




**JACKSON ENERGY
COOPERATIVE**

A Touchstone Energy Cooperative 

115 Jackson Energy Lane
McKee, Kentucky 40447
Telephone (606) 364-1000 • Fax (606) 364-1007

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MAR 29 2012

PUBLIC SERVICE
COMMISSION

March 28, 2012

Jeff Derouen, Executive Director
Kentucky Public Service Commission
211 Sower Blvd.
PO Box 615
Frankfort, KY 40602-0615

Re: Response to Second Data Request Case 2011-00450

Mr. Derouen:

Please find enclosed the original and 10 copies of Jackson Energy Cooperatives' response to your inquiry dated March 15, 2012.

Please inform me if any further information is required.

Sincerely,

Clayton O. Oswald
Attorney for Jackson Energy Cooperative

STATE OF KENTUCKY)

COUNTY OF JACKSON)

I, Ricky Caudill, state that I am the Planning Engineer at Jackson Energy Cooperative, that I have personal knowledge of the matters set forth in this application and attached exhibits, and that the statements and calculations contained in each are true as I verily believe.

This 28 day of March 2012.

Ricky Caudill
Ricky Caudill

SUBSCRIBED AND SWORN to before me by Ricky Caudill this
28th day of March, 2012.

Connie Reid
Notary Public, KY State at Large

My Commission Expires: 7-30-12

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CASE NO. 2011-00450
RESPONSE TO COMMISSION STAFF'S SECOND DATA REQUEST

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.**

Response by: Ricky Caudill

- 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.**

The calculation can be performed but it would be time consuming and the results may not be beneficial.

The OMS software used by Jackson Energy does not calculate a five-year average per circuit. We would have to calculate the averages manually by using a spreadsheet. We would have to manually enter five years of data for 112 circuits the first year (560 data entries). In succeeding years, we would have to manually enter data for 112 circuits and change the calculation range for each circuit in the spreadsheet.

We do not think this is a reasonable request due to the labor burden placed on the utility and we have concerns regarding the usefulness of the results.

- 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.**

The calculation can be performed but it would be time consuming and the results may not be beneficial.

SAIDI is calculated by dividing the number of minutes of outage time by the number of consumer on a circuit.

Jackson Energy has circuits with only one consumer and other circuits with a low number of consumers. These feeders typically have low SAIDI numbers. But one or two extended outages during the year can cause the SAIDI number to be much higher than circuits with many consumers.

We do not think this is a reasonable request because of the ambiguity of the results.

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- 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.**

We feel this is an unreasonable request. Corrective measures can be presented if there are solutions. Some circuits may not have corrective measures that would lower the SAIDI below the five-year average. If a circuit has a low number of consumers, there possibly could be few or no corrective measures that would improve SAIDI.

Jackson Energy has circuits that cross hills and go through forests. Our major cause of outages is out of the ROW trees. Outage restoration takes longer because the circuit is inaccessible.

The solution to this would be to relocate the line to a more accessible location with fewer trees. In some locations, the topography may make this difficult or impossible to achieve regardless of cost. Even if a route can be found that is more accessible, with fewer trees, the cost to move the line must be considered.

Implementing the solutions regardless of cost across the entire cooperative would increase our expenses and frequent rate increases would be necessary to maintain financial integrity.

- 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.**

See response to #1a.

We have a concern that the PSC jurisdictional utilities will be compared to the non-PSC jurisdictional utilities and feel this is an unfair benchmark. In addition, rural utilities have a disadvantage to urban utilities with higher consumer density and topographical features.

- 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.**

This question asks that an annual SAIFI be compared to a five year average SAIDI. This answer is based on the assumption that this should have been a comparison of the annual SAIFI to a five year average SAIFI.

SAIFI is determined by dividing the number of consumers affected by the number of consumers on a circuit. Jackson Energy has circuits with one consumer and

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other circuits with a low number of consumers. Any outage on a circuit with one consumer affects 100% of the consumers on that feeder each time. This causes the circuit to have a higher SAIFI number than if this same consumer were on another circuit with more consumers.

The same applies to the circuits with a low number of consumers. Even if they are not all affected by an outage, the percentage of consumers affected is much higher than if these same consumers were on another circuit with a larger number of consumers.

Either a circuit with one consumer or a circuit with a low number of consumers may typically have a low SAIFI number. It may only take one outage or a small number of outages to create a high SAIFI number for a given year.

- 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.**

See response to #1c.

- 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 benchmark for comparison purposes? Explain your answer.**

See response to #1a.

