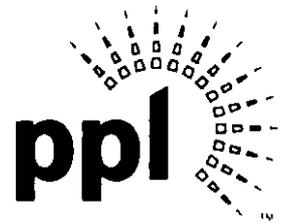


ORIGINAL

Paul Russell  
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**FEDERAL EXPRESS**

May 1, 2006

DOCUMENT  
FOLDER

James J. McNulty, Esquire  
Secretary  
Pennsylvania Public Utility Commission  
Commonwealth Keystone Building  
400 North Street  
Harrisburg, Pennsylvania 17120

RECEIVED

MAY 1 2006

PA. PUBLIC UTILITY COMMISSION  
HARRISBURG, PA

Re: **PPL Electric Utilities Corporation  
2006 Annual Reliability Report**

L-00030161

Dear Mr. McNulty:

Enclosed for filing on behalf of PPL Electric Utilities Corporation ("PPL Electric") are an original and five (5) copies of PPL Electric's 2006 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, 2006, 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.

114

James J. McNulty, Esquire

- 2 -

May 1, 2005

If you have any questions regarding the enclosed report, please call me or Joseph M. Kleha, PPL Electric's Manager - Regulatory Projects at (610) 774-4486.

Very truly yours,

A handwritten signature in black ink, appearing to read "Paul E. Russell". The signature is written in a cursive, flowing style with a large initial "P".

Paul E. Russell

Enclosures

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



**PPL Electric Utilities**

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

DOCUMENT  
FOLDER

RECEIVED

MAY 01 2006

PENNSYLVANIA PUBLIC UTILITY COMMISSION  
HARRISBURG, PENNSYLVANIA

*April 2006*

DOCKETED  
SEP 15 2006

- (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 2005, PPL Electric Utilities Corporation ("PPL Electric") continued to provide service that meets or exceeds the performance standards established by the Pennsylvania Public Utility Commission. PPL Electric's performance has met the standards in each of the last three years.

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 assure that maintenance work is performed in a timely manner. Besides time and condition-based maintenance, thermo-graphic inspections assure that substation equipment does not operate at elevated temperature levels for an extended period, which could lead to catastrophic failure.

**Distribution**

Distribution encompasses many similar maintenance aspects, but 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, reclearing and herbicide application. All 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 was one Commission-approved major event during 2005. The data for this event are excluded from the calculation of the indices.

**January 6-16, 2005:** A series of winter storms brought a mix of snow, sleet and freezing rain to PPL Electric's Lehigh, Northern, Central, and Susquehanna regions. Ice began to build on trees, tree limbs and wires, reaching 1 inch or more in many areas. Most of the service interruptions were caused by the weight of the accumulated ice, exacerbated by wind, prolonged sub-freezing temperatures, breaking branches and trees that fell down over wires and poles.

First trouble case reported:	Thursday, January 6, 2005 at 12:17 AM
Last trouble case restored:	Sunday, January 16, 2005 at 3:39 PM
Total trouble cases:	1,895
Total customer service interruptions:	238,154

Due to the nature and extended duration of the event, PPL Electric's customer outreach program went beyond past efforts and arranged for meals, both hot and cold, to be delivered to community shelters, as well as personal items to help customers get through the recovery. In certain areas, PPL Electric's employees went door-to-door to inform customers of the restoration status, determine any special needs, and to supply food, water, and other items.

The following modified procedures have been adopted in order to avoid or minimize the effect of similar events in the future:

Following storm recovery efforts, PPL Electric conducted, for the first time, a formal survey of over 2,000 employees who were directly or indirectly involved in the January 2005 ice storm restoration, from the executive staff to linemen and helpers. The purpose of this survey was to solicit ideas from employees on how the Company can improve its performance in the future, and identify any gaps that may now exist in the storm restoration process.

As a result of this survey and an after-storm critique, PPL Electric identified opportunities for a renewed emphasis on training for specialized assignments, the need to update certain employee rosters for support functions, and the need to improve its processes for determining and communicating estimated customer restoration times.

- In July 2005 PPL Electric began employing an experienced storm manager in a full-time training role centered on the outage restoration process. The role is responsible to provide training on process and technology changes, as well as provide refresher training as necessary.

- All support rosters have been reviewed and updated in 2005. This includes maintaining the rosters in a web-based application instead of stand-alone paper lists for the support roles.
- PPL Electric has modified the entire process for communicating estimated customer restoration time to customers. Among other things, customers are asked if they would like to be called back if their estimated restoration time (ERT) changes by more than several hours.

(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	2003	2004	2005 <sup>1</sup>
SAIFI (Benchmark = 0.98; Rolling 12-month Std. = 1.18)	0.877	1.089	0.963
CAIDI (Benchmark = 145; Rolling 12-month Std. = 174)	121	159	125
SAIDI (Benchmark = 142; Rolling 12-month Std. = 205)	107	173	121
MAIFI <sup>2</sup>	4.314	5.204	4.872
Customers Served <sup>3</sup>	1,315,855	1,330,072	1,347,786
Number of Sustained Customer Interruptions (Trouble Cases)	17,335	18,605	18,698
Number of Customers Affected <sup>4</sup>	1,154,548	1,448,817	1,297,546
Customer Minutes of Interruptions	140,191,014	230,444,130	162,612,770
Number of Customer Momentary Interruptions	5,676,007	6,921,581	6,565,963

<sup>1</sup> The slight variations from data provided in the 2005 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 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 2005.<sup>5</sup> Calculations are based on 1,347,786 customers served as of December 31, 2005. The top three causes (Equipment Failure, Animals, and Trees – Not Trimming Related), 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 outages. Those programs are detailed in Appendices A through D.

Cause Description	Cases of Trouble <sup>6</sup>	Percent of Cases of Trouble	Customer Interruptions <sup>7</sup>	Percent of Customer Interruptions	Customer Minutes	Percent of Customer Minutes
Improper Design	1	0.01%	1	0.00%	53	0.0%
Improper Installation		0.00%		0.00%		0.0%
Improper Operation	1	0.01%	686	0.05%	4,802	0.0%
Trees - Inadequate Trimming	1,267	6.78%	93,036	7.17%	17,384,663	10.7%
Trees - Not Trimming Related	2,854	15.26%	245,731	18.94%	47,400,705	29.2%
Animals	4,173	22.32%	75,413	5.81%	6,246,399	3.8%
Vehicles	830	4.44%	157,772	12.16%	18,558,484	11.4%
Contact/Dig-in	210	1.12%	16,470	1.27%	1,406,282	0.9%
Equipment Failure	5,273	28.20%	450,174	34.69%	47,194,135	29.0%
Forced Prearranged	629	3.36%	47,929	3.69%	2,752,048	1.7%
Other - Controllable	272	1.45%	23,940	1.85%	1,660,498	1.0%
Nothing Found	1,924	10.29%	95,500	7.36%	9,052,343	5.6%
Other - Public	83	0.44%	13,315	1.03%	1,482,454	0.9%
Other - Non-Controllable	1,181	6.32%	77,579	5.98%	9,469,904	5.8%
<b>Total</b>	<b>18,698</b>	<b>100.00%</b>	<b>1,297,546</b>	<b>100.00%</b>	<b>162,612,770</b>	<b>100.0%</b>

<sup>5</sup> The slight variations from data provided in the 2005 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.

**Trees – Inadequate Trimming:** In 2004, PPL Electric adopted an improved tree-pruning specification and shortened maintenance pruning cycles in an effort to reduce service interruptions attributed to inadequate trimming. PPL Electric implemented the revised specification in the first quarter of 2005. PPL will be monitoring the effectiveness of these changes in future years.

**Trees – Not Trimming Related:** Tree outages not related to pruning are generally caused by trees falling from outside PPL Electric's rights-of-way. Although their effect on reliability is significant, these outages are difficult to control because distribution rights-of-way are normally not wide enough to eliminate these risks, hazard trees are located off the right-of-way where PPL has no legal rights to cut them, and it is often difficult to identify the tree conditions (internal decay, root rot, etc.) that make these trees hazardous.

**Animals:** Animals account for more than 22% of PPL Electric's cases of trouble. Although this represents a significant number of cases, the effect on SAIFI and CAIDI is small because over 91% of the number of cases of trouble is associated with individual distribution transformers. However, when animal contacts affect substation equipment, the effect is widespread and can potentially interrupt thousands of customers on multiple circuits. PPL Electric installs squirrel guards on new installations and in any existing location that has been affected by multiple animal-related interruptions.

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

**Equipment Failure:** Equipment failure is one of the largest single contributors to the number of cases of trouble, customer interruptions and customer minutes. However, approximately 35% of the cases of trouble, 38% of the customer interruptions and 39% of the customer minutes attributed to equipment failure are weather-related and, as such, are not considered to be indicators of equipment condition or performance.

**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>4</b>	<b>Circuit ID: 28301 NEWFOUNDLAND 83-01</b>			<b>CPI: 381</b>
	Circuit outage data analysis.	Completed	6/25/2004	Major contributor to CPI was the number of cases (30%) The contributing outages (mostly trees) did not fall into a discernable pattern. No outages were trimming related.
	Circuit outage data analysis.	Completed	8/23/2004	Review of circuit outages indicated there were two poor performing single phase taps.
	Improve sectionalizing capability. Increase sectionalizing on two poor performing single phase taps beyond OCR 66696N44669.	Completed	12/31/2004	Field review of the poor performing section of line indicated that additional sectionalizing will not greatly improve reliability on that part of the circuit. Tap fusing in the area already adheres to PPL's policy of fusing all single phase taps.
	Tree trimming. Hot spot trimming on two poor performing single phase taps.	Completed	3/30/2005	Reduced outage risk.
		Completed		Trees and animals accounted for over 70% of the outages seen in the past year. This is a heavily forested area where trees outside of the right of way contribute to 50% of the total CPI. Even if all other outages were removed this circuit would still be among the worst performers due to trees outside of the R/W.
	Improve sectionalizing capability. Field engineer will install additional single phase and three phase OCRs on the circuit pending additional review	Scheduled for	12/31/2006	Circuit was reviewed and a betterment project to add OCR's and improve sectionalizing identified and planned for 12/2006 to reduce number of customers interrupted for a fault.
	Line inspection-equipment	Completed	11/30/2005	Field Engineer determined that line inspection was unnecessary because line was inspected in 2004.
	Tree trimming. Trimming and hot spotting will be done in 2006.	Scheduled for	12/31/2006	
	11/23/2005: Betterment project to split one phase tap by sectionalizing. Additional OCR's will be installed.	Scheduled for	12/31/2006	
	2/21/2006: Line inspection-equipment	Scheduled for	12/31/2006	Inspection will help identify problem areas of line that need to be repairs. These repairs will prevent possible outages and customer minutes lost, directly impacting CAIDI.
	11/23/2005: Monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>6 Circuit ID: 53901 HALIFAX 39-01</b>				<b>CPI: 355</b>
	1/1/2006: Expanded Operational Review. Operational Review will be completed in 2006.	In progress		
	3/1/2006: Improve sectionalizing capability. Relocate OCR to improve sectionalizing.	Completed	3/21/2006	Reduced customer count affected by each outage.
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	3/18/2005	West Shore portion of the circuit needs to be trimmed.
	Tree trimming. West Shore portion of circuit.	Completed	8/31/2005	Reduced outage risk.
	Circuit outage data analysis.	Completed	5/27/2005	CPI has improved. Pole top fire on 2/14/2005 outaged the line.
	Circuit outage data analysis.	Completed	8/31/2005	On 6/29/05 during a period of rain the CB operated due to a tree on a 3 phase tap-inadequate trimming. Tree was trimmed.
	Circuit outage data analysis.	Completed	10/31/2005	Outage on 8/6/05 was due to trees. Trees were trimmed to restore service.
<b>7 Circuit ID: 15701 TANNERSVILLE 57-01</b>				<b>CPI: 347</b>
	Circuit outage data analysis.	Completed	6/15/2004	Major contributor to CPI was the number of cases (approximately 52% of CPI), CAIDI and SAIFI are low. Most contacts were tree related.
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/11/2004	Many tree related outages, some were trimming related.
	Field engineer will review the circuit for additional tap fuses.	Completed	7/31/2005	The main three phase line was analyzed, and no additional locations for fuses were determined.
	Tree trimming. This circuit was scheduled to be trimmed in support of reconductor work.	Completed	3/30/2006	Approximately 1.5 miles of the main three phase line was trimmed in support of the upcoming USF work.
	Reconductor 1.5 miles of the main line under SP 51216.	Completed	3/30/2006	The line was reconducted to increase reliability, allow capacity for load growth, and improve SAIDI.
	Monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>9</b>	<b>Circuit ID: 16101 BINGEN 61-01</b>			<b>CPI: 339</b>
	Tree trimming. Spot trimming	Completed	3/31/2004	Reduced outage risk
	Circuit outage data analysis	Completed	6/11/2004	Number of cases and SAIFI are the two biggest factors in the CPI. There is no detectable pattern of causes. Cases alone contribute 60% of this circuit's performance issues, with SAIFI contributing just under 30%.
	New Sectionalizing : Replace 1 fused cutout with an OCR and install 2 fused cutouts to reduce the length of line on a sectionalizing device. Install a 3 phase loadbreak airswitch to enable customers to be restored quicker during an outage.	Completed	7/19/2004	Reduced customer count affected by each outage.
	Replace cracked porcelain fused cutouts and lightning arresters.	Completed	8/30/2004	Reduced outage risk.
	Install fault indicators on line to locate momentary problems.	Completed	8/16/2004	This was done to locate momentary problems that occur on the line. The installation is complete and the indicators are being used to find the fault faster
	Improve sectionalizing capability. Investigating splitting the line to allow back feeding from other half.	Completed	2/28/2005	Majority of performance problems occur on fused taps. Load pick up is not the primary performance issue.
	Transfer lower portion of line to the Richland 36-3 line to reduce the length of line exposure.	Canceled	7/22/2005	Project was cancelled due to capacity concerns on the Richland Substation.
	Reconductoring 7 single phase taps with XLP and stronger conductor	Completed	11/30/2005	Reduced outage risk. Should see reduction in cases, and possibly lower circuit CAIDI
	Nine overhead spans that were located in an inaccessible area were relocated underground.	Completed	12/31/2005	Reduced outage risk.
	Twenty five fault indicators will be installed.	Completed	3/1/2006	Reduced outage duration.
	Reconductoring sections of 3 phase line with XLP and stronger conductor.	Scheduled for	9/30/2006	Reduced outage risk

