service agreement costs are approximately \$15,000.00 per year.

c. If the response in Item 2.a. above is manually, provide a description of the elements tracked. Discuss in detail any inquiry made into the internal development of an electronic or mechanized system or any consideration of the purchase of a system from a third-party vendor. *Answer:* 

N/A

, ,

- 3. Concerning SAIDI, SAIFI and CAIDI reporting: the Commission directed that the reporting be based on the criteria and definitions set forth in the IEEE Standard. If the utility does not follow the IEEE standard, explain why not. Explain what standard(s) the utility does follow in its calculation of SAIDI, SAIFI and CAIDI.
  - a. If the utility does not follow the IEEE standard, explain why not. Explain what standard(s) the utility does follow in its calculation of SAIDI, SAIFI and CAIDI.

<u>Answer:</u> We follow IEEE 1366 in our calculations.

b. Does the utility track and review SAIDI, SAIFI and CAIDI monthly, quarterly or annually?

## <u>Answer:</u> We track our SAIDI, SAIFI, and CAIDI on monthly, quarterly, and annual time periods.

- c. Are SAIDI, SAIFI and CAIDI tracked on a rolling 12-month period or for a more discrete period of time; i.e., monthly, quarterly, or annually?
  <u>Answer:</u> No, we track reliability on discrete intervals monthly, quarterly, and annually.
- d. Currently, in each annual report submitted pursuant to the Final Order in Case No. 2006-00494, each utility provides system-wide SAIDI, SAIFI and CAIDI calculated for a calendar year. Identify any other preferred 12month reporting parameter; Le., calendar year, fiscal year, or some other 12-month method.

<u>Answer:</u> Calendar year is preferred. e. Does the utility review SAIDI, SAIFI, and CAIDI by any discrete fashion such as by division, district, region or some other method? <u>Answer:</u>

We do not review reliability by regions other than those clearly definable within the electrical system (i.e. system, substation and feeder)

- 4. The following questions relate to the requirement that each utility report the ten worst-performing circuits for each index in the annual report submitted pursuant to the Final Order in Case No. 2006-00494.
  - a. If the utility does not track SAIDI, SAIFI and CAIDI for each circuit explain how the ten worst-performing circuits are identified.
    <u>Answer:</u>
    N/A we can track these indices.
  - b. Does the utility see benefit in expanding the reporting of the worst performing circuits to the 15 or 20 worst-performing circuits for each index?

<u>Answer:</u> No.

 c. Identify any alternative to reporting the ten worst-performing circuits that the utility utilizes to determine system reliability.
 <u>Answer:</u> None .

- 5. The following questions relate to the identification of the ten worst performing circuits for each index.
  - a. Provide an explanation of the actions taken by the utility once the ten worst-performing circuits for each index have been identified. Include the typical steps taken to correct the reliability issues relating to the ten worstperforming circuits for each index.

<u>Answer:</u> Once the ten worst-performing circuits are identified for each index we review the individuals outage causes to determine potential corrective actions to prevent or reduce future outages.

b. Provide a timeline of the typical steps taken to correct reliability issues relating to the ten worst-performing circuits for each index. *Answer:* 

When correction actions are identified a service order, or work request, is generated and distributed to appropriate parties (i.e. service planning, ROW, maintenance, etc.). This order is then tracked regularly to ensure that the work is completed in a timely manner.