

**Paul E. Russell**  
Associate General Counsel

**PPL**  
Two North Ninth Street  
Allentown, PA 18101-1179  
Tel. 610.774.4254 Fax 610.774.6726  
perussell@pplweb.com



**FEDERAL EXPRESS**

May 2, 2011

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

**RECEIVED**

MAY 2 2011

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**Re: PPL Electric Utilities Corporation  
2011 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 2011 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 2, 2011, 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 Joseph M. Kleha, PPL Electric's Manager - Regulatory Compliance and Rates at (610) 774-4486.

Very truly yours,



Paul E. Russell

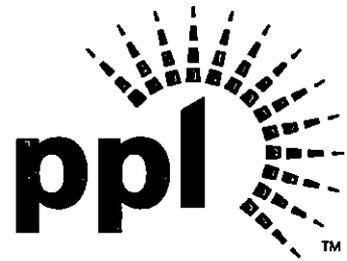
Enclosures

cc: Irwin A. Popowsky, Esquire  
William R. Lloyd, Esquire  
Elizabeth H. Barnes, Esquire  
Mr. Wayne Williams  
Mr. Blaine J. Loper

**RECEIVED**

MAY 2 2011

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU



**PPL Electric Utilities**

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

**RECEIVED**

MAY 2 2011

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

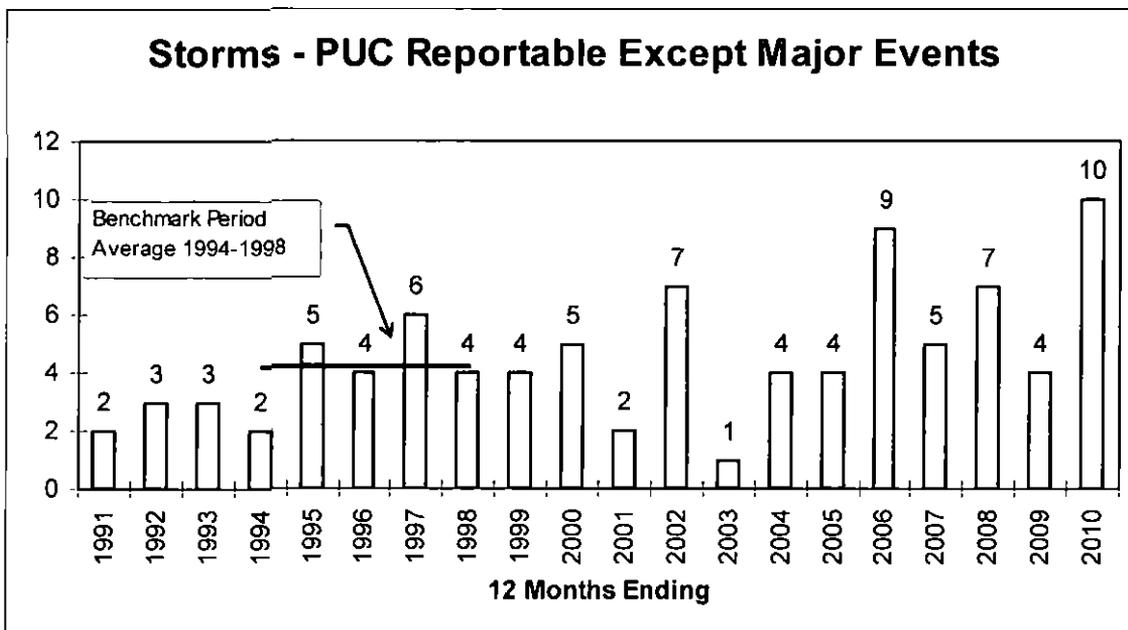
*May 2, 2011*

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 2010, SAIFI, CAIDI, and SAIDI values all increased versus the prior year, but remained below their respective 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 and dropped below the rolling 12-month standard. Additionally, CAIDI remained below the benchmark standard.

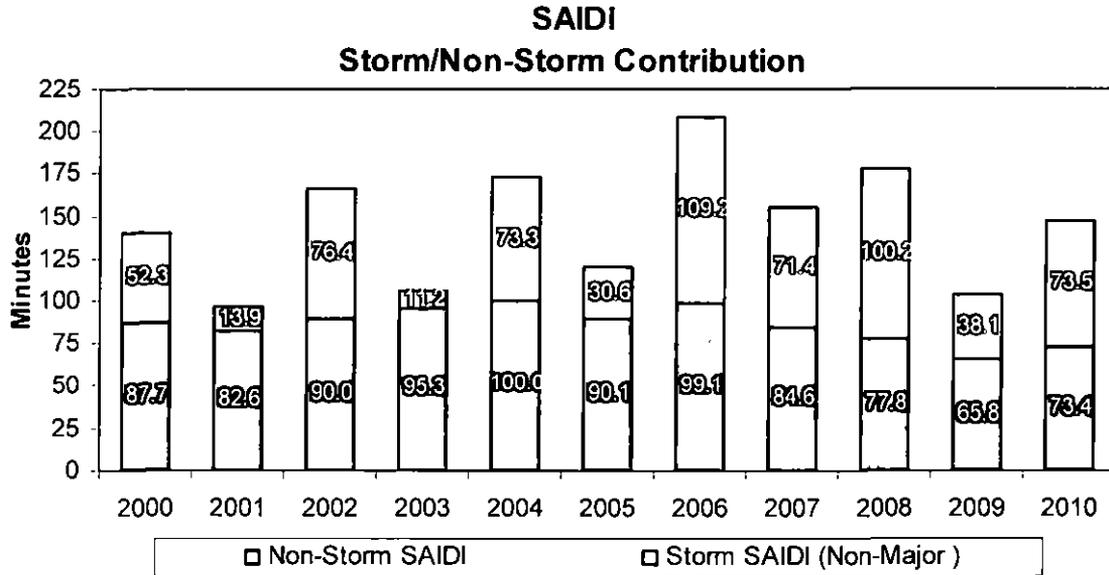
The general degradation in all metrics was partially due to a substantial increase in storm activity as compared to the three previous years. Specifically, PPL Electric experienced an average of 5.3 PUC-reportable storms ( $\geq 2,500$  customers interrupted for  $\geq 6$  hr.) per year during the three years from 2007 through 2009. The number of storms jumped to 10 in 2010, which is more than double the average of 4.2 storms per year experienced during the benchmark years, 1994 through 1998.



