



Meade County RECC

P.O. Box 489
Brandenburg, KY 40108-0489
(270) 422-2162
Fax: (270) 422-4705

1/11/07

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JAN 12 2007

PUBLIC SERVICE
COMMISSION

Ms. Beth O'Donnell
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602

Ms. O'Donnell:

Please find enclosed the original and seven (7) copies of the information requested in Administrative Case No. 2006-00494, An Investigation of the Reliability Measures of Kentucky's Jurisdictional Electric Distribution Utilities and Certain Reliability Maintenance Practices for Meade County Rural Electric Cooperative Corporation.

David Poe, Vice-President-Operations and Engineering, will be our witness for all items of Appendix A.

Should you need additional information concerning this filing, please contact this office.

Sincerely,

Burns Mercer
President/CEO

Meade County RECC

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Should you need additional information concerning this filing, please contact this office.

Sincerely,



Burns Mercer
President/CEO

SERVICE LIST FOR ADMINISTRATIVE CASE NO. 2006-00494

(Copy of Appendix A responses for abovementioned case mailed by regular U.S. Mail to all listed parties.)

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**MEADE COUNTY RURAL ELECTRIC COOP. CORP.
 RESPONSE OF MEADE COUNTY RECC
 TO FIRST DATA REQUEST OF COMMISSION STAFF**

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JAN 12 2007

PUBLIC SERVICE
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Item 1) Does utility management measure, monitor, or track distribution reliability?

- a. If so, describe the measures used and how they are calculated.
- b. If reliability is monitored, provide the results for the past 5 years for system wide reliability.

Response 1) Yes. Meade County RECC measures, monitors, and tracks distribution reliability on a system-wide basis.

Response a) SAIDI, CAIDI, and SAIFI are calculated, overviewed, and tracked on a monthly, system-wide basis. The description and calculation of each is described below. Note that the time measurements (CAIDI and SAIDI) are in hours, not minutes as some utilities measure in.

- i. SAIDI (System Average Interruption Duration Index)
- ii. CAIDI (Consumer Average Interruption Duration Index)
- iii. SAIFI (System Average Interruption Frequency Index)

Response b)

	Total					Without Power Supplier and Storms				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
SAIDI	2.58	1.83	40.67	2.54	3.35	1.28	0.75	1.05	0.66	0.90
CAIDI	1.11	1.49	10.43	2.10	1.92	1.27	1.15	1.31	1.18	1.14
SAIFI	2.33	1.23	3.90	1.21	1.74	1.01	0.66	0.80	0.57	0.79

* Note that each year is measured with two different criteria. One includes all reported and confirmed outages while the other excludes storms and power supplier caused outages. Also, 2006 numbers are for January through November.

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Witness) David Poe

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Item 2) Are any outages excluded from your reliability measurement? If so, what criteria are used to exclude outages?

Response) No. Not applicable.

Witness) David Poe

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Item 3) Does the utility differentiate between momentary and sustained outages?

- a. What criteria are used to differentiate?
- b. Is information about momentary interruptions recorded?

Response 1) Meade County RECC does not monitor or formally record momentary outages.

Response a) While no formal, written criteria exists to differentiate the two, outages that exist when the utility personnel arrive at the scene or those that can be verified from the power supplier or some form of reporting equipment (such as SCADA) are considered sustained outages as long as they are actual outages of approximately one minute or more.

Response b) No information concerning momentary interruptions is officially recorded. Substation reclosure readings are logged monthly and noted; however, these are simply the count of operations the reclosure has performed and may be due to momentary or sustained interruptions.

Reports of momentary interruptions from consumers are generally noted and 'service orders' are generated and investigated. These reports are electronically noted and stored within the consumer's electronic file.

At this time, Meade County RECC is in process of installing the Hunt Turtle II AMI system. This system has the ability to detect and store outage information on a meter-by-meter basis. Once a month,

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each meter downloads this information to the main system. It does differentiate between momentary and sustained outages. The Hunt system considers an outage longer than 30 seconds a sustained one and anything less momentary. At this time, this same information can be retrieved at anytime by physically visiting the meter and downloading it into a handheld computer via an adapter cable.

Witness) David Poe

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Item 4) At what level of detail does the utility record customer outages (individual customer, by re-closer, by circuit, by substation, etc.)?

Response) The individual outages are recorded on paper depicting the quantity of consumers affected by the outage. Later in the month this information is used to count the number of outages and the quantity of consumers affected by outages for the purpose of calculating the SAIDI, CAIDI, and SAIFI indices. Records of reliabilities regarding circuits, specific consumers, substations, or devices are not kept.

Witness) David Poe

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Item 5) How does the utility detect that a customer is experiencing an outage?

Response) The outages are reported by members via the telephone.

Witness) David Poe

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Item 6) How does the utility know when a customer is restored?

Response) The time of restoration is determined by outside personnel on duty as they restore the power or by office personnel as they are instructed by the outside personnel to contact accounts downline that have reported the outages and confirm with the consumers that power is restored.

Witness) David Poe

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1 **Item 7)** Are the causes of outages categorized and recorded? If they are, provide a list of the
2 categories used.

