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FEDERAL EXPRESS

May 1, 2013

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

Re: PPL Electric Utilities Corporation
2012 Annual Reliability Report

L-00030161

Dear Ms. Chiavetta:

Enclosed for filing on behalf of PPL Electric Utilities Corporation ("PPL Electric") are an original and five (5) copies 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 § 57.191, et seq.

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 May 1, 2013, 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.

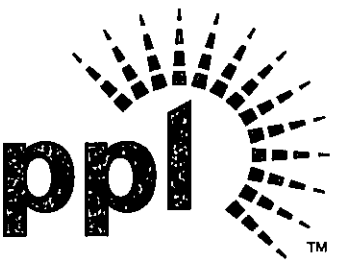
If you have any questions regarding the enclosed report, please call me or B. Kathryn Frazier, PPL Electric's Regulatory Affairs Manager at (610) 774-3372.

Very truly yours,

Paul E. Russell

Enclosures

cc: Tanya J. McCloskey, Esquire
Steven C. Gray, Esquire
Mr. Paul T. Diskin
Mr. Darren Gill
Mr. Daniel Searfoorce



PPL Electric Utilities

L-00030161

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

RECEIVED

MAY 01 2013

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

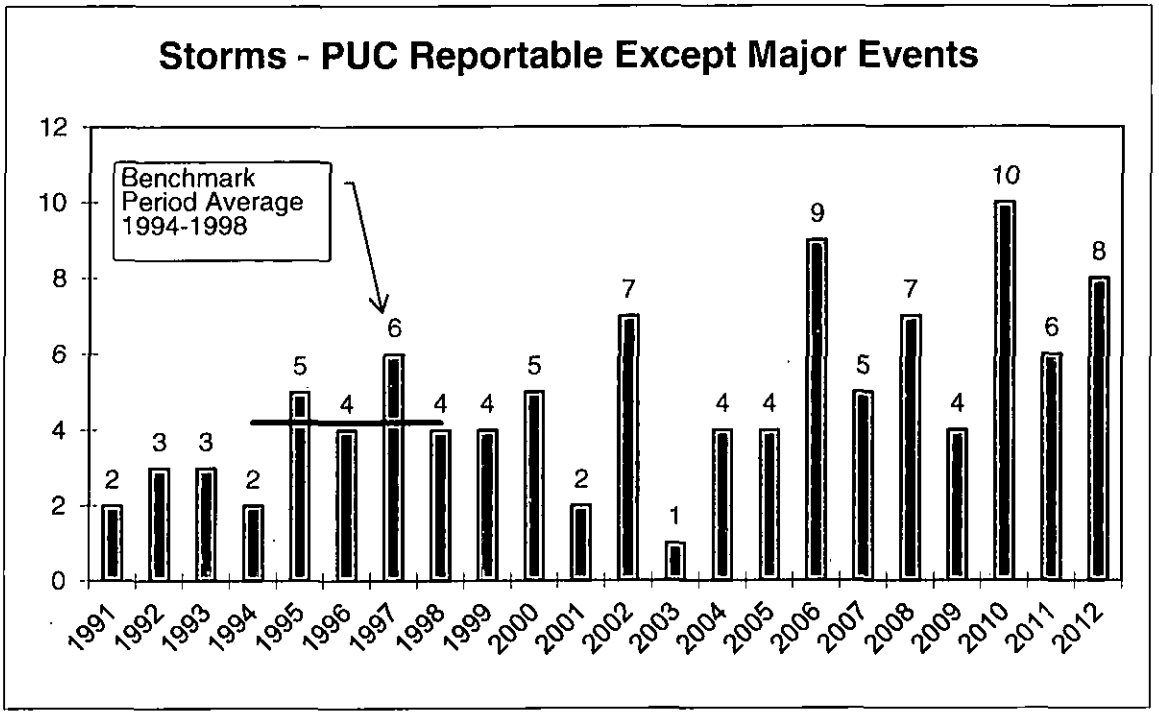
May 1, 2013

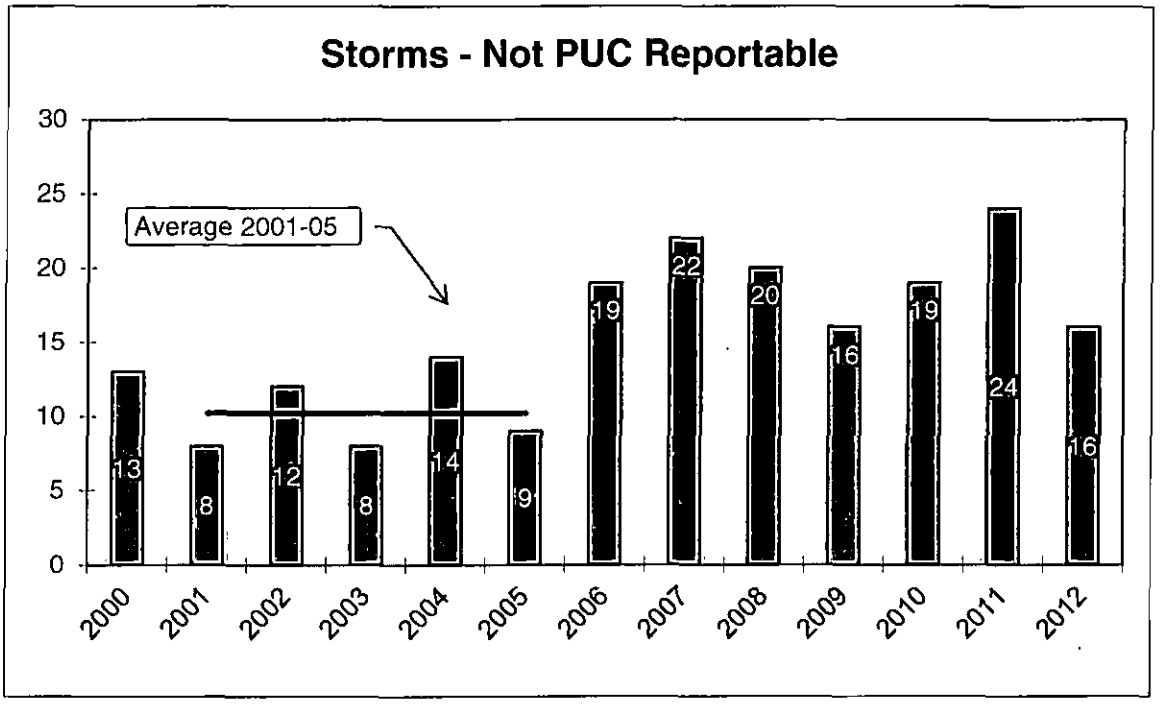
1) ***An overall current assessment of the state of the system reliability in the EDC's service territory including a discussion of the EDC's current programs and procedures for providing reliable electric service.***

In 2012, SAIFI, SAIDI and CAIDI values increased versus the prior year, but remained below their 12-month standards for PPL Electric Utilities Corporation ("PPL Electric").

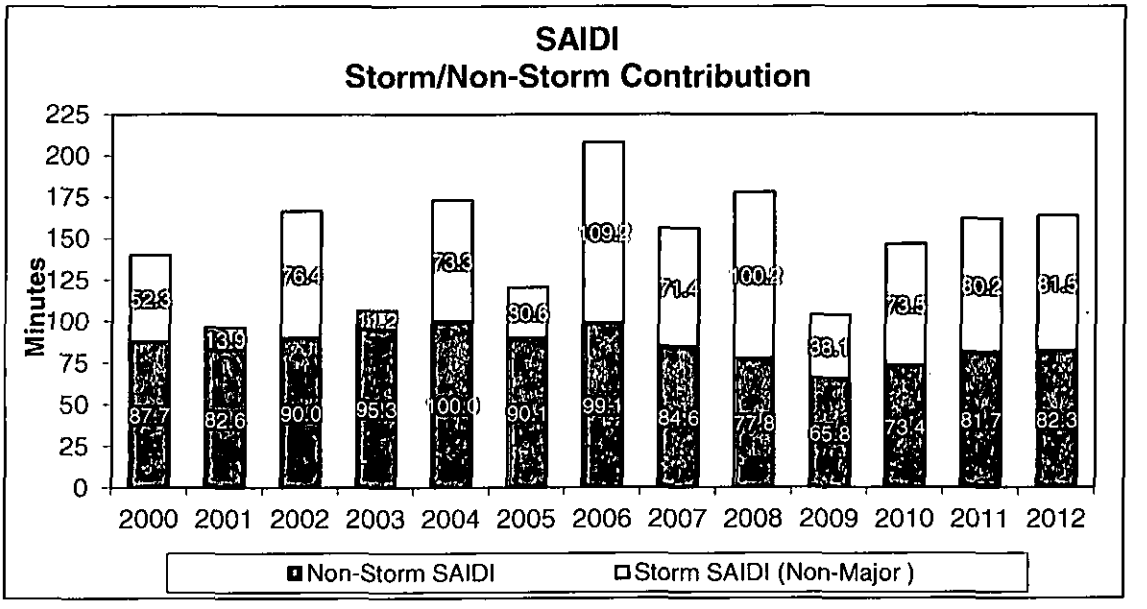
The three-year rolling average for SAIFI, CAIDI and SAIDI remained below the three-year standard, as well as the rolling 12-month standard. The three-year rolling average for SAIFI, SAIDI, and CAIDI were above the benchmark standard by 10%, 11% and 1% respectively.

