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September 6, 2013

**HAND DELIVERED**

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

Dear Mr. Derouen:

Please find enclosed and accept for filing the original and ten copies of Kentucky Power Company's responses to the Commission Staff's Data Requests.

Copies of the responses are being served on all other parties of record to this proceeding along with a copy of this letter.

Very truly yours,

STITES & HARBISON, PLLC

  
R. Benjamin Crittenden

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

**IN THE MATTER OF**

**AN INVESTIGATION OF THE RELIABILITY )**  
**MEASURES OF KENTUCKY'S JURISDICTIONAL ) Administrative Case**  
**ELECTRIC DISTRIBUTION UTILITIES ) No. 2011-00450**

**RESPONSES OF KENTUCKY POWER COMPANY TO**  
**COMMISSION STAFF'S INITIAL SET OF DATA REQUESTS ON REHEARING**

**September 6, 2013**





## **Kentucky Power Company**

### **REQUEST**

Refer to the Direct Testimony of Everett G. Phillips ("Phillips Testimony").<sup>1</sup> At numerous points throughout the Phillips Testimony, the term "worst-performing circuit" is used to reference the methodology of reporting requirements ordered by the Commission in this case. Identify any portion of the Commission's May 30, 2012 order ("May 30 Order") in this matter which establishes the reporting requirements as a "worst-performing circuit" methodology, or where the term "worst-performing circuit" is used other than in describing the previous reporting requirements as ordered in Administrative Case No. 2006-00494.<sup>2</sup>

### **RESPONSE**

The Commission's May 30, 2013 order does not use the term "worst-performing circuit." However, page 6 of the May 30 Order refers to "poorly performing circuits" in context to those circuits the Commission wants utilities to report each year as described below:

The Commission believes that requiring indices to be reported for every circuit whose SAIDI and/or SAIFI exceeds the five-year averages for that same circuit will eliminate the ability to mask poorly performing circuits and will provide a more accurate representation of the utility's overall system reliability.

Based on the previous reporting requirements stemming from Administrative Case No. 2006-00494 which do make use of the phrase "worst-performing circuit," and to ensure consistency throughout this proceeding, KPCo has chosen to continue using this term in reference to those circuits that do not meet certain reliability criteria established by a predefined methodology.

**WITNESS:** Everett G Phillips

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<sup>1</sup> Direct Testimony of Everett G. Phillips on Behalf of Kentucky Power Company, p. 4, filed Aug. 7, 2013.

<sup>2</sup> Administrative 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).



**Kentucky Power Company**

**REQUEST**

Refer to the Phillips Testimony, page 4, at line 10. Mr. Phillips states that Kentucky Power believes the additional data collection and reporting requirements in the Commission's May 30 Order are "not an appropriate benchmark for measuring reliability," are "overly burdensome," and do "not provide any commensurate benefits." Identify where in the Commission's May 30 Order the reporting requirements are referred to as a benchmark to be utilized by the Commission, or, alternatively, what specific language in the order leads Kentucky Power to believe the requirements are to be used as a benchmark.

**RESPONSE**

The Commission's May 30, 2013 Order does not use the term "benchmark" other than when quoting comments made by utilities in this proceeding. However, the Order does require a utility to compare each circuit to that circuit's rolling five-year average SAIDI and SAIFI values. Therefore the Order requires a utility to measure or benchmark the reliability of a circuit by comparing its current SAIDI or SAIFI against a standard, which in this case is that circuit's rolling five-year average SAIDI or SAIFI value.

**WITNESS:** Everett G Phillips





## Kentucky Power Company

### REQUEST

Refer to the Phillips Testimony, page 5, lines 16-20. Mr. Phillips states that "having to produce a non-representative list of worst-performing circuits, spending time and resources to analyze this list of circuits, and creating a corrective action plan for each of these circuits, even when one is not warranted, becomes an overly burdensome and costly requirement."

- a. Explain the process currently utilized internally by Kentucky Power to review and analyze the performance of individual circuits annually based upon the reliability indices.
- b. What process does Kentucky Power currently utilize to determine which circuits require corrective action, as well as what corrective action plans will be enacted to address any reliability concerns?
- c. Estimate the amount of time Kentucky Power and its staff currently invest in the process of analyzing the reliability and prescribing corrective action plans for its individual circuits on an annual basis.
- d. The Commission's order states that for each circuit whose System Average Interruption Duration Index ("SAIDI") or System Average Interruption Frequency Index ("SAIFI") value in a given year is higher than the rolling five-year average for that circuit, excluding MEDs (Major Event Days), the utility shall provide "a Corrective Action Plan which describes any measures the utility has completed or plans to complete to improve the circuit's performance."<sup>3</sup> Does Kentucky Power believe that if a corrective action plan is not warranted for a specific circuit, as stated by Mr. Phillips, the utility could state such in its annual filing and still be in compliance with the Commission's requirement to include "any" measures taken or proposed to improve that circuit's performance?

