

KENTUCKY PUBLIC SERVICE COMMISSION

Electric Distribution Utility Annual Reliability Report

SECTION 1: CONTACT INFORMATION

UTILITY NAME	Kentucky Power Company
REPORT PREPARED BY	Everett G. Phillips
E-MAIL ADDRESS OF PREPARER	egphillips@aep.com
PHONE NUMBER OF PREPARER	606-929-1463

SECTION 2: REPORT YEAR

CALENDAR YEAR OF REPORT	2014
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SECTION 3: MAJOR EVENT DAYS

T_{MED}	29.1409
FIRST DATE USED TO DETERMINE T_{MED}	1-Jan-10
LAST DATE USED TO DETERMINE T_{MED}	31-Dec-14
NUMBER OF MED IN REPORT YEAR	2

NOTE: Per IEEE 1366 T_{MED} should be calculated using the daily SAIDI values for the five prior years. If five years of data are not available, then utilities should use what is available until five years are accumulated.

SECTION 4: SYSTEM RELIABILITY INFORMATION AND RESULTS

System Wide Information

Total Customers	<u>169,342</u>	Total Circuits	<u>220</u>
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Excluding MED

	5 Year Average		Reporting Year
SAIDI	<u>473.4</u>	SAIDI	<u>505.3</u>
SAIFI	<u>2.498</u>	SAIFI	<u>2.374</u>

Including MED

	5 Year Average		Reporting Year
SAIDI	<u>1047.5</u>	SAIDI	<u>761.9</u>
SAIFI	<u>2.962</u>	SAIFI	<u>2.677</u>

Notes:

- 1) All duration indices (SAIDI) are to be reported in units of minutes.
 - 2) Reports are to be filed with the Commission by May 1 of each year.
 - 3) Reports cover the calendar year ending in the December before the reports are due.
 - 4) IEEE 1366 (latest version) is used to define SAIDI, SAIFI and T_{MED}
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SECTION 5: CIRCUIT REPORTING

(CIRCUITS WITH SAIDI AND/OR SAIFI EXCEEDING 5 YEAR AVERAGE)

(CIRCUIT NUMBERS SHOULD BE REPORTED EXCLUDING MED)

CIRCUIT #1:

1. SUBSTATION NAME AND NUMBER
2. SUBSTATION LOCATION (COUNTY-ROAD-TOWN)
3. CIRCUIT NAME AND NUMBER
4. CIRCUIT LOCATION (TOWN-ROAD-GENERAL AREA)
5. TOTAL CIRCUIT LENGTH (MILES)
6. CUSTOMER COUNT FOR THIS CIRCUIT
7. DATE OF LAST CIRCUIT TRIM (VM)
8. LIST OUTAGE CAUSES FOR CIRCUIT ALONG WITH PERCENTAGE OF TOTAL OUTAGE
NUMBERS REPRESENTED BY EACH CAUSE
9. CIRCUIT 5 YEAR AVERAGE (SAIDI)
10. REPORTING YEAR (SAIDI)
11. CIRCUIT 5 YEAR AVERAGE (SAIFI)
12. REPORTING YEAR (SAIFI)
13. CORRECTIVE ACTION PLAN

**REPEAT INFORMATION FOR EACH CIRCUIT EXCEEDING ITS 5 YEAR AVERAGE
FOR SAIDI AND/OR SAIFI**

Please see Attachment 1 for Section 5: Circuit Reporting

Note: Circuits sorted according to reporting year SAIDI

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SECTION 6: VEGETATION MANAGEMENT PLAN REVIEW

INCLUDE CURRENT VEGETATION MANAGEMENT PLAN

Additional page may be attached as needed

See attached copy of Kentucky Power's Forestry Report for Commission Order Case No. 2009-00459.

SECTION 7: UTILITY COMMENTS

Kentucky Power's overall system performance for SAIDI was 505.29 minutes in 2014. The IEEE statistical approach, known as the Beta Method, was developed to normalize SAIDI and extract out major event days (MED). This approach seeks to limit the effect of weather in making year to year comparisons. In 2014, nine significant weather events came across the Kentucky Power service territory. Seven of these nine weather events did not meet the MED threshold and thus are included in 2014 SAIDI minutes. These seven events accounted for nearly 25% of the SAIDI minutes. One of the 2014 Non-MED events, February 4 and 5, alone accounted for 10% of the SAIDI minutes. If this same event occurred in 2015, the MED threshold of customer minutes of interruption would be met and SAIDI minutes excluded. The daily MED threshold peaked in 2013 (after the Derecho in 2012) at 6,264,399 customer minutes of interruption. The 2015 threshold is 4,934,781 of customer minutes of interruption.

It is important to recognize that in those instances where system reliability is improving the threshold for MED (daily SAIDI values for 5 prior years) events, and hence exclusion of an individual storm event from the indices calculations, will tend to lag behind improvements until daily SAIDI values for those years prior to the full implementation of vegetation management program roll out of the five year averages.

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Notwithstanding this statistical effect, the Company is seeing less impacts on its