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FEDERAL EXPRESS

April 30, 2014

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, Pennsylvania 17120

Re: PPL Electric Utilities Corporation
2013 Annual Reliability Report
Docket No. L-00030161

Dear Ms. Chiavetta:

Enclosed for filing on behalf of PPL Electric Utilities Corporation ("PPL Electric") is an original of PPL Electric's 2013 Annual Reliability Report to the Pennsylvania Public Utility Commission. This report is being filed pursuant to the Commission's regulations at 52 Pa. Code § 57.195(a).

As required by the Commission's regulations, copies of the enclosed report have been served upon the Office of Consumer Advocate ("OCA") and the Office of Small Business Advocate ("OSBA").

Pursuant to 52 Pa. Code § 1.11, the enclosed document is to be deemed filed on April 30, 2014, which is the date it was deposited with an overnight express delivery service as shown on the delivery receipt attached to the mailing envelope.

In addition, please date and time-stamp the enclosed extra copy of this letter and return it to me in the envelope provided.

If you have any questions regarding the enclosed report, please call me or B. Kathryn Frazier, PPL Electric's Regulatory Affairs Manager at (610) 774-3372.

Very truly yours,

Paul E. Russell

Enclosures

cc: Tanya J. McCloskey, Esquire
Mr. John R. Evans
Mr. Daniel Searfoorce

PPL Electric Utilities

PPL Electric Utilities Corporation
2013 Annual Reliability Report
to the
Pennsylvania Public Utility Commission

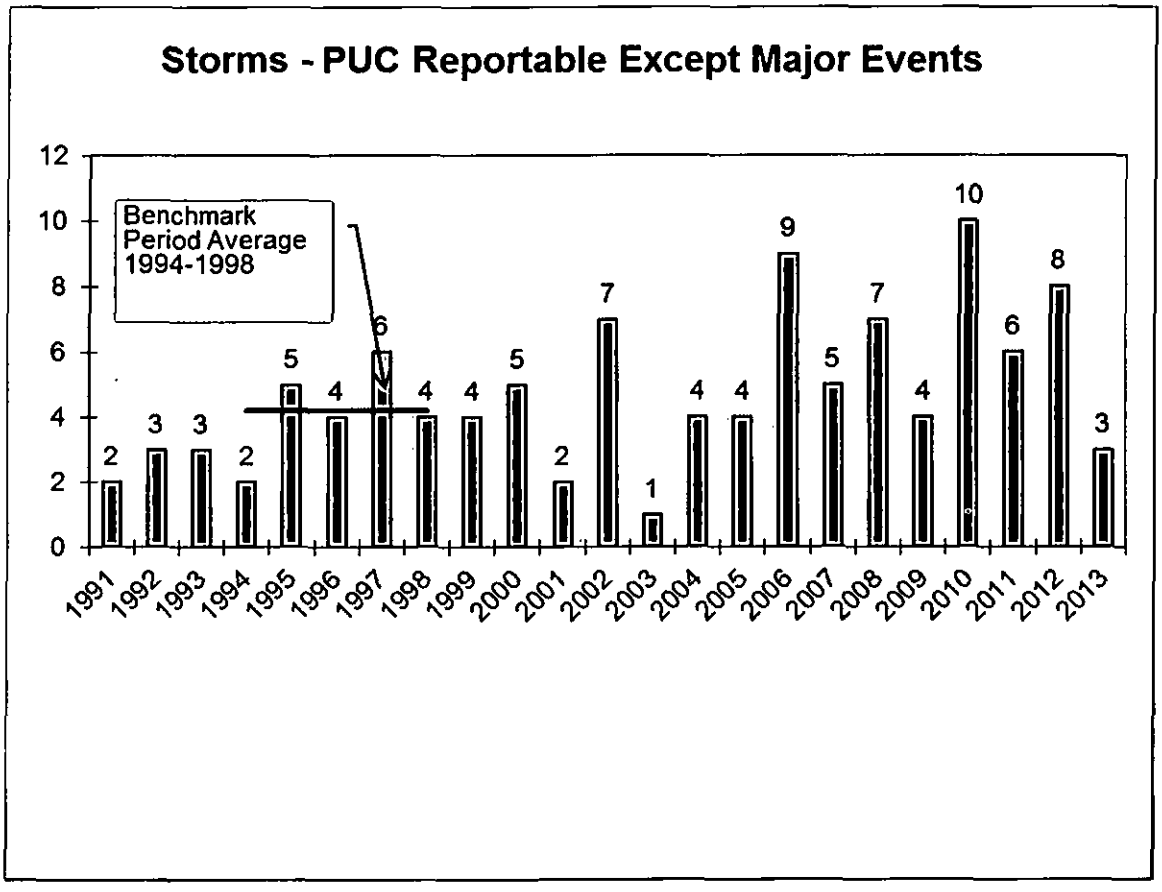
May 1, 2014

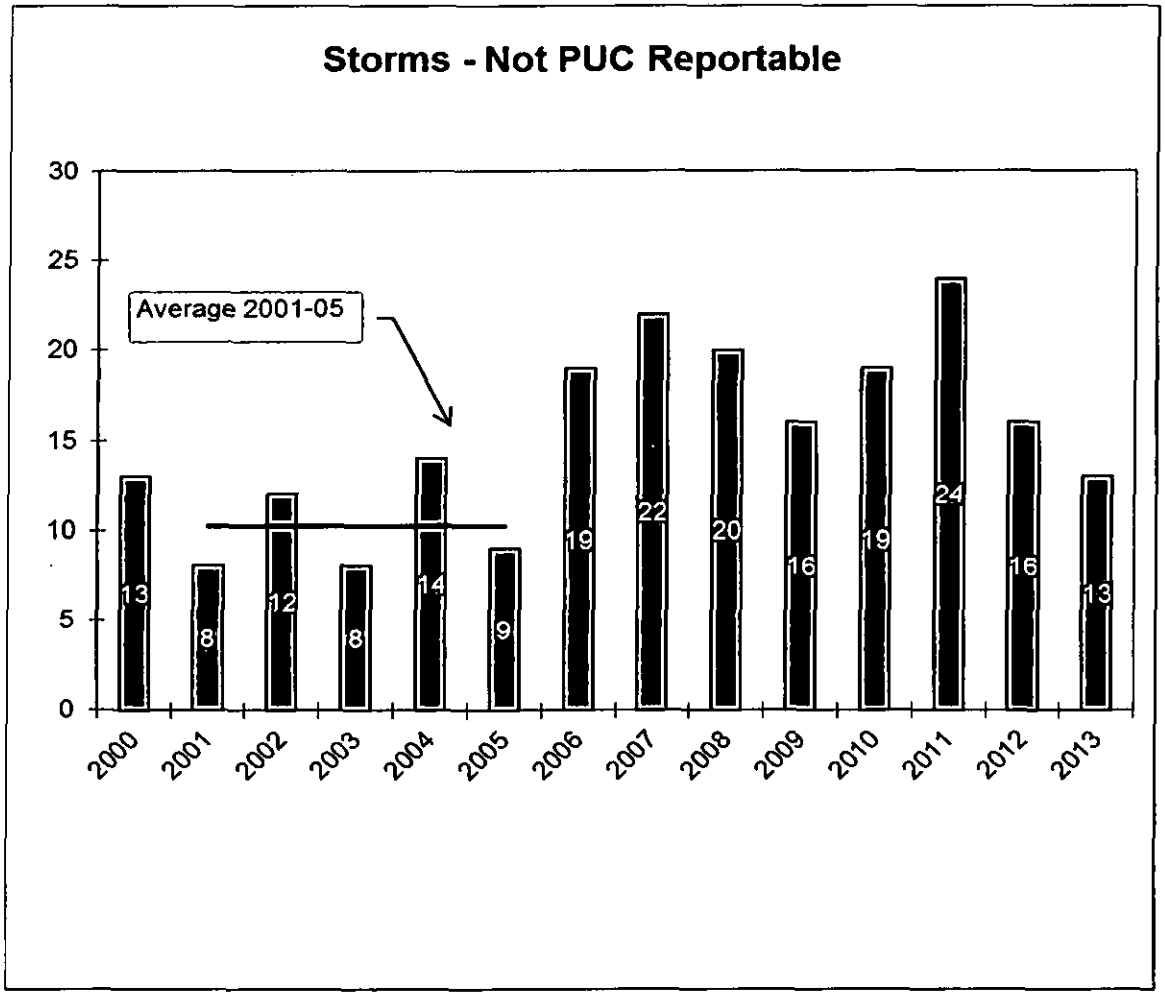
*1) **An overall current assessment of the state of the system reliability in the EDC's service territory including a discussion of the EDC's current programs and procedures for providing reliable electric service.***