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>11</b>	<b>Circuit ID: 43401 BENTON 34-01</b>			<b>CPI: 336</b>
	Circuit outage data analysis.	Completed	8/22/2005	CPI for the Q2, 2005 was primarily driven by cases of trouble ( 152, 49% of CPI) . The only reported significant outage occurring on 34-1 during the first quarter of 2004 was a vehicle accident on 1/12/2004 causing 183 customers to be out of service for 2 hrs. During the second quarter of 2004, the high CPI was due to equipment failure, approximately 188 customers experienced outages ranging from 1 hr to 6 hrs, on 5-2-2004, 5-3-2004, and 5/5/2004. During the third quarter of 2004, approximately 200 customers experienced outages ranging from 7 hrs to 78 hours, due to hurricane IVAN on 9/18/2004. Specifically, 100 of these 200 customers experienced a 78 hour outage due to trees off the right of way (not tree trimming related), however, the remaining 100 customers did experienced a 16 to 20 hr outage due to inadequate tree trimming. 40 CPI points were due to a pole hit during Q4, 2004, and no major outages in Q1, 2005. The circuit improved since the last quarter of 2004, and nothing major in the Q2, 2005.
	Perform line maintenance identified by line inspection.	Completed	8/22/2005	The line was inspected in the winter of 2004, and some items were identified by inspection. Work requests were written for those items to replace transformers, TFC's, LBC's, Ridge Pins, and install animal guards. some of the work requests were completed in the first quarter of 2005 and the rest were done by the end of the second quarter.
	Improve sectionalizing capability. Review line to determine if additional sectionalizing can be added to minimize the number of customers affected by emergency outages.	Completed	6/1/2005	Susquehanna Region has reviewed line for location to add OCR's, or other sectionalizing devices, no new locations were found
	Tree trimming. Hot Spot Trimming	Completed	9/30/2005	Reduced outage risk. 3-phase hot-spot trimming was completed by December 30 of 2004. 132 - miles rural is in the trimming process and expected to be done by the end of 2005. Approximately 100 miles were done by the end of the second quarter.
	11/2/2005: Circuit outage data analysis.	Completed	11/2/2005	Major contribution to the CPI was due to the number of cases ( 47% of total CPI). Trees not trimming related caused long duration outages in the third quarter 2005 due to a big storm on 7/13/2005
	11/2/2005: Tree trimming.	Completed	12/1/2005	The Benton line 1 is 132 miles long, and it is all rural. The whole line was trimmed in 2005. Approximately \$400,000 was spent on tree trimming on this line.
	11/2/2005: Line inspection-equipment	Completed	8/31/2005	The Benton line was inspected by the end of Q4, 2004. A lot of different items were identified by inspection. WR's 213128, 211539, 205701, 205695, 205639, 205634, 205604, 205401, 205387, 205378, 205332, 204966, and 187571 were written due to inspection. Work requests were completed by August 2005.
	2/9/2006: Improve sectionalizing capability	Completed	3/20/2006	Reduced customer count affected by each outage. The line crew reviewed the line for additional sectionizing devices. An air break switch was installed on the Benton -01 line to reduce the number of customer affected by outages on the line.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
	11/2/2005: Monitor future performance.	Ongoing		Major contribution to the CPI on this circuit was due to storms in the second and third quarters of 2005. Thermovision of 3 phase was completed in December 05 12.8 miles. No hot spots were found on line. Recent tree trimming and work requests identified by inspection are expected to improve the circuit's performance. PPL will continue to monitor the circuit's performance in the future.

**16 Circuit ID: 55001 NEWPORT 50-01**

**CPI: 328**

	1/1/2006: Expanded Operational Review. Operational Review will be completed in 2006.	In progress		
	12/7/2005: Install LBAS(s). Instal LBAS @ 17530S42150.	Completed	1/23/2006	Reduced outage duration.
	Improve sectionalizing capability. Three tap fuses were installed.	Completed	12/31/2003	Reduced customer count affected by each outage.
	Circuit outage data analysis.	Completed	6/25/2004	Vehicles and an ice storm in January 2004 contributed to the CPI.
	Two OCRs relocated. Low set setting on breaker changed.	Completed	8/18/2004	Reduced customer count affected by each outage. Reduce number of trips.
	Tree trimming.	Completed	8/27/2004	Reduced outage risk.
	Circuit outage data analysis.	Completed	12/22/2004	Area hard hit by Hurricane Ivan in the 3rd quarter.
	Circuit outage data analysis.	Completed	3/18/2005	The quarterly CPI has decreased 79% from the 3rd to the 4th quarter.
	Circuit outage data analysis.	Completed	5/27/2005	CPI continues to improve.
	Line inspection-equipment.	Completed	6/30/2005	Only a few items were found.
	Circuit outage data analysis.	Completed	8/31/2005	On 5/7/05 the CB was interrupted when load was transferred and a line loop burned open and then on 5/27/05 an OCR bypass loop burned open. This is not expected to reoccur.
	Circuit outage data analysis.	Completed	10/31/2005	Outage on 8/23/05 due to customer cutting a tree which fell into line.
	2/14/2006: Monitor future performance.	Completed	2/14/2006	Re Oct 15 & 16 outages: the area downstream of the ocr's was field checked on Feb 14 2006, and no danger trees were found.
	2/14/2006: Tree trimming. The main portion of the circuit (first 12 mi of 3 phase) from sub to New Bloomfield.	Scheduled for	9/1/2006	Reduced outage risk. Only 31% of the customer minutes in 2005 were tree-related, and a single tree outage from off the right of way was responsible for 20% alone. However, keeping the line on it's trimming schedule will demonstrate continued efforts to keep trees from increasing the number of outages.
	2/14/2006: Tree trimming. Remainder of circuit (approx 150 ckt miles)	Scheduled for	12/31/2007	Reduced outage risk.

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>23</b>	<b>Circuit ID: 12301 LANARK 23-01</b>			<b>CPI: 314</b>
	Install Ff's	Completed	2/17/2006	Reduced outage duration.
	Load balancing.	Completed	12/31/2003	Reduced outage duration.
	Circuit outage data analysis.	Completed	6/15/2004	The number of cases is 67% of the CPI. Two areas have numerous squirrel outages.
	Tree trimming.	Completed	9/1/2004	Reduced outage risk.
	Replace an overloaded 3 phase OCR and replace a hydraulic OCR with an electronic OCR with telemetrics.	Completed	9/14/2004	Reduced outage duration. The overload OCR was replaced on 9/7/2004 and the electronic OCR was installed on 5/10/2004.
	Line inspection-equipment.	Completed	3/28/2005	
	64 Animal guards are being installed on transformers on portions of the line with animal problems.	Completed	6/20/2005	Reduced outage risk.
	Single phase fuse installations.	Completed	6/20/2005	Reduced customer count affected by each outage.
	OCR settings were changed to reduce momentary interruptions	Completed	6/20/2005	Reduced outage duration.
	Tree trimming	Completed	9/30/2005	Reduced outage risk. Hot spotting started in July.
	Split up a long single phase tap into two taps by installing 3 spans of OH line.	Completed	10/4/2005	Reduced customer count affected by each outage. Construction completed
	Install 3 switches in southern part of circuit. Fault indicators to be installed next to the new switches.	In progress	5/1/2006	Two of the 3 switches were installed and were used during the windstorm over the weekend of January 15, 2006 to get customers back in service while repairs were being made. The third switch will be installed when right-of-way issues are resolved. The fault indicators have been installed
	Tree trimming.	Scheduled for	9/30/2006	Reduced outage risk.
	Monitor future performance.	Ongoing		All of the above work is expected to improve the circuit's performance.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>30</b>	<b>Circuit ID: 26602 BROOKSIDE 66-02</b>			<b>CPI: 298</b>
	Line inspection-equipment Due to the high number of animal contacts (35% of the total CPI) and equipment failures (22% of total CPI) an equipment line inspection will be performed.	Completed	1/30/2004	Several maintenance items were identified. A WR was initiated to address these problems.
	Circuit outage data analysis.	Completed	6/15/2004	Major contributor to CPI was the number of cases. Animal contacts made up about 35% of the total CPI.
	PPL Electric will review the process for animal guard installations to ensure that animal guards are installed for animal related OH transformer outages and new OH transformer installations.	Completed	8/25/2004	Animal guard practices have been reviewed and troublemen in this area have been instructed to ensure animal guards are installed when and where appropriate.
	Line inspection-equipment. A helicopter patrol was performed on an inaccessible part of the line.	Completed	6/10/2005	Several broken crossarms and a downed static wire were discovered.
	Fault recorders will be installed on an inaccessible part of the line.	Completed	6/30/2005	
	Perform line maintenance identified by line inspection. Helicopter patrol was completed.	Completed	12/30/2005	Broken and failing crossarms were found and repaired to reduce risk of customer outage.
	Line being reconducted for 0.3 miles (WR# 233124)	Scheduled for	6/30/2006	
	Tree trimming. Hot Spotting being done as needed.	Completed	9/30/2005	
	11/4/2005: Sectionalizer being replaced (WR#269977). Additional sectionalizing opportunities being considered by field engineer.	Scheduled for	4/30/2006	Replacement of the sectionalizer will improve reliability and decrease the number of customers experiencing an outage.
	Monitor future performance.	Ongoing		
	4/17/2006: Relocate inaccessible line. An inaccessible portion of the Brookside 66-02 and 66-04 line is scheduled to be rebuilt along the roadway. The line is planned to be rebuilt and sectionalized under B21118 (with an RIS of 11/2007) and B21119 (with an RIS of 11/2009).	Scheduled for	11/30/2007	Rebuilding and sectionalizing the 66-02 line will increase reliability on the circuit by making the route more accessible. In addition, there will be less vegetation exposure following the rebuild of the line. This work will improve CAIDI and SAIDI.
	Monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>31</b>	<b>Circuit ID: 16401 MOUNT POCONO 64-01</b>			<b>CPI: 298</b>
	The line was thermo-visioned and repairs were made as needed.	Completed	3/31/2004	Reduced outage risk
	Circuit outage data analysis.	Completed	6/23/2004	Major contributor to CPI was SAIFI. Failure of 64-05 contributed to problems. The line was recently thermo-visioned and repairs were made as needed.
	Circuit outage data analysis - WPC not on preceding qtr. list	Completed	2/28/2005	
	Perform line maintenance identified by line inspection. WR 205428 was initiated to complete maintenance items found during the inspection.	Completed	5/13/2005	
	The entire main line will be reconducted under B50921.	Completed	5/31/2005	The main three phase has been rebuilt with 477 AL XLP conductor
	Line inspection-equipment. A portion of the line along Rt 314 (three phase branch off main line) will be inspected.	Completed	5/31/2005	Equipment failure with galloping conductor contributed to the CPI. This portion of the line had maintenance work completed in January 2005 to fix that galloping conductor. This line maintenance was completed to ensure no other conductor problems were present on the line.
	11/15/2005: Tree trimming.	Completed	6/30/2005	A portion of the line was trimmed. Entire line due to be trimmed in 2008
	11/22/2005: Coordination Study of devices of the line	Completed	11/30/2005	The results of the coordination study were normal. All devices are coordinating properly.
	Continue to monitor future performance.	Ongoing		
<b>34</b>	<b>Circuit ID: 28302 NEWFOUNDLAND 83-02</b>			<b>CPI: 295</b>
	Circuit outage data analysis.	Completed	6/15/2004	Major contributors to CPI were number of cases and SAIFI. There were several animal contacts and tree related outages during bad weather (not trimming related), but no discernable pattern was apparent. The major outages contributing to SAIFI are unlikely to recur (line de-energized to replace tap fuse, pole top fire, loop burned open). This line had an equipment inspection in January 2004.
	Improve sectionalizing capability. Field engineer to review a single phase tap downstream of OCR 66629N42489 to improve sectionalizing on that tap.	Completed	11/12/2004	Field review of the poor performing section of line indicated that additional sectionalizing will not greatly improve reliability on that part of the circuit. Tap fusing in the area already adheres to PPL's policy of fusing all single phase taps.
	Tree trimming.	Completed	8/30/2005	
	Line inspection-equipment. Field engineer will identify targeted areas for line inspection.	Completed	12/31/2005	Field engineer determined there were no areas requiring line inspections because entire line was inspected in 2004.
	3/31/2006: Line inspection-equipment	Scheduled for	6/30/2006	Customer minutes will be saved by identifying equipment that is in danger of failing.
	Continue to monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**37 Circuit ID: 53602 DALMATIA 36-02**

**CPI: 290**

1/1/2006: Expanded Operational Review will be completed in 2006	Operational Review	In progress		
Circuit outage data analysis - WPC not on preceding qtr. list.		Completed	12/22/2004	Area hit by Hurricane Ivan in the 3rd quarter.
Install an electronic OCR on the east side of the river crossing.		Completed	12/22/2004	Reduced customer count affected by each outage.
Circuit outage data analysis.		Completed	3/18/2005	The quarterly CPI has decreased 50% from the 3rd to the 4th quarter. A motor vehicle accident contributed 13% of the customer minutes interrupted in the 4th quarter. Tree limbing planned for 2006.
Circuit outage data analysis.		Completed	5/27/2005	CPI continues to improve.
Line inspection-equipment		Completed	8/31/2005	Found a pole on an island in the river crossing requiring replacement due to bank erosion.
Replace pole on island in the river crossing weakened due to bank erosion.		Scheduled for	9/30/2006	Reduced outage risk. Island is uninhabited, and has no road or bridge access. Pa DER will not allow PPL to float a pole across the river due to leaching of preservative into the river. Securing permits to cross the river with men, vehicles, and equipment is proving extremely difficult and time-consuming. Target date to reinforce bank and poles is 9/31/06.
Circuit outage data analysis.		Completed	10/31/2005	Inconclusive. Monitor future performance. Outage on 8/11/05 due to trees - not trimming related. Trees trimmed.
2/14/2006: Tree trimming. Main portion of the 3 phase line, to the ocr's.		Completed	12/30/2005	Reduced outage risk.
2/14/2006: Tree trimming. Remainder of line.		Scheduled for	8/30/2006	Reduced outage risk.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**38 Circuit ID: 59401 RICHFIELD 94-01**