**RESPONSE**

- a. KPCo starts the process to review and analyze the performance of individual circuits based upon the reliability indices by first running performance reports. These performance reports contain reliability data for each of KPCo's circuits, including such information as SAIDI and SAIFI. KPCo distribution personnel review, analyze, and then rank the circuits accordingly by SAIDI and SAIFI. Where warranted, KPCo will complete further analysis to create a corrective action plan for its worst-performing circuits. The 10 worst-performing circuits by both SAIDI and SAIFI are included in KPCo's annual reliability filing.
- b. Please refer to the Company's response to part a. of this question for details of the process KPCo utilizes to determine corrective action plans for the Company's 10 worst-performing circuits that are included in the annual reliability filing.

From a system perspective, determining which circuits require reliability improvements is an ongoing process throughout the year. KPCo distribution personnel review a variety of information, including outage data, circuit inspection data, and complaint data, to determine if a circuit is in need of reliability improvements and how to best improve the circuit reliability if improvements are warranted.

- c. KPCo estimates that four full-time employees spend approximately 80 hours, or a total of approximately 320 man-hours, each year to complete the annual reliability report filing.

As described in the Company's response to part b. of this question, KPCo's 3 distribution engineers involved in circuit reliability spend approximately 70 percent of their time throughout the calendar year analyzing and reviewing all KPCo circuits and developing reliability improvement plans.

- d. Yes, KPCo believes that after completing its review and analysis of each circuit's performance, if a circuit does not require corrective action, KPCo could state in the annual filing that this specific circuit does not require a corrective action plan and KPCo would be in compliance. KPCo has previously responded to annual filings in this way. For example, in KPCo's annual reliability report for 2012, KPCo reported that after analyzing performance for the Borderland-Chattaroy 12 kV Circuit (2150502), no additional corrective action was needed for this circuit.

KPCo wishes to reiterate that as part of its due diligence, KPCo reviews circuit performance in determining whether or not a corrective action plan is warranted. Ultimately it will be up to the Commission to determine whether or not KPCo is in compliance with this requirement. If the Commission is not receptive to KPCo stating that no corrective action plan is required for certain circuits, the Company will be required to develop plans for circuits where no action is required and no improved performance will result.

**WITNESS:** Everett G Phillips

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<sup>3</sup> Final Order, p. 9 (Ky. PSC May 30, 2013).



## Kentucky Power Company

### REQUEST

Refer to the Phillips Testimony, page 5, lines 20-22. Mr. Phillips makes the statement that the cost of implementing the reporting requirements set forth in the May 30 Order "would ultimately be passed on to ratepayers and may not provide a commensurate benefit."

- a. Provide a breakdown of the potential cost to be incurred by Kentucky Power in order to comply with the reporting requirements as ordered by the Commission.
- b. With the understanding that the Commission's Order does not require corrective actions to be taken for any specific circuit, explain the additional costs Kentucky Power will incur by the reporting of the corrective actions taken for those circuits identified by Kentucky Power as requiring such action.

### RESPONSE

- a. KPCo believes that more effort and resources, both personnel and time, will be required to analyze additional circuits, determine if a corrective action plan is warranted, and plan what corrective action would be warranted, as required by the methodology in the May 30 Order. It is this additional effort, which is above and beyond what has traditionally been needed for reporting requirements, that KPCo believes will cause the Company to incur additional costs.

Based on the current methodology described in the Order of comparing a circuit's SAIDI and SAIFI with its five-year average, the Company would need to report approximately half of its circuits each year. As noted in KPCo's response to 3.c. of this question set, KPCo spends approximately 320 man-hours per year on this filing requirement to report on at most 20 circuits. If KPCo were to report approximately half of its circuits, which equates to 100 or more circuits, the time spent on this filing would increase to approximately 1,600 man-hours.

In addition to the reporting requirements, it is KPCo's understanding that for each corrective action plan filed for a circuit, KPCo would need to implement that plan. Each additional circuit corrective action plan developed would result in additional implementation costs.

- b. It is KPCo's understanding that if a corrective action plan is warranted for a circuit, then KPCo must implement that corrective action. Since the Commission's methodology would result in a much larger number of reportable circuits, the result will be additional costs for more corrective action plans that would need to be implemented associated with these additional circuits.

**WITNESS:** Everett G Phillips



## Kentucky Power Company

### REQUEST

Provide a description of the type of individual circuit data that Kentucky Power believes to be "useful and actionable information concerning the reliability of a distribution circuit."

### RESPONSE

Individual circuit data is not the issue, nor is it the determining factor as to what information is "useful and actionable." Rather, it is the methodology that would ultimately determine how useful or actionable reliability data would be for the Company and the Commission. As per Phillips Testimony, page 5, lines 9-21, KPCo believes that the methodology outlined in the Order could produce an inaccurate list of poor performing circuits. It is for this reason that KPCo has proposed a methodology for determining worst-performing circuits that KPCo believes would result in more useful and actionable information pertaining to a distribution circuit. As per Phillips Testimony, page 7, lines 14-16 which states:

Applying two standard deviations to the five-year average allows KPCo to capture approximately 95 percent of the normal expected variation caused by typical factors, giving a more accurate assessment of the worst-performing circuits.