All metrics were negatively impacted due to an increase in total storm activity as compared to the prior previous years. Specifically, PPL Electric experienced an average of 5.7 PUC reportable storms per year during the ten years from 2002 through 2011. The number of PUC reportable storms jumped to 8 in 2012, a 28% increase.

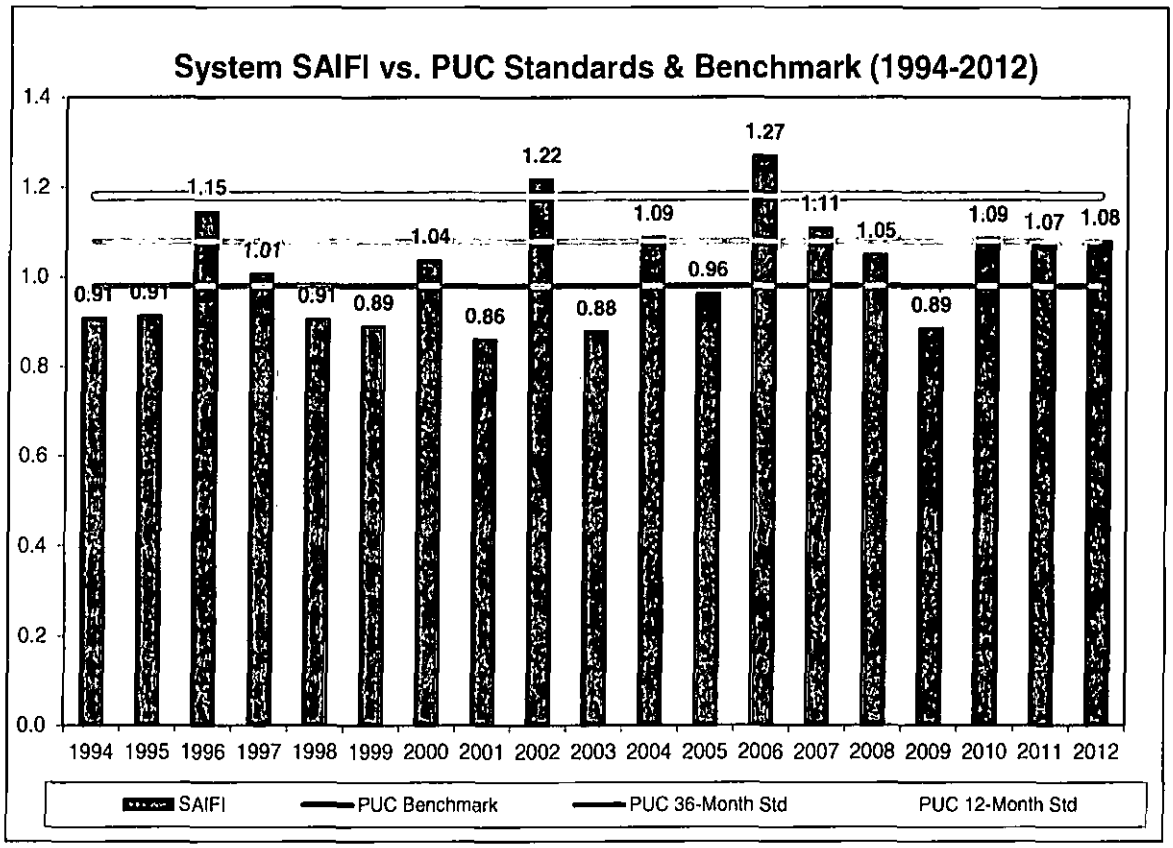


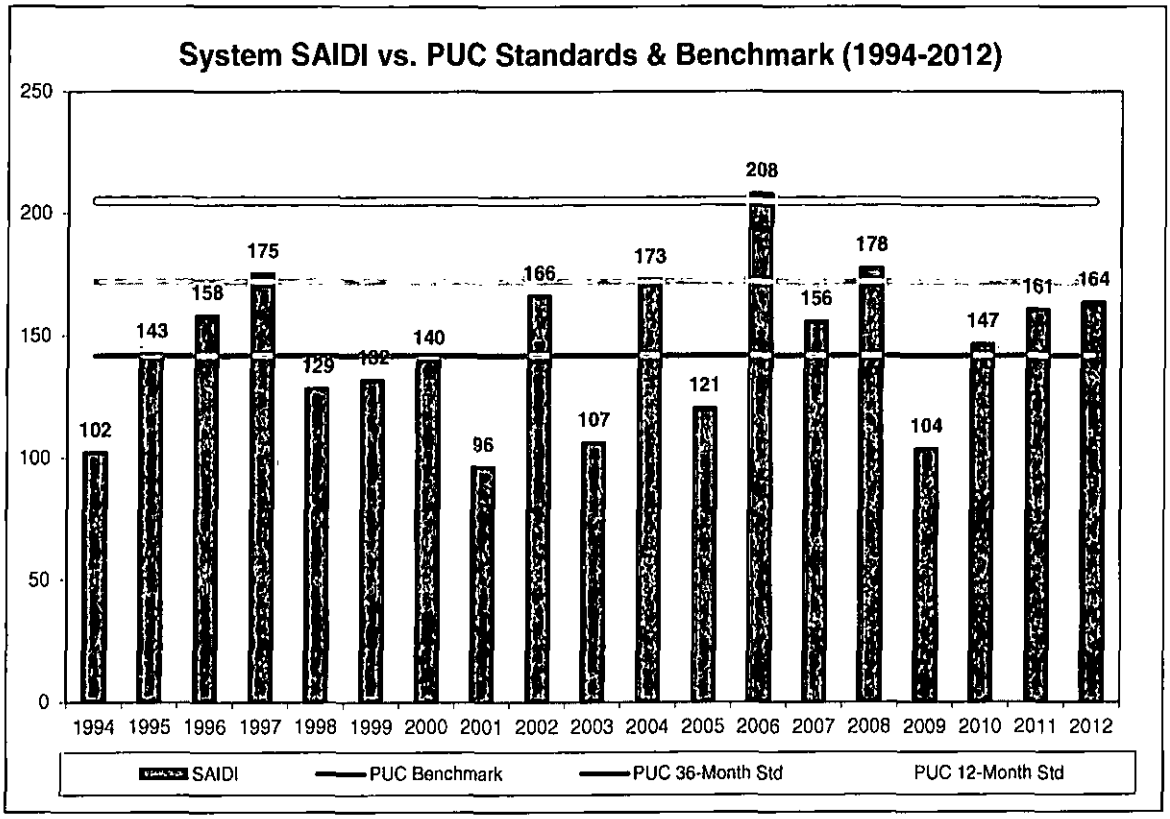


In a year with an average number of storms, customer service interruptions during storms typically contribute about one-third to the total SAIDI value. In 2012, storm interruptions contributed 50% of the SAIDI value.



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:


System SAIFI vs. PUC Standards & Benchmark (1994-2012)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0.91 0.91 1.15 1.01 0.91 0.89 1.04 0.86 1.22 0.88 1.09 0.96 1.27 1.11 1.05 0.89 1.09 1.07 1.08
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
SAIFI
PUC Benchmark
PUC 36-Month Std
PUC 12-Month Std


System SAIDI vs. PUC Standards & Benchmark (1994-2012)
250
200
150
100
50
0
102 143 158 175 129 132 140 96 166 107 173 121 208 156 178 104 147 161 164
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
SAIDI
PUC Benchmark
PUC 36-Month Std
PUC 12-Month Std

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 a catastrophic 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 that help engineers identify lines requiring maintenance work, voltage relief, or other capital improvements. Overhead line inspections 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/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.***

Hurricane Sandy

On October 29, 2012, Hurricane Sandy struck PPL Electric's service territory. Sandy was a Category 1 hurricane with sustained winds of 90 mph located 200 miles southeast of Atlantic City, NJ. The heaviest winds were felt within PPL Electric's service territory during the late evening of Monday, October 29, 2012. Hazardous winds continued throughout the following day, with the Lehigh and Northeast regions experiencing the most severe and sustained winds.