- 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.**

This question asks that an annual CAIDI be compared to a five year average SAIDI. This answer is based on the assumption that this should have been a comparison of the annual CAIDI to a five year average CAIDI.

CAIDI is calculated by dividing the SAIDI number by the SAIFI number. Both the SAIDI number and the SAIFI number are determined in part by the number of consumers on the circuit. For this reason the problems with using SAIDI numbers detailed in answer #1b and the SAIFI numbers detailed in #1e also apply to the CAIDI numbers as well.

- 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.**

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See the response to question #1c.

- 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.**

Response by: Ricky Caudill

If the reporting is restricted to SAIDI, SAIFI, and CAIDI data, then we do not anticipate seeking confidentiality.

However, depending on what other information is requested, submission of materials may require confidentiality.

- 3. Please describe your utility's current capacity to compose electronic documents.**

Response by: Ricky Caudill

- 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.**

Microsoft Office Professional 2010
Microsoft Word Version 14.0.6112.5000 (32 bit)
Microsoft Excel Version 14.0.6112.5000 (32 bit)

- b. Describe your utility's current internet connectivity status, including connection speed.**

Jackson Energy has T1 connections with 3MB up-speed and 10MB down-speed.

- c. Is the utility familiar with the Commission's website?**

Yes.

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- 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).**

Yes.

- 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?**

Possibly, but it would be dependent on the amount of time required and work involved.

- 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.**

Response by: Ricky Caudill

- a. The 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.**

Yes, in Excel and any other database that can handle common delimited values. The question about another database would depend on the format of the database. Cyber security is a concern depending on the interface.

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- (2) If not identified elsewhere, identify the file formats to which your utility has the ability to export data.**

See response to #4a (1).

- 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.**

N/A

- 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.**

Response by: Ricky Caudill

The major outage cause for Jackson Energy is outside of the ROW trees that affects SAIDI, SAIFI, & CAIDI indices. System reliability improvements (ROW expense budgets) are based on the five year clearing cycle and the ten worst performing circuits submitted annually to the KY PSC.

- 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.**

Response by: Ricky Caudill

No.

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

Response by: Ricky Caudill

Jackson Energy respectfully asks the Commission Staff how many of them can name the substation designation and circuit designation that serves their home? If the electric utility serving each Commission Staff member posted reliability data online, how

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would they know which substation and circuit serves their home? How would they find out if they did not know? Would they call their electric utility and ask?

Now expand this to the general public. How many members of the general public can name the substation and circuit that renders electric service to their home or business? If an electric utility posts reliability data online, how would they know which substation and circuit serves their home? The consumer would call their electric utility and ask. For Jackson Energy, this means we could receive over 50,000 phone calls asking for this information.

But even if all the consumers knew the substation and circuit that serves them, there is another problem with posting reliability numbers on a web site. This problem is the mathematics used to calculate the indices. An example will illustrate this point.

Two people are served by the same substation but from different circuits. Person A is served by circuit #1 and Person B is served from circuit #2. Circuit #1 serves 500 consumers and circuit #2 serves 100 consumers. During the course of one year, they both experience the same number of outages that last the same amount of time. Person A and Person B then get together and look up their reliability numbers for the past year. Person B sees higher reliability numbers than Person A. This is because SAIDI and SAIFI are based on the number of consumers on the circuit. So, even if both circuits have the same number of outages that last the same amount of time, the difference in the number of consumers on the circuit will result in different SAIDI and SAIFI numbers.

A point of contention has now been created between Person B and the utility. Person B now feels that he is receiving a lower reliability of service as compared to Person A, even though he has received exactly the same reliability as Person A.

If consumers contact the utility to discuss the outage numbers, they will not understand how their reliability numbers are affected by the number of consumers on their circuit.

Using a five year average instead of an annual figure for the reliability numbers does not address the underlying method of calculating the outage numbers. The same problem would exist with a five year average as exists with an annual figure.

Calculating SAIDI and SAIFI numbers using the number of consumers on the entire system, rather than on each circuit would provide a more balanced view of the outage numbers from circuit to circuit.

However, the Outage Management System (OMS) that Jackson Energy uses does not have an option to calculate SAIDI and SAIFI using the number of consumers on the entire system. The OMS calculates SAIDI and SAIFI using the guidelines specified in IEEE 1366.

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Changing our existing OMS to include an option to calculate SAIDI and SAIFI using the number of consumers on the entire system will require paying the software company to make the changes.

If Jackson Energy does not pay our software vendor to add the option of calculating SAIDI and SAIFI using the number of consumers on the entire system, then we will have to compute these figures using a spreadsheet. This will be a labor burden on the utility.