In 2013, SAIFI, SAIDI, and CAIDI values improved significantly from the prior year, and were well within the 12-month, 36-month, and benchmark standards for PPL Electric Utilities Corporation ("PPL Electric").

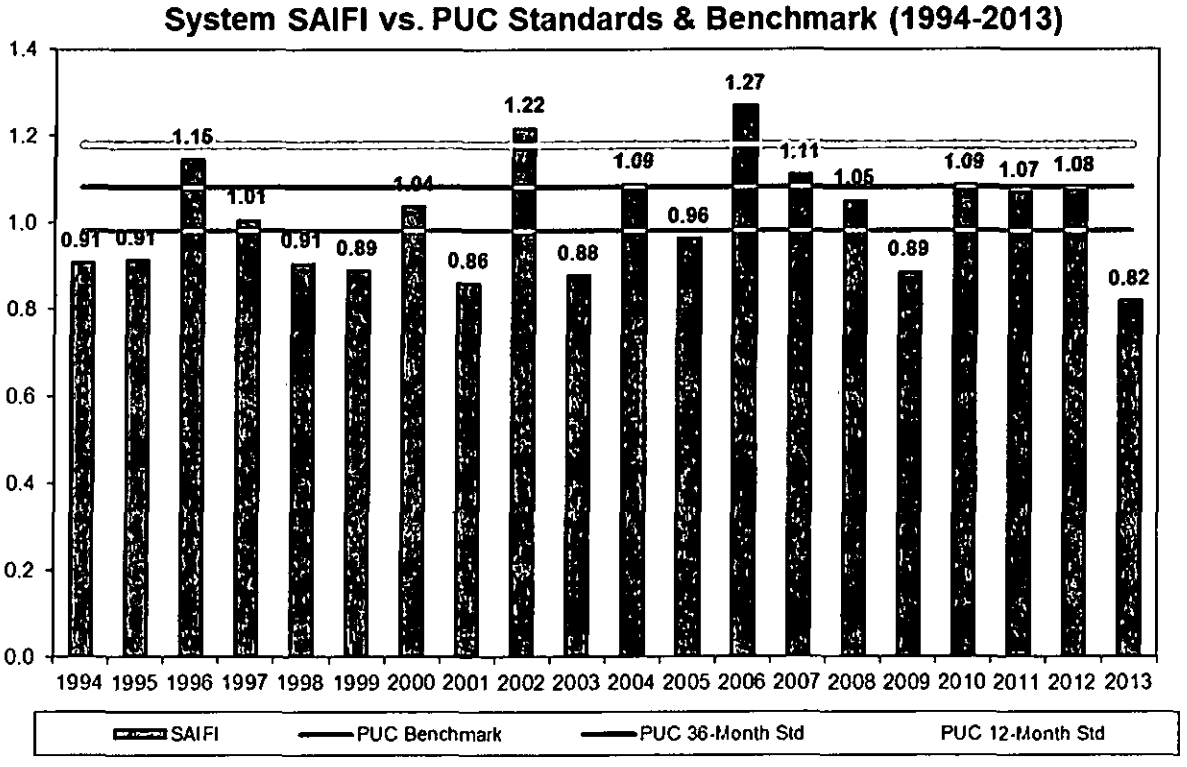
The three-year rolling average for SAIFI, CAIDI, and SAIDI remained below the three-year standard, as well as the rolling 12-month standard. The three-year rolling average for CAIDI and SAIDI were within the benchmark, and SAIFI was less than 1% in excess of the benchmark.

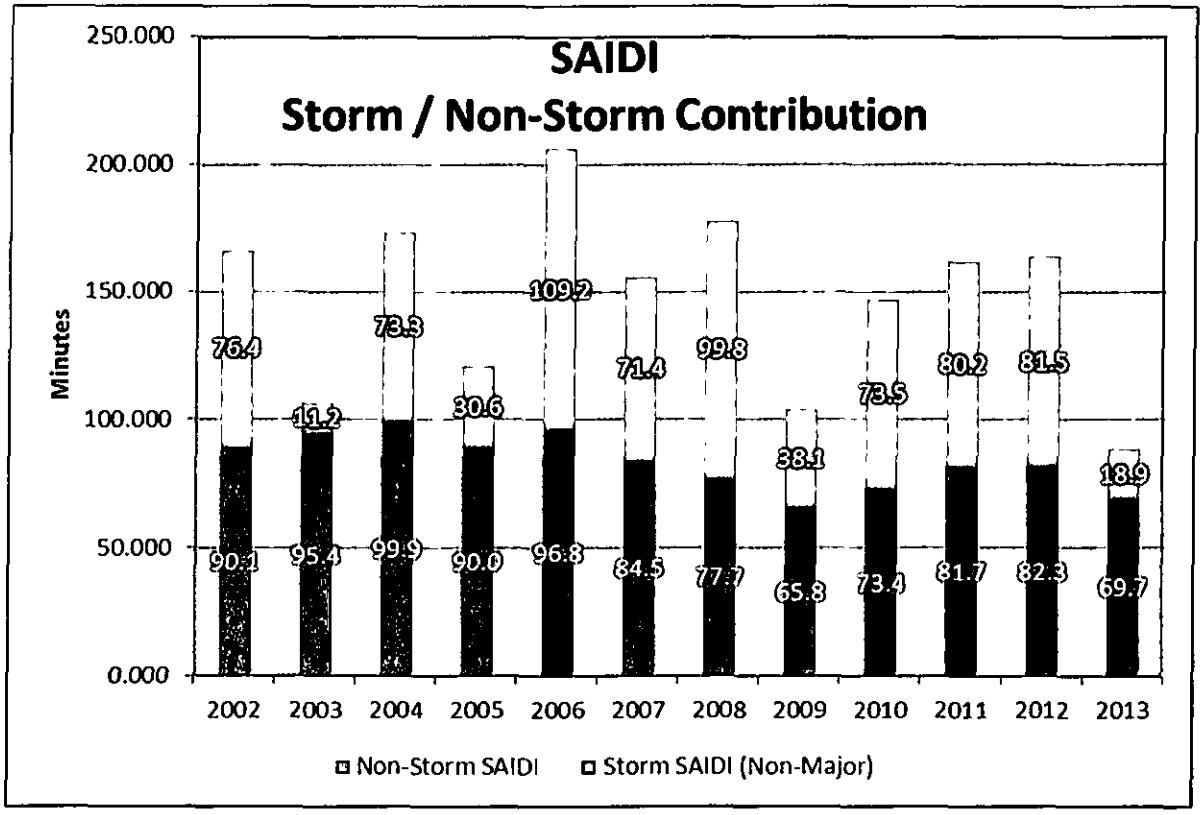
2013 was a mild year for PUC Reportable storms, and somewhat mild for Non-Reportable storms. Twenty-one percent of SAIDI was storm related.