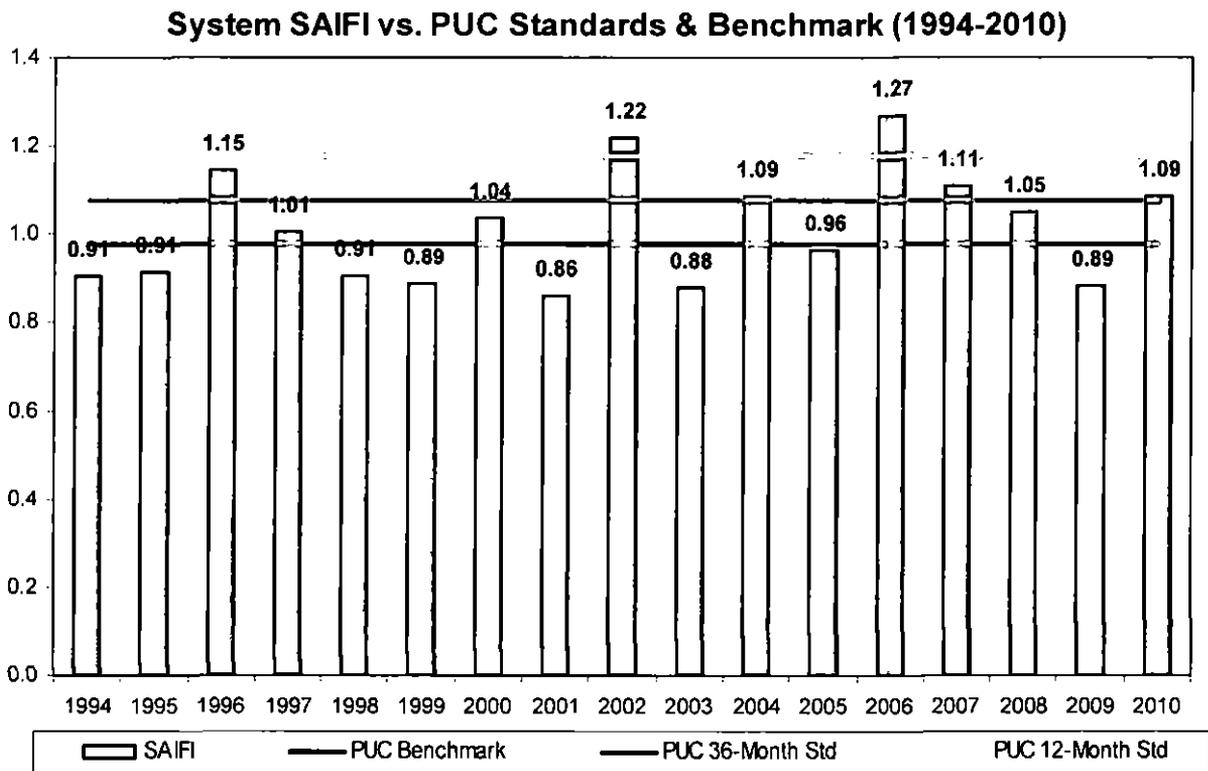
In addition, PPL Electric experienced 19 storms that were non-reportable, but which did require opening one or more area emergency centers to manage restoration efforts. This is 36% higher than the average of 14 non-reportable storms experienced over the last ten (10) years, since PPL Electric first began tracking the incidence of non-reportable storms.

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 2010, storm interruptions contributed to over one-half of the SAIDI value.