Using an individual circuit's five-year rolling historical SAIDI data and calculating standard deviation using these values provides a more accurate methodology for determining the worst-performing circuits. Having a more accurate list of worst-performing circuits will allow KPCo to focus on those circuits most in need of corrective action.

Utilizing KPCo's proposed methodology for 2012 would have resulted in 32 reportable circuits. This amount of circuits would have translated into approximately 512 man-hours to complete all necessary review and analysis, as well as corrective action plan development.

**WITNESS:** Everett G Phillips

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<sup>4</sup> Phillips Testimony, p. 6.





## **Kentucky Power Company**

### **REQUEST**

Kentucky Power supports implementing a reporting methodology that requires utilities to report only those circuits whose SAIDI or SAIFI exceeds its five-year average by two standard deviations. Additionally, the Phillips Testimony states on page 8, at lines 3-5, that Kentucky Power "supports this type of approach for identifying its worst-performing circuits, and could provide a corrective action plan for those circuits that fall outside of the established SAIDI range." Identify what portion of the May 30 Order specifically prohibits a utility from providing corrective action plans only for those circuits whose SAIDI or SAIFI fall outside of the five-year average by two standard deviations as proposed.

### **RESPONSE**

The May 30 Order items 7 (page 7), 10 (page 8), and 12 (page 8) combine to specify the exact criteria by which each utility is to report a circuit to the Commission, specifically if it has a SAIDI or SAIFI value higher than that circuit's respective SAIDI or SAIFI rolling five-year average. In addition, item 12.o. specifies that the reported circuits include a corrective action plan. KPCo interpreted this as the only methodology the Commission would allow for reporting circuits not meeting the Commission's reliability criteria, therefore prohibiting a utility from utilizing a different methodology such as KPCo's proposed five-year average plus two standard deviations methodology.

**WITNESS:** Everett G Phillips



## **Kentucky Power Company**

### **REQUEST**

Refer to the Phillips Testimony, page 8, at lines 5-6. The testimony states that Kentucky Power "believes that reporting SAIDI would be sufficient, as SAIFI is a component of SAIDI (SAIDI = SAIFI \* CAIDI)."<sup>5</sup> Based upon Kentucky Power's justification for not providing the SAIFI information for the individual circuits, explain how the Commission would be able to determine the corresponding SAIFI for a circuit without knowing the CAIDI for each circuit.

### **RESPONSE**

To clarify, KPCo's methodology for determining a worst-performing circuit would be based on whether or not each circuit exceeded its own historical five-year SAIDI average by two standard deviations. This does not mean that KPCo would not report SAIFI data for an individual circuit, but KPCo would not use SAIFI values alone to determine if a circuit was a worst-performing circuit. As it stated in Phillips Testimony, pages 6-7, lines 22-23 and line 1, and page 9, lines 1-3, KPCo is amenable to providing the Commission with both SAIFI and SAIDI performance data for its circuits.

**WITNESS:** Everett G Phillips

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<sup>5</sup> Id. "CAIDI" is the acronym for Customer Average Interruption Duration Index.



**Kentucky Power Company**

**REQUEST**

Refer to the Phillips Testimony, page 9, at lines 5-6. Kentucky Power proposes to add language to the Commission's order addressing the corrective action plans that states "where no corrective action is necessary, this field may be labeled 'N/A.'" If Kentucky Power believes that no corrective action is necessary for an individual circuit, explain what language in the Commission's May 30 Order, as it currently stands, prohibits a utility from labeling the field "N/A" as proposed by Kentucky Power.

**RESPONSE**

KPCo makes this statement in order to clarify information relayed to KPCo by the Commission Staff at the June 28, 2013 technical conference. This information is detailed in Phillips Testimony page 6, lines 6-18. Additionally, as related in the Company's response to question Staff 1-3 d, to determine whether a circuit is in need of corrective action, KPCo personnel must first review and analyze each circuit to make this determination.

**WITNESS:** Everett G Phillips



**Kentucky Power Company**

**REQUEST**

Refer to the Phillips Testimony, page 9, at lines 10-12. The testimony states that Kentucky Power "would also provide the Commission with the SAIFI and SAIDI performance for each of its circuits for the reporting year, as well as the prior five years of historical performance, that did not make the worst-performing circuit list." Does Kentucky Power propose expanding the Commission's requirements to include circuit level information to be provided for all circuits, as opposed to only those that exceed the five-year average SAIDI and SAIFI values?

**RESPONSE**

KPCo is not seeking to expand the Commission's reporting requirements for circuits. KPCo was only communicating to the Commission its willingness to provide circuit reliability data to the Commission for all of its distribution circuits.

**WITNESS:** Everett G Phillips