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PUBLIC SERVICE
COMMISSION

Kyle Willard
Public Service Commission
Division of Engineering, Director
PO Box 615
Frankfort, KY 40602

Mr. Willard,

Please find enclosed Blue Grass Energy's 2012 Annual Reliability Report and 2013 Right-of-Way Vegetation Management Plan.

If you have any questions, please feel free to contact me at (859) 885-2114 or chrisb@bgenergy.com.

Sincerely,



Chris Brewer, P.E.
VP of Power Delivery
Blue Grass Energy

Electric Distribution Utility Annual Reliability Report

SECTION 1: CONTACT INFORMATION

UTILITY NAME	1.1	<u>Blue Grass Energy</u>
REPORT PREPARED BY	1.2	<u>Chris Brewer</u>
E-MAIL ADDRESS OF PREPARER	1.3	<u>chrisb@bgenergy.com</u>
PHONE NUMBER OF PREPARER	1.4	<u>859-885-2114</u>

SECTION 2: REPORT YEAR

CALENDAR YEAR OF REPORT	2.1	<u>2012</u>
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SECTION 3: MAJOR EVENT DAYS

TMED	3.1	<u>11.26</u>
FIRST DATE USED TO DETERMINE TMED	3.2	<u>1/1/2012</u>
LAST DATE USED TO DETERMINE TMED	3.3	<u>12/31/2012</u>
NUMBER OF MED IN REPORT YEAR	3.4	<u>7</u>

NOTE: Per IEEE 1366 TMED 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>115.30</u>
SAIFI	4.2	<u>1.28</u>
CAIDI	4.3	<u>89.89</u>

Including MED (Optional)

SAIDI	4.4	<u>510.19</u>
SAIFI	4.5	<u>1.95</u>
CAIDI	4.6	<u>261.81</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 TMED
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Electric Distribution Utility Annual Reliability Report

SECTION 5: OUTAGE CAUSE CATEGORIES Excluding MED

CAUSE CODE DESCRIPTION	SAIDI VALUE	CAUSE CODE DESCRIPTION	SAIFI VALUE
Lightning	5.1.1 19.63	Power Supplier	5.2.1 0.263
Equipment Fault	5.1.2 16.72	Lightning	5.2.2 0.153
Power Supplier	5.1.3 15.48	Unknown	5.2.3 0.147
Trees - Non ROW	5.1.4 11.87	Equipment Fault	5.2.4 0.142
Unknown	5.1.5 8.87	Public Accident	5.2.5 0.117
Small Animal S.C.	5.1.6 8.47	Small Animal S.C.	5.2.6 0.113
Public Accident	5.1.7 8.30	Trees - Non ROW	5.2.7 0.091
Trees - ROW	5.1.8 8.00	Trees - ROW	5.2.8 0.074
Deterioration	5.1.9 5.55	Maintenance	5.2.9 0.044
Major Storm	5.1.10 3.79	Deterioration	5.2.10 0.040

SECTION 6: WORST PERFORMING CIRCUITS

CIRCUIT IDENTIFIER	SAIDI VALUE	MAJOR OUTAGE CATEGORY
Newby 134	6.1.1 646	Trees - Non ROW
Hickory Plains 124	6.1.2 524	Power Supplier
Cynthiana 134	6.1.3 461	Power Supplier
Cynthiana 124	6.1.4 360	Power Supplier
Fayette 2 114	6.1.5 310	Equipment Fault
Ninevah 144	6.1.6 292	Deterioration
Cynthiana 114	6.1.7 260	Power Supplier
Four Oaks 124	6.1.8 256	Deterioration
Headquarters 134	6.1.9 253	Trees - ROW
VanArsdell 144	6.1.10 247	Lightning

CIRCUIT IDENTIFIER	SAIFI VALUE	MAJOR OUTAGE CATEGORY
Hickory Plains 124	6.2.1 0.080	Power Supplier
Cynthiana 114	6.2.2 0.064	Power Supplier
Four Oaks 124	6.2.3 0.043	Deterioration
West Nicholasville 134	6.2.4 0.043	Power Supplier
West Nicholasville 144	6.2.5 0.035	Equipment Fault
Cynthiana 124	6.2.6 0.033	Power Supplier
Colemansville 124	6.2.7 0.031	Fire
Bridgeport 144	6.2.8 0.028	Wind-not trees
Bridgeport 124	6.2.9 0.027	Maintenance
Fayette 2 114	6.2.10 0.025	Equipment Fault

