

KENTUCKY PUBLIC SERVICE COMMISSION

Electric Distribution Utility Annual Reliability Report

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SECTION 1: CONTACT INFORMATION

UTILITY NAME	1.1	<u>Big Sandy RECC</u>
REPORT PREPARED BY	1.2	<u>Jeff Prater</u>
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SECTION 2: REPORT YEAR

CALENDAR YEAR OF REPORT	2.1	<u>2014</u>
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SECTION 3: MAJOR EVENT DAYS

T_{MED}	3.1	<u>14.72</u>
FIRST DATE USED TO DETERMINE T_{MED}	3.2	<u>January 1,2010</u>
LAST DATE USED TO DETERMINE T_{MED}	3.3	<u>31-Dec-14</u>
NUMBER OF MED IN REPORT YEAR	3.4	<u>2</u>

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 RESULTS

Excluding MED

SAIDI	4.1	<u>197</u>
SAIFI	4.2	<u>1.87</u>
CAIDI	4.3	<u>105</u>

Including MED (Optional)

SAIDI	4.4	<u>274</u>
SAIFI	4.5	<u>2.1</u>
CAIDI	4.6	<u>130.4</u>

Notes:

- 1) All duration indices (SAIDI, CAIDI) are to be reported in units of minutes.
- 2) Reports are due on the first business day of April 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, CAIDI, and T_{MED}

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See Attached Right-of-Way Plan

SECTION 8: UTILITY COMMENTS

Electronic Data Storage began in January 2012. When we have 5 years of Records, a rolling five year average will be available.

Five circuits are listed in Section 6 that are above the five year average SAIDI value.

The major outage cause for each of these circuits were tree related problems.

6.1.1 708 Denver Circuit - This circuit experienced a major outage cause of out of right-of-way trees.

This circuit had one section relocated in 2014 in the Swamp Branch, KY area to improve reliability. This circuit will be evaluated for mid cycle trimming and removal of danger trees in 2015

6.1.2 551 Milo Circuit - This circuit was trimmed in 2013. It will be evaluated for mid cycle or danger tree removal in 2015

6.1.3 287 Tiger Mart Circuit - This circuit is currently being cut and cleared by vegetation management contractor. Additionally, danger trees will be assessed for removal in 2015.

6.1.4 1173 Decoy Circuit - This circuit is a very long radial feed with heavy exposure to trees due to the terrain. This circuit will be evaluated for danger tree removal and possible "Hot Spot" work in 2015.

6.1.5 62 River Circuit - This circuit will be evaluated for "Hot Spot" and danger tree removal in 2015.



Big Sandy RECC
504 11th Street
Paintsville, KY 41240

Reliability Plan for Individual Circuits

Circuits that exceed the 5 Year Average SAIDI shall be evaluated in the following ways:

1. Analyze the top interruption cause codes for that individual circuit.
 - a. Target improvements based on the analysis of the individual circuit.
2. Individual circuits with elevated "Equipment" interruption causes should be evaluated for the following:
 - a. Conductor condition
 - b. Amp loading
 - c. OCR/ fuse coordination
 - d. Conductor sag
3. Individual circuits with elevated "Maintenance" interruption causes should be evaluated for the following:
 - a. In Right of way trees
 - b. Out of Right of way trees
 - c. Poles, crossarm condition
4. Individual circuits with elevated "Weather" interruption causes should be evaluated for the following:
 - a. Span lengths
 - b. Possible windblown conductor
 - c. Excessive conductor sag
 - d. System hardening
 - e. System Grounding
5. Individual circuits with elevated "Animal" interruption causes should be evaluated for the following:
 - a. Installation of "Wildlife Guards"
 - b. Insulated Jumper wires
 - c. Other items that would insulate or reduce wildlife contacts
6. Individual circuits with elevated "Unknown" interruption causes should be evaluated for the following:
 - a. OCR/ fuse coordination
 - b. Lightning protection
 - c. System Grounding

Each individual circuit's Plan for improvement will be presented to President/General Manager for review and acted upon in a timely manner.

Jeff Prater

VP Operations



Big Sandy RECC Right-of-Way Plan and Procedures

Big Sandy RECC has 968 miles of distribution line.

Right-of-Way clearing is being scheduled on individual feeder circuits from each substation with clearing to the end of each feeder.

An updated schedule beginning in 2009 and ending in 2018 is planned to cut a complete cycle through the system.

Spraying is scheduled to begin in 2010 and ending with a complete cycle at the end of 2016.

Tree Growth Regulators will be used beginning in an effort to more effectively control Yard Trees.

Spraying of vines that overtake poles and guys will be increased in 2014.

Big Sandy RECC plans to utilize hourly paid and firm price contracts for all right of way cutting and herbicide application.

Circuit Prioritization

Big Sandy's staff is responsible for establishing a preventative maintenance strategy, identifying an appropriate routine maintenance cycle, prioritizing, scheduling and completing routine maintenance systematically and on the desired cycle.

Vegetation maintenance records, service interruption data, detailed Line Worker Reports, ground patrols and member-customer input all contribute to assigning priorities for vegetation maintenance each year.

There are several factors the Big Sandy's staff must consider when evaluating vegetation management needs. These include the frequency of service interruptions, vegetation quantities and characteristics, time elapsed since last treatment and member-customer requests.

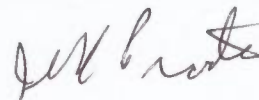
Right-of-Way Clearance Standards

1. Pruning Guidelines for On-R/W Trees - Effective tree clearance for line reliability is dependent on the voltage of the conductor, the type of tree, its growth rate and habit. Clearance shall be accomplished by ground cutting and removing all tall-growing tree species from within the R/W, whenever approved. Where pruning of residential or landscape trees become necessary, prune so as to provide a minimum of three (3) years of clearance. The guidelines for tree clearances apply at the time of pruning and clearing and are intended to protect the wires under normal operating conditions. Special clearances may be needed at

times because of field conditions. Additional allowance should be made for wires with excess sag.

2. Pruning Along Distribution R/W Edge or Off-R/W Trees - Every tree shall be trimmed ground-to-sky in accordance with ANSI A-300. To the extent practicable, these limbs shall be trimmed back to the trunk of the tree except on species that are susceptible to sun scald. Clear the R/W of all trees or brush thirty-five (35) feet wide for three phase lines and thirty (30) feet wide for single phase lines.
3. Shaping or rounding-over trees beyond the extent required to achieve the desired conductor/vegetation clearance shall not be performed, unless specifically approved by BIG SANDY or it's REPRESENTATIVE.
4. Only trees that are directly involved with BIG SANDY' overhead lines, as defined by this specification shall be pruned. Pruning trees for privately owned lines, other utility lines, or consumer lines or wiring is not permitted.
5. On all secondary lines and service drops, as directed by BIG SANDY or its REPERSENTATIVE, drops shall be cleared to the extent that the conductor can swing free of obstructions.
6. Big Sandy shall not prune trees solely for area lighting illumination.
7. All low growing desirable species, if present, may be left unless:
 - a. they create clearance problems,
 - b. mechanical, non-selective equipment (e.g. mowing) is used, or
 - c. they block access to the rights-of-way or prevent facilities maintenance.
8. Ingested wilting foliage of wild cherry is poisonous to livestock. Remove all wild cherry foliage from fields where livestock graze.
9. All stumps from manual clearing operations shall be treated with herbicides approved by BIG SANDY.

Jeff Prater



VP Operations