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

Response by: Ricky Caudill

There are no advantages to be gained by posting the reliability numbers online.

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.

Response by: Ricky Caudill

In our opinion, the customer will not be interested in any of these indices.

If the information is provided either on a circuit by circuit basis or a system wide basis, what is the consumer supposed to do with that information? Is the purpose to compare one utility to another? If so, then it will unfairly compare utilities in more urban areas to utilities in more rural areas. For example, Jackson Energy's major source of outages for the past three years has been trees falling from outside the ROW. Jackson Energy could possibly have higher index numbers than a utility with few, if any, trees outside their ROW.

Jackson Energy provides reliability information when requested by a consumer.

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

Response by: Ricky Caudill

Jackson Energy does not post reliability numbers on its web site.

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

Response by: Ricky Caudill

Yes. Jackson Energy provides reliability information based on what the consumer requests. However, Jackson Energy has only received one request for reliability data in the last ten years and the one request was from a large consumer with critical needs.

- 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?**

Response by: Ricky Caudill

Individual requests or complaints from the consumers or general public should be handled by the Commission and/or utility upon receipt. We do not believe the general public and our consumers will fully understand the computation of the indices. Posting or providing reliability information to the public would only cause confusion and be an added burden on the utility. In addition, it can create a source of contention between the consumers and the utility that did not exist before. As explained in the answer to question #10, this point of contention may be without basis. The problems associated with making reliability data available seem to outweigh any possible benefit.

Allen Anderson
Manager
South Kentucky R.E.C.C.
925-929 N. Main Street
P. O. Box 910
Somerset, KY 42502-0910

Ted Hampton
General Manager
Cumberland Valley Electric, Inc.
Highway 25E
P. O. Box 440
Gray, KY 40734

Barry L Myers
Manager
Taylor County R.E.C.C.
625 West Main Street
P. O. Box 100
Campbellsville, KY 42719

Lonnie Bellar
Vice President, State Regulation & Rates
LG&E and KU Services Company
220 West Main Street
Louisville, KENTUCKY 40202

Larry Hicks
President and CEO
Salt River Electric Cooperative Corp.
111 West Brashear Avenue
P. O. Box 609
Bardstown, KY 40004

Sanford Novick
President and CEO
Kenergy Corp.
P. O. Box 18
Henderson, KY 42419

Honorable Thomas C Brite
Attorney At Law
Brite & Hopkins, PLLC
83 Ballpark Road
P.O. Box 309
Hardinsburg, KENTUCKY 40143-030

Kerry K Howard
President & CEO
Licking Valley R.E.C.C.
P. O. Box 605
271 Main Street
West Liberty, KY 41472

G. Kelly Nuckols
President & Ceo
Jackson Purchase Energy Corporation
2900 Irvin Cobb Drive
P. O. Box 4030
Paducah, KY 42002-4030

Rocco O D'Ascenzo
Duke Energy Kentucky, Inc.
139 East 4th Street, R. 25 At II
P. O. Box 960
Cincinnati, OH 45201

James L Jacobus
President/CEO
Inter-County Energy Cooperative Corporation
1009 Hustonville Road
P. O. Box 87
Danville, KY 40423-0087

Honorable Mark R Overstreet
Attorney at Law
Stites & Harbison
421 West Main Street
P. O. Box 634
Frankfort, KENTUCKY 40602-0634

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

Debbie Martin
Shelby Energy Cooperative, Inc.
620 Old Finchville Road
Shelbyville, KY 40065

Chris Perry
President and CEO
Fleming-Mason Energy Cooperative, Inc.
P. O. Box 328
Flemingsburg, KY 41041

Mr. David Estepp
President & General Manager
Big Sandy R.E.C.C.
504 11th Street
Paintsville, KY 41240-1422

Burns E Mercer
Manager
Meade County R.E.C.C.
P. O. Box 489
Brandenburg, KY 40108-0489

William T Prather
President & CEO
Farmers R.E.C.C.
504 South Broadway
P. O. Box 1298
Glasgow, KY 42141-1298

Carol Hall Fraley
President & CEO
Grayson R.E.C.C.
109 Bagby Park
Grayson, KY 41143

Michael L Miller
President & CEO
Nolin R.E.C.C.
411 Ring Road
Elizabethtown, KY 42701-6767

Donald R Schaefer
Jackson Energy Cooperative Corporation
115 Jackson Energy Lane
McKee, KY 40447

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

Melissa D Yates
Attorney
Denton & Keuler, LLP
555 Jefferson Street
P. O. Box 929
Paducah, KENTUCKY 42002-0929