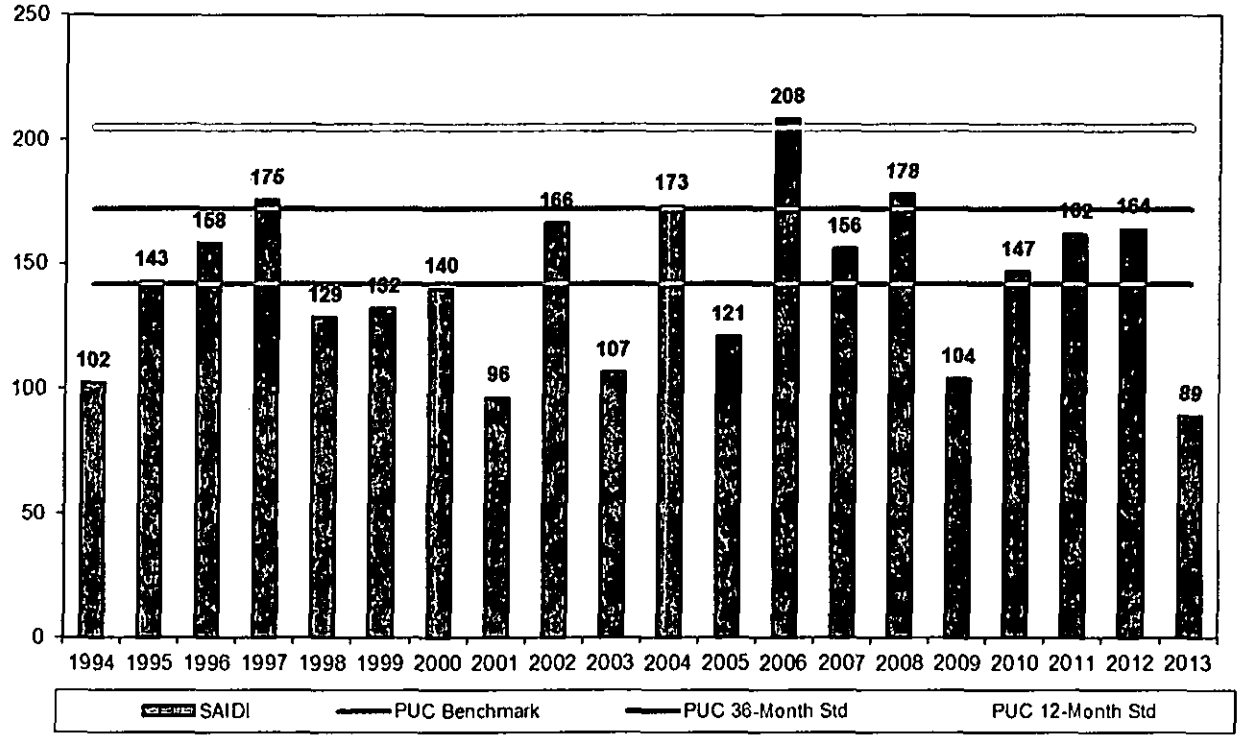

Storms - Not PUC Reportable
30
25
20
15
10
5
0
Average 2001-05
13
8
12
8
14
9
19
22
20
16
19
24
16
13
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013

SAIFI, CAIDI and SAIDI generally have been maintained near benchmark levels and below the 36-month standard levels since the benchmark years of 1994 through 1998, as evidenced by the following three charts. For 2013 all values were significantly below the benchmark.

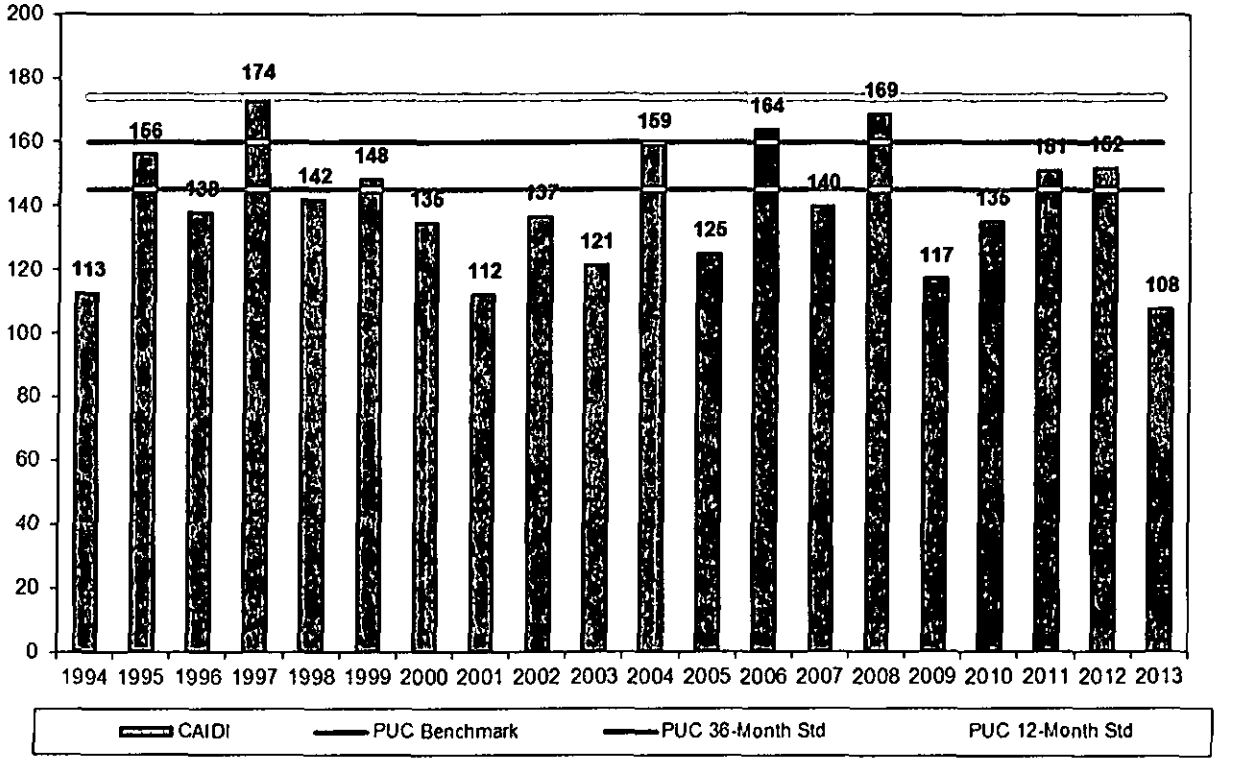



SAIDI
Storm / Non-Storm Contribution
250.000
200.000
150.000
100.000
50.000
0.000
Minutes
76.4
11.2
73.3
30.6
109.2
71.4
99.8
38.1
73.5
80.2
81.5
18.9
90.1
95.4
99.9
90.0
96.8
84.5
77.7
65.8
73.4
81.7
82.3
69.7
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Non-Storm SAIDI
Storm SAIDI (Non-Major)

System SAIDI vs. PUC Standards & Benchmark (1994-2013)



System CAIDI vs. PUC Standards & Benchmark (1994-2013)



PPL Electric is committed to maintaining acceptable levels of electric delivery service to its customers. Maintenance programs are one of the key elements that focus on maintaining system and circuit reliability, equipment performance, and interruption prevention. The scope of these maintenance programs, procedures, and activities covers all areas of the electrical infrastructure.