Various weather stations in Allentown recorded the highest wind gusts in the state ranging from 70 to 81 mph, while gusts above 60 mph were recorded in the Pocono area. In addition to the hazardous winds, heavy rain blanketed the service territory from Monday night through late Tuesday, October 30, 2012, causing localized flooding and loose soil conditions.

Most of PPL Electric's service territory experienced at least 2 inches of rain, while some areas received up to 5 inches. The wind and rain caused large trees and branches from outside PPL Electric's rights-of-way to make contact with transmission and distribution facilities resulting in many downed conductors and broken poles. In some areas, restoration efforts early in the storm were hampered by the heavy wind because bucket trucks cannot safely operate in winds above 30 mph.

Hurricane Sandy's size of nearly 1,000 miles produced extreme weather across at least 17 states. At landfall, Sandy's barometric pressure was 945.5 mb, making it the most powerful storm north of Cape Hatteras, NC since 1938. Long-standing low pressure records were broken in the Harrisburg and Scranton areas.

PPL Electric's entire service territory experienced sustained customer service interruptions. The territory experienced a total of 3,819 cases of trouble resulting in 523,936 customer service interruptions. The first case of trouble was reported on Monday, October 29, 2012, at approximately 6:00 AM. New service interruptions continued to be reported throughout the week as a result of multiple embedded service outages, which could not be detected until upstream service outages were restored. A total of 420,115 customers experienced a service interruption lasting longer than six hours; 389,876 customers were without service for more than 12 hours; 267,701 customers were without service for 24 hours or longer. The last customers were returned to service at 8:30 PM on Wednesday, November 7, 2012. Hurricane Sandy is the most damaging storm event to impact PPL Electric's service territory since records have been kept.