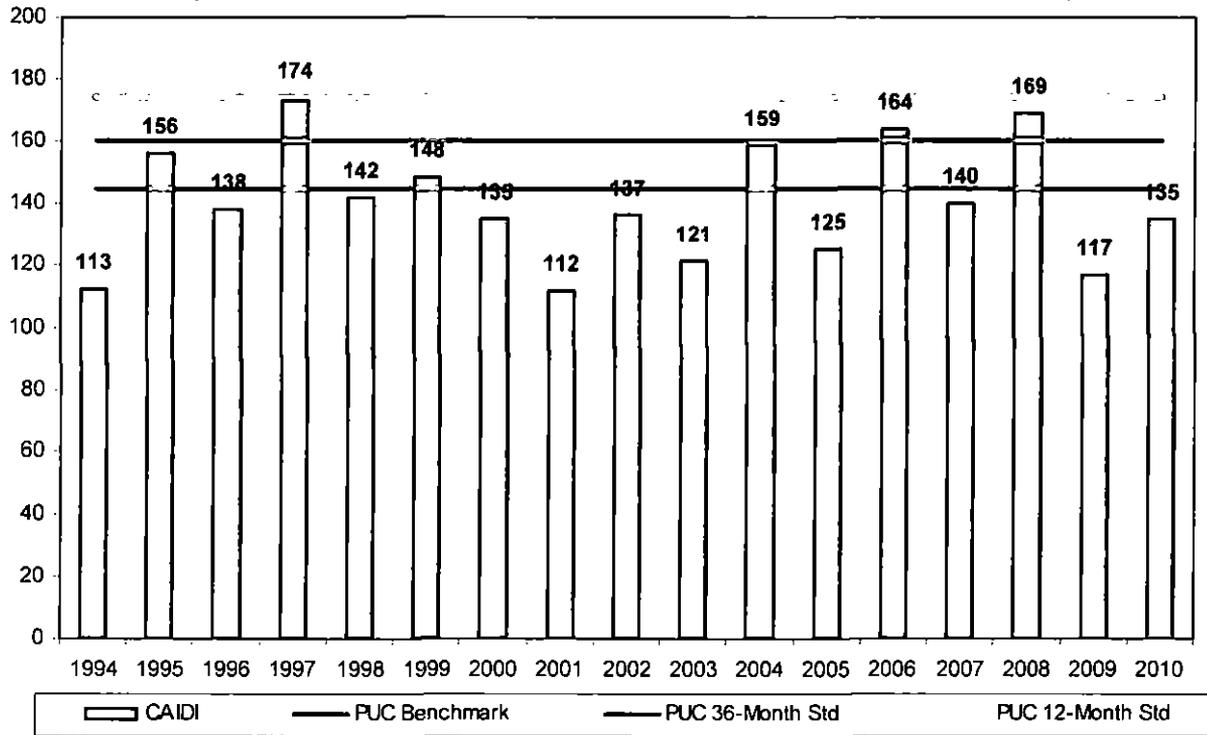
SAIDI during non-storm conditions for 2010 was 73.4 minutes, lower than the 87.3 ten-year average.



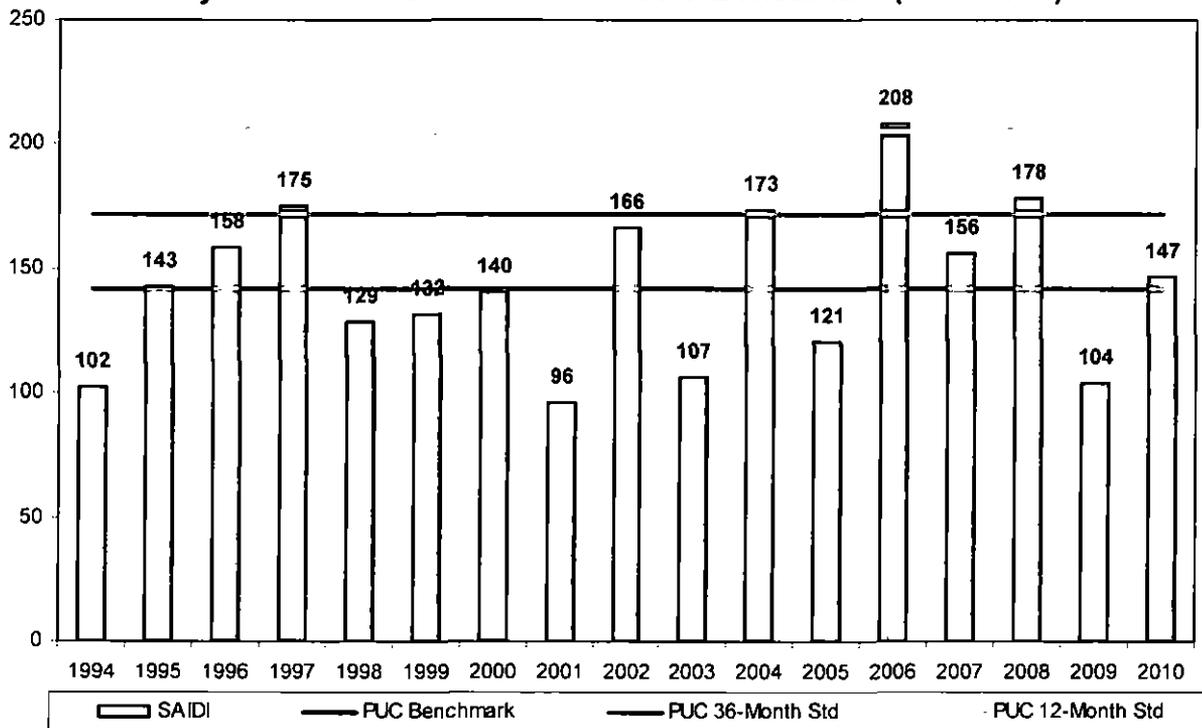
With the exception of the extraordinarily active storm years, SAIFI, CAIDI and SAIDI generally have been maintained at benchmark levels since the benchmark years of 1994 through 1998, as evidenced by the following three charts:



**System CAIDI vs. PUC Standards & Benchmark (1994-2010)**



**System SAIDI vs. PUC Standards & Benchmark (1994-2010)**



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.*

There were no events in 2010 that met the criteria for a major event.