**CPI: 288**

1/31/2005: Perform line maintenance identified by line inspection. Replace 33 TFC's and LA's, install 31 Animal Guards, replace one pole top extension, install one guy guard, replace one crossarm, replace two ridgepins, replace one pin insulator, replace two dead-end insulators, replace a section of wire, and perform spot tree trimming.	Completed	5/31/2005	Reduced outage risk
1/1/2006: Expanded Operational Review Operational Review will be completed in 2006	In progress		
Circuit outage data analysis - WPC not on preceding qtr list	Completed	12/22/2004	Area hard hit by Hurricane Ivan in the 3rd quarter
Circuit outage data analysis.	Completed	3/18/2005	The quarterly CPI has decreased 79% from the 3rd to the 4th quarter Circuit Inmed in 2004.
Line inspection-equipment.	Completed	3/31/2005	Line has many inaccessible locations. Inspection identified animal guards to be installed and LAs and cutouts to be replaced.
Install animal guard(s).	Completed	5/27/2005	Reduced outage risk.
Install lightning arrestors.	Completed	5/27/2005	Reduced outage risk.
Replace cutouts	Completed	5/27/2005	Reduced outage risk.
Circuit outage data analysis.	Completed	8/31/2005	On 5/13/05 the crossyard tie UG cable failed and transformer fuses operated. The cable was replaced. This is not expected to re-occur.
2/14/2006: Circuit outage data analysis	Completed	2/14/2006	Inconclusive. Monitor future performance. On Oct 25, while the sub was out for maintenance, a 3 phase OCR locked open due to equipment failure downstream. Interrupted a large portion of the line, leading to this ckt's poor performance for the quarter. Not expected to re-occur. On Oct 28 2005, Richfield sub was out for maintenance. The 94-1 line was transferred to Middleburg. Due to unexpected cold weather that day, load was higher than what was calculated prior to the outage, and an OCF tripped out on high load. Cold load pickup problems exacerbated the restoration. This is not expected to re-occur.
2/14/2006: Monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**44 Circuit ID: 64802 MOUNT NEBO 48-02**

**CPI: 273**

	Circuit outage data analysis.	Completed	12/15/2004	Pattern of tree related outages most of which were caused by trees outside the right-of-way.
	Install fault indicators to locate source of outages;	Completed	7/1/2005	Field identified a section of inaccessible circuit which contributed to many of the outages. Installation of the fault indicators was not required. These outages were primarily caused by trees. Recent tree trimming on this circuit is likely to reduce outages in this area.
	Tree trimming.	Completed	7/1/2005	Tree trimming of the entire circuit is expected to reduce outage risk.
	Evaluate potential ties.	Completed	9/26/2005	Four different potential ties to this circuit were evaluated. All four were found to be cost prohibitive. The expected benefit of the tie lines did not exceed the excessive costs.
	Improve sectionalizing capability.	Completed	12/31/2005	Reduced customer count affected by each outage. Work requests have been initiated to install 1 new single phase OCRs and 2 slot fuses. This work has been completed.
	Improve sectionalizing capability.	Completed	1/31/2006	Reduced customer count affected by each outage. Work requests have been initiated to install 1 new single phase OCRs and 6 slot fuses. This work has been completed.
	Monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**50 Circuit ID: 11506 FREEMANSBURG 15-06**

**CPI: 261**

	Circuit outage data analysis.	Completed	6/11/2004	Circuit is a rural feeder, many single phase taps have a weak textile strength and are more susceptible to falling branches. Other equipment related issues are suspected.
	Line inspection-equipment.	Completed	6/30/2004	Reduced outage risk. Several problems were found such as: conductor off insulator, deteriorated crossarms, split pole tops, trees growing into lines, etc. A work request was written to correct these problems.
	Repairs to the line based on the line inspection.	Completed	8/11/2004	Reduced outage risk.
	Tree trimming. A section of line was located that required trimming.	Completed	10/1/2004	Reduced outage risk.
	Tree trimming. Spot trimming completed 12/17/04 on trouble areas.	Completed	12/23/2004	Reduced outage risk.
	Replaced Tap fuse that was found to be cracked and damaged.	Completed	12/23/2004	Reduced outage risk. This work is completed and should result in lower momentary count, as well as lessen number of customers taken out at a time.
	Tree trimming.	Completed	1/31/2005	Reduced outage risk. Hot spotting was completed in January of 2005.
	Monitor future performance. Performance appears to have improved and monitoring will continue.	Ongoing		Trimming and other minor work appears to have improved performance. Monitoring will continue.
	One of the single phase taps where the fuse has blown several times was inspected and all maintenance items identified.	Completed	3/30/2006	Reduced outage risk. Maintenance issues on this single phase tap have been addressed.
	Tree trimming-selected line segments only (hot spots).	In progress	6/30/2006	Reduced outage risk. Trimming to start in early May.

- (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.*

The following table provides the requested data.

<b>Inspection &amp; Maintenance Goals/Objectives</b>	<b>2005 Budget</b>	<b>2005 Actual</b>	<b>Variance (%)</b>
<b>Transmission</b>			
Transmission C-tag poles	210	233	11.0%
Transmission arm replacements (# of sets)	1,200	1,211	0.9%
Transmission lightning arrester installations (# of structures)	14	23	64.3%
Transmission air break switch inspections	60	44	-26.7%
Foot Patrols (# of miles)	1,750	1,137	-35.0%
Transmission tree trimming(# of linear feet)	205,300	220,562	7.4%
Transmission herbicide (# of acres)	7,006	6,125	-12.6%
<b>Substation</b>			
Substation batteries (# of activities)	821	812	-1.1%
Circuit breakers (# of activities)	3,310	3,152	-4.8%
Substation inspections (# of activities)	3,567	3,376	-5.4%
Transformer maintenance (# of activities)	1,938	1,951	0.7%
<b>Distribution</b>			
Distribution C-tag poles replaced (# of poles)	1,500	1,567	4.5%
Distribution C-truss poles (# of poles)	300	291	-3.0%
Capacitor (MVAR added)	80	86	6.3%
OCR replacements (# of)	510	512	0.4%
Test sections of underground distribution cable	720	824	14.4%
Distribution pole Inspections	63,748	68,936	8.1%
Group relamping	18,500	17,619	-4.8%
Distribution tree trimming (# of miles)	4,531	4,188	-7.6%
Distribution herbicide (# of acres)	928	726	-21.8%

Explanation of variances of 10% or greater:

**Transmission C-Tag Poles:** Based upon inspection results identifying more poles than forecast, there was a scope increase from 210 to 231. Work was advanced to 2005 due to cancellations/reductions in several large USF projects.

**Transmission lightning arrester installations:** Scope increased from 14 to 23 sets to improve 69 kV reliability and reduce adverse impacts of lightning strikes to switches.

**Transmission air break switch inspections:** The inventory of approximately 480 AB switches is inspected on an 8-year cycle, leading to an annual budget estimate of 60 inspections. Late in the year, after the budget is finalized, specific switches requiring inspection in the next year are identified. The actual identified quantity may be higher or lower than the average. For 2005, 47 AB switches were identified and 44 inspections were completed during the calendar year, leaving a carryover of three inspections.

**Transmission foot patrols:** Although the metrics indicate an under-run, all of the 2005 budget work was completed. There are approximately 5,200 circuit miles of regional and bulk power transmission line foot-patrolled on a four-year cycle which leads to an annual estimate of 1,350 miles for regular and special purpose patrols, but the actual lines scheduled in a given year may be more or less than this amount. The 2005 budget estimate consisted of those average 1,350 miles plus an estimated 400 miles for a one-time inspection of all self-weathering structures on the system. All 2005 planned regional and bulk power foot patrols were completed by May 2005. All 1,872 self-weathering structures on the system were inspected by December 2005. At the operational level, engineers track whether the scheduled lines are completed, not how many miles are completed. At the corporate level, hours charged to patrols are tracked and converted to an approximation of miles completed. If actual hourly rates vary significantly from estimated rates, this calculation may not necessarily provide a reasonable approximation of the number of miles completed.

**Transmission herbicide:** Under-run was caused by a combination of a shortage of qualified labor, property owner refusals, and a significant increase in acreage scheduled for 2005.

**Test sections of UG distribution cable:** Worked ahead of plan due to under-runs in other planned work items.

**Distribution herbicide:** Under-run was caused by a combination of a shortage of qualified labor, property owner refusals, and a significant increase in acreage scheduled for 2005.

- (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	2005 Budget (\$1,000s)	2005 Actual (\$1,000s)	Variance (%)
Provide Electric Service	10,909	12,605	15.5%
Vegetation Management	20,007	19,167	-4.2%
Customer Response	55,323	49,253	-11.0%
Reliability & Maintenance	50,786	50,417	-0.7%
System Upgrade	6,222	3,992	-35.8%
Customer Services/Accounts	79,912	80,297	0.5%
Other	51,526	48,302	-6.3%
<b>Total O&amp;M Expenses</b>	<b>274,685</b>	<b>264,034</b>	<b>-3.9%</b>

Explanation of variances of 10% or greater:

**Provide Electric Service:** Higher than budget due to increased service/revenue work.

**Customer Response:** Lower than budget resulting from fewer normal operations outages as a result of reliability initiatives, such as increasing vegetation management expenditures by more than \$3 million from 2004 to 2005.

**System Upgrade:** Lower than budget because of changes in project timing as a result of updated load information, delays in obtaining rights-of-way and sites for large transmission projects, and higher reimbursements on Penn DOT relocation projects

- (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.

	2005 Budget (\$1,000s)	2005 Actual (\$1,000s)	Variance (%)
New Service/Revenue	\$75,542	\$76,445	1.2%
System Upgrade	\$49,155	\$32,633	-33.6%
Reliability & Maintenance	\$40,539	\$36,452	-10.1%
Customer Response	\$2,528	\$4,882	93.1%
Other	\$7,395	\$5,832	-21.1%
<b>Total</b>	<b>\$175,159</b>	<b>\$156,244</b>	<b>-10.2%</b>

Explanation of variances of 10% or greater:

**System Upgrade:** Under-budget due to changes in project timing as a result of updated load information, delays in obtaining rights-of-way and sites for large transmission projects, and by higher reimbursements on PennDOT relocation projects.

**Reliability and Maintenance:** Under-budget primarily due to fewer equipment failures than forecast.

**Customer Response:** Over-budget primarily due to the January 6-16, 2005 ice storm.

**Other:** Under-budget primarily due to fewer meter replacements than forecast; 2005 was the first full year after the AMR deployment.

(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>2006 Budget</b>
<b>Transmission</b>	
Transmission C-tag poles (# of poles)	240
Transmission arm replacements (# of sets)	1,200
Transmission lightning arrester installations (# of sets)	24
Foot patrols (# of miles)	1,350
Transmission air break switch inspections (# of)	60
Transmission tree trimming (# of linear feet)	408,929
Transmission herbicide (# of acres)	5,002
<b>Substation</b>	
Substation batteries (# of activities)	833
Circuit breakers (# of activities)	3,195
Substation inspections (# of activities)	3,439
Transformer maintenance (# of activities)	2,109
<b>Distribution</b>	
Distribution C-tag poles replaced (# of poles)	2,232
C-truss distribution poles (# of poles)	384
Capacitor (MVAR added)	80
OCR replacements (# of)	510
Oil Switch replacements (# of)	60
Distribution air break switch inspections (# of)	258
Distribution pole inspections (# of poles)	79,831
Distribution line inspections (# of miles)	3,000
Group relamping (# of lamps)	18,500
Test sections of underground distribution cable	800
Distribution tree trimming (# of miles)	4,667
Distribution herbicide (# of acres)	1,325
LTN manhole inspections (# of) <sup>8</sup>	407
LTN vault inspections (# of)	594
LTN network protector overhauls (# of)	82
LTN reverse power trip testing (# of)	108

<sup>8</sup> Four low tension network (LTN) programs not previously reported added to this report. The goals/objectives have not changed from prior years.

**(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>2006 Budget (\$1,000s)</b>
Provide Electric Service	12,823
Vegetation Management	22,505
Customer Response	53,523
Reliability & Maintenance	59,124
System Upgrade	7,698
Customer Services/Accounts	71,873
Other	51,609
<b>Total O&amp;M Expenses</b>	<b>279,155</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>2006 Budget (\$1,000s)</b>
New Service/Revenue	\$87,641
System Upgrade	\$60,115
Reliability & Maintenance	\$48,040
Customer Response	\$3,051
Other	\$8,762
<b>Total</b>	<b>\$207,609</b>

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

**Substation**

Testing of distribution and transmission circuit breakers up to 138 kV: A 2004 analysis of substation circuit breaker performance revealed a continuing increase in the number of times the circuit breakers failed to trip or re-close properly. The frequency of maintenance did not correlate to the increase. To gain a better understanding of the reasons for these failures, PPL Electric instituted an annual trip-timing (from command to full trip) test on all 138, 69 and 15 kV class circuit breakers in late 2004 and into 2005. Continued analysis of test results has resulted in a modification of the test to include the reclose function, as well as the trip function. This change also requires that a circuit breaker of each type be scheduled for testing during the coldest time of the year. Many distribution class circuit breakers become sensitive to temperature conditions as the lubricants age.

**Distribution**

Oil switch replacements: added a program to replace oil switches with air break switches to improve operational performance.

Distribution air break switch inspections: added a new program to inspect 258 switches each year to ensure proper operation.

Distribution line inspections: increased the number of miles inspected annually from 1,280 to 3,000 miles to support SAIDI improvement initiative and worst performing circuit evaluations.

Proactive curing of UG primary cable: Initiated a three-year pilot program to cure 200 UG line segments per year without testing. Current practice is to test UG cable in selected developments and based upon the result of the testing to either replace, cable cure, or do nothing to the tested cable. The pilot is to evaluate the economics of cable curing all stranded cable in selected developments without testing.

Distribution tree trimming: miles trimmed per year increased by 100 miles and increased funding for special "hot spotting" of specific problem areas along a circuit between cycles.

No other significant program changes for 2006 have occurred. Quantity differences in the transmission and distribution inspection and maintenance goals/objectives are the result of normal variations in workload and backlog carryover from the prior year.

*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 – Comprehensive	Line personnel conduct a comprehensive foot patrol inspections of transmission line facilities on a four year cycle. During the foot patrol a detailed list of maintenance items for specific structures, poles, arms, conductors and support hardware is documented. This information is combined with the comprehensive helicopter inspection reports and is used to develop action plans to correct deficiencies.
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	Line personnel inspect all wood poles during the foot patrol inspection to identify deterioration. Engineers develop plans to repair or replace them as necessary.
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.

**Appendix A**

<b>Program</b>	<b>Activity</b>
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 on a minimum eight year cycle.
Line Switch Upgrades	Line personnel upgrade 138kV and 69kV air break switches to increase load-sectionalizing capability to assure system reliability and operating flexibility.
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*

<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 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.
Inspection & Overhaul	Electricians inspect and overhaul circuit breakers, wave traps, power fuses, 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. 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.
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 facility prior to failure.