Actions Underway

PPL Electric is taking the following steps to improve their Emergency Response Plan based on lessons learned from the 2012 storms and benchmark studies with other utilities and industry organizations.

Initiatives for 2013 involve improvements to all aspects of our plan. Listed below are some key highlights:

- Development of a restoration playbook. The purpose of the playbook is to document best practice strategies for storm restoration. This playbook will provide the PPL Electric Emergency Response organization with a tool to assist in the development of staffing and restoration strategies to gain efficiency in our restoration process.

- ARCOS Callout Roster Replacement Project. New callout system will increase the efficiency of the callout process and provide for a quicker response for needed resources.

- Damage Assessment and Wire Guard process. These are 2 vital functions for storm response. Initiatives involve reviewing the current process and making improvements based on best practices and lessons learned.

- OMS upgrade. PPL Electric is working with the vendor to upgrade to the outage management system which will improve overall efficiency.

- Enhancements to the PPL MyAlerts communication messaging. These enhancements will improve communications with customers and provide more timely and accurate updates. In addition to the PPL MyAlerts improvements, PPL Electric is working to improve PING response times. This improvement will increase ability to ping meter status and provide timely assessment of outage information.

- Development of Staging Site plans. PPL Electric is currently identifying and mapping out staging sites across all 6 operating regions. These plans will detail the site layout, the numbers of trucks and personnel that can be deployed to that site as well as identify additional logistical requirements for site activation.

- Development and assignment of storm roles to all PPL Electric employees. This includes the development of storm role documents, providing training as required and developing drills to maintain proficiency.

- Development of a centralized Housing and Feeding organization. During major events, it may be necessary to house and feed thousands of external workers. Improvements to this process will reduce idle time and increase wrench time for mutual aid workers.

- Enhancing the process to deploy PPL Electric representatives to County Emergency Management Agency during major events. The process improvement will enable PPL Electric to more closely work with County Officials to prioritize vital and critical facility restorations.

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	**2010**	**2011**	**2012**[1]	**3 Yr. Avg.**
SAIFI (Benchmark = 0.98; Rolling 12-month Std. = 1.18; Rolling 3-yr. Std. = 1.08)	1.087	1.071	1.076	1.078
CAIDI (Benchmark = 145; Rolling 12-month Std. = 174; Rolling 3-yr. Std. = 160)	135	151.14	152.33	146.16
SAIDI (Benchmark = 142; Rolling 12-month Std. = 205; Rolling 3-yr. Std. = 172)	147	161.95	163.85	157.60
MAIFI[2]	4.960	5.033	4.11	4.701
Customers Served[3]	1,388,192	1,389,884	1,392,408	1,390,161
Number of Sustained Customer Interruptions (Trouble Cases)	20,081	18,403	16,384	18,289
Number of Customers Affected[4]	1,508,319	1,489,203	1,497,660	1,498,394
Customer Minutes of Interruptions	203,963,698	225,087,897	228,143,195	219,064,930
Number of Customer Momentary Interruptions	6,510,312	6,994,790	5,716,569	6,407,224

[1] Any slight variations from data provided in the 2011 fourth quarter report 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 2012.[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	2,888	17.63%	51,003	3.41%	4,166,711	1.83%
Contact/Dig-In	148	0.90%	20,526	1.37%	1,796,313	0.79%
Directed by Non-PPL Authority	171	1.04%	8,209	0.55%	666,646	0.29%
Equipment Failures	5,340	32.59%	526,631	35.16%	63,999,023	28.05%
Improper Design	1	0.01%	1,375	0.09%	205,329	0.09%
Improper Installation	1	0.01%	1	0.00%	121	0.00%
Improper Operation	23	0.14%	20,399	1.36%	725,226	0.32%
Nothing Found (Explain)	1,373	8.38%	98,557	6.58%	7,387,553	3.24%
Other-Controllable (Explain)	78	0.48%	4,483	0.30%	322,674	0.14%
Other-Non Control (Explain)	409	2.50%	92,472	6.17%	8,227,593	3.61%
Other-Public (Explain)	65	0.40%	7,240	0.48%	563,912	0.25%
Tree Related	5,149	31.43%	503,399	33.61%	121,250,759	53.14%
Vehicles	738	4.50%	163,365	10.91%	18,831,335	8.25%
Total	16,384	100.00%	1,497,660	100.00%	228,143,195	100.00%

[5] Any slight variations from data provided in the 2011 fourth quarter report 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. PPL Electric has experienced an increased level of both reportable and non-reportable storms during 2010 as compared to the previous three years.