- 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.*

<b>Year</b>	<b>2008</b>	<b>2009</b>	<b>2010<sup>1</sup></b>	<b>3 Yr. Avg.</b>
<b>SAIFI</b> (Benchmark = 0.98; Rolling 12-month Std. = 1.18; Rolling 3-yr. Std. = 1.08)	1.053	0.885	1.087	1.008
<b>CAIDI</b> (Benchmark = 145; Rolling 12-month Std. = 174; Rolling 3-yr. Std. = 160)	169	117	135	140
<b>SAIDI</b> (Benchmark = 142; Rolling 12-month Std. = 205; Rolling 3-yr. Std. = 172)	178	104	147	143
<b>MAIFI<sup>2</sup></b>	5.255	4.994	4.960	5.070
<b>Customers Served<sup>3</sup></b>	1,379,479	1,384,072	1,388,192	1,383,914
<b>Number of Sustained Customer Interruptions (Trouble Cases)</b>	20,796	17,470	20,081	19,449
<b>Number of Customers Affected<sup>4</sup></b>	1,452,677	1,225,421	1,508,319	1,395,472
<b>Customer Minutes of Interruptions</b>	244,863,407	143,351,898	203,963,698	197,393,001
<b>Number of Customer Momentary Interruptions</b>	7,248,677	6,912,711	6,510,312	6,890,566

<sup>1</sup> Any slight variations from data provided in the 2010 fourth quarter report are the result of error corrections.

<sup>2</sup> MAIFI data are obtained at the substation breaker and do not include momentaries at lower level devices.

<sup>3</sup> 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.

<sup>4</sup> 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 outage causes for 2010.<sup>5</sup> The top three causes (Equipment Failure, Trees - Not Trimming 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 <sup>6</sup>	Percent of Trouble Cases	Customer Interruptions <sup>7</sup>	Percent of Customer Interruptions	Customer Minutes	Percent of Customer Minutes
Animals	4,733	23.57%	79,389	5.26%	9,340,005	4.58%
Contact/Dig-In	156	0.78%	10,721	0.71%	1,135,013	0.56%
Directed by Non-PPL Authority	158	0.79%	10,823	0.72%	621,367	0.30%
Equipment Failures	5,572	27.75%	484,287	32.11%	55,960,493	27.44%
Improper Design	0	0.00%	0	0.00%	0	0.00%
Improper Installation	5	0.02%	4,072	0.27%	420,645	0.21%
Improper Operation	31	0.15%	46,064	3.05%	1,429,705	0.70%
Nothing Found	1,723	8.58%	106,285	7.05%	8,616,992	4.22%
Other-Controllable	124	0.62%	10,673	0.71%	714,565	0.35%
Other-Non Control	498	2.48%	50,608	3.36%	4,018,302	1.97%
Other-Public	94	0.47%	21,408	1.42%	952,375	0.47%
Trees-Not Trimming Related	5,423	27.00%	509,649	33.79%	98,787,987	48.43%
Trees-Trimming Related	879	4.38%	56,307	3.73%	12,143,248	5.95%
Vehicles	686	3.42%	118,060	7.83%	9,829,732	4.82%
<b>Total</b>	<b>20,082</b>	<b>100.00%</b>	<b>1,508,346</b>	<b>100.00%</b>	<b>203,970,429</b>	<b>100.00%</b>

<sup>5</sup> Any slight variations from data provided in the 2009 fourth quarter report are the result of error corrections.

<sup>6</sup> Cases of trouble are the number of sustained customer service interruptions (i.e., service outages).

<sup>7</sup> 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.

**Trees – Trimming Related:** On January 1, 2010, PPL Electric initiated a prescriptive tree trimming program that moved maintenance trimming cycles to five years for all circuits in PPL Electric's northern territory and four years for all circuits in PPL Electric's southern territory. These cycles are inclusive of both urban and rural circuits and will shorten the overall average trimming cycle for the system. Several more years will be required for the program to reach its full effectiveness on all circuits

**Trees – Not Trimming 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. However, these outages provide an indication of the level of storm activity because they are predominantly weather-related. During storm conditions these outages typically are responsible for over 50% of the cases of trouble and 70% of customer minutes lost.