## Appendix B

<b>Program</b>	<b>Activity</b>
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 Improvements	Engineers evaluate the reliability of a substation's DC power supply and determine the need for midpoint circuit breakers in station battery banks. They plan and schedule installation as needed.
DC 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 and vacuum switches on 69kv capacitor banks. They plan and schedule installation 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	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.

## 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	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 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 past performance. 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 represent a threat to line performance/ safety are removed when it is feasible to do so.
Herbicide Application	Tall-growing, undesirable vegetation growing within the rights-of-way corridors is selectively treated with herbicides. Low-growing vegetation that does not represent a hazard to the safe, reliable operation of PPL Electric’s facilities is preserved wherever possible.
Reclearing	Tall-growing, undesirable vegetation growing within the rights-of-way corridors is selectively removed in those situations where herbicides can’t be utilized. Low-growing vegetation that does not represent a hazard to the safe, reliable operation of PPL Electric’s facilities is preserved wherever possible

## Appendix E

### *PPL Electric Utilities Corporation Service Interruption Definitions*

**Trouble Definitions:** After field investigations and repairs are complete, PPL Electric linemen report the cause of each case of trouble. This information is electronically recorded as a “cause code” number when the job record is closed. PPL Electric cause codes are subdivided into three general classifications: Controllable, Non-Controllable and Public. 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 – Inadequate Trimming	Controllable	<ul style="list-style-type: none"><li>Outages resulting from the lack of adequate tree trimming (within the Right of Way).</li></ul>
35 – Trees – Not Trim Related	Non-Controllable	<ul style="list-style-type: none"><li>Outages due to trees, but not related to lack of or proper maintenance tree trimming. This includes trees falling into PPL Electric facilities from outside the right-of-way, danger timber blown into facilities, and trees or limbs cut or felled into facilities by a non-employee.</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 an interruption.</li></ul>
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>

## Appendix E

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>
80 – Scheduled Prearranged <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>
85 – Forced Prearranged	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>

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<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 prearranged when the interruption is postponed.

## Appendix E

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> </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 T&amp;L 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>
99 – Other – Non-Controllable (Lineman provides explanation)	Non-Controllable	<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, and fences, being accidentally blown or thrown into overhead facilities.</li> <li>• All interruptions caused by contact of energized equipment with facilities of other attached companies or by trouble on customer owned equipment.</li> </ul>

**Paul E. Russell**  
Associate General Counsel

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perussell@pplweb.com



**FEDERAL EXPRESS**

May 1, 2006

James J. McNulty, Esquire  
Pennsylvania Public Utility Commission  
Commonwealth Keystone Building  
400 North Street  
Harrisburg, Pennsylvania 17120

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MAY 01 2006

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**Re: PPL Electric Utilities Corporation  
Quarterly Reliability Report for the  
Period Ended March 31, 2006  
Docket No. L-00030161**

DOCUMENT  
FOLDER

Dear Mr. McNulty:

Enclosed for filing on behalf of PPL Electric Utilities Corporation ("PPL Electric") are an original and five (5) copies of PPL Electric's Quarterly Reliability Report for the Period Ended March 31, 2006. The report is being filed pursuant to the Commission's Final Rulemaking Order adopted May 7, 2004 in the above-captioned docket.

Pursuant to 52 Pa. Code § 1.11, the enclosed document is to be deemed filed on May 1, 2006, 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 this document, please call me or Joseph M. Kleha, PPL Electric's Manager-Regulatory Projects at (610) 774-4486.

Very truly yours,

Paul E. Russell

Enclosures

cc: Elizabeth H. Barnes, Esquire

106



**PPL Electric Utilities**

L-00030161

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

**DOCUMENT  
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*April 2006*

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**DOCKETED**  
MAY 10 2006

C-00030161

- (1) *A description of each major event that occurred during the preceding quarter, 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 major events during this quarter.

- (2) *Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) for the EDC's service territory for the preceding quarter. 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 report shall also include the number of customer momentary interruptions.*

The following table provides data for the 12 months ended March 31, 2006.

<b>SAIFI (Benchmark = 0.98; Rolling 12-month Std. = 1.18)</b>	1.050
<b>CAIDI (Benchmark = 145; Rolling 12-month Std. = 174)</b>	138
<b>SAIDI (Benchmark = 142; Rolling 12-month Std. = 205)</b>	145
<b>MAIFI<sup>1</sup></b>	5.242
<b>Average Number of Customers Served<sup>2</sup></b>	1,351,203
<b>Number of Sustained Customer Interruptions (Trouble Cases)</b>	20,781
<b>Number of Customers Affected<sup>3</sup></b>	1,418,563
<b>Customer Minutes of Interruptions</b>	196,228,080
<b>Number of Customer Momentary Interruptions</b>	7,083,088

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SECRETARY'S BUREAU

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<sup>1</sup> MAIFI data is obtained at the substation breaker and does not include momentary interruptions at lower level devices.

<sup>2</sup> PPL Electric calculates the indices using customers served at the end of the period. This is consistent with the method used to calculate PPL Electric's benchmarks.

<sup>3</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.

- (3) *Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) and other pertinent information such as customers served, number of interruptions, customer minutes interrupted, number of lockouts, and so forth, for the worst performing 5% of the circuits in the system. An explanation of how the EDC defines its worst performing circuits shall be included*

The following table provides reliability index values for the worst performing 5% of the circuits in the system for the 12 months ended at the current quarter. An explanation of how PPL Electric defines its worst performing circuits is included in Appendix A.

WPC Rank	Feeder ID	SAIFI	CAIDI	SAIDI	MAIFI <sup>4</sup>	Customers	Cases of Trouble <sup>5</sup>	Customer Minutes Interrupted	CPI
1	16402	10.05	112	1,122	8.00	844	73	946,891	580
2	18502	2.29	921	2,106	0.00	1,760	95	3,706,517	503
3	15601	5.84	167	977	7.67	2,418	93	2,362,102	487
4	15701	3.83	218	836	8.00	2,208	109	1,845,718	463
5	28301	3.54	145	514	7.00	2,784	117	1,432,198	459
6	28801	1.93	430	828	14.00	2,564	117	2,121,860	454
7	26401	2.89	152	440	3.00	3,155	117	1,386,667	437
8	26001	3.61	164	593	3.00	1,253	101	743,267	424
9	45402	5.21	121	628	9.00	1,571	77	986,653	413
10	28102	3.14	193	605	0.00	1,651	101	999,070	412
11	22602	4.27	185	790	8.00	1,421	83	1,122,454	406
12	55001	2.75	149	409	6.04	2,709	107	1,107,038	405
13	43401	3.91	251	980	9.00	1,488	76	1,457,833	387
14	53901	4.12	191	787	8.00	2,674	76	2,103,621	384
15	16101	2.68	139	372	4.00	2,494	99	926,909	380
16	16401	4.88	236	1,153	8.00	667	60	769,266	379
17	52401	4.55	183	831	14.00	1,701	68	1,412,960	377
18	17802	3.11	188	586	7.00	2,323	84	1,361,171	367
19	16802	3.60	217	782	22.00	1,707	74	1,334,979	364
20	28302	3.04	170	518	8.00	2,755	85	1,425,907	363
21	44505	2.10	259	543	18.06	2,324	91	1,262,918	361
22	10903	4.47	69	307	1.00	2,016	68	618,983	353
23	26002	3.32	303	1,004	3.00	1,137	67	1,141,156	352
24	13102	3.57	309	1,101	4.00	1,915	62	2,108,712	350
25	40502	3.72	113	422	3.00	1,809	73	763,633	347

<sup>4</sup> MAIFI data is obtained at the substation breaker and does not include momentary interruptions at lower level devices.

<sup>5</sup> Cases of trouble are the number of sustained customer service interruptions.

WPC Rank	Feeder ID	SAIFI	CAIDI	SAIDI	MAIFI <sup>1</sup>	Customers	Cases of Trouble <sup>5</sup>	Customer Minutes Interrupted	CPI
26	18501	2.48	436	1,083	0.00	1,661	65	1,798,369	342
27	15702	4.75	109	520	3.00	1,555	55	808,306	337
28	12301	2.53	289	733	0.00	1,716	71	1,258,361	331
29	27503	3.31	394	1,305	12.00	2,189	52	2,857,040	331
30	22002	3.79	176	668	3.02	1,329	61	887,902	330
31	17902	4.78	222	1,060	20.00	978	43	1,037,103	329
32	46301	1.74	658	1,145	6.00	852	54	975,560	328
33	16801	4.68	103	480	14.01	1,578	51	758,176	323
34	22001	1.40	264	370	3.00	1,899	86	702,713	323
35	26602	0.81	308	248	8.00	2,934	91	727,876	322
36	44202	4.23	179	756	16.00	1,492	51	1,127,281	321
37	53602	1.88	112	210	3.00	2,717	89	571,608	320
38	17803	2.18	261	568	4.00	2,427	73	1,379,645	318
39	26702	1.10	250	276	2.00	2,383	88	657,508	315
40	47707	2.36	170	402	9.00	1,969	74	790,718	310
41	16405	5.86	186	1,093	16.00	281	22	307,094	308
42	20403	2.03	141	287	1.00	3,008	80	862,870	308
43	52402	3.55	99	352	12.00	1,597	61	562,334	307
44	25501	1.32	144	190	11.00	2,835	89	538,098	305
45	46302	2.26	180	408	6.00	1,756	72	715,764	303
46	28001	2.32	156	361	6.00	1,716	72	619,834	300
47	59401	2.40	187	448	5.02	2,490	68	1,115,388	299
48	46602	1.36	350	477	3.00	1,499	69	715,686	294
49	11001	3.55	134	477	6.00	859	53	410,079	293
50	63601	5.58	80	445	7.00	467	28	207,884	293
51	11506	2.54	173	439	3.00	1,263	63	554,680	289
52	43202	1.63	282	461	9.00	2,050	67	944,033	286
53	10901	4.10	113	463	6.00	1,468	43	679,771	283
54	16901	2.36	224	528	14.00	2,120	59	1,119,130	281

PPL Electric's Circuit Performance Index ("CPI") is derived from the frequency and duration of service interruptions that occurred during the specified time period. Improving a circuit's CPI depends upon reducing either the service interruption frequency or the duration of interruptions, or both. When a new circuit appears among the 5% worst performing, the first step undertaken is to perform a "circuit outage data analysis." This consists of analyzing the actual service interruptions that occurred during the time span to determine if there are causal patterns, or geographic patterns, for which corrective actions are feasible which would improve the circuit's CPI.

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**(4) Specific remedial efforts taken and planned for the worst performing 5% of the circuits identified in paragraph (3).**

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>1</b>	<b>Circuit ID: 16402 MOUNT POCONO 64-02</b>			<b>CPI: 580</b>
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/11/2004	Most of the problems were trees outside of the right of way, but there were some trimming related problems. This circuit did have some hotspot trimming completed earlier in 2004.
	Tree trimming. Hot spotted in April and May	Completed	5/31/2005	
	Tree trimming. Overgrown areas will be identified by field engineer for hot spot trimming.	Completed	8/31/2005	
	7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	8/31/2005	
	11/22/2005: Tree trimming.	Scheduled for	12/31/2006	
	Monitor future performance	Ongoing		
	2/16/2006: Line inspection-equipment.	Completed	3/30/2006	
<b>2</b>	<b>Circuit ID: 18502 CANADENSIS 85-02</b>			<b>CPI: 503</b>
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/11/2004	There were mostly tree related outages on this circuit. Additional fusing was added to a poor performing section of the line. Reduced outage risk. The majority of problems on this line were due to non-trimming related vegetation issues. In addition, an abnormal sectionalizing event caused power quality and line issues. This event is not expected to recur. Tree trimming will reduce the number of customer outages and improve SAIFI. Increasing sectionalizing on the line will reduce the number of customer experiencing an outage.
	Improve sectionalizing capability.	Completed	11/16/2004	
	Tree trimming. Hotspot trimming completed	Completed	12/1/2004	
	Monitor future performance.	Ongoing		
	1/9/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	2/28/2006	
	2/16/2006: Tree trimming.	Scheduled for	12/1/2006	
	2/16/2006: Install LBAS(s).	Scheduled for	12/1/2006	

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>3 Circuit ID: 15601 NO STROUDSBURG 56-01</b>			<b>CPI: 487</b>	
	Circuit outage data analysis.	Completed	6/23/2004	Major contributor to CPI was the number of cases. There were several burned loops on the line and quite a few animal contacts.
	Line inspection-equipment	Completed	3/31/2005	
	Perform line maintenance identified by line inspection.	Completed	5/30/2005	
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	6/6/2005	
	Line inspection-vegetation. Forester will perform a vegetation line inspection and perform hot spot trimming as required.	Completed	7/28/2005	Results sent to field for review. Hot spotting will be scheduled as needed
	Field engineer has identified several tap fuses that can be installed to help minimize the impact of potential faults on taps.	Completed	7/28/2005	WR 224423, WR 224423, and WR 224008 were initiated to add sectionalizing devices along this line
	Install fuse(s). WR# 218967, WR# 224357, WR# 224423. OCR and fuse installation;	Completed	12/30/2005	Fuses and OCRs were installed to reduce the number of customers experiencing an outage
	This circuit will be thermovisioned to help identify failed equipment.	Scheduled for	4/30/2006	
	1/13/2006: Install fuse(s). WR 224008	Scheduled for	4/30/2006	
	11/22/2005: Tree trimming.	Scheduled for	12/31/2006	
<b>4 Circuit ID: 15701 TANNERSVILLE 57-01</b>			<b>CPI: 463</b>	
	Circuit outage data analysis.	Completed	6/15/2004	Major contributor to CPI was the number of cases (approximately 52% of CPI), CAIDI and SAIFI are low. Most contacts were tree related.
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/11/2004	Many tree related outages, some were trimming related.
	Field engineer will review the circuit for additional tap fuses.	Completed	7/31/2005	The main three phase line was analyzed, and no additional locations for fuses were determined.
	Tree trimming. This circuit was scheduled to be trimmed in support of reconductor work.	Completed	3/30/2006	Approximately 1.5 miles of the main three phase line was trimmed in support of the upcoming USF work.
	Reconductor 1.5 miles of the main line under SP 51216	Completed	3/30/2006	The line was reconducted to increase reliability, allow capacity for load growth, and improve SAIDI.
	Monitor future performance	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>5 Circuit ID: 28301 NEWFOUNDLAND 83-01</b>			<b>CPI: 459</b>	
	Circuit outage data analysis.	Completed	6/25/2004	Major contributor to CPI was the number of cases (30%). The contributing outages (mostly trees) did not fall into a discernable pattern. No outages were trimming related.
	Circuit outage data analysis.	Completed	8/23/2004	Review of circuit outages indicated there were two poor performing single phase taps.
	Improve sectionalizing capability. Increase sectionalizing on two poor performing single phase taps beyond OCR 66696N44669	Completed	12/31/2004	Field review of the poor performing section of line indicated that additional sectionalizing will not greatly improve reliability on that part of the circuit. Tap fusing in the area already adheres to PPL's policy of fusing all single phase taps.
	Tree trimming. Hot spot trimming on two poor performing single phase taps.	Completed	3/30/2005	Reduced outage risk.
		Completed		Trees and animals accounted for over 70% of the outages seen in the past year. This is a heavily forested area where trees outside of the right of way contribute to 50% of the total CPI. Even if all other outages were removed this circuit would still be among the worst performers due to trees outside of the R/W.
	Line inspection-equipment.	Completed	11/30/2005	Field Engineer determined that line inspection was unnecessary because line was inspected in 2004.
	Improve sectionalizing capability. Field engineer will install additional single phase and three phase OCRs on the circuit pending additional review.	Scheduled for	6/30/2006	Circuit was reviewed and a betterment project to add OCR's and improve sectionalizing identified and planned for 6/2006 to reduce number of customers interrupted for a fault
	Tree trimming. Trimming and hot spotting will be done in 2006.	Scheduled for	12/31/2006	
	11/23/2005: Betterment project to split one phase tap by sectionalizing. Additional OCR's will be installed.	Scheduled for	6/30/2006	
	2/21/2006: Line inspection-equipment.	Scheduled for	6/30/2006	Inspection will help identify problem areas of line that need to be repaired. These repairs will prevent possible outages and customer minutes lost, directly impacting SAIDI.
<b>6 Circuit ID: 28801 LAKEVILLE 88-01</b>			<b>CPI: 454</b>	
	7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	8/31/2005	
	WR# 237040: OH repairs made as a result of line inspection	Completed	9/15/2005	Work completed to reduce customer minutes lost
	Tree trimming.	Completed	10/31/2005	
	Install fuse(s). WR# 242026; WR#241998; WR#241849	Completed	12/31/2005	New fuses being installed to improve SAIDI
	Monitor future performance.	Ongoing		Vegetation issues caused nearly half of all the outages on this line. Weather was a significant factor for these outages. Trimming was completed on this line in 2005.
	Install LBAS(s).	Scheduled for	12/31/2006	Sectionalizing the line will reduce the number of customers experiencing an outage