Tree Related: Although their effect on reliability is significant, tree outages not related to trimming generally are caused by trees falling from outside of PPL Electric's rights-of-way, and generally are not controllable. For trees within the right-of-way, PPL Electric is currently implementing a more aggressive trimming strategy.

Animals: Animals accounted for about 17.6% of PPL Electric's cases of trouble. Although this represents a significant number of cases, the effect on SAIFI and CAIDI is small because nearly 81% of the number of cases of trouble is 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 systematically focus on protecting existing facilities most at risk of incurring animal-caused interruptions.

Vehicles: Although vehicles caused a small percentage of the number of cases of trouble, they accounted for a large percentage of customer service interruptions and customer minutes, because main distribution lines generally are located along major thoroughfares with higher traffic densities. In addition, vehicle-related cases of trouble 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 roads. 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 service interruptions and customer minutes. However, approximately 42% of the cases of trouble, 48% of the customer service interruptions and 58% 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 service 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, implementation of 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 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 ID: 46602, Larrys Creek 66-2

Performance Analysis

An OCR that protects 848 customers on the Salladasburg tap on the Larrys Creek 66-2 circuit tripped to lockout on March 13, 2012, due to a vehicle hit. The lack of a tie with this northern tap left the 848 customers out of service for over 9 hours until repairs could be made. On June 12, 2012, wires were down due to a tree falling on conductors. The lack of a tie left the 848 customers out of service for around 8 hours until repairs could be made.

Remedial Actions

- Funding was approved to add two new ROCS devices and one VCR in 2013.
- A work order was initiated to rebuild single phase 6A copper-weld copper conductor with 1/0 ACSR XLP and relocate an inaccessible section that run through a wooded area. This work is scheduled for 2013.
- A work order was initiated to relocate 2800' of inaccessible single phase and install a new OCR and additional tap fuses. This work is scheduled for 2014.
- A work order was initiated to relocate 10 spans of inaccessible single phase and install additional tap fuses. This work is scheduled for 2014.
- A work order was initiated to relocate 2000' of inaccessible single phase and install a new OCR and additional tap fuses. This work scheduled for 2014.
- An expanded operational review of this circuit was completed in 2012.

Circuit ID: 23401, HONESDALE 34-1

Performance Analysis

Two major equipment related outages significantly affected this circuit's reliability in the past four quarters. On May 4, 2012, an unintentional substation relay operation caused the 34-01 breaker to trip to lockout, interrupting 1,741 customers for up to 100 minutes, resulting in 174,222 CMI. Substation crews identified and resolved the issues with the relay during outage restoration.

On July 26, 2012 an equipment failure on the overhead primary conductor caused the 34-01 OCR at grid 67208N53876 to trip to lockout. This outage affected 530 customers for up to 216 minutes, resulting in 89,422 CMI.

In total, the Honesdale 34-1 circuit had 48 outages between March 2012 and April 2013. The primary causes of these outages include: tree contacts from outside the right of way (20), equipment failures (16), and animal contacts (12).

Remedial Actions

- PPL will be trimming the entire Honesdale 34-01 circuit in the early part of the 2013 calendar year.
- Three phase voltage regulators will be installed in order to improve the capabilities of the existing Honesdale 34-01 to Tinker 44-01 tie line. These improvements will enhance sectionalizing capability in the area and reduce future outage durations for PPL customers. The required in service date for the voltage regulators is November 30, 2015.
- A new tie line between the Honesdale 34-1 and East Carbondale 12-3 circuits will be built in order to enhance the sectionalizing capability in the area. The tie will also reduce the duration of future outages for customers on both the Honesdale 34-1 and East Carbondale 12-3 circuits in the future. This required in service date for this project is November, 2014.

Circuit ID: 47502, NEW COLUMBIA 75-02

Performance Analysis

All of the customers served by the NECO 69kV substation were out of service when an animal contact at the sub caused an outage on April 1, 2012. The NECO 47502 was carrying the NECO 47501 at the time.

On July 26th 2012 all of the customers served by the NECO 47502 were out of service for over 42 hours when trees outside of the right of way fell on conductors during a thunder and lightning storm. These two outages resulted in approximately 585,000 customer minutes interrupted which was approximately 95% of the total over the past 12 months.

Remedial Actions

- A work order was initiated to Install Solid Blade Disconnect at grid 24041N33244 to add additional sectionalizing capability. WO 43012775 is scheduled to be completed by June 15, 2013.
- On September 14, 2012 a request was made to the CEMI Task Force to secure funding to remove hazard trees and trim downstream of the White Deer Tap two phase OCR at grid 24289N32928. This work was completed on November 23, 2012.
- On February 20, 2013 and Infrared Inspection of this circuit was completed. There were no reliability concerns identified.