**Animals:** Animals accounted for about 24% 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 85% 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 45% of the cases of trouble, 49% of the customer service interruptions and 57% 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 the worst performing 5% of circuits list for a year or more.**

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>	
<b>3</b>	<b>Circuit ID: 22602 KIMBLES 26-02</b>			<b>Location: Pocono</b>	<b>CPI: 1199</b>
	4/15/2009: Investigate relocating poles 71347N49205 and 71358N49195. Both of these poles recieved vehicle hits in 2008 which caused breaker outages.	Completed	4/27/2009	Inconclusive. Monitor future performance. Relocation is possible, will monitor for future pole hits.	
	1/13/2010: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	3/31/2010	High CPI of this circuit is because of 2 large OCR outages caused by trees outside of the right-of-way and a transmission outage due to a failed switch (the switch was replaced).	
	10/15/2010: Circuit outage data analysis. Problematic areas identified and line patrol scheduled.	Completed	12/31/2010	Reduced outage risk. Tree problems identified and tree trimming was completed.	
	10/15/2010: Improve sectionalizing capability.	Scheduled for	8/31/2011		
<b>4</b>	<b>Circuit ID: 22002 BOHEMIA 20-02</b>			<b>Location: Pocono</b>	<b>CPI: 1155</b>
	1/15/2010: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	3/31/2010	A tree outage on 12/3/09, not related to trimming, locked out A phase OCR affecting 89 customers. An outage on 12/29/09 caused by a failed switch on the transmission source (Blooming Grove-West Damascus line) to Bohemia resulted in 1389 Bohemia customers being interrupted for 1 to 4 hours. Long term plan is the install a new tie and split the line to reduce customer count	
	4/26/2010: Install tie. SP 33608 build tie from Bohemia 20-2 to Twin Lakes 81-2. This will create a tie for 1,150 radial customers. Remotely operated devices will be installed.	Scheduled for	11/30/2012		
	4/21/2011: Install new line and terminal. SP33607 A new line and terminal at Bohemia will relieve the 20-2 line and reduce the customer count from 1400 to 750.	Scheduled for	11/30/2012		
<b>8</b>	<b>Circuit ID: 27101 GREENFIELD 71-01</b>			<b>Location: Scranton</b>	<b>CPI: 887</b>
	4/9/2009: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/30/2009	Inconclusive. Monitor future performance. A breaker outage occurred in Q3 2009 due to an animal contact at the substation. There have been 3 large OCR outages, 2 of which were caused by trees outside the ROW and one of which was caused by a failed insulator.	
	1/14/2010: Relocate inaccessible line. Investigate relocating inaccessible 3 phase section of line.	Canceled	3/31/2010	Could not justify project due to lack of outages on the section of inaccessible line.	
	12/1/2010: Tree trimming.	Completed	12/30/2010	Reduced outage risk. This line was completely trimmed in 2010.	
	12/8/2010: Improve sectionalizing capability. Intall equipment to allow remote operation of switches and OCRs	Completed	12/17/2010	Reduced outage duration. All three phase switches and OCRs were upgdgraded to allow remdte operation.	
	1/28/2011: Install tie. A tie for 1350 radial customers is currently being engineered by the field personnel.	Scheduled for	6/30/2011		

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>16</b>	<b>Circuit ID: 26001 WEST DAMASCUS 60-01</b>			<b>Location: Pocono</b>
				<b>CPI: 742</b>
	10/9/2009: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/30/2009	This circuit experienced a circuit breaker outage during Q3 due to a vehicle hitting a pole. This circuit has had many long duration outages due to the remote location of the circuit.
	10/15/2010: Circuit outage data analysis.	Completed	9/30/2010	Beavers caused trees to bring down wires. Hazard trees have been removed.
	10/21/2010: Improve sectionalizing capability.	Scheduled for	7/31/2011	Work Request 607577 to extend 1 phase and relocate/install recloser.
<b>48</b>	<b>Circuit ID: 46701 RENOVO 67-01</b>			<b>Location: Susquehanna</b>
				<b>CPI: 468</b>
	12/18/2008: Expanded Operational Review.	Completed	12/31/2009	Reduced outage risk. Identified locations for additional fusing and 1 animal guard.
	10/9/2009: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	12/1/2009	Inconclusive. Monitor future performance. The Renovo #1 circuit was discussed at Susquehanna Region's Quarterly WPC meeting on 12/1/09. This circuit is a WPC due to outages longer than 4 hrs in duration. This circuit was affected by a summer wind storm on August 9 resulting in all customers experiencing an outage for approximately 5 hours. The circuit was inspected in October and November to identify improvement projects. Several items identified include additional fusing, repair of pole top found burned by equipment damage, and adding redundancy to the Susquehanna River crossing to S. Renovo Borough. These items are documented individually in this database.
	1/6/2010: Install animal guard(s).	Completed	1/20/2010	Reduced outage risk.
	1/6/2010: Install fuse(s).	Completed	1/20/2010	Reduced customer count affected by each outage.
	7/6/2010: Install fuse(s).	Completed	1/7/2010	Reduced customer count affected by each outage.
	1/6/2010: Thermographic inspection-OH line.	Completed	3/31/2010	6.6 miles of three-phase and 0.2 miles of two-phase inspected. No repairs identified.
	11/3/2010: Relocate inaccessible line. Westport Tap Part 1. Rebuild approx 2.0 miles with 1/0 ACSR XLP and static wire. Portions may only need XLP and no static wire. Other portions can be relocated from one side of SR 120 to other side, away from steep bank.	Scheduled for	12/31/2011	
	11/3/2010: Relocate inaccessible line. Westport Tap Part 2. Rebuild approx 1.3 miles with 1/0 ACSR XLP and static wire. Portions may only need XLP and no static wire. Other portions can be relocated from one side of SR 120 to other side, away from steep bank.	Scheduled for	12/31/2011	

