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PUBLIC SERVICE  
COMMISSION

Mr. Reggie Chaney  
Director of Engineering  
Kentucky Public Service Commission  
211 Sower Boulevard  
Frankfort, Kentucky 40602-0615

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April 1, 2010

**RE: An Investigation of the Reliability Measures of Kentucky's Jurisdictional Electric Distribution Utilities and Certain Reliability Maintenance Practices - Administrative Case No. 2006-00494**

Dear Mr. Chaney:

Enclosed please find Louisville Gas and Electric Company and Kentucky Utilities Company's 2009 Annual Reliability Report pursuant to the Commission's Order dated October 26, 2007 in the above mentioned matter.

Should you have any questions concerning the enclosed, please contact me at your convenience.

Sincerely,

Rick E. Lovekamp

# KENTUCKY PUBLIC SERVICE COMMISSION

## Louisville Gas and Electric Company Electric Distribution Utility Annual Reliability Report

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### SECTION 1: CONTACT INFORMATION

UTILITY NAME	1.1	Louisville Gas and Electric Company
REPORT PREPARED BY	1.2	Nelson Maynard, Director Reliability
E-MAIL ADDRESS OF PREPARER	1.3	<u>nelson.maynard@eon-us.com</u>
PHONE NUMBER OF PREPARER	1.4	859-367-1107

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### SECTION 2: REPORT YEAR

CALENDAR YEAR OF REPORT	2.1	2009
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### SECTION 3: MAJOR EVENT DAYS

$T_{MED}$	3.1	4.397
FIRST DATE USED TO DETERMINE $T_{MED}$	3.2	1-Jan-05
LAST DATE USED TO DETERMINE $T_{MED}$	3.3	31-Dec-08
NUMBER OF MED IN REPORT YEAR	3.4	18

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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.

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### SECTION 4: SYSTEM RELIABILITY RESULTS

#### Excluding MED

SAIDI	4.1	90.20
SAIFI	4.2	0.941
CAIDI	4.3	95.83

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#### Including MED (Optional)

SAIDI	4.4	2845.01
SAIFI	4.5	2.073
CAIDI	4.6	1372.61

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#### 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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# KENTUCKY PUBLIC SERVICE COMMISSION

## Louisville Gas and Electric Company Electric Distribution Utility Annual Reliability Report

### SECTION 5: OUTAGE CAUSE CATEGORIES Excluding MED

CAUSE CODE DESCRIPTION		SAIDI VALUE	CAUSE CODE DESCRIPTION		SAIFI VALUE
Animal	5.1.1	5.40	Animal	5.2.1	0.082
Construction	5.1.2	1.31	Construction	5.2.2	0.010
Lightning	5.1.3	10.32	Lightning	5.2.3	0.077
Non-Company	5.1.4	2.50	Non-Company	5.2.4	0.040
Unknown	5.1.5	16.62	Unknown	5.2.5	0.184
Overload	5.1.6	0.54	Overload	5.2.6	0.006
Planned Work	5.1.7	6.46	Planned Work	5.2.7	0.093
Trees	5.1.8	17.35	Trees	5.2.8	0.129
Utility Equip	5.1.9	23.28	Utility Equip	5.2.9	0.254
Vehicle	5.1.10	6.43	Vehicle	5.2.10	0.067

### SECTION 6: WORST PERFORMING CIRCUITS

CIRCUIT IDENTIFIER		SAIDI VALUE	MAJOR OUTAGE CATEGORY
CY1483	6.1.1	1123.00	Vehicle
SK1127	6.1.2	644.45	Trees
HL1157	6.1.3	633.06	Trees
WS1322	6.1.4	621.63	Utility Equipment
ET1421	6.1.5	599.00	Lightning
BK0003	6.1.6	583.45	Trees
AK1290	6.1.7	574.03	Trees
SM1366	6.1.8	505.10	Non-Company
HK1233	6.1.9	452.31	Lightning
FL1497	6.1.10	447.43	Non-Company

CIRCUIT IDENTIFIER		SAIFI VALUE	MAJOR OUTAGE CATEGORY
AK1290	6.2.1	6.918	Trees
FV1477	6.2.2	5.846	Lightning
ET1423	6.2.3	5.610	Lightning
ET1421	6.2.4	5.583	Lightning
WS1322	6.2.5	5.317	Utility Equipment
SM1366	6.2.6	4.571	Non-Company
BY1278	6.2.7	4.322	Utility Equipment
CL1231	6.2.8	4.308	Animal
PR1390	6.2.9	4.037	Utility Equipment
FL1497	6.2.10	4.020	Non-Company

# KENTUCKY PUBLIC SERVICE COMMISSION

## Louisville Gas and Electric Company Electric Distribution Utility Annual Reliability Report

Additional pages may be attached as necessary  
SECTION 7: VEGETATION MANAGEMENT PLAN REVIEW

The Companies' Vegetation Management Plan was submitted December 19, 2007 and is referenced to the Reliability Report submitted April 1, 2008. The Distribution Vegetation Management Program encompasses right of way maintenance for Louisville Gas and Electric Company and Kentucky Utilities Company (referred to as the "Companies"). The program is centralized and managed by a Forestry Manager and nine company Utility Arborists. All are certified arborists by the International Society of Arboriculture.