These programs include:

Transmission
Transmission inspection programs include aerial and foot patrols. These patrols focus on comprehensive inspections, routine inspections, and identification of emergency work. These patrols include inspection of all equipment, including poles, arms, line switches, interrupters, arresters, grounding, guying, anchors, and other key transmission components.

Substation
Substation maintenance programs include inspections and overhauls of equipment, such as breakers, disconnects, power cables, and security equipment. Some equipment is maintained on a time basis; other equipment is condition-monitored. These two methods help ensure that maintenance work is performed in a timely manner. Besides time and condition-based maintenance, thermo-graphic inspections help ensure that substation equipment does not operate at elevated temperature levels for an extended period of time, which could lead to equipment failure

Distribution
Distribution encompasses many maintenance aspects similar to transmission and substations, and also includes load surveys that help engineers determine peak load requirements, circuit analyses for the identification of lines requiring maintenance work, voltage relief, or other capital improvements. Overhead line inspections can identify the weak links in the system so that damaged or deteriorated equipment can be repaired or replaced. In addition, distribution maintenance includes inspections of poles, voltage regulators, line switches, capacitors, and other key distribution equipment. PPL Electric also tests underground cable for integrity to determine if the cable needs to be replaced, repaired or cured to prevent future failures.

Vegetation
The vegetation on PPL Electric's transmission and distribution rights-of-way (ROW) is maintained utilizing a combination of several management techniques. These include tree pruning, tree removal, re-clearing and herbicide application. Lines are field-surveyed on a regular basis. The work is scheduled and budgeted based on the conditions observed and past performance.

Each of these programs is more fully described in Appendices A through D.

2) ***A description of each major event that occurred during the year being reported on, including the time and duration of the event, the number of customers affected, the cause of the event and any modified procedures adopted in order to avoid or minimize the impact of similar events in the future.***

No major events occurred in 2013.

3) ***A table showing the actual values of each of the reliability indices (SAIFI, CAIDI, SAIDI, and if available, MAIFI) for the EDC's service territory for each of the preceding 3 calendar years. The report shall include the data used in calculating the indices, namely the average number of customers served, the number of sustained customer interruptions, the number of customers affected, and the customer minutes of interruption. If MAIFI values are provided, the number of customer momentary interruptions shall also be reported.***

Year	2011	2012	2013[1]	3 Yr. Avg.
SAIFI (Benchmark = 0.98; Rolling 12-month Std. = 1.18; Rolling 3-yr. Std. = 1.08)	1.071	1.075	0.817	0.988
CAIDI (Benchmark = 145; Rolling 12-month Std. = 174; Rolling 3-yr. Std. = 160)	151.2	152.3	108.4	137.3
SAIDI (Benchmark = 142; Rolling 12-month Std. = 205; Rolling 3-yr. Std. = 172)	161.9	163.8	88.6	138.1
MAIFI[2]	5.0	4.1	3.5	4.2
Customers Served[3]	1,389,884	1,392,408	1,395,325	1,392,539
Number of Sustained Customer Interruptions (Trouble Cases)	18,412	16,372	14,400	16,395
Number of Customers Affected[4]	1,489,077	1,497,453	1,140,583	1,375,704
Customer Minutes of Interruptions	225,087,898	228,085,193	123,601,330	192,258,140
Number of Customer Momentary Interruptions	6,510,312	6,994,790	5,716,569	6,407,224

[1] Any slight variations from data provided previously are the result of error corrections.

[2] MAIFI data are obtained at the substation breaker and do not include momentaries at lower level devices.

[3] PPL Electric calculates the annual indices using customers served at the end of the period. This is consistent with the method used to calculate PPL Electric's benchmarks.

[4] The data reflects the number of customers interrupted for each interruption event summed for all events, also known as customer interruptions. If a customer is affected by three separate cases of trouble, that customer represents three customer interruptions, but only one customer interrupted.

4) ***A breakdown and analysis of outage causes during the year being reported on, including the number and percentage of service outages, the number of customers interrupted, and customer interruption minutes categorized by outage cause such as equipment failure, animal contact, tree related, and so forth. Proposed solutions to identified service problems shall be reported.***

The table shows a breakdown of service outage causes for 2013.[5] The top three causes (Equipment Failure, Tree Related, and Animals), based on percent of cases, are highlighted in the table. Service interruption definitions are provided in Appendix E. PPL Electric has maintenance programs to address controllable service outages. Those programs are detailed in Appendices A through D.

Cause Description	Trouble Cases[6]	Percent of Trouble Cases	Customer Interruptions[7]	Percent of Customer Interruptions	Customer Minutes	Percent of Customer Minutes
Animals	2,967	20.6%	64,503	5.7%	5,692,006	4.6%
Contact/Dig-In	146	1.0%	22,593	2.0%	2,008,018	1.6%
Directed by Non-PPL Authority	261	1.8%	9,270	0.8%	1,028,689	0.8%
Equipment Failures	4,905	34.1%	340,750	29.9%	32,934,266	26.6%
Improper Design	12	0.1%	16,704	1.5%	1,825,948	1.5%
Improper Installation	3	0.0%	776	0.1%	81,829	0.1%
Improper Operation	2	0.0%	1,654	0.1%	87,219	0.1%
Nothing Found	1,135	7.9%	99,103	8.7%	5,844,239	4.7%
Other-Controllable	136	0.9%	56,677	5.0%	3,185,064	2.6%
Other-Non Control	289	2.0%	40,397	3.5%	2,541,035	2.1%
Other-Public	53	0.4%	6,369	0.6%	1,032,547	0.8%
Tree Related	3,694	25.7%	298,285	26.2%	48,669,905	39.4%
Vehicles	797	5.5%	183,502	16.1%	18,670,567	15.1%
	14,400	100.0%	1,140,583	100.0%	123,601,330	100.0%

[5] Any slight variations from data provided previously are the result of error corrections.

[6] Cases of trouble are the number of sustained customer service interruptions (i.e., service outages).

[7] The data reflects the number of customers interrupted for each interruption event summed for all events, also known as customer interruptions. If a customer is affected by three separate cases of trouble, that customer represents three customer interruptions, but only one customer interrupted.

Analysis of causes contributing to the majority of service interruptions:

Weather Conditions: PPL Electric records weather conditions, such as wind or lightning, as contributing factors to service interruptions, but does not code them as direct interruption causes. Therefore, some fluctuations in cause categories, especially tree- and equipment-related causes, are attributable to weather variations.

Tree Related: PPL Electric has recently increased funding to more aggressively address out of right-of-way danger trees. For trees within the right-of-way, PPL Electric has implemented a more aggressive trimming strategy.

Animals: Animals accounted for about 20.6% of PPL Electric's cases of trouble. Although this represents a significant number of cases, the effect on SAIFI and CAIDI is small because approximately 78% of the number of cases of trouble was associated with individual distribution transformers. However, when animal contacts affect substation equipment, the effect may be widespread and potentially can interrupt thousands of customers on multiple circuits. In addition to guarding new distribution transformers and substations, in 2009, PPL Electric initiated distribution and substation animal guarding programs to focus systematically on protecting existing facilities most at risk of incurring animal-caused interruptions. All substations are scheduled to be animal guarded by 2017.

Vehicles: Although vehicles cause a small percentage of the number of cases of trouble, they accounted for a large percentage of customer interruptions and customer minutes, because main distribution lines generally are located along major thoroughfares with higher traffic densities. In addition, vehicle-related cases often result in extended repair times to replace broken poles. Service interruptions due to vehicles are on the rise as a result of an increasing number of drivers and vehicles on the road. PPL Electric has a program to identify and relocate poles that are subject to multiple vehicle hits.