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>7</b>	<b>Circuit ID: 26401 INDIAN ORCHARD 64-01</b>			<b>CPI: 437</b>
	Circuit outage data analysis.	Completed	6/23/2004	Major contributors to CPI were the number of cases and SAIFI. Blooming Grove - West Damascus 69kV tripped to lockout contributing greatly to SAIFI. An OCR failed and is not likely to recur. Many tree related outages both trimming and non-trimming related and animal contacts. Line was trimmed in September 2003 so hotspotting the line will be ineffective.
	A detailed analysis of sectionalizing will be completed on this line. A review of the existing protection and potential device additions will be performed.	Completed	6/25/2004	Three single phase taps were identified as requiring further sectionalizing and possibly an additional feed from the main line.
	Improve sectionalizing capability. Areas for further sectionalizing have been identified. Field engineer will locate additional sectionalizing devices.	Completed	12/31/2005	
	10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/30/2005	
	11/23/2005: Underground failures were tested and replacements will be made.	Scheduled for	12/31/2006	
	Monitor future performance.	Ongoing		
<b>8</b>	<b>Circuit ID: 26001 WEST DAMASCUS 60-01</b>			<b>CPI: 424</b>
	10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/30/2005	Many of the outages were due to vegetation issues during storms. Majority of the outages were weather related.
	11/22/2005: Monitor future performance.	Ongoing		
	2/21/2006: Install animal guard(s). Animal guards will be installed as customers are restored following an animal-related outage	Ongoing		Animal guards will prevent animal contact and reduce customer interruptions.

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
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**9 Circuit ID: 45402 WEST BLOOMSBURG 54-02**

**CPI: 413**

	Circuit outage data analysis.	Completed	8/22/2005	CPI was driven by SAIFI (3.338; 39% of the CPI) and number of cases (54; 44% of CPI). The major outages in the third quarter of 2004 were because of Hurricane IVAN on 9/18/04. 108 customers were interrupted for approximately 33 hours because of IVAN. While no major outages in Q4, 2004, a snow storm in the first quarter of 2005 caused long outages because of flood and closed bridges. Nothing major in the Q2, 2005 except the not trimming related outage on 4/28/2005. The WPC team noticed that animals caused some outages in the second quarter of 2005, and the field will be looking to install an animal guards where needed to avoid those outages in the future.
	Line inspection-equipment.	Completed	7/31/2005	The line was inspected in the winter of 2004. Some items were identified by inspection including broken tie wires, cracked insulators, bad TFC's, blown LA's. Some of the work requests were done in the first quarter of 2005, and the rest were completed in June/ July 2005. All single phase and three phase fuses were installed on this circuit.
	Tree trimming.	Scheduled for	6/30/2006	The line is 100 miles long. 4 miles urban were trimmed in 2003, and the rest (95miles rural) are scheduled to be trimmed in 2006. The circuit is being reviewed for hot spot trimming. Hot spot rimming was partially done in September 2005, and was fully completed on the whole circuit by the end of December, 2005.
	11/2/2005: Circuit outage data analysis.	Completed	11/2/2005	Major contribution to the CPI was due to SAIFI (46% of total CPI) and the number of cases ( 46% of total CPI). A vehicle hit on 8/8/2005, and a storm in July caused major outages in the third quarter of 2005.
	Line inspection-equipment.	Completed	9/30/2005	A line inspection was performed in September 2005. Different items were identified by the inspection including broken tie wires, cracked insulators, bad transformer fuse cutouts, blown lightning arresters. 6 work requests were written due to the inspection. WR's 208868, 208701, 208487, 208428, 208357, and 208306 were done by September 2005
	11/2/2005: Improve sectionalizing capability.	Completed	11/2/2005	The circuit was reviewed for additional sectionalizing in 2005 to improve load transfer capabilities. No locations were identified to install sectionalizing devices.
	11/2/2005: Monitor future performance.	Ongoing		Tree hot spotting in 2005, and the completion of all work requests identified by inspection are expected to improve the circuit's performance. Major outages occurred on the circuit in the third quarter were due to events that are not expected to occur again such as the vehicle hit in August. PPL will continue to monitor the circuit's performance.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>10</b>	<b>Circuit ID: 28102 TWIN LAKES 81-02</b>			<b>CPI: 412</b>
	10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/30/2005	
	11/23/2005. Tree trimming.	Completed	2/28/2004	
	11/23/2005 Monitor future performance.	Ongoing		An inspection was completed in 2004 and problems were addressed. Vegetation was a major issue that caused customer minutes lost. Vegetation related outages were due to weather primarily.
	Line inspection-equipment. Two sections of line will be inspected	Completed	3/30/2006	The inspection targets equipment that may fail. By making repairs or replacements, customer outages will be prevented.
<b>11</b>	<b>Circuit ID: 22602 KIMBLES 26-02</b>			<b>CPI: 406</b>
	Circuit outage data analysis.	Completed	6/23/2004	Major contributors to CPI were the number of cases and SAIFI. BLGR-WDAM 69kV tripped to lockout which significantly contributed to SAIFI, this event is not likely to recur.
	Circuit outage data analysis.	Completed	8/25/2004	Identified a poor performing single phase tap.
	Improve sectionalizing capability. Field engineer will review sectionalizing on poor performing single phase tap	Completed	12/31/2004	Two additional OCR's added to improve SAIDI.
	Monitor future performance.	Ongoing		
	Fault indicators will be installed on an inaccessible part of the line to facilitate outage restoration.	Canceled	6/30/2005	Field engineer determined that fault recorders were unnecessary.
	4/10/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/31/2006	

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>12</b>	<b>Circuit ID: 55001 NEWPORT 50-01</b>			<b>CPI: 405</b>
	Improve sectionalizing capability. Three tap fuses were installed.	Completed	12/31/2003	Reduced customer count affected by each outage.
	Circuit outage data analysis.	Completed	6/25/2004	Vehicles and an ice storm in January 2004 contributed to the CPI.
	Two OCRs relocated. Low set setting on breaker changed.	Completed	8/18/2004	Reduced customer count affected by each outage. Reduce number of trips.
	Tree trimming.	Completed	8/27/2004	Reduced outage risk
	Circuit outage data analysis.	Completed	12/22/2004	Area hard hit by Hurricane Ivan in the 3rd quarter.
	Circuit outage data analysis.	Completed	3/18/2005	The quarterly CPI has decreased 79% from the 3rd to the 4th quarter.
	Circuit outage data analysis.	Completed	5/27/2005	CPI continues to improve.
	Line inspection-equipment.	Completed	6/30/2005	Only a few items were found.
	Circuit outage data analysis.	Completed	8/31/2005	On 5/7/05 the CB was interrupted when load was transferred and a line loop burned open and then on 5/27/05 an OCR bypass loop burned open. This is not expected to reoccur.
	Circuit outage data analysis	Completed	10/31/2005	Outage on 8/23/05 due to customer cutting a tree which fell into line.
	12/7/2005: Install LBAS(s). Instal LBAS @ 17530S42150	Completed	1/23/2006	Reduced outage duration.
	1/1/2006: Expanded Operational Review. Operational Review will be completed in 2006	In progress		
	2/14/2006: Monitor future performance.	Completed	2/14/2006	Re Oct 15 & 16 outages: the area downstream of the OCRs was field checked on Feb 14 2006, and no danger trees were found.
	2/14/2006: Tree trimming. The main portion of the circuit (first 12 mi of 3 phase) from sub to New Bloomfield.	Scheduled for	9/1/2006	Reduced outage risk. Only 31% of the customer minutes in 2005 were tree-related, and a single tree outage from off the right of way was responsible for 20% alone. However, keeping the line on its trimming schedule will demonstrate continued efforts to keep trees from increasing the number of outages.
	2/14/2006: Tree trimming. Remainder of circuit (approx 150 ckt miles).	Scheduled for	12/31/2007	Reduced outage risk.

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>13 Circuit ID: 43401 BENTON 34-01</b>			<b>CPI: 387</b>	
	Circuit outage data analysis.	Completed	8/22/2005	CPI for the Q2, 2005 was primarily driven by cases of trouble (152, 49% of CPI). The only reported significant outage occurring on 34-1 during the first quarter of 2004 was a vehicle accident on 1/12/2004 causing 183 customers to be out of service for 2 hrs. During the second quarter of 2004, the high CPI was due to equipment failure, approximately 188 customers experienced outages ranging from 1 hr to 6 hrs, on 5-2-2004, 5-3-2004, and 5/5/2004. During the third quarter of 2004, approximately 200 customers experienced outages ranging from 7 hrs to 78 hours, due to hurricane IVAN on 9/18/2004. Specifically, 100 of these 200 customers experienced a 78 hour outage due to trees off the right of way (not tree trimming related), however, the remaining 100 customers did experienced a 16 to 20 hr outage due to inadequate tree trimming. 40 CPI points were due to a pole hit during Q4, 2004, and no major outages in Q1, 2005. The circuit improved since the last quarter of 2004, and nothing major in the Q2, 2005.
	Perform line maintenance identified by line inspection.	Completed	8/22/2005	The line was inspected in the winter of 2004, and some items were identified by inspection. Work requests were written for those items to replace transformers, TFC's, LBC's, Ridge Pins, and install animal guards some of the work requests were completed in the first quarter of 2005 and the rest were done by the end of the second quarter
	Improve sectionalizing capability. Review line to determine if additional sectionalizing can be added to minimize the number of customers affected by emergency outages.	Completed	6/1/2005	Susquehanna Region has reviewed line for location to add OCR's, or other sectionalizing devices, no new locations were found.
	Tree trimming. Hot Spot Trimming	Completed	9/30/2005	Reduced outage risk. 3-phase hot-spot trimming was completed by December 30 of 2004 132 - miles rural is in the trimming process and expected to be done by the end of 2005. Approximately 100 miles were done by the end of the second quarter.
	11/2/2005: Circuit outage data analysis.	Completed	11/2/2005	Major contribution to the CPI was due to the number of cases ( 47% of total CPI). Trees not trimming related caused long duration outages in the third quarter 2005 due to a big storm on 7/13/2005.
	11/2/2005: Tree trimming.	Completed	12/1/2005	The Benton line 1 is 132 miles long, and it is all rural. The whole line was trimmed in 2005. Approximately \$400,000 was spent on tree trimming on this line.
	11/2/2005: Line inspection-equipment.	Completed	8/31/2005	The Benton line was inspected by the end of Q4, 2004. A lot of different items were identified by inspection. WR's 213126, 211539, 205701, 205695, 205639, 205634, 205604, 205401, 205387, 205378, 205332, 204966, and 187571 were written due to inspection. Work requests were completed by August 2005.
	2/9/2006: Improve sectionalizing capability.	Completed	3/20/2006	Reduced customer count affected by each outage. The line crew reviewed the line for additional sectionlizing devices. An air break switch was installed on the Benton -01 line to reduce the duration of outages on the line.

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
	11/2/2005: Monitor future performance.	Ongoing		Major contribution to the CPI on this circuit was due to storms in the second and third quarters of 2005. Thermovision of 3 phase was completed in December 05 12.8 miles. No hot spots were found on line. Recent tree trimming and work requests identified by inspection are expected to improve the circuit's performance. PPL will continue to monitor the circuit's performance in the future.