Circuit ID: 47704, BLOOMSBURG 77-04

Performance Analysis

In July, 2012, the 77-04 was carrying a portion of the Millville 32-01 for a SCADA installation at the Millville Substation. On July 7, 2012 a loop burned open on the 32-01 circuit and caused an OCR on the 77-04 circuit to operate to lockout. On July 15, 2012 the circuit breaker opened due downed conductors on the Millville 32-01 circuit, which was still being carried by the 77-04 circuit. These two outages, which occurred during an abnormal configuration, accounted for approximately 90% of the total customer minutes interrupted over the past 12 months.

Remedial Actions

- Project B15410 will add a new ROCS device that will allow system operators to remotely transfer customers from the 77-04 circuit to the 77-03 circuit. This project has a required in service date of November 2015.
- On February 11, 2013, an infrared inspection of this circuit was completed. There were no reliability concerns identified.
- The SCADA installation at the Millville substation was completed on July 26, 2012.

Circuit ID: 43302, WATSON 33-02

Performance Analysis

On May 5, 2012 all of the customers on this circuit were out of service due to a vehicle hit. At the time of the outage this circuit was carrying a portion of the 75-02 circuit. This outage was responsible for 250,000 customer minutes interrupted which was approximately 95% of the total CMI over the past 12 months.

Remedial Actions

- No long term plan is required at this time. Reliability engineers will continue to monitor this circuit's performance.

Circuit ID: 47702, BLOOMSBURG 77-03

Performance Analysis

On July 7, 2012 the 77-03 circuit breaker operated to lockout due to trees outside the right of way falling on conductors. On August 20, 2012 the 47703 circuit breaker tripped and failed to automatically reclose due to a closing coil malfunction. The circuit was patrolled prior to attempting to reclose the circuit breaker and no problems were found. These two outages accounted for approximately 82% of the total customer minutes interrupted over the past 12 months.

Remedial Actions

- A new ROCS device will be installed that will allow system operators to remotely transfer customers from the 77-04 to the 77-03 circuit. This project has a required in service date of November 2015.
- On February 11, 2013 an infrared inspection of this circuit was completed. There were no reliability concerns identified.
- The SCADA installation at the Millville substation was completed on July 26, 2012 and the portion of the Millville 32-02 was transferred back to Millville

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	**2012 Budget**	**2012 Actual**	**Variance (%)**
Transmission			
Transmission C-tag poles (# of poles)	240	242	1%
Transmission arm replacements (# of sets)	50	130	160%
Transmission air break switch inspections (# of switches)	64	16	-75%
Transmission lightning arrester installations (# of sets)	0	1	NA
Transmission pole inspections (# of poles)	0	0	NA
Transmission tree side trimming (# of linear feet)	NA	NA	
Transmission herbicide (# of acres)	NA	NA	
Transmission reclearing (# of acres)	NA	NA	
Transmission danger tree removals (# of trees)	NA	NA	
Transmission reclearing (# of miles) BES Only	637.34	637.34	0%
Transmission reclearing (# of miles) 69 kv	865.95	865.95	0%
Transmission reclearing (# of miles) 138 kv	296.60	296.60	0%
Substation			
Substation batteries (# of activities)	854	861	1%
Circuit breakers (# of activities)	1502	1168	-22%
Substation inspections (# of activities)	5200	5322	2%
Transformer maintenance (# of activities)	2224	1997	-10%
Distribution			
Distribution C-tag poles replaced (# of poles)	2,126	1,895	-11%
C-truss distribution poles (# of poles)	4,819	5,206	8%
Capacitor (MVAR added)	80	81	0%
OCR replacements (# of)	644	593	-8%
Distribution pole inspections (# of poles)	90,000	89,894	0%
Distribution line inspections (# of miles)	5,040	6,705	33%
Group re-lamping (# of lamps)	26,869	26,869	0%
Test sections of underground distribution cable	493	515	5%
Distribution tree trimming (# of miles)	7087.50	7025.79	1%
Distribution herbicide (# of acres)	NA	NA	
Distribution >18" removals within R/W (# of trees)	NA	NA	
Distribution hazard tree removals outside R/W (# of trees)	NA	NA	

Inspection & Maintenance Goals/Objectives	2012 Budget	2012 Actual	Variance (%)
LTN manhole inspections (# of)	133	124	-7%
LTN vault inspections (# of)	804	702	-13%
LTN network protector overhauls (# of)	78	53	-32%
LTN reverse power trip testing (# of)	137	91	-34%

Explanation of variances greater than 10%:

Transmission arm replacements were above budget. Helicopter patrols discovered more damaged arms than budgeted.

Transmission air break switch inspections were below budget. Budgeted work could not be integrated with the outage plan.