Blue Grass Energy

	SAIDI					CAIDI	SAIFI
	All	MED	PS	Sched	Other	All	All
2001	111.5	23.7	1.6	2.1	84.1	83.0	1.34
2002	156.7	33.0	16.4	0.9	106.4	105.6	1.48
2003	1133.2	1033.4	8.4	0.9	90.5	504.5	2.25
2004	310.9	162.0	43.8	0.4	104.7	158.8	1.96
2005	108.6	0.0	15.9	0.7	92.0	91.1	1.19
2006	124.4	0.0	0.6	2.5	121.2	113.5	1.10
2007	147.1	41.5	6.4	2.9	96.4	120.2	1.22
2008	169.4	67.3	11.8	1.1	89.2	141.3	1.20
2009	2175.1	2068.1	5.2	4.2	97.7	1205.3	1.80
2010	133.9	15.3	21.4	0.8	96.5	108.1	1.24
2011	162.8	41.5	23.2	0.5	97.5	111.8	1.46
2012	510.2	394.9	15.5	2.0	97.9	261.8	1.95
2003-2007 avg.	364.8	247.4	15.0	1.5	101.0	197.6	1.54
2004-2008 avg.	172.1	54.1	15.7	1.5	100.7	125.0	1.33
2005-2009 avg.	544.9	435.4	8.0	2.3	99.3	334.3	1.30
2006-2010 avg.	550.0	438.4	9.1	2.3	100.2	337.7	1.31
2007-2011 avg.	557.7	446.7	13.6	1.9	95.4	337.3	1.39
2008-2012 avg.	630.3	517.4	15.4	1.7	95.7	365.7	1.53

Major Event Days

2006	2007	2008	2009	2010	2011	2012
None	39175	2/6/2008	1/27-2/03/09	40325	5/25/2011	3/5/2012
	39310	6/10/2008	2/11/2009			7/1-2/2012
			39941			7/27/2012
			39975			12/29-31/2012

Years over which data used

Year T _{MED} used for	T _{MED}	
2000-2004	2005	10.61
2001-2005	2006	11.40
2002-2006	2007	12.69
2003-2007	2008	12.09
2004-2008	2009	10.74
2005-2009	2010	11.50
2006-2010	2011	11.46
2007-2011	2012	11.26
2008-2012	2013	12.25



DISTRIBUTION RIGHT-OF-WAY VEGETATION MANAGEMENT 2013 PLAN/ 2012 PLAN REVIEW

March 2013

Blue Grass Energy Vegetation Management Plan

2012 Review of Plan Implementation

Blue Grass Energy developed a formal plan to manage the maintenance of vegetation on distribution rights-of-way (ROW) in 2007/2008. The plans goals were established to provide excellent member service, maintain current tree related reliability, and look for opportunities to increase production and reduce program cost. These plans were continued and improved into 2012.

As stated in the previously submitted Vegetation Management Plan, the plan may be modified from time-to-time based on performance as measured by tree-related service reliability and evaluations of member satisfaction with service reliability. Specific reliability metrics may include Tree SAIFI, trends in customer minutes interrupted by tree-related causes and tree-caused primary interruptions per 100 line miles as internal benchmarks of program performance over time. A Tree-Caused Outage Report summarizes these reliability criteria and is regularly reviewed and monitored daily. Upon reporting of tree related outages a field investigation is conducted to determine the root cause.

2010-2013 Vegetation Management Strategy

SCHEDULED MAINTENANCE AND CLEARANCE

Blue Grass Energy provides electric service to over 55,000 members through a network of over 4,500 miles of distribution line. Blue Grass Energy uses a cyclic approach to preventive electric distribution ROW. Different circuits or portions of circuits may be scheduled on different cycles based on site conditions, sensitivity of the line to interruptions caused by trees or criticality of the line. The maintenance cycle for tree removal, tree pruning or brush control may be the same or different for a given scheduling unit.