**14 Circuit ID: 53901 HALIFAX 39-01**

**CPI: 384**

	Circuit outage data analysis - WPC not on preceding qtr. lstr.	Completed	3/18/2005	West Shore portion of the circuit needs to be trimmed.
	Tree trimming. West Shore portion of circuit	Completed	8/31/2005	Reduced outage risk.
	Circuit outage data analysis.	Completed	5/27/2005	CPI has improved. Pole top fire on 2/14/2005 outaged the line.
	Circuit outage data analysis.	Completed	8/31/2005	On 6/29/05 during a period of rain the CB operated due to a tree on a 3 phase tap-inadequate trimming. Tree was trimmed.
	Circuit outage data analysis	Completed	10/31/2005	Outage on 8/6/05 was due to trees. Trees were trimmed to restore service
	1/1/2006: Expanded Operational Review Operational Review will be completed in 2006	In progress		
	3/1/2006: Improve sectionalizing capability Relocate OCR to improve sectionalizing	Completed	3/21/2006	Reduced customer count affected by each outage

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>15</b>	<b>Circuit ID: 16101 BINGEN 61-01</b>			<b>CPI: 380</b>
	Tree trimming. Spot trimming.	Completed	3/31/2004	Reduced outage risk.
	Circuit outage data analysis.	Completed	6/11/2004	Number of cases and SAIFI are the two biggest factors in the CPI. There is no detectable pattern of causes. Cases alone contribute 60% of this circuit's performance issues, with SAIFI contributing just under 30%.
	New Sectionalizing : Replace 1 fused cutout with an OCR and install 2 fused cutouts to reduce the length of line on a sectionalizing device. Install a 3 phase loadbreak airswitch to enable customers to be restored quicker during an outage.	Completed	7/19/2004	Reduced customer count affected by each outage.
	Replace cracked porcelain fused cutouts and lightning arresters.	Completed	6/30/2004	Reduced outage risk.
	Install fault indicators on line to locate momentary problems.	Completed	8/16/2004	This was done to locate momentary problems that occur on the line. The installation is complete and the indicators are being used to find the fault faster
	Improve sectionalizing capability. Investigating splitting the line to allow back feeding from other half.	Completed	2/28/2005	Majority of performance problems occur on fused taps. Load pick up is not the primary performance issue
	Transfer lower portion of line to the Richland 36-3 line to reduce the length of line exposure.	Canceled	7/22/2005	Project was cancelled due to capacity concerns on the Richland Substation.
	Reconductoring 7 single phase taps with XLP and stronger conductor	Completed	11/30/2005	Reduced outage risk. Should see reduction in cases, and possibly lower circuit CAIDI
	Nine overhead spans that were located in an inaccessible area were relocated underground.	Completed	12/31/2005	Reduced outage risk.
	Twenty five fault indicators will be installed.	Completed	3/1/2006	Reduced outage duration.
	Reconductoring sections of 3 phase line with XLP and stronger conductor.	Scheduled for	9/30/2006	Reduced outage risk.

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>16</b>	<b>Circuit ID: 16401 MOUNT POCONO 64-01</b>			<b>CPI: 379</b>
	The line was thermo-visioned and repairs were made as needed.	Completed	3/31/2004	Reduced outage risk.
	Circuit outage data analysis.	Completed	6/23/2004	Major contributor to CPI was SAIFI. Failure of 64-05 contributed to problems. The line was recently thermo-visioned and repairs were made as needed.
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	2/28/2005	
	Perform line maintenance identified by line inspection. WR 205426 was initiated to complete maintenance items found during the inspection.	Completed	5/13/2005	
	The entire main line will be restructured under B50921.	Completed	5/31/2005	The main three phase has been rebuilt with 477 AL XLP conductor.
	Line inspection-equipment. A portion of the line along Rt 314 (three phase branch off main line) will be inspected.	Completed	5/31/2005	Equipment failure with galloping conductor contributed to the CPI. This portion of the line had maintenance work completed in January 2005 to fix that galloping conductor. This line maintenance was completed to ensure no other conductor problems were present on the line.
	11/15/2005: Tree trimming.	Completed	6/30/2005	A portion of the line was trimmed. Entire line due to be trimmed in 2008
	11/22/2005: Coordination Study of devices of the line	Completed	11/30/2005	The results of the coordination study were normal. All devices are coordinating properly.
	Continue to monitor future performance.	Ongoing		
<b>17</b>	<b>Circuit ID: 52401 GREEN PARK 24-01</b>			<b>CPI: 377</b>
	1/1/2006: Expanded Operational Review. Operational Review will be completed in 2006.	In progress		
	Circuit outage data analysis.	Completed	8/18/2004	A conductor loop burned opened during switching.
	Circuit outage data analysis.	Completed	12/22/2004	Area hit by Hurricane Ivan in the 3rd quarter. Circuit is expected to drop off the list of 5% WPCs. Circuit trimmed in 2003.
	Circuit outage data analysis.	Completed	3/18/2005	The quarterly CPI has decreased 80% from the 3rd to the 4th quarter.
	7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	8/31/2005	On two occasions the CB operated during load transfer to Newport and loops burned open at different locations. This is not expected to reoccur. On 6/15/05 a vehicle broke a pole and an OCR near the substation operated.
	Circuit outage data analysis.	Completed	10/31/2005	Outage on 7/7/05 due to tree - not trim related interrupted 1435 customers.
	2/14/2006: Circuit outage data analysis.	Completed	2/14/2006	Inconclusive. Monitor future performance. ckt performance was excellent for 4th qtr 2005 (CPI= 27). CPI = 68 for 1st qtr 2006, continuing good performance.
	2/14/2006: Monitor future performance.	Ongoing		

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>18</b>	<b>Circuit ID: 17802 GILBERT 78-02</b>			<b>CPI: 367</b>
	Circuit outage data analysis.	Completed	6/23/2004	Major contributor to CPI was the number of cases. Although the line was trimmed in 2000, there were several trimming related outages.
	Tree trimming. A work request has been initiated for line segments identified for hot spot trimming	Completed	9/30/2004	
	A work request was initiated to add series fusing to decrease customer outages on a poor performing section of line. This work is to be completed by October 2004.	Completed	9/30/2004	Reduced customer count affected by each outage.
	A detailed analysis of sectionalizing will be completed on this line. A review of the existing protection and potential device additions will be performed.	Completed	9/30/2004	
	7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	8/31/2005	
	Install fuse(s). WR# 221771; WR# 224357; WR#228964 for sectionalizing device	Scheduled for	6/30/2006	Work identified under SAIDI effort to reduce customer minutes lost. WR 221771 and WR 224357 are completed. WR 228965 is pending.
	Tree trimming.	Scheduled for	6/30/2006	
	11/22/2005: Field Engineer will review locations for additional OCR's	Scheduled for	5/31/2006	
	2/16/2006: Install LBAS(s).	Scheduled for	12/1/2006	Installing additional sectionalizing devices will reduce the number of customer experiencing an outage
	Monitor future performance.	Ongoing		
<b>19</b>	<b>Circuit ID: 16802 WAGNERS 68-02</b>			<b>CPI: 364</b>
	2/16/2006: Install LBAS(s).	Scheduled for	12/1/2006	Install new LBAS will increase sectionalizing resulting in fewer customer minutes lost in the event of an outage
	Circuit outage data analysis.	Completed	6/23/2004	Major contributor to CPI was the number of cases. There was no conclusive pattern to the outages.
	Tree trimming. Spot trimming	Completed	12/31/2004	Reduced outage risk. Will continue to monitor this circuit to determine if trimming was successful.
	3/31/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	2/28/2006	The majority of the outages were due to non-trimming related vegetation issues. There were also some outages due to vehicle contact and equipment failure. Increasing sectionalizing on the line should mitigate the effect of potential outages

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>20 Circuit ID: 28302 NEWFOUNDLAND 83-02</b>			<b>CPI: 363</b>	
	Circuit outage data analysis.	Completed	6/15/2004	Major contributors to CPI were number of cases and SAIFI. There were several animal contacts and tree related outages during bad weather (not trimming related), but no discernable pattern was apparent. The major outages contributing to SAIFI are unlikely to recur (line de-energized to replace tap fuse, pole top fire, loop burned open). This line had an equipment inspection in January 2004.
	Improve sectionalizing capability. Field engineer to review a single phase tap downstream of OCR 66629N42489 to improve sectionalizing on that tap.	Completed	11/12/2004	Field review of the poor performing section of line indicated that additional sectionalizing will not greatly improve reliability on that part of the circuit. Tap fusing in the area already adheres to PPL's policy of fusing all single phase taps.
	Tree trimming.	Completed	8/30/2005	
	Line inspection-equipment. Field engineer will identify targeted areas for line inspection.	Completed	12/31/2005	Field engineer determined there were no areas requiring line inspections because entire line was inspected in 2004.
	Continue to monitor future performance.	Ongoing		
	3/31/2006: Line inspection-equipment.	Completed	3/30/2006	Customer minutes will be saved by identifying equipment that is in danger of failing

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>21</b>	<b>Circuit ID: 44505 HAMILTON 45-05</b>			<b>CPI: 361</b>
	Circuit outage data analysis.	Completed	12/30/2004	The Hamilton 45-5 line was reported as having a high CPI in the second and third quarters of 2004. 100% of the high CPI during the second quarter 2004 is due to a vehicle accident which occurred on 5-15-04, 185 customers experienced a 7 hr. outage. 100% of the high CPI during the third quarter of 2004 is due to hurricane IVAN, approximately 25 customers experienced outages ranging from 4 hrs to 32 hrs. (outages reported as non-tree trimming related). Also, note, per additional info received from tree trimming manager, 150 miles of rural 45-5 line were trimmed during 2003.
	11/2/2005: Circuit outage data analysis.	Completed	11/2/2005	The major contribution to the CPI was mainly due to the number of cases ( 70 % of the total CPI). Trees-not trimming related and equipment failure were the major cause of many outages in the third quarter of 2005.
	11/2/2005: Tree trimming.	Completed	12/31/2003	The line is approximately 164 miles long. The whole circuit was last trimmed in 2003. The next trimming schedule is in 2008 for the urban section, and in 2011 for the rural section. Hot spotting will be evaluated and performed as identified by the forestry crew.
	11/2/2005: Line inspection-equipment.	Completed	3/31/2006	The line inspection was partially completed by 11/1/2005 ( about 66 % of the total line). Two immediate problems were identified and fixed ( bad transformer fuse cutout and bad tap switch). Two work requests were initiated totaling \$5,000 to replace bad transformer fuse cutout and tap switches. An electronic OCR was replaced on this circuit on 2/9/2006.
	2/9/2006: Relocate inaccessible line.	In progress	9/30/2006	A reliability preservation job has been proposed to relocate an inaccessible section of the Hamilton - 05 line. A section of # 6A conductor is getting overloaded and will be relocated to the road to improve the reliability of the line.
	11/2/2005 Monitor future performance	Ongoing		PPL will continue to monitor the circuit's performance.
<b>22</b>	<b>Circuit ID: 10903 COOPERSBURG 09-03</b>			<b>CPI: 353</b>
	Circuit outage data analysis.	Completed	6/15/2004	The number of cases(45%) and SAIFI(44%) are the biggest factors in the CPI.
	Load balancing.	Completed	6/11/2004	Reduced outage risk.
	Monitor future performance on line.	Ongoing		
	Changed relay setting at substation.	Completed		Completed on 10/26/04, should reduce momentary outages.
	Circuit outage data analysis. Continuing to monitor and investigate outages.	Ongoing	12/23/2004	
	Monitor future performance.	Ongoing	3/31/2005	Circuit performance improved through quarters one and two of 2004 because of relay improvements, continued improvement expected in 2005.
	1/9/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	2/17/2006	This circuit experienced 3 major outages as a result of disturbances on the 69 kV system caused by a pole top fire, a pole hit, and loops burning open.
	Tree trimming.	Scheduled for	12/31/2006	Reduced outage risk.

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>23</b>	<b>Circuit ID: 26002 WEST DAMASCUS 60-02</b>			<b>CPI: 352</b>
	Circuit outage data analysis.	Completed	6/15/2004	Major contributors to CPI were the number of cases and SAIFI. Blooming Grove- West Damascus 69kV tripped to lockout which significantly affected SAIFI. There were many tree related outages both trimming and non-trimming related and equipment failures.
	Tree trimming.	Completed	12/31/2004	Reduced outage risk. The line was last trimmed in 2000. Areas of the line were identified for hotspot trimming. The forester will complete the work.
	Improve sectionalizing capability. The field engineer will review and increase sectionalizing on two poor performing single phase taps.	Completed	12/31/2004	This portion of the circuit is already sectionalized in excess of PPL requirements. Further addition of fusing or other protective devices may risk increasing customers outages through nuisance blowing/tripping.
	Tree trimming.	Completed	12/31/2004	Worst parts done already. Hot spotting completed last year
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	6/6/2005	
	Field engineer identified additional tap fusing, which will be installed as soon as possible.	Completed	10/30/2005	Additional fuses installed to reduce number of customers experiencing outages.
	Line inspection-equipment.	Completed	10/30/2005	Results sent to field engineer to complete necessary work.
	A reliability preservation project (WR 212877) has been approved and will rearrange a poor performing tap, remove an inaccessible part of the line, split up customers among several taps, and add additional sectionalizing.	Scheduled for	6/30/2006	
	11/23/2005: Tree trimming.	Scheduled for	12/31/2006	
	Monitor future performance.	Ongoing		
<b>24</b>	<b>Circuit ID: 13102 NORTHAMPTON 31-02</b>			<b>CPI: 350</b>
	Load balancing.	Completed	10/31/2003	Reduced outage risk.
	Circuit outage data analysis.	Completed	6/15/2004	Number of cases is 55% of the CPI with SAIFI a close second. Two OCR failures in 2003 were a major factor in the SAIFI.
	An overloaded single phase OCR is being replaced with a larger OCR.	In progress	12/19/2004	The OCR is scheduled to be in service by 12/19/2004 .
	Monitor future performance of line.	Ongoing		
	Electronic OCR should be received and installed in the second quarter of 06.	Scheduled for	6/30/2006	Delay in receiving the new OCR has caused the installation date to be delayed. Additional receiving issues have caused this OCR to be re-ordered, and it will be installed at the earliest availability.
	Circuit outage data analysis.	Ongoing		Based on current performance, this circuit should fall off the list by Q3 2005.
	4/10/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/31/2006	

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>25</b>	<b>Circuit ID: 40502 CRESSONA 05-02</b>			<b>CPI: 347</b>
	Constructed a tie and permanently transferred a problem section to another circuit with better performance.	Completed	7/15/2003	Reduced outage risk.
	Transferred inaccessible portion of circuit to another tap.	Completed	12/31/2003	Reduced outage risk.
	Eliminated inaccessible tap.	Completed	12/31/2003	Reduced outage risk.
	7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	8/31/2005	
	Circuit outage data analysis.	Completed	6/30/2004	Main contributors were cases of trouble (various causes) and SAIFI.
	Tree trimming.	Completed	8/31/2005	Reduced outage risk.
	11/21/2005: Line inspection-equipment.	Scheduled for	6/30/2006	Reduced outage risk. Line inspection to be completed by a modified duty lineman. Reduce risk to future equipment related outages.
	2/23/2006: Expanded Operational Review	In progress		Investigate reconductoring the Auburn #1 tie from Auburn West along SR 895. Investigate relocating the Deirberts Valley tap. Line inspection to identify reliability issues to be conducted by modified duty lineman
<b>26</b>	<b>Circuit ID: 18501 CANADENSIS 85-01</b>			<b>CPI: 342</b>
	Line inspection-vegetation. Forester will schedule a vegetation line inspection on the main three phase circuit and perform hotspot trimming as required.	Completed	6/30/2005	
	4/10/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/31/2006	
<b>27</b>	<b>Circuit ID: 15702 TANNERSVILLE 57-02</b>			<b>CPI: 337</b>
	4/10/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/31/2006	