Equipment Failure: Equipment failure is one of the largest single contributors to the number of cases of trouble, customer interruptions and customer minutes. However, approximately 36% of the cases of trouble, 34% of the customer interruptions, and 30% of the customer minutes attributed to equipment failure were weather-related and, as such, are not considered to be indicators of equipment condition or performance. In 2009, to help reduce the risk of incurring interruptions due to equipment failures, PPL Electric initiated an Asset Optimization Strategy project to assess equipment health and generate a long-term plan for proactive infrastructure replacement and enhanced maintenance practices. It is anticipated that, over time, this strategy will improve reliability performance as it pertains to PPL Electric's distribution, substation, and transmission assets.

Nothing Found: This description is recorded when the responding crew can find no cause for the interruption. That is, when there is no evidence of equipment failure, damage, or contact after a line patrol is completed. For example, during heavy thunderstorms, when a line fuse blows or a single-phase Oil Circuit Recloser (OCR) locks open and when closed for test, the fuse holds, or the OCR remains closed, and a patrol reveals nothing.

5) A list of the major remedial efforts taken to date and planned for circuits that have been on worst performing 5% of circuits list for a year or more.

Circuit 53601, DALMATIA 36-01

Performance Analysis

Three major outages significantly affected this circuit's reliability in the past four quarters. Tree related interruptions were the most common outage cause.

On June 27, 2013, the Sunbury-Dauphin 69kV circuit tripped to lockout due to a broken transmission pole caused by a tree from outside the right of way falling on a guy wire. This outage affected approximately 13,100 customers at Dalmatia, Elizabethville, Lykens, Gratz, and Williamstown substations. Approximately 1,200 customers on the Dalmatia 36-01 were interrupted for up to 447 minutes, resulting in 444,278 CMI.

On November 02, 2013, a tree made contact with an overhead primary conductor and caused a recloser to trip to lockout. The outage affected approximately 360 customers for up to 386 minutes, resulting in 137,921 CMI.

On July 12, 2013, a tree made contact with an overhead primary conductor and caused a recloser to trip to lockout. The outage affected approximately 360 customers for up to 561 minutes, resulting in 105,344 CMI.

In total, the Dalmatia 36-01 circuit had 36 outages between January 2013 and December 2013. The causes of these outages include: tree related (14), equipment failures (11), animal contacts (5), nothing found (3), vehicles (2), and other (1).

Remedial Actions

- Spot trimming along a high CEMI customer tap was completed in late September 2013.
- Additional single phase fusing was installed on a problematic tap in June 2013.
- A failed recloser was replaced in early 2013.
- The Sunbury-Dauphin and Dauphin-Pine Grove 69 kV circuits are scheduled to have remote operator controlled switches installed in 2014. The switches will allow operators to quickly sectionalize and limit the impact of any outage.
- The Dalmatia to Dauphin section of the Sunbury-Dauphin 69 kV circuit was recently trimmed in early 2014.
- The Dalmatia 36-01 circuit is scheduled to be trimmed in 2015 as part of its vegetation management cycle.

Circuit 53602, DALMATIA 36-02

Performance Analysis

Two outages significantly affected this circuit's reliability in the past four quarters. Tree related interruptions were the most common outage cause.

On June 27, 2013, the Sunbury-Dauphin 69kV circuit tripped to lockout due to a broken transmission pole caused by a tree from outside the right of way falling on a guy wire. This outage affected approximately 13,100 customers at Dalmatia, Elizabethville, Lykens, Gratz, and Williamstown substations. Approximately 2,355 customers on the Dalmatia 36-02 were interrupted for up to 447 minutes, resulting in 380,496 CMI.

On April 10, 2013, an equipment failure occurred on an overhead primary conductor and caused a recloser to trip to lockout. The outage affected approximately 390 customers for up to 356 minutes, resulting in 82,576 CMI.

In total, the Dalmatia 36-02 circuit had 60 outages between January 2013 and December 2013. The causes of these outages include: tree related (25), equipment failures (21), other (5), nothing found (5), animal contacts (3), and vehicle (1).

Remedial Actions

- Three phase voltage regulators were installed on the adjacent PENS 74-01 circuit in 2013. The regulators allow for additional customers to be transferred in the event of an outage.
- A thermography inspection was completed on the overhead two and three phase sections of the circuit in March 2013. A transformer stem connector repair was made.
- Additional fusing was installed in two locations during September 2013 in order to reduce customer exposure.
- Additional radio communication is scheduled to be added to a recloser and normally open air break in 2014. This will allow remote operator controlled switching for approximately 200 customers.
- The Dalmatia 36-02 circuit is scheduled to be trimmed in 2014 Q3 as part of its vegetation management cycle.
- The Dalmatia to Dauphin section of the Sunbury-Dauphin 69 kV circuit was recently trimmed in early 2014.
- The Sunbury-Dauphin and Dauphin-Pine Grove 69 kV circuits are scheduled to have remote operator controlled switches installed in 2014. The switches will allow operators to quickly sectionalize and limit the impact of any outage.
- A new 69-12 kV substation in the Meiserville area is scheduled for construction. The project will significantly reduce customer counts and circuit miles on the Dalmatia 36-02 circuit as well as increase transfer capability in the area. The substation was originally intended to go into service in November, 2012, but has been delayed by land acquisitions and condemnation proceedings. If a successful resolution can be reached, the new substation will be scheduled for completion in 2016.

Circuit 28302 NEWFOUNDLAND 83-02

On April 19, 2013, a tree made contact with an overhead primary conductor and caused a recloser to trip to lockout. The outage affected approximately 250 customers for up to 759 minutes, resulting in 192,623 CMI.

On December 01, 2013, a tree made contact with an overhead primary conductor and caused a recloser to trip to lockout. The outage affected approximately 170 customers for up to 403 minutes, resulting in 69,153 CMI.

On July 23, 2013, a tree made contact with an overhead primary conductor and caused a recloser to trip to lockout. The outage affected approximately 170 customers for up to 511 minutes, resulting in 88,239 CMI.

In total, the Newfoundland 83-02 circuit had 51 outages between January 2013 and December 2013. The causes of these outages include: tree related (26), equipment failures (15), animal contacts (5), vehicles (4), and other (1).

Remedial Actions:

- In June 2013, construction of the Newfoundland 83-02 to Tafton 80-01 tie line was completed. This new tie will improve sectionalizing capability and reduce customer outage durations on both circuits.
- In June 2013, construction of the new Ledgedale Substation was completed. This project transferred approximately 1,181 PPL customers off of the Newfoundland 83-02 circuit. The new substation will provide new sectionalizing capabilities and reduce customer exposure to outages.
- In 2013, PPL Vegetation Management trimmed a mile of single phase line that has had several tree related outages in the past year in order to prevent future tree related outages.
- In 2014, a project will relocate 79 customers that experienced eight outages in the past year. This project will move these customers to a more reliable source off of the North Coolbaugh 88-01 line.
- In 2014, a midline hydraulic recloser will be replaced with a new automated recloser as part of the Smart Grid project plan. This automated recloser will reduce future outage durations and improve sectionalizing capabilities.
- In May 2015, the construction of the new Angels Substation will be complete. This substation will relieve approximately 662 customers off the Newfoundland 83-02 circuit. The new substation will provide new sectionalizing capabilities and reduce customer exposure to outages.
- In 2015, PPL Vegetation Management plans to trim the entire Newfoundland 83-02 circuit in order to reduce future tree related outages.