As illustrated in Table 1, Blue Grass Energy completed 15 distribution circuits in 2012 for a total of 761 miles of distribution line. In 2013, there are 17 distribution circuits (776 miles) scheduled and 9 circuits (132 miles) carried over from the 2012 program for a total of 908 miles and 26 circuits scheduled for completion in 2013. The varying site conditions determine the cost and cause completed miles to vary by year.

Table 1. Blue Grass Energy R/W Miles Scheduled vs. Completed

Maintenance Year	2010	2011	2012	2013
Scheduled	678	874	893	908
Completed	684	842	761	TBD

RELIABILITY

In 2008, Blue Grass Energy developed and implemented an outage investigation process to better understand the cause of tree failures. The data was again used in 2012 to identify species failure rates and help plan future scheduled and non scheduled work to eliminate potential outages. The investigation of all tree related outages will continue through 2013 to collect data on major outage categories.

Historical Blue Grass Energy tree caused outages are illustrated in Table 2.

Table 2. Number of Tree-Caused Outages on the Blue Grass Energy System

District	2008	2009	2010	2011	2012
TOTALS	174	157	121	68	67

2012 VEGETATION MANAGEMENT PLAN REVIEW

Changes were accomplished in 2012 to improve the ROW management plan. The “Distribution Right-Of-Way Vegetation Management Plan” submitted March 2012 reiterated in detail the processes that were built into the plan.

In 2012, the tree contractor was not able to complete all the scheduled miles within the calendar year, therefore, 132 miles from the 2012 program were move to and completed in the 1st Qtr of 2013.

Listed below are some of the processes used in 2012:

1. Continuation of Formal Contractor Evaluation Program. Each contractor will be rated on nine qualitative categories such as customer complaints, quarterly mileage goals, exceptions/ omissions, quality/standards, tools/equipment, unscheduled interruptions/OSHA LWD, contractor cooperation & communication, crew professionalism, and data accuracy.
2. Yearly Revision of formal program policies and procedures and assurance of consistent implementation throughout the system to include additional detailed requirements.
3. Continued yearly revision of a general 5-6 year maintenance cycle for the system based on collected field data. In areas where standard clearances cannot be consistently achieved (e.g., subdivisions), mid cycle assessments will be conducted and cycles adjusted based on those findings. Recommended cycle lengths are guidelines.
4. ISA Certified Arborist Utility Specialist supervisory personnel have adequate utility vegetation management technical expertise and a qualified ISA Certified Assistant Arborist is on staff.
5. Selective use of herbicides to control resprouting from the stumps of removed deciduous trees.
6. Written notification of property owners of the intent to prune trees and requirement of written permission for “yard” tree removals. We always strive to not allow property owners to influence pruning clearances.
7. The crew labor and equipment complements were adjusted throughout the year to maximize cost effectiveness.

8. Revised and improved the formal work monitoring and completion process. Each circuit is individually and 100 percent audited by ROW supervisory personnel to ensure specifications for clearance and quality are achieved.
9. Records were maintained of key aspects of the ROW vegetation management program to document program performance. This data provides information necessary for ongoing program management and circuit scheduling.

2013 VEGETATION MANAGEMENT PLAN

In addition to continuing the Distribution Right-Of-Way Vegetation Management Plans outlined for 2012 we intend to utilize the following key objectives in the upcoming year:

- Continue Formal Crew Field Audit Evaluation process, at the 100 percent level
- Uphold National Arbor Day Tree Line USA standards
- Continue to uphold ANSI A300 pruning and Z133 safety standards
- Utilization of vegetation management Best Management Practices as defined by the International Society of Arboriculture.
- Continue to evaluate and increase production and quality with established and new workforces
- Further inspection and reduction of unnecessary reactive maintenance
- Utilize multiple ROW vegetation maintenance contractors

Appendix

ROW VEGETATION MAINTENANCE CLEARANCE CYCLE SCHEDULING STRATEGY

The following table summarizes the Blue Grass Energy ROW vegetation maintenance scheduling strategy. Individual circuits may be accelerated or deferred based on assessment of field conditions and operating performance.

Circuit Description	Primary Cycle Length (Years)	Mid-cycle Inspection/selective Tree Maintenance (Years)
Feeder Multi-phase	5-6	2 to 3
Feeder Laterals (single-phase)	5-6	
Industrial Circuits	5-6	Annual inspection and selective maintenance