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>28 Circuit ID: 12301 LANARK 23-01</b>		<b>CPI: 331</b>		
	Install FI's.	Completed	2/17/2006	Reduced outage duration.
	Load balancing.	Completed	12/31/2003	Reduced outage duration.
	Circuit outage data analysis.	Completed	6/15/2004	The number of cases is 67% of the CPI. Two areas have numerous squirrel outages.
	Tree trimming.	Completed	9/1/2004	Reduced outage risk.
	Replace an overloaded 3 phase OCR and replace a hydraulic OCR with an electronic OCR with telemetrics.	Completed	9/14/2004	Reduced outage duration. The overload OCR was replaced on 9/7/2004 and the electronic OCR was installed on 5/10/2004.
	Line inspection-equipment.	Completed	3/28/2005	
	64 Animal guards are being installed on transformers on portions of the line with animal problems.	Completed	6/20/2005	Reduced outage risk.
	Single phase fuse installations.	Completed	6/20/2005	Reduced customer count affected by each outage.
	OCR settings were changed to reduce momentary interruptions.	Completed	6/20/2005	Reduced outage duration.
	Tree trimming.	Completed	9/30/2005	Reduced outage risk. Hot spotting started in July.
	Split up a long single phase tap into two taps by installing 3 spans of OH line.	Completed	10/4/2005	Reduced customer count affected by each outage. Construction completed.
	Install 3 switches in southern part of circuit. Fault indicators to be installed next to the new switches.	In progress	5/1/2006	Two of the 3 switches were installed and were used during the windstorm over the weekend of January 15, 2006 to get customers back in service while repairs were being made. The third switch will be installed when right-of-way issues are resolved. The fault indicators have been installed.
	Tree trimming.	Scheduled for	9/30/2006	Reduced outage risk.
	Monitor future performance.	Ongoing		All of the above work is expected to improve the circuit's performance.
<b>29 Circuit ID: 27503 WEISSPORT 75-03</b>		<b>CPI: 331</b>		
	10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/30/2005	High number of cases and moderately high CAIDI main causes.
	4/10/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/31/2006	

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>30</b>	<b>Circuit ID: 22002 BOHEMIA 20-02</b>			<b>CPI: 330</b>
	Circuit outage data analysis.	Completed	6/15/2004	Major contributors to CPI were the number of cases and SAIFI. Blooming Grove- West Damascus 69kV tripped to lockout due to a crossarm failure which is not likely to recur. Other CPI contributors were tree related (not trimming related, the line was trimmed in 2000) outages during bad weather and equipment failures but there was no discernable pattern for these events. A failure of the line CB also contributed to CPI. The CB was inspected and repairs were made as needed.
	Circuit outage data analysis.	Completed	8/25/2004	A pattern of tree related outages was discovered on a long single phase tap.
	Tree trimming. Hot Spot trimming for a poor performing single phase tap identified in Q2 circuit analysis.	Completed	12/31/2004	Reduced outage risk.
	Improve sectionalizing capability. Field engineer to review sectionalizing on newly identified poor performing single phase tap.	Completed	12/31/2004	This portion of the circuit is already sectionalized in excess of PPL requirements. Further addition of fusing or other protective devices may risk increasing customers outages through nuisance blowing/tripping.
	7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	8/31/2005	
	Install fuse(s). WR# 225454; WR# 226162; WR# 231128; Install three fuses at 74024N48848	Completed	8/31/2005	Sectionalizing completed to reduce customer minutes lost
	11/23/2005: Tree trimming. Hot spotting various locations as needed	Completed	8/30/2005	Over 70% of the customer outages were vegetation related. Trimming was completed on the line in 2000 and hotspotted was done in 2005. Vegetation issues occurred during adverse weather conditions.
	Monitor future performance.	Ongoing		
	2/21/2006: Install 3 phase OCR(s).	Scheduled for	12/1/2006	Additional sectionalizing will reduce the number of customers experiencing an outage
<b>31</b>	<b>Circuit ID: 17902 BARTONSVILLE 79-02</b>			<b>CPI: 329</b>
	4/10/2006: Expanded Operational Review	Scheduled for	5/31/2006	

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>32</b>	<b>Circuit ID: 46301 ROHRSBURG 63-01</b>			<b>CPI: 328</b>
	Circuit outage data analysis.	Completed	12/30/2004	The Rohrsburg 63-1 line was reported as having a high CPI during the 1st and 2nd quarter of 2004. However, significant customers experiencing outages, of short or long durations, did not occur on 63-1 during the first or second quarters of 2004. There were a few isolated incidences, for example, one customer on 6/17/2004 experienced a 11 hr. outage due to trees tearing his secondary.
	10/24/2004: Improve sectionalizing capability. Review line to determine if additional sectionalizing can be added to minimize the number of customers affected by emergency outages.	Completed	12/31/2004	The line was reviewed for sectionalizing in 2004, and no locations were identified for additional sectionalizing devices
	10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/2/2005	Major contributions to the CPI were due to SAIFI and the number of trouble cases. A big storm on July 14, 2005 causes long duration outages in the third quarter of 2005.
	11/2/2005: Tree trimming.	Completed	12/31/2005	The line is 75 miles long, and it is all rural. The line was last trimmed in 2002, and is scheduled to be trimmed next in 2008. The forester crew performed hotspot trimming on this line by the end of December, 2005.
	11/2/2005: Perform line maintenance identified by line inspection.	Completed	12/31/2005	A line inspection was performed in September 2005. Seven WR's were written and scheduled in 2005. All work requests were completed in 2005. The work identified and completed includes replacing transformers, transformer fused-cutouts, lightning arrestors, dead-end insulators, etc.
	Install fuse(s).	Completed	9/30/2005	The line was reviewed for fusing in September, 2005. No locations were identified for additional fusing
	2/9/2006: Circuit outage data analysis.	Completed	2/9/2006	No major outages in Q4, 2005 on this circuit. The number of outages were reduced significantly from the Q3, 2005.
	11/2/2005: Monitor future performance.	Ongoing		In progress work is expected to improve this circuit's performance. FPL will continue to monitor the circuit's performance
<b>33</b>	<b>Circuit ID: 16801 WAGNERS 68-01</b>			<b>CPI: 323</b>
	10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/30/2005	The majority of problems occurred in the second quarter. Many storm-related vegetation issues and vehicle hits contributed to customer minutes lost. Provided the vehicle incidents do not occur again, the performance of the circuit should improve
	11/22/2005: Monitor future performance.	Ongoing		
	2/16/2006: Install LBAS(s).	Scheduled for	6/30/2006	Install LBAS to increase sectionalizing to reduce number of customer experiencing an outage
<b>34</b>	<b>Circuit ID: 22001 BOHEMIA 20-01</b>			<b>CPI: 323</b>
	Circuit outage data analysis.	Completed	6/15/2004	Major contributor to CPI was the number of cases. BLGR-WDAM 69kV Tripped to Lockout due to a crossarm failure which is unlikely to recur. Other outage causes were mostly tree (non-trimming) related but with no discernable pattern Apparent.
	4/10/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/31/2006	

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>35</b>	<b>Circuit ID: 26602 BROOKSIDE 66-02</b>			<b>CPI: 322</b>
	Expanded Operational Review	In progress		
	Line inspection-equipment. Due to the high number of animal contacts (35% of the total CPI) and equipment failures (22% of total CPI) an equipment line inspection will be performed.	Completed	1/30/2004	Several maintenance items were identified. A WR was initiated to address these problems.
	Circuit outage data analysis.	Completed	6/15/2004	Major contributor to CPI was the number of cases. Animal contacts made up about 35% of the total CPI.
	PPL Electric will review the process for animal guard installations to ensure that animal guards are installed for animal related OH transformer outages and new OH transformer installations.	Completed	8/25/2004	Animal guard practices have been reviewed and troublemen in this area have been instructed to ensure animal guards are installed when and where appropriate.
	Line inspection-equipment. A helicopter patrol was performed on an inaccessible part of the line.	Completed	6/10/2005	Several broken crossarms and a downed static wire were discovered.
	Fault recorders will be installed on an inaccessible part of the line.	Completed	6/30/2005	
	Perform line maintenance identified by line inspection. Helicopter patrol was completed	Completed	12/30/2005	Broken and failing crossarms were found and repaired to reduce risk of customer outage.
	Line being reconductored for 0.3 miles (WR# 233124)	Scheduled for	6/30/2006	
	Tree trimming. Hot Spotting being done as needed	Completed	9/30/2005	
	11/4/2005: Sectionalizer being replaced (WR#269977). Additional sectionalizing opportunities being considered by field engineer.	Scheduled for	4/30/2006	Replacement of the sectionalizer will improve reliability and decrease the number of customers experiencing an outage.
	Monitor future performance.	Ongoing		
	4/17/2006: Relocate inaccessible line. An inaccessible portion of the Brookside 66-02 and 66-04 line is scheduled to be rebuilt along the roadway. The line is planned to be rebuilt and sectionalized under B21118 (with an RIS of 11/2007) and B21119 (with an RIS of 11/2009).	Scheduled for	11/30/2007	Rebuilding and sectionalizing the 66-02 line will increase reliability on the circuit by making the route more accessible. In addition, there will be less vegetation exposure following the rebuild of the line. This work will improve CAIDI and SAIDI.
	Monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>36 Circuit ID: 44202 POINT 42-02</b>			<b>CPI: 321</b>	
	10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/2/2005	Major contributions to the CPI were due to SAIFI ( 53% total CPI) and the number of trouble cases ( 35% of total CPI). The WPC team reviewed the outages on this line, and found that the storm in July, the underground getaway failure in May, and the vehicle his on July 21st caused long duration outages on this line.
	11/2/2005: Tree trimming.	Completed	10/31/2005	The line is 53 miles long, and it is all rural. Tree trimming work was completed on 10/31/2005 on the whole circuit.
	2/9/2006: Line inspection-equipment	Completed	3/31/2006	The undergrown getaway cable was tested on 11/17/2005, and placed in the budget to be replaced before the end of Q2, 2006. The line inspection was fully completed by the February, 2006. Five WR's initiated totaling \$12,500 of work including replacing bad transformer fuse cutout, insulators, an alley arm, and resagging a span of conductor
	11/2/2005: Monitor future performance.	Ongoing		The trimming work, which was completed in the third quarter of 2005, and the maintenance work are expected to improve the circuit's performance. PPL will continue to monitor the circuit's performance.

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>37</b>	<b>Circuit ID: 53602 DALMATIA 36-02</b>			<b>CPI: 320</b>
	1/1/2006: Expanded Operational Review. Operational Review will be completed in 2006.	In progress		
	Install fuse(s). Check unfused taps near 22690n16710, 26200n18530, 28875n19100, and 28875n19100.	In progress	6/30/2006	
	Expanded Operational Review. Voltage profile and outage history analysis.	Completed	4/1/2006	
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	12/22/2004	Area hit by Hurricane Ivan in the 3rd quarter.
	Install an electronic OCR on the east side of the river crossing.	Completed	12/22/2004	Reduced customer count affected by each outage.
	Circuit outage data analysis.	Completed	3/18/2005	The quarterly CPI has decreased 50% from the 3rd to the 4th quarter. A motor vehicle accident contributed 13% of the customer minutes interrupted in the 4th quarter. Tree trimming planned for 2006.
	Circuit outage data analysis.	Completed	5/27/2005	CPI continues to improve.
	Line inspection-equipment.	Completed	8/31/2005	Found a pole on an island in the river crossing requiring replacement due to bank erosion.
	Replace pole on island in the river crossing weakened due to bank erosion.	Scheduled for	6/30/2006	Reduced outage risk. Island is uninhabited, and has no road or bridge access. Pa DER will not allow PPL to float a pole across the river due to leaching of preservative into the river. Securing permits to cross the river with men, vehicles, and equipment is proving extremely difficult and time-consuming. Target date to reinforce bank and poles is 9/31/06.
	Circuit outage data analysis.	Completed	10/31/2005	Inconclusive. Monitor future performance. Outage on 8/11/05 due to trees - not trimming related. Trees trimmed.
	2/14/2006: Tree trimming. Main portion of the 3 phase line, to the OCRs.	Completed	12/30/2005	Reduced outage risk
	2/14/2006: Tree trimming. Remainder of line.	Scheduled for	8/30/2006	Reduced outage risk
<b>38</b>	<b>Circuit ID: 17803 GILBERT 78-03</b>			<b>CPI: 318</b>
	10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/30/2005	
	11/22/2005: A section of underground was checked for failure on this circuit.	Completed	11/30/2005	Results and recommendation were sent to field engineer.
	11/22/2005:			One vehicle hit caused a 500 minute outage. One dig-in also significantly contributed to customer minutes lost. Neither of these events is expected to recur.
	11/22/2005: Monitor future performance.	Ongoing		
	4/10/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/31/2006	

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>39</b>	<b>Circuit ID: 26702 HEMLOCK FARMS 67-02</b>			<b>CPI: 315</b>
	10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/30/2005	A vehicle contact contributed significantly to customer minutes lost. This is not expected to occur again.
	2/21/2006: Install new line and terminal. A new line and terminal will be installed and a portion of the line will be rebuilt	Scheduled for	11/1/2006	The new line and terminal will sectionalize the line and increase transfer capability, resulting in a reduction of CAIDI.
	11/22/2005: Monitor future performance.	Ongoing		
<b>40</b>	<b>Circuit ID: 47707 BLOOMSBURG 77-07</b>			<b>CPI: 310</b>
	4/10/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/31/2006	
<b>41</b>	<b>Circuit ID: 16405 MOUNT POCONO 64-05</b>			<b>CPI: 308</b>
	Circuit outage data analysis.	Completed	6/23/2004	Major contributor to CPI was SAIFI. A failure of the line CB was a major factor for SAIFI and the CB problems have been repaired. The line was hotspotted in early 2004. No further action required.
	10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/30/2005	
	11/22/2005:			A vehicle hit was the cause of three different device operations. It also caused significant customer outages. This is not expected to occur again.
	11/22/2005: Monitor future performance.	Ongoing		
	4/10/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/31/2006	
<b>42</b>	<b>Circuit ID: 20403 ASHFIELD 04-03</b>			<b>CPI: 308</b>
	1/9/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	2/28/2006	Single phase loop burned open, and line had to be dropped to repair.
	Section of line being transferred to adjacent line.	Completed	1/31/2006	Reduced customer count affected by each outage.
<b>43</b>	<b>Circuit ID: 52402 GREEN PARK 24-02</b>			<b>CPI: 307</b>
	1/1/2006: Expanded Operational Review. Operational Review will be completed in 2006	In progress		
	7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	8/31/2005	On two occasions the CB operated during load transfer to Newport and loops burned open at different locations. This is not expected to reoccur.
	Circuit outage data analysis.	Completed	10/31/2005	At pole 64/18 outage due to tree - inadequate trim. Silver maples trimmed.
	2/14/2006: Circuit outage data analysis.	Completed	2/14/2006	Inconclusive. Monitor future performance. ckt performance was excellent 4th qtr 2005 (CPI = 34) 2006 qtr 1 CPI= 31, circuit continues excellent performance.
	2/14/2006: Monitor future performance.	Ongoing		