6) ***A comparison of established transmission and distribution inspection and maintenance goals/objectives versus actual results achieved during the year being reported on. Explanations of any variances shall be included.***

Inspection & Maintenance Goals/Objectives	**2013 Budget**	**2013 Actual**	**Variance (%)**
Transmission			
Transmission C-tag poles (# of poles)	312	335	7%
Transmission arm replacements (# of sets)	104	96	-8%
Transmission air break switch inspections (# of switches)	51	49	-4%
Transmission lightning arrester installations (# of sets)	0	0	NA
Transmission structure inspections (# of structures)	1,600	1,406	-12%
Transmission tree side trim-Bulk Power (linear feet)	NA	NA	NA
Transmission herbicide-Bulk Power (# of acres)	NA	NA	NA
Transmission reclearing (# of miles) BES Only	400	400	0
Transmission reclearing (# of miles) 69 kV	955	932	-2%
Transmission reclearing (# of miles) 138 kV	637.34	637.34	0%
Transmission danger tree removals-Bulk Power (# of trees)	0	0	NA
Substation			
Substation batteries (# of activities)	623	651	4%
Circuit breakers (# of activities)	970	1,357	40%
Substation inspections (# of activities)	4,396	4,505	2%
Transformer maintenance (# of activities)	1,393	1,432	3%
Distribution			
Distribution C-tag poles replaced (# of poles)	1,344	1,286	-4%
C-truss distribution poles (# of poles)	3,851	4,002	4%
Capacitor (MVAR added)	20	29	45%
OCR replacements (# of)	750	679	-7%
Distribution pole inspections (# of poles)	90,000	90,093	0%
Distribution line inspections (# of miles)	6,560	6,447	-2%
Group re-lamping (# of lamps)	18,379	18,885	3%
Test sections of underground distribution cable	800	1,035	5%
Distribution tree trimming (# of miles)	6,545	6,530	0%
Distribution herbicide (# of acres)	0	0	NA
Distribution >18" removals within R/W (# of trees)	0	0	NA
Distribution hazard tree removals outside R/W (# of trees)	NA	14,614	See below.

Inspection & Maintenance Goals/Objectives	2013 Budget	2013 Actual	Variance (%)
LTN manhole inspections (# of)	706	723	2%
LTN vault inspections (# of)	741	739	0%
LTN network protector overhauls (# of)	62	60	-3%
LTN reverse power trip testing (# of)	140	129	-8%

Explanation of variances greater than 10%:

Capacitor (MVAR added): A strategic decision related to reliability was made late in 2012 that increased the scope of capacitors in 2013.

Circuit Breakers (# of activities): To improve reliability, some maintenance planned for 2014 was advanced to 2013 to address observed mechanical problems.

Transmission Structure Inspections: 2013 scope was reduced after a re-prioritization of transmission lines to be inspected based on results of 2012 inspections. Corten steel structures were advanced and galvanized and painted structures were deferred to future years.

Distribution hazard tree removals outside R/W (# of trees): PPL Electric maintains a budget for distribution hazard trees but does not forecast a targeted number of trees due to the difficulty of predicting that number, which varies widely from year to year.

A comparison of budgeted versus actual transmission and distribution operation and maintenance expenses for the year being reported on in total and detailed by the EDC's own functional account code or FERC account code as available. Explanations of any variances 10% or greater shall be included.

The following table provides operation and maintenance expenses for PPL Electric, as a whole, and includes the work identified in the response to Item (6).

Activity	2013 Budget ($1,000s)	2013 Actual ($1,000s)	Variance (%)
Provide Electric Service	10,220	8,755	-14%
Vegetation Management	37,616	52,026	38%
Customer Response	71,242	53,501	-25%
Reliability & Maintenance	62,977	71,797	14%
System Upgrade	524	1,309	150%
Customer Services/Accounts	125,104	125,576	0%
Other	71,482	55,348	-23%
Total O&M Expenses	**379,165**	**368,312**	**-3%**

Explanation of variances of 10% or greater:

Provide Electric Service: For 2013 the Capital/Expense distribution of PES was slightly more capital intensive than forecast.

Vegetation Management: For 2013 Vegetation Management standards were aggressively increased, leading to more work and expense.

Customer Response: This activity was under budget as a result of a historically low number of outages, which in turn were partially attributable to the milder than normal weather.

Reliability & Maintenance: Relay Test was previously accounted for under Other, and was moved to Reliability & Maintenance in 2013.

System Upgrade: Transmission feasibility studies performed in 2013 caused this budget to exceed forecast.

Other: For 2013, consulting fees were under budget, wages were under budget due to vacancies, and there was a reduction of rental and maintenance costs for buildings. See also the change to Relay Test.

8) ***A comparison of budgeted versus actual transmission and distribution capital expenditures for the year being reported on in total and detailed by the EDC's own functional account code or FERC account code as available. Explanations of any variances 10% or greater shall be included.***

The following table provides capital expenditures for PPL Electric, as a whole, which includes transmission and distribution activities.

Activity	2013 Budget ($1,000s)	2013 Actual ($1,000s)	Variance (%)
New Service/Revenue	78,420	80,777	3%
System Upgrade	520,546	538,269	3%
Reliability & Maintenance	273,278	273,471	0%
Customer Response	15,228	9,903	-35%
Other	22,923	21,628	-6%
Total	**910,395**	**924,048**	**2%**

Explanation of variances of 10% or greater:

Customer Response This activity was under budget as a result of a historically low number of outages, which in turn were partially attributable to the milder than recently normal weather.

9) ***Quantified transmission and distribution inspection and maintenance goals/objectives for the current year detailed by system area (that is, transmission, substation and distribution).***

Inspection & Maintenance Goals/Objectives	2014 Budget
Transmission	
Transmission C-tag poles (# of poles)	455
Transmission arm replacements (# of sets)	0
Transmission air break switch inspections (# of switches)	29
Transmission lightning arrester installations (# of sets)	497
Transmission structure inspections (# of structures)	1,270
Transmission tree side trim-Bulk Power (linear feet)	0
Transmission herbicide-Bulk Power (# of acres)	0
Transmission reclearing (# of miles) BES Only	440
Transmission reclearing (# of miles) 69 kV	1,030
Transmission reclearing (# of miles) 138 kV	12.16
Substation	
Substation batteries (# of activities)	652
Circuit breakers (# of activities)	675
Substation inspections (# of activities)	4,539
Transformer maintenance (# of activities)	1,430
Distribution	
Distribution C-tag poles replaced (# of poles)	1,416
C-truss distribution poles (# of poles)	5,367
Capacitor (MVAR added)	18
OCR replacements (# of)	160
Distribution pole inspections (# of poles)	90,000
Distribution line inspections (hours)	7,446
Group relamping (# of lamps)	21,000
Test sections of underground distribution cable	225
Distribution tree trimming (# of miles)	6,046.27
Distribution herbicide (# of acres)	N/A
Distribution >18" removals within R/W (# of trees)	N/A
Distribution hazard tree removals outside R/W (# of trees)	N/A
LTN manhole inspections (# of)	373
LTN vault inspections (# of)	724
LTN network protector overhauls (# of)	79
LTN reverse power trip testing (# of)	136

10) Budgeted transmission and distribution operation and maintenance expenses for the current year in total and detailed by the EDC's own functional account code or FERC account code as available.

The following table provides budgeted operation and maintenance expenses for PPL Electric, as a whole, and includes the work identified in the response to Item (9).

Activity	2014 Budget ($1,000s)
Provide Electric Service	9,273
Vegetation Management	43,537
Customer Response	65,573
Reliability & Maintenance	52,634
System Upgrade	454
Customer Services/Accounts	125,753
Other	40,183
Total O&M Expenses	**337,407**

11) Budgeted transmission and distribution capital expenditures for the current year in total and detailed by the EDC's own functional account code or FERC account code as available.

The following table provides budgeted capital expenditures for PPL Electric, as a whole, and includes transmission and distribution activities.