- 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.*

<b>Inspection &amp; Maintenance Goals/Objectives</b>	<b>2010 Budget</b>	<b>2010 Actual</b>	<b>Variance (%)</b>
<b><i>Transmission</i></b>			
Transmission C-tag poles (# of poles)	200	347	74
Transmission arm replacements (# of sets)	300	192	-37
Transmission air break switch inspections (# of)	100	73	-27
Transmission tree side trimming (# of linear feet)	161,155	711,034	341
Transmission herbicide (# of acres)	3,188	2,731	-14
Transmission reclearing (# of acres)	4,905	8,719	78
Transmission danger tree removals (# of trees)	6,431	30,570	375
<b><i>Substation</i></b>			
Substation batteries (# of activities)	851	860	1
Circuit breakers (# of activities)	1,638	1,556	-5
Substation inspections (# of activities)	1,794	1,738	-3
Transformer maintenance (# of activities)	2,177	1,964	-10
<b><i>Distribution</i></b>			
Distribution C-tag poles replaced (# of poles)	2,000	1,244	-38
C-truss distribution poles (# of poles)	1,800	5,845	225
Capacitor (MVAR added)	81	78	-4
OCR replacements (# of)	715	729	2
Oil Switch Replacements (# of)	20	8	-60
Distribution pole inspections (# of poles)	95,000	147,429	55
Distribution line inspections (# of miles)	3,000	1,215	-60
Group Relamping (# of lamps)	16,029	6,000	-63
Test sections of underground distribution cable	430	543	26
Distribution tree trimming (# of miles)	7,444	7,444	0
Distribution hazard tree removals outside R/W (# of trees)	12,069	25,608	112
LTN manhole inspections (# of)	500	841	68
LTN vault inspections (# of)	821	681	-17
LTN network protector overhauls (# of)	79	50	-58
LTN reverse power trip testing (# of)	132	95	-28

Explanation of variances greater than 10%:

**Transmission C-tag poles** were above budget. Inspected, identified and replaced more poles than expected.

**Transmission arm replacements** were below budget. Above expected pole replacement reduced the need to replace arms.

**Transmission air break switch inspections** were below budget. Budgeted identification did not materialize.

**Transmission tree side trimming** was above budget. Vegetation variances are due to plan changes made in support of the wire zone/border zone reclamation program.

**Transmission herbicide** was below budget. Vegetation variances are due to plan changes made in support of the wire zone/border zone reclamation program

**Transmission re-clearing** was above budget. Vegetation variances are due to plan changes made in support of the wire zone/border zone reclamation program

**Transmission danger tree removals** were above budget. Vegetation variances are due to plan changes made in support of the wire zone/border zone reclamation program

**Distribution C-tag poles replaced** were below budget. More poles were remediated with C-truss than budgeted, reducing the need for replacements.

**Distribution C-truss poles** were above budget as a result of increased pole inspections.

**Oil switch replacements** were below budget. Remaining replacements are scheduled for 2011.

**Distribution pole inspections** were above budget due to the implementation of enhanced programs for 2010.

**Distribution line inspections** were below budget. Additional miles were inspected under other programs.

**Group re-lamping** was below budget due to resource constraints. A contract is in place for 2011 to ensure that all 2010 work not completed in 2010 and 2011 planned work is completed by year-end 2011.

**Test sections of underground distribution cable** were above budget. Resource availability allowed for work scope to be increased.

**Distribution hazard tree removal outside R/W** was above budget due to increased focus on reducing vegetation caused outages.

**LTN manhole inspections** were above budget. Some inspections deferred in 2009 were completed in 2010.

**LTN vault inspections** were below budget. This figure was expected to be below budget due to identification.

**LTN network protector overhauls** were below budget. Resources deployed to other, higher- priority work.

**LTN reverse power trip testing** was below budget. Authorized plan was reduced by 30; 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).

<b>Activity</b>	<b>2010 Budget (\$1,000s)</b>	<b>2010 Actual (\$1,000s)</b>	<b>Variance (%)</b>
<i>Provide Electric Service</i>	11,459	12,166	6.2
<i>Vegetation Management</i>	31,102	38,197	22.8
<i>Customer Response</i>	64,498	59,410	-7.9
<i>Reliability &amp; Maintenance</i>	61,824	53,647	-13.2
<i>System Upgrade</i>	3,243	1,783	-45.0
<i>Customer Services/Accounts</i>	119,404	111,211	-6.9
<i>Other</i>	46,616	48,782	4.6
<b>Total O&amp;M Expenses</b>	<b>338,147</b>	<b>325,195</b>	<b>-3.8</b>

Explanation of variances of 10% or greater:

**Vegetation Management** is above budget by 22.8% due to \$8.9 million of expenditures on PPL Electric's wire zone/border zone program for transmission.

**Reliability & Maintenance** is lower than budget year-to-date by 13.2% due an under-run in Replace Deteriorated UG Cable, Pole - 23kV and under, and Distribution Substation Replace Fail / Deteriorated Equipment.