Substation circuit breaker activities were below budget. Authorized plan was reduced; moved scope into the next budget cycle.

Substation transformer activities were below budget. Authorized plan was reduced; moved scope into the next budget cycle.

Distribution C-Tag poles replaced were below budget because C-Tag poles identified late in 2012, which had adequate remaining strength, were deferred until 2013 as a result of focus on year end Hurricane Sandy clean-up efforts.

Distribution Line Inspections were above budget because there was an increase in distribution line inspections to allow for greater focus on identifying remedial actions on Worst Performing Circuits and high customer complaint circuits.

LTN vault inspections were below budget. Authorized plan was reduced; moved scope into the next budget cycle.

LTN network protector overhauls were below budget. Authorized plan was reduced; moved scope into the next budget cycle.

LTN reverse power trip testing was below budget. Authorized plan was reduced; moved scope into the next budget cycle.

7) ***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	2012 Budget ($1,000s)	2012 Actual ($1,000s)	Variance (%)
Provide Electric Service	9,132	9,823	7.6
Vegetation Management	43,674	47,573	8.9
Customer Response	64,865	92,481	42.6
Reliability & Maintenance	68,994	63,465	-8.0
System Upgrade	979	1,828	86.7
Customer Services/Accounts	128,684	126,273	-1.9
Other	63,880	60,500	-5.3
Total O&M Expenses	**380,208**	**401,943**	**5.7**

Explanation of variances of 10% or greater:

Customer Response is above budget by 42.6% primarily due to PUC reportable storm activity.

System Upgrade is above budget by 86.7% primarily due to unexpected labor and material expenses for structure repairs on Susquehanna-Harwood #1 & #2 - ROW project.

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	2012 Budget ($1,000s)	2012 Actual ($1,000s)	Variance (%)
New Service/Revenue	71,080	80,008	12.6%
System Upgrade	262,272	268,412	2.3%
Reliability & Maintenance	206,174	200,930	-2.5%
Customer Response	9,790	20,399	108.4%
Other	25,159	21,793	-13.4%
Total	**574,475**	**591,542**	**3.0%**

Explanation of variances of 10% or greater:

New Service/Revenue was higher than budget due to a higher volume of residential and commercial/industrial service requests and a large customer project.

Customer Response was higher than budget as a result of spending for PUC reportable storms.

Other was lower than budgeted for vehicles, tools and equipment, and furniture.

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	2013 Budget
Transmission	
Transmission C-tag poles (# of poles)	307
Transmission arm replacements (# of sets)	104
Transmission air break switch inspections (# of switches)	51
Transmission lightning arrester installations (# of sets)	0
Transmission tree side trimming (# of linear feet)	1600
Transmission herbicide (# of acres)	N/A
Transmission reclearing (# of miles) BES Only	N/A
Transmission reclearing (# of miles) 69 kv	400.09
Transmission reclearing (# of miles) 138 kv	857.67
Transmission danger tree removals (# of trees)	0
Substation	
Substation batteries (# of activities)	657
Circuit breakers (# of activities)	995
Substation inspections (# of activities)	4439
Transformer maintenance (# of activities)	1440
Distribution	
Distribution C-tag poles replaced (# of poles)	1,344
C-truss distribution poles (# of poles)	4,958
Capacitor (MVAR added)	20
OCR replacements (# of)	750
Distribution pole inspections (# of poles)	90,000
Distribution line inspections (# of miles)	6,091
Group relamping (# of lamps)	18,379
Test sections of underground distribution cable	560
Distribution tree trimming (# of miles)	6306.38
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)	711
LTN vault inspections (# of)	738
LTN network protector overhauls (# of)	63
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	2013 Budget ($1,000s)
Provide Electric Service	10,220
Vegetation Management	37,616
Customer Response	71,242
Reliability & Maintenance	62,977
System Upgrade	523
Customer Services/Accounts	125,104
Other	71,483
Total O&M Expenses	**379,165**

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	2013 Budget ($1,000s)
New Service/Revenue	78,420
System Upgrade	519,599
Reliability & Maintenance	274,032
Customer Response	15,228
Other	22,923
Total	**910,202**

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

There were no significant changes to inspection and maintenance programs in 2012 other than the scope changes discussed in the response to Item (6).

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 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 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.
Capacitor – Inspection & Maintenance	Line personnel inspect existing capacitor installations for potential failure, and inspect and maintain associated electronic control equipment to assure proper operation. Line personnel repair or replace any defective equipment.
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.

Program	Activity
Circuit Performance Review	Engineers use the PPL Electric's Circuit Performance Index to ascertain the need for additional circuit reviews / inspections. The index is a composite of SAIFI, CAIDI, and Trouble Cases.
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.

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.

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.

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Paul E Russell
PPL Corporation
2 N 9th Street

Allentown, PA 18101

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