Activity	2014 Budget ($1,000s)
New Service/Revenue	70,116
System Upgrade	528,456
Reliability & Maintenance	275,169
Customer Response	11,834
Other	26,061
Total	**911,636**

*12) **Significant changes, if any, to the transmission and distribution inspection and maintenance programs previously submitted to the Commission.***

In December of 2013, PPL Electric proposed replacing all three-phase OCRs with vacuum devices over a 10 year cycle, and eliminating the eight year replacement cycle for all 1-phase OCRs. After the 10-year change out, required maintenance would be reduced to the visual and infrared inspection programs outlined in PPL Electric's 2014-2015 Inspection, Maintenance, Repair and Replacement Plan. The Commission approved this change on January 3, 2014.

PPL Electric Utilities Corporation
Transmission Programs & Procedures

Program	Activity
Helicopter Inspections – Routine	Aerial linemen perform annual routine transmission line patrols from a helicopter. They identify damaged or deteriorated equipment. Engineers review the findings and develop plans for repair or replacement.
Helicopter Inspections – Comprehensive	Aerial linemen perform an overhead comprehensive inspection of transmission line facilities on a four year cycle. Detailed condition reports with close up digital photos are prepared for each specific component problem found along the transmission line and right of way. Engineers review the findings and schedule corrective maintenance as needed.
Helicopter Inspections – Emergency	Aerial linemen perform patrols of transmission lines that operate abnormally. This inspection focuses on identifying damage that may have been caused by lightning, inclement weather, equipment failure or vandalism. Because of the nature of this work, corrective actions are usually expedited.
Field Inspections – Emergency	Line personnel perform emergency foot patrols to inspect transmission lines that operated abnormally. This inspection focuses on identifying damage that may have been caused by lightning, inclement weather, equipment failure or vandalism. Due to the nature of this damage, corrective actions are generally expedited.
Wood Pole – Inspection, Treatment, Replacement, Trussing (reinforcement)	Line personnel examine wood poles for deterioration and measure the degree of rot. Based on the results, the pole is either scheduled for a future inspection, reinforcement for extended life, or replacement.
Equipment Maintenance	During helicopter and foot patrols, equipment and facilities are identified that require repairs. Based on need and criticality, repairs are either scheduled or completed as soon as possible.
Planned Replacement Programs	Line personnel and aerial linemen have completed the planned replacement of all deteriorated spacers and dampers on 500kV circuits. Line personnel also replace deteriorated wood arms identified during condition monitoring inspections.
Line Switches – Maintenance & Inspection	Line personnel inspect, maintain, and perform operational tests on 138kV and 69kV line air break switches to assure proper operation.

Program	Activity
Line Switch Upgrades	Line personnel install lightning arresters on 138kV and 69kV line switches to increase system reliability.
Circuit Analysis	Engineers analyze circuit loading and performance to identify areas needing increased line capacity or improved line reliability.

PPL Electric Utilities Corporation
Substation Programs & Procedures

Program	Activity
Load Survey	Automatic monitoring devices such as Supervisory Control and Data Acquisition (SCADA) provide continuous, real-time loading information. Engineers review equipment loading and identify facilities and transfer capabilities approaching capacity limits. A portion of the load may be supplied from a different source, the existing facilities may be upgraded, new lines and equipment may be added, or a new substation may be built to address capacity deficiencies.
Substation Inspection/Repair	Electricians inspect substations for security and equipment reliability on a time based maintenance cycle. They attempt to identify and correct potential equipment problems before a failure or interruption of service occurs.
Equipment Service	Electricians perform operational tests on power transformers, load tap changers ("LTC"), voltage regulators, circuit breakers, circuit switchers, vacuum switches, air break switches and transformer protective switches on a time based maintenance cycle to assure that equipment is operating within established parameters. Equipment serviced includes batteries, battery chargers, protective relays, HV fuses and high-speed automatic grounding switches. Depending on the type of equipment, "service" can include actions other than operational testing.
Inspection & Overhaul	Electricians inspect and overhaul circuit breakers, wave traps, ground switches, stick-operated disconnects, gang-operated disconnects and motor-operated disconnects on a time based maintenance cycle to assure proper operation.
Insulation Testing	Electricians perform power factor testing on power transformer, potential transformers, lightning arresters, current transformers, circuit breakers and power cables on a time based maintenance cycle. Testing also includes other instrument transformers (CCVTs, coupling capacitors, potential devices, etc.). They also perform high-potential testing on air and vacuum circuit breakers to assure proper operation.
Condition Monitoring of Station Equipment	Technicians perform dissolved gas-in-oil, dielectric, oxygen, and oil acidity tests for oil in power transformers and impedance and capacity tests on station batteries to assure equipment is within normal parameters. Periodically, AC power factor tests, hi-potential tests, contact resistance tests and motion tests are performed on circuit breakers. Oil dielectric testing is conducted for oil circuit breakers.

Program	Activity
Thermographic Inspections	Technicians perform thermography surveys of substation facilities to identify components operating at elevated temperature. Based on the findings, engineers develop plans to repair or replace the component(s) prior to failure.
Minor Improvements	Maintenance activities may identify conditions where additions or upgrades are needed to assure reliability. Engineers evaluate the need and develop action plans and schedules to complete the work.
DC Station Service Improvements	Repairmen identify deteriorated station batteries, battery chargers and battery components. Engineers schedule repair or replacement as necessary.
Capacitor Bank Protection	Engineers monitor the need for synchronous closing schemes on vacuum switches on 69kv capacitor banks. They plan and schedule installations as needed.
Area/Regional Supply	Engineers develop specific projects aimed at improving capacity shortfalls or replacing deteriorated or substandard station equipment.
SCADA Replacement	Engineers identify deteriorating substation SCADA equipment and develop plans to repair or replace it.

PPL Electric Utilities Corporation
Distribution Programs & Procedures

Program	Activity
Load Survey – of equipment that is not continuously monitored	Line personnel measure the loading of facilities during peak periods. Engineers use this data for system studies.
Load Survey – by automatic monitoring devices	Automatic monitoring devices such as SCADA provide continuous, real-time loading information. Operators use this data to assure that loads do not exceed design limits. Engineers use this data for system studies.
Circuit Analysis	Engineers analyze circuit voltage profiles to balance loads and to identify areas requiring voltage support to maintain required voltage at the customer facility.
Voltage Regulator – Inspection & Maintenance	Line personnel inspect existing equipment for potential failure, and inspect and maintain controls and tap changers to assure proper operation. Line personnel repair or replace any defective equipment.
Overhead Line Switch – Inspection & Maintenance	Line personnel inspect switch installations to identify cracked or broken insulators / bushings, stuck or misaligned blades, insulation or gasket deterioration or other operational problems. Line personnel repair or replace any defective equipment.
Transformer Maintenance	Engineers analyze customer usage data to identify overloaded transformers. Transformers that are heavily loaded are replaced with higher capacity units or part of the load is transferred to other nearby transformers.
Wood Pole – Inspection, Maintenance, Replacement, Trussing, Fiber Wrap (reinforcement)	Inspectors examine wood poles for deterioration and measure the degree of rot. Based on the results, the pole is either scheduled for a future inspection, reinforcement for extended life or replacement.
Overhead Line Inspection	Line inspectors examine overhead facilities to identify damaged, deteriorated or substandard equipment. Line personnel repair or replace any defective equipment. Includes visual and thermo-graphic inspections.
Circuit Performance Review	Engineers use the PPL Electric's Circuit Performance Index to ascertain the need for additional circuit reviews / inspections.