**System Upgrade** is lower than budget by 45.0% primarily due to cost efficiencies in material and contract labor.

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	2010 Budget (\$1,000s)	2010 Actual (\$1,000s)	Variance (%)
New Service/Revenue	67,185	60,287	-10.3%
System Upgrade	131,769	127,343	-3.4%
Reliability & Maintenance	121,315	156,061	28.6%
Customer Response	23,109	22,372	-3.2%
Other	26,681	21,907	-17.9%
<b>Total</b>	<b>370,058</b>	<b>387,970</b>	<b>4.8%</b>

Explanation of variances of 10% or greater:

**New Service/Revenue** was lower than budgeted due to a lower volume of residential and commercial/industrial service requests as a result of economic conditions.

**Reliability & Maintenance** was higher than budget as a result of ramp-up spending on the Asset Optimization Strategy (AOS) program and reliability programs, including circuit breakers, and substation animal guards, replacement of failed cable and equipment, distribution animal guards, distribution pole inspections/replacement, and reliability preservation.

**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).**

<b>Inspection &amp; Maintenance Goals/Objectives</b>	<b>2011 Budget</b>
<b><i>Transmission</i></b>	
Transmission C-tag poles (# of poles)	400
Transmission arm replacements (# of sets)	100
Transmission air break switch inspections (# of)	0
Transmission lightning arrestor installations (# of sets)	38
Transmission tree side trimming (# of linear feet)	5,200
Transmission herbicide (# of acres)	0
Transmission re-clearing (# of acres)	0
Transmission re-clearing (# of miles) BES Only	503
Transmission re-clearing (# of miles) 69/138 kv	863
Transmission danger tree removals (# of trees)	0
<b><i>Substation</i></b>	
Substation batteries (# of activities)	844
Circuit breakers (# of activities)	1,270
Substation inspections (# of activities)	2,637
Transformer maintenance (# of activities)	2,190
<b><i>Distribution</i></b>	
Distribution C-tag poles replaced (# of poles)	1,600
C-truss distribution poles (# of poles)	5,500
Capacitor (MVAR added)	57
OCR replacements (# of)	644
Distribution pole inspections (# of poles)	130,000
Distribution line inspections (# of miles)	3,000
Group relamping (# of lamps)	16,000
Test sections of underground distribution cable	500
Distribution tree trimming (# of miles)	5,276
Distribution herbicide (# of acres)	0
Distribution >18" removals within R/W (# of trees)	0
Distribution hazard tree removals outside R/W (# of trees)	0
LTN manhole inspections (# of)	423
LTN vault inspections (# of)	758
LTN network protector overhauls (# of)	101
LTN reverse power trip testing (# of)	119

**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).

<b>Activity</b>	<b>2011 Budget (\$1,000s)</b>
Provide Electric Service	10,163
Vegetation Management	28,484
Customer Response	61,239
Reliability & Maintenance	56,322
System Upgrade	3,702
Customer Services/Accounts	119,369
Other	48,386
<b>Total O&amp;M Expenses</b>	<b>327,665</b>

**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.

<b>Activity</b>	<b>2010 Budget (\$1,000s)</b>
New Service/Revenue	53,822
System Upgrade	132,833
Reliability & Maintenance	161,804
Customer Response	20,550
Other	20,907
<b>Total</b>	<b>389,917</b>

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

Distribution pole inspections increased as a result of an enhanced program that began in 2010 to inspect and treat poles. Additional services that are performed under the new program include load and strength calculations to determine wood pole remaining strength, load capacity and durability. Such information will contribute to better decision-making regarding pole replacements. The intent of the program is to accelerate the first cycle of the new program and then remain on a 10-year cycle. As a result of the increased inspections, C-truss poles increased.

In 2010, PPL Electric initiated a new 6-year cycle for Group Re-lamping. The 2010 Group Re-lamping scope was not completed in 2010 due to resource constraints. However, a contract is in place for 2011 that will allow for the completion of 2010 and 2011 planned work in 2011.

On January 1, 2010, PPL Electric initiated a prescriptive tree trimming program that moved maintenance trimming cycles to five years for all circuits in PPL Electric's northern territory and four years for all circuits in PPL Electric's southern territory. These cycles are inclusive of both urban and rural circuits and will shorten the overall average trimming cycle for the system. Contractor performance will be measured against new key indicators related to safety, reliability, customer service, productivity and efficiency. Goals for PPL Electric's foresters will align with these key performance indicators.

Distribution hazard tree removal program was reinstated in 2010 and utilized intensively to help reduce the risk of vegetation caused interruptions.

No other significant program changes since the 2010 Annual Reliability Report have occurred. Quantity differences in the transmission, substation and distribution inspection and maintenance goals/objectives are the result of normal variations in workload, backlog carryover from the prior year, and/or advancement of work from future years.

***PPL Electric Utilities Corporation  
Transmission Programs & Procedures***

<b>Program</b>	<b>Activity</b>
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.

## Appendix A

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

***PPL Electric Utilities Corporation  
Substation Programs & Procedures***

<b>Program</b>	<b>Activity</b>
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.

## Appendix B

<b>Program</b>	<b>Activity</b>
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***

<b>Program</b>	<b>Activity</b>
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 (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.