The Companies' plan is to maintain a proactive trim cycle while balancing the reactive needs of worst performing circuits. The Companies' goal is to maintain an average trim cycle of five years or less. The effectiveness of the plan is evaluated by the cycle, system performance as measured by system SAIDI, SAIFI, and CAIDI, and customer feedback as measured by satisfaction surveys.

**Effectiveness of the program:**

LG&E/ KU Tree Cycle - 4.52 years.  
LG&E Tree SAIDI - 17.35 minutes  
LG&E Tree SAIFI - 0.129  
LG&E Tree CAIDI - 134.5 minutes

The Companies have been able to maintain customer satisfaction in Power Quality and Reliability with the challenges of the major storms in 2009.

The routine trim schedule, mid cycle, herbicide, and worst performing circuits plans were completed as planned.

**Adjustments made to the tree plan in 2009 included:**

- 1) Increased the focus on hazard tree removals for off right of way trees.
- 2) Changed the timing for the mid cycle three phase trim from winter to summer to more readily identify dead limbs and trees.

**Changes to be implemented in 2010:**

No changes from 2009 plan.

SECTION 8: UTILITY COMMENTS

On January 27, 2009, a major ice storm caused significant damage to the system statewide. On December 18, 2009, a major snow storm caused significant damage to the Southeast area of the system. The residual effects of these storms immediately following the MED exclusion days and throughout the year had a significant negative impact on system performance. Tree crews were employed from January 27 through April 3, 2009 to remove damaged trees and limbs that were of imminent risk to system reliability. Plans are in place to address all Worst Performing Circuits.

# KENTUCKY PUBLIC SERVICE COMMISSION

## Kentucky Utilities Company Electric Distribution Utility Annual Reliability Report

### SECTION 1: CONTACT INFORMATION

UTILITY NAME	1.1	Kentucky Utilities Company
REPORT PREPARED BY	1.2	Nelson Maynard, Director Reliability
E-MAIL ADDRESS OF PREPARER	1.3	<a href="mailto:nelson.maynard@eon-us.com">nelson.maynard@eon-us.com</a>
PHONE NUMBER OF PREPARER	1.4	859-367-1107

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### SECTION 3: MAJOR EVENT DAYS

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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	102.06
SAIFI	4.2	0.937
CAIDI	4.3	108.93

Including MED (Optional)

SAIDI	4.4	2786.58
SAIFI	4.5	1.962
CAIDI	4.6	1420.57

#### Notes:

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# KENTUCKY PUBLIC SERVICE COMMISSION

## Kentucky Utilities Company Electric Distribution Utility Annual Reliability Report

### SECTION 5: OUTAGE CAUSE CATEGORIES

Excluding MED

CAUSE CODE DESCRIPTION	SAIDI VALUE	CAUSE CODE DESCRIPTION	SAIFI VALUE
Animal	5.1.1 7.74	Animal	5.2.1 0.094
Construction	5.1.2 1.55	Construction	5.2.2 0.020
Lightning	5.1.3 12.02	Lightning	5.2.3 0.095
Non-Company	5.1.4 2.14	Non-Company	5.2.4 0.031
Unknown	5.1.5 14.44	Unknown	5.2.5 0.135
Overload	5.1.6 3.75	Overload	5.2.6 0.038
Planned Work	5.1.7 7.32	Planned Work	5.2.7 0.074
Trees	5.1.8 28.34	Trees	5.2.8 0.180
Utility Equip	5.1.9 19.90	Utility Equip	5.2.9 0.218
Vehicle	5.1.10 4.85	Vehicle	5.2.10 0.052

### SECTION 6: WORST PERFORMING CIRCUITS

CIRCUIT IDENTIFIER	SAIDI VALUE	MAJOR OUTAGE CATEGORY
1663	6.1.1 1842.60	Trees
1554	6.1.2 1713.27	Trees
0314	6.1.3 1597.34	Lightning
0304	6.1.4 1325.07	Trees
0659	6.1.5 1136.85	Trees
2309	6.1.6 1112.13	Trees
1541	6.1.7 931.85	Trees
1320	6.1.8 913.21	Utility Equipment
0495	6.1.9 906.29	Trees
0276	6.1.10 897.77	Utility Equipment

CIRCUIT IDENTIFIER	SAIFI VALUE	MAJOR OUTAGE CATEGORY
0304	6.2.1 7.151	Trees
0314	6.2.2 6.857	Trees
0311	6.2.3 6.480	Trees
0414	6.2.4 6.106	Utility Equipment
0309	6.2.5 5.827	Trees
0415	6.2.6 5.589	Utility Equipment
0488	6.2.7 5.477	Trees
0303	6.2.8 5.294	Trees
0495	6.2.9 5.213	Trees
0458	6.2.10 4.955	Trees

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**Effectiveness of the program:**

KU/LG&E Tree Cycle - 4.52 years.  
KU (Kentucky) Tree SAIDI - 28.34 minutes  
KU (Kentucky) Tree SAIFI - 0.180  
KU (Kentucky) Tree CAIDI - 157.4 minutes

The Companies have been able to maintain customer satisfaction in Power Quality and Reliability with the challenges of the major storms in 2009.

The routine trim schedule, mid cycle, herbicide, and worst performing circuits plans were completed as planned.

**Adjustments made to the Vegetation Management plan in 2009 included:**

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Case No. 2006-00494 -- Internal Distribution List

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