Appendix C

Program	Activity
Underground Primary Cable – Testing, Maintenance, Replacement, Curing	Line personnel perform insulation and neutral tests on cable in residential developments with potential problems to identify deteriorated cable. Based on the results, the cable is placed back in service, repaired or replaced.
LTN Maintenance	Electricians will inspect, service, maintain and overhaul LTN vaults, manholes, cables, transformers, low voltage network protectors and primary transformer disconnect switches. Based on results, defective equipment is either repaired or replaced.
Public Damaged Facilities Review	A program aimed at identifying the locations of facilities that have been damaged by public contact more than once. Technicians evaluate those installations and, if relocation is possible, schedule work to move the facilities.
Underground Service Cable	Engineers resolve customer service problems that are due to deteriorated service conductors.
Oil Circuit Reclosers	Line personnel replace in-service oil circuit reclosers on a time based maintenance cycle. Removed units are overhauled, tested and returned to service.
Line Protection Equipment	Engineers perform load calculations to identify line protection devices that are approaching their capacity limits. Devices are replaced or upgraded to assure that they function properly.
Capacitor Installation	Engineers perform voltage profiles to determine the need, location and size of any new voltage support equipment required to maintain adequate service voltage levels at customer facilities and provide needed reactive support for system stability. Line personnel install the required equipment.
Upgrade System Facilities	Engineers determine the need for additional capacity and design new and upgraded facilities to assure system reinforcements are constructed by the time they are needed.

Appendix D

PPL Electric Utilities Corporation
Vegetation Programs & Procedures

Program	Activity
Tree Pruning	Tree pruning is scheduled based on field conditions observed and/or a system prioritization process. All pruning is done in accordance with American National Standard for Tree Care Operations-Tree, Shrub and Other Woody Plant Maintenance – Standard Practices (ANSI A300).
Tree Removal	Trees located both within the right-of-way corridor and outside the right-of-way that may be a threat to line performance/ safety are removed when it is feasible to do so.
Herbicide Application	Tall-growing, undesirable vegetation growing within the rights-of-way corridors is selectively treated with herbicides. Low-growing vegetation that does not represent a hazard to the safe, reliable operation of PPL Electric's facilities is preserved wherever possible.
Reclearing	Tall-growing, undesirable vegetation growing within the rights-of-way corridors is selectively removed in those situations where herbicides can't be utilized. Low-growing vegetation that does not represent a hazard to the safe, reliable operation of PPL Electric's facilities is preserved wherever possible.

Appendix E

PPL Electric Utilities Corporation
Service Interruption Definitions

Trouble Definitions: After field investigations and repairs are complete, PPL Electric linemen report the cause of each case of trouble. This information is electronically recorded as a "cause code" number when the job record is closed. PPL Electric cause codes are subdivided into four general classifications: Controllable, Non-Controllable, Public and Non-PPL. The definitions of the cause codes are:

10 – Improper Design	Controllable	• When an employee or agent of PPL Electric is responsible for an error of commission or omission in the engineering or design of the distribution system. (Facility Records personnel use only)
11 – Improper Installation	Controllable	• When an employee or agent of PPL Electric is responsible for an error of commission or omission in the construction or installation of the distribution system. (Facility Records personnel use only)
12 – Improper Operation	Controllable	• When an employee or agent of PPL Electric is responsible for an error of commission or omission in the operation or maintenance of the distribution system. (Facility Records personnel use only)
30 – Trees –Trimming Related[8]	Controllable	• Outages resulting from conductors contacted by tree growth within the clearance zone defined by the current trimming specification (within the Right-of-Way).
35 – Trees – Not Trimming Related	Non-Controllable	• Outages due to trees, but not related to lack of proper tree trimming maintenance. This includes danger timber blown into PPL Electric facilities, and trees or limbs felled by the public.
40 – Animals	Controllable	• Any outage caused by an animal directly or indirectly coming in contact with PPL Electric facilities. This includes birds, squirrels, raccoons, snakes, cows, etc.
41 – Vehicles	Public	• When cars, trucks or other types of vehicles or their cargoes strike facilities causing a problem.

[8] The title and description of this code have been revised for clarity. The purpose and application of the code have not changed.

51 – *Contact/Dig-in*	*Public*	• When work in the vicinity of energized overhead facilities results in interruptions due to accidental contact by cranes, shovels, TV antennas, construction equipment (lumber, siding, ladders, scaffolding, roofing, etc.). • When contact is made by a non-employee with an underground facility causing interruption.
60 – Equipment Failure	Controllable	• Outages resulting from equipment failures caused by corrosion or contamination from build-up of materials, such as cement dust or other pollutants. • Outages resulting from a component wearing out due to age or exposure, including fuse tearing or breaking. • Outages resulting from a component or substance comprising a piece of equipment failing to perform its intended function. • Outages resulting from a failure that appears to be the result of a manufacturer's defect or cannot be described by any other code indicating the specific type of failure.
77 – Non-PPL Problem – Other	Non-PPL	• Where no PPL Electric or customer facilities were affected, and no repair or restoration was carried out on PPL Electric equipment.
78 – Non-PPL Problem – Customer Facility	Non-PPL	• Where no PPL Electric facilities were affected, and no repair or restoration was carried out on PPL Electric equipment.
80 – Scheduled Outage[9]	Controllable	• Interruptions under the control of a PPL Electric switchman or direction of a PPL Electric System Operator for the purpose of performing scheduled maintenance, repairs and capacity replacements for the safety of personnel and the protection of equipment. • Includes requests from customers for interruption of PPL Electric facilities.

[9] Interruptions under the control of a PPL Electric switchman or the direction of a PPL Electric System Operator for the purpose of isolating damaged facilities to make repairs are reported using the initial cause of the damage when the interruption is taken immediately, but are reported as scheduled outage when the interruption is postponed.

85 – Directed by Non-PPL Authority[10]	Non-Controllable	• Interruptions under the control of a PPL Electric switchman or direction of a PPL Electric System Operator for the purpose of dropping load or isolating facilities upon request during emergency situations. • Interruptions which cannot be postponed or scheduled for a later time, and include situations like load curtailment during system emergencies, and requests of civil authorities such as fire departments, police departments, civil defense, etc. for interruption of PPL Electric facilities.
90 – Other – Controllable (Lineman provides explanation)	Controllable	• Interruptions caused by phase to phase or phase to neutral contacts, resulting from sleet or ice dropping off conductors, galloping conductors, or any other phase to phase or phase to neutral contact where weather is a factor. • Interruptions resulting from excessive load that cause that facility to fail. • When restoration of service to a facility, which had been interrupted for repairs or other reasons, causes an additional interruption to another facility which had not been involved in the initial interruptions. • Controllable interruptions or Power Service Problems whose cause is not described by one of the previous controllable cause codes.
96 – Nothing Found	Non-Controllable	• When no cause for the interruption can be found. • When there is no evidence of equipment failure, damage or contact after line patrol is completed. This could be the case during a period of heavy thunder and lightning, when a line fuse blows or a single phase OCR locks open. • When closed for test, the fuse holds or the OCR remains closed. A patrol of the tap reveals nothing.
98 – Other Public (Lineman provides explanation)	Public	• All outages resulting from gunfire, civil disorder, objects thrown, or any other act intentionally committed for the purpose of disrupting service or damaging company facilities.

[10] The title of this code has been revised for clarity. The purpose and application of the code has not changed.

99 – Other – Non-Controllable (Lineman provides explanation)	Non-Controllable	• Any outage occurring because of a fire, flood or a situation that develops as a result of a fire or flood. Do not use when facilities are de-energized at the request of civil authorities. • When an interruption is caused by objects other than trees, such as kites, balls, model airplanes, roofing material, or fences, being accidentally blown or thrown into overhead facilities. • All problems caused by contact of energized equipment with facilities of other attached companies or by trouble on customer owned equipment. • Interruptions or Power Service Problems whose cause is not described by one of the previous non-controllable cause codes, but is not affected by a PPL Electric employee's decisions.