4 **Response)** Yes. Each outage is categorized by its cause and are totaled once each month. The
5 categories are as follows:

- 6 a. Power supply
- 7 b. Pre-arranged
- 8 c. Trees in the right-of-way
- 9 d. Trees outside of the right-of-way
- 10 e. Storms
- 11 f. Line hardware
- 12 g. Sectionalizing devices
- 13 h. Birds and animals
- 14 i. Transformers
- 15 j. Conductor
- 16 k. Broken pole
- 17 l. Pulled guy
- 18 m. Insulators
- 19 n. Others

21 **Witness)** David Poe

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Item 8) Can the utility record outage information for each circuit in the system including for each customer outage:

- a. Length of each disruption?
- b. Number of customers affected by each disruption?
- c. Number of customers served by each circuit?
- d. Cause of each interruption?

Response a) No
Response b) No
Response c) Yes
Response d) No

Witness) David Poe

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Item 9) If the answer to any part of Item 8 is no, what would be required to enable the utility to collect this level of data?

- a. Provide an estimated cost to obtain this level of detail.
- b. Provide an estimated timeline to implement such upgrades.

Response 1) Assuming a circuit is defined as a feeder supplied directly out of a distribution substation, to alter and improve the existing reporting system to provide outage information on a per-circuit basis would be estimated as follows:

Response a) Development of a spreadsheet to enter the information into and the additional time to identify the feeder(s) affected is estimated to cost \$15,000/year.

Response b) The time to develop a spreadsheet to enter the information is estimated to take less than 1 week and the time to identify and enter the additional daily information is approximately 1 man-hour/day.

It should be noted that Meade County RECC has recently converted the GIS (Geographical Information System) to a new system which includes an automated outage reporting system. This system will replace and supersede the existing reporting system. Due to complications and problems with the new GIS, the focus has been to resolve such GIS issues with the vendor before delving into the outage-reporting portion of the project. It is projected that the automated outage reporting will be in operation by the end of 2007. If this projection is true, most, if not all, of the aforementioned requests could be met.

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2 **Witness)** David Poe

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Item 10) Does the utility follow any type of standard (e.g., ANSI A300) for trimming trees in or near to the distribution right-of-way?

Response) Meade County RECC generally follow the ANSI Z133.1, and RUS (Rural Utility Services) trimming specifications. However, what is generally known as `direct cutting` is an exception. Meade County RECC does not generally perform direct cutting on yard trees because of member disapproval. Because Meade County RECC does not pay for easements, concessions are many times made to gain access for new or rebuilt lines. Property owners generally do not approve of direct cutting because of the aesthetics it presents and of the owner's perception that direct cutting is harmful to the tree.

Meade County RECC normally `round cuts` yard trees. This provides a more pleasing look to the tree but does involve more frequent trimming to ensure proper clearance from the lines.

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Item 11) What criteria does the utility use to determine when vegetation maintenance or tree trimming is required?

Response) A five-year trimming program is used at Meade County RECC for the rural areas and a three-year cycle is used for urban areas. Additionally, right-of-way personnel constantly scan the system for problem trees and other outside personnel report such issues as they are encountered. The year following cut areas, chemical application is made to minimize the return growth.

Witness) David Poe

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Item 12) Is the tree trimming performed by utility personnel or by contractor? If by contractor, describe the controls management uses to ensure trees are trimmed per utility requirements.

Response) Contractors for Meade County RECC perform all of the trimming. The work is inspected for approval by a Meade County RECC right-of-way coordinator and then later randomly inspected by a professional engineer to ensure proper techniques and clearances.

Witness) David Poe

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Item 13) Is any portion of the utility system subject to local codes or ordinances regarding tree trimming or vegetation management?

- a. Which areas of the system are covered by local codes or ordinances?
- b. For each covered area, what do the local codes or ordinances require?

Response 1) Yes

Response a) The Fort Knox Army Base has specific requirements when trimming or cutting trees within its boundaries.

Response b) The US Army requires the utility to notify them when cutting is desired, to meet with them at the site(s), and designates the trees and the time the work will be performed. One of the main concerns of the base is the local brown bat. Specific types of trees may or may not be touched and the schedule to perform the work is based upon the animal's hibernation period.

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Item 14) How often does the utility clear its distribution easements?

Response) As stated in answer 11, a five-year trimming cycle is conducted in the rural areas and a three-year one in the more urban areas. Constant review and inspections by Meade County RECC personnel, direct trimming in other areas as it is needed to ensure adequate clearances.

Witness) David Poe

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Item 15) How much has the utility spent on distribution easement clearing for each of the last 5 years? Include the cost per mile expended.

Response) The costs for right-of-way trimming and similar vegetation management for the previous five years are as follows:

2002	\$ 534,041
2003	786,175
2004	800,379
2005	1,103,052
2006	<u>846,983</u>
Total	\$4,070,630

With 2265 miles of primary distribution lines, this equates to \$1797.19 per mile

Witness) David Poe

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Item 16) What annual amount of money is included in the current retail rates for distribution easement clearing?

Response) Annual costs for the distribution easement maintenance for the last 5 years are as per the question 15 response. Meade County RECC's vegetation management budget for 2007 is \$1,046,376.

Witness) David Poe