## Appendix C

<b>Program</b>	<b>Activity</b>
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***

<b>Program</b>	<b>Activity</b>
Tree Pruning	Tree pruning is scheduled based on field conditions observed and/or a system prioritization process. All pruning is done in accordance with <u>American National Standard for Tree Care Operations-Tree, Shrub and Other Woody Plant Maintenance – Standard Practices (ANSI A300)</u> .
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	<ul style="list-style-type: none"><li>• 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)</li></ul>
11 – Improper Installation	Controllable	<ul style="list-style-type: none"><li>• 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)</li></ul>
12 – Improper Operation	Controllable	<ul style="list-style-type: none"><li>• 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)</li></ul>
30 – Trees –Trimming Related <sup>8</sup>	Controllable	<ul style="list-style-type: none"><li>• Outages resulting from conductors contacted by tree growth within the clearance zone defined by the current trimming specification (within the Right-of-Way).</li></ul>
35 – Trees – Not Trimming Related	Non-Controllable	<ul style="list-style-type: none"><li>• 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.</li></ul>
40 – Animals	Controllable	<ul style="list-style-type: none"><li>• Any outage caused by an animal directly or indirectly coming in contact with PPL Electric facilities. This includes birds, squirrels, raccoons, snakes, cows, etc.</li></ul>
41 – Vehicles	Public	<ul style="list-style-type: none"><li>• When cars, trucks or other types of vehicles or their cargoes strike facilities causing a problem.</li></ul>

---

<sup>8</sup> The title and description of this code have been revised for clarity. The purpose and application of the code have not changed.

## Appendix E

51 – Contact/Dig-in	Public	<ul style="list-style-type: none"> <li>• 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.).</li> <li>• When contact is made by a non-employee with an underground facility causing interruption.</li> </ul>
60 – Equipment Failure	Controllable	<ul style="list-style-type: none"> <li>• Outages resulting from equipment failures caused by corrosion or contamination from build-up of materials, such as cement dust or other pollutants.</li> <li>• Outages resulting from a component wearing out due to age or exposure, including fuse tearing or breaking.</li> <li>• Outages resulting from a component or substance comprising a piece of equipment failing to perform its intended function.</li> <li>• 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.</li> </ul>
77 – Non-PPL Problem – Other	Non-PPL	<ul style="list-style-type: none"> <li>• Where no PPL Electric or customer facilities were affected, and no repair or restoration was carried out on PPL Electric equipment.</li> </ul>
78 – Non-PPL Problem – Customer Facility	Non-PPL	<ul style="list-style-type: none"> <li>• Where no PPL Electric facilities were affected, and no repair or restoration was carried out on PPL Electric equipment.</li> </ul>
80 – Scheduled Outage <sup>9</sup>	Controllable	<ul style="list-style-type: none"> <li>• Interruptions under the control of a PPL Electric switchman or direction of a PPL Electric System Operator for the purpose of performing <u>scheduled</u> maintenance, repairs and capacity replacements for the safety of personnel and the protection of equipment.</li> <li>• Includes requests from customers for interruption of PPL Electric facilities.</li> </ul>

---

<sup>9</sup> 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.

## Appendix E

85 – Directed by Non-PPL Authority <sup>10</sup>	Non-Controllable	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>
90 – Other – Controllable (Lineman provides explanation)	Controllable	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Interruptions resulting from excessive load that cause that facility to fail.</li> <li>• 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.</li> <li>• Controllable interruptions or Power Service Problems whose cause is not described by one of the previous controllable cause codes.</li> </ul>
96 – Nothing Found	Non-Controllable	<ul style="list-style-type: none"> <li>• When no cause for the interruption can be found.</li> <li>• 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.</li> <li>• When closed for test, the fuse holds or the OCR remains closed. A patrol of the tap reveals nothing.</li> </ul>
98 – Other Public (Lineman provides explanation)	Public	<ul style="list-style-type: none"> <li>• 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.</li> </ul>

---

<sup>10</sup> The title of this code has been revised for clarity. The purpose and application of the code has not changed.

## Appendix E

<p>99 – Other – Non-Controllable (Lineman provides explanation)</p>	<p>Non-Controllable</p>	<ul style="list-style-type: none"><li>• 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.</li><li>• 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.</li><li>• All problems caused by contact of energized equipment with facilities of other attached companies or by trouble on customer owned equipment.</li><li>• 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.</li></ul>
---	-------------------------	---

From: (610) 774-6908  
Karen Posten  
PPL Corporation  
2 N 9th St  
  
Allentown, PA 18101

Origin ID: ABEA



Ship Date: 02MAY11  
ActWgt: 3.0 LB  
CAD: 9816795/INET3130

Delivery Address Bar Code



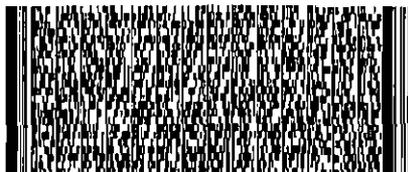
SHIP TO: (717) 787-8009 BILL SENDER

ROSEMARY CHIAVETTA  
PA PUBLIC UTILITY COMMISSION  
COMMONWEALTH KEYSTONE BLDG  
400 NORTH ST  
HARRISBURG, PA 17120

Ref # PER - 0205-734268-000  
Invoice #  
PO #  
Dept #

TUE - 03 MAY A1  
PRIORITY OVERNIGHT

TRK# 7970 5173 8830  
0201



**ZN MDTA**

17120  
PA-US  
MDT



500G11/577/EFB

**RECEIVED**

MAY 2 2011

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.