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>44</b>	<b>Circuit ID: 25501 MADISONVILLE 55-01</b>			<b>CPI: 305</b>
	Circuit outage data analysis.	Completed	6/23/2004	Major contributor to CPI was the number of cases and SAIFI. Many tree related outages both non-trimming and trimming related, equipment failures, and animal contacts.
	Tree trimming.	Completed	12/30/2004	Reduced outage risk.
	Monitor future performance	Ongoing		
	4/10/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/31/2006	
<b>45</b>	<b>Circuit ID: 46302 ROHRSBURG 63-02</b>			<b>CPI: 303</b>
	Circuit outage data analysis.	Completed	8/22/2005	The Rohrsburg 63-2 line was reported as having a high CPI during the first and second quarter of 2004. However, a large number of customers experienced outages, short or long in duration has not been reported for the 1st and 2nd quarters in 2004. It was reported on 2/21/2004, 19 customers experienced a 5 hr. outage due to equipment failure. In the Q2, 2004, 24 customers experienced outages ranging from 7 hrs to 12 hrs due to equipment failure on 6/17/2004. No major outages in the Q4, 2004. A snow storm caused long duration outages in Q1, 2005 where 11 customers experienced an outage for approximately 23 hours because of the flood in the area on 3/23/05. It was reported that there were some non-controllable causes for long outages on this circuit because of lightning. No major outages in the Q2, 2005 beside the outage on 6/6/2005, which was caused by trees-non trimming related in a very windy day.
	Improve sectionalizing capability. Review line to determine if additional sectionalizing can be added to minimize the number of customers affected by emergency outages.	Completed	6/1/2005	The line was reviewed and no new locations for new sectionalizing devices were found.
	Perform line maintenance identified by line inspection.	Completed	9/30/2005	Line maintenance was started by the region in the first week of August, 2005. Nothing major was found. Only lower priority things were found. Pole by pole inspection is in process. Fuses on 3 phase and single phase taps has been done. The complete inspection was done by the end of Q3, 2005
	Tree trimming.	Scheduled for	6/30/2007	The 153 miles long line is scheduled to be trimmed in 2007. The line was checked for trees, and hot spot trimming was completed by the end of 2005.
	11/2/2005: Circuit outage data analysis.	Completed	11/2/2005	Major contribution to the CPI on this circuit was due to SAIFI and the number of trouble cases. A storm on 7/14/2005 caused a few long outages on this line. Most of outages in the third quarter of 2005 were due to Trees not trimming related and equipment failure.
	11/2/2005: Line inspection-equipment.	Completed	8/31/2005	A line inspection was performed in August 2005 on the entire feeder. 11 WR's were initiated as a result of this patrol. All of the work requests were completed in 2005. The work included de-energized unused tap, replace blown arrestors and bad transformer fuse cutouts.
	11/2/2005: Monitor future performance.	Ongoing		In progress work is expected to improve the circuit's performance. PPL will continue to monitor the circuit's performance in the future.

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>46</b>	<b>Circuit ID: 28001 TAFTON 80-01</b>			<b>CPI: 300</b>
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	2/28/2005	31% of the outages on 2004 were caused by trees, 23% due to equipment failure.
	Tree trimming.	Completed	9/30/2005	
	Line inspection-equipment.	Completed	4/30/2005	
	Perform line maintenance identified by line inspection.	In progress	8/30/2005	
	Continue to monitor future performance.	Ongoing		
	4/10/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/31/2006	
<b>47</b>	<b>Circuit ID: 59401 RICHFIELD 94-01</b>			<b>CPI: 299</b>
	1/1/2006: Expanded Operational Review Operational Review will be completed in 2006	In progress		
	1/31/2005: Perform line maintenance identified by line inspection. Replace 33 TFC's and LA's, install 31 Animal Guards, replace one pole top extension, install one guy guard, replace one crossarm, replace two ridgepins, replace one pin insulator, replace two dead-end insulators, replace a section of wire, and perform spot tree trimming.	Completed	5/31/2005	Reduced outage risk.
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	12/22/2004	Area hard hit by Hurricane Ivan in the 3rd quarter.
	Circuit outage data analysis.	Completed	3/18/2005	The quarterly CPI has decreased 79% from the 3rd to the 4th quarter. Circuit trimmed in 2004.
	Line inspection-equipment.	Completed	3/31/2005	Line has many inaccessible locations. Inspection identified animal guards to be installed and LAs and cutouts to be replaced.
	Install animal guard(s).	Completed	5/27/2005	Reduced outage risk.
	Install lightning arrestors.	Completed	5/27/2005	Reduced outage risk.
	Replace cutouts	Completed	5/27/2005	Reduced outage risk.
	Circuit outage data analysis.	Completed	8/31/2005	On 5/13/05 the crossyard tie UG cable failed and transformer fuses operated. The cable was replaced. This is not expected to re-occur.
	2/14/2006: Circuit outage data analysis.	Completed	2/14/2006	Inconclusive. Monitor future performance. On Oct 25, while the sub was out for maintenance, a 3 phase OCR locked open due to equipment failure downstream. Interrupted a large portion of the line, leading to this ckt's poor performance for the quarter. Not expected to re-occur. On Oct 28 2005, Richfield sub was out for maintenance. The 94-1 line was transferred to Middleburg. Due to unexpected cold weather that day, load was higher than what was calculated prior to the outage, and an OCR tripped out on high load. Cold load pickup problems exacerbated the restoration. This is not expected to re-occur.
	2/14/2006: Monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>48</b>	<b>Circuit ID: 46602 LARRYS CREEK 66-02</b>			<b>CPI: 294</b>
	Circuit outage data analysis. Area planning will review feasibility of constructing single phase ties with other single phase taps, in order to reduce outage time during emergencies on single phase taps.	Completed	12/31/2004	The High CPI was due partially to a vehicle accident 8/03 pole hit, and local area - high winds 11/03 causing trees to fall into line.
	10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/2/2005	The major contribution to the CPI was the number of cases (60% of total CPI). Major outages occurred in the third quarter of 2005 due to trees-not trimming related and a vehicle hit.
	Tree trimming.	Completed	12/31/2004	The line is approximately 92 miles rural. The line was last trimmed in 2004.
	11/2/2005: Improve sectionalizing capability.	Completed	12/31/2005	The circuit was reviewed for additional fusing. All appropriate single phase taps were fused, and no additional sectionalizing devices were required on the three phase section.
	11/2/2005: Monitor future performance	Ongoing		PPL will continue to monitor the circuit's performance in the future.
<b>49</b>	<b>Circuit ID: 11001 EAST GREENVILLE 10-01</b>			<b>CPI: 293</b>
	Circuit outage data analysis. Attempting to locate trouble spots.	Completed	6/11/2004	Cases are 55% of the circuit's performance problems. After detailed review, there are still no specific known problems.
	Line inspection-vegetation. Trouble feeders inspected for trees	Completed	10/14/2004	Reduced outage risk. No significant performance issues.
	Protection Scheme re-evaluated	Completed	10/18/2004	Reduced customer count affected by each outage. This should reduce customer outage exposure.
	Tree trimming.	Completed	9/30/2005	Reduced outage risk.
	Improve sectionalizing capability.	Completed	1/31/2006	Install two sets of disconnect switches and fault indicators in the northern portion of the circuit to provide for sectionalizing, possible transfer of load to the Macungie 27-1 line, and to help reduce restoration time.
	Improve sectionalizing capability. Additional fuses will be added as well.	In progress	6/30/2006	Project being developed to resectionalize trouble spots, and add better fusing scheme to limit customer exposure. Inaccessible portion of the line will be refed from a new single phase section. Currently being developed to be placed in service as soon as possible.

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
<b>50</b>	<b>Circuit ID: 63601 LETORT 36-01</b>			<b>CPI: 293</b>
	Circuit outage data analysis.	Completed	10/15/2003	Pattern of Tree Related Outages and Equipment Failure (Lightning Arrestors).
	Line inspection-vegetation.	Completed	11/30/2003	Trimming Recommendations on Supervisory Road Tap
	Line inspection-equipment.	Completed	11/30/2003	Identified Failed Lightning Arrestors
	Tree trimming	Completed	3/15/2004	Reduced Outage Risk
	Replace Failed Lightning Arrestors	Completed	3/15/2004	Reduced Outage Risk
	Circuit outage data analysis.	Completed	8/13/2004	Recent tree trimming and equipment replacement is expected to improve the performance of the circuit.
	Continue to monitor performance	Ongoing		
	7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	9/1/2005	All of the minor maintenance items on this circuit identified through the line maintenance inspection have been fixed. Also, the circuit was split into two separate lines in May 2005 which should reduce the outage exposure on this circuit.
<b>51</b>	<b>Circuit ID: 11506 FREEMANSBURG 15-06</b>			<b>CPI: 289</b>
	Circuit outage data analysis.	Completed	6/11/2004	Circuit is a rural feeder, many single phase taps have a weak textile strength and are more susceptible to falling branches. Other equipment related issues are suspected.
	Line inspection-equipment.	Completed	6/30/2004	Reduced outage risk. Several problems were found such as: conductor off insulator, deteriorated crossarms, split pole tops, trees growing into lines, etc. A work request was written to correct these problems.
	Repairs to the line based on the line inspection.	Completed	8/11/2004	Reduced outage risk.
	Tree trimming. A section of line was located that required trimming.	Completed	10/1/2004	Reduced outage risk.
	Tree trimming. Spot trimming completed 12/17/04 on trouble areas.	Completed	12/23/2004	Reduced outage risk.
	Replaced Tap fuse that was found to be cracked and damaged.	Completed	12/23/2004	Reduced outage risk. This work is completed and should result in lower momentary count, as well as lessen number of customers taken out at a time.
	Tree trimming.	Completed	1/31/2005	Reduced outage risk. Hot spotting was completed in January of 2005
	Monitor future performance. Performance appears to have improved and monitoring will continue.	Ongoing		Trimming and other minor work appears to have improved performance. Monitoring will continue.
	One of the single phase taps where the fuse has blown several times was inspected and all maintenance items identified.	Completed	3/30/2006	Reduced outage risk. Maintenance issues on this single phase tap have been addressed.
	Tree trimming-selected line segments only (hot spots).	In progress	6/30/2006	Reduced outage risk. Trimming to start in early May.

**Rank Action**

**Status Due/Complete Result**

**52 Circuit ID: 43202 MILLVILLE 32-02**

**CPI: 286**

3/20/2006: Circuit outage data analysis.	Completed	12/31/2004	The Millville 32-2 line was reported as having a high CPI during the 1st and 2nd quarter of 2004. During the Q1 of 2004, on 2/6/2004, approximately 254 customers experienced a 1 hr. outage, nothing found was reported. During the Q2 of 2004, 82 customers experienced approximately 4 hr. outage due to a vehicle accident and on 5/10/2004, 11 customers experienced a 8 hr. outage due to equipment failure. Major outages occurred in the Q3 of 2004 because of hurricane IVAN on 9/18/05 where 22 customers experienced long duration outage because of flood and closed roads. The snow storm in the Q1 of 2005 also caused long duration outages on 3/23/2005. The hurricane IVAN and the snow storm were the major cause for long outages on this circuit.
Improve sectionalizing capability. Review line to determine if additional sectionalizing can be added to minimize the number of customers affected by emergency outages.	Completed	12/30/2004	Reduced customer count affected by each outage. The 32-2 line was reviewed for locations to add/install additional sectionalizing devices. No locations were found. A partial inspection on 3 phase line was done in the winter of 2003, and nothing major found on this circuit. The crew will spot the problem area on this circuit by plotting the outages on the map. Installing additional OCRs will be looked at as a part of SAIFI initiative study.
3/20/2006: Tree trimming.	Scheduled for	12/30/2006	The line is approximately 162 miles long. The 9.2 miles urban were trimmed in 2004. The 153 miles rural section is in the budget to be trimmed in 2006. The majority of this line is in inaccessible area. The line was reviewed by the region forestry staff. Some hot spot trimmings were done in Apr/May, 2005, and were completed on the whole circuit by 12/30/2005
10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Completed	11/2/2005	A storm on 7/13 and 7/14 caused 8 cases of trouble in the third quarter of 2005. Trees-not trimming related were the cause of major outages on this circuit. No major outages in the Q4 of 2005.
11/2/2005: Line inspection-equipment.	Completed	8/30/2005	Reduced outage risk. A line maintenance inspection patrol was completed in August 2005. Nine work requests were initiated as a result of the inspection. Seven of those work requests were completed in 2005. Two work requests remain to be completed in the first quarter 2006. One of the work requests requires facility/customer interruption coordination, and the second location requires a special 75 foot bucket.
3/20/2006: Improve sectionalizing capability.	Completed	3/31/2005	Reduced outage risk. The crew reviewed the line for additional sectionalizing in the first quarter of 2005. A solid blade and additional single phase fuses were installed by the end of Q1, 2005. No additional work is required.
2/9/2006: Install fuse(s).	Completed	12/31/2005	Reduced customer count affected by each outage. The field engineer reviewed the line for additional fuses. All single phase and three phase tap fuses were installed by the end of 2005.
3/20/2006: Monitor future performance.	Ongoing		PPL will continue to monitor the circuit's performance in the future.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>53</b>	<b>Circuit ID: 10901 COOPERSBURG 09-01</b>			<b>CPI: 283</b>
	4/10/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/31/2006	
<b>54</b>	<b>Circuit ID: 16901 MECKESVILLE 69-01</b>			<b>CPI: 281</b>
	10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/30/2005	
	11/22/2005:			Equipment failure in the first and second quarter contributed greatly to customer minutes lost. These issues have been resolved. In addition, vegetation issues during bad weather condition caused many outages.
	11/22/2005: Tree trimming.	Scheduled for	6/30/2006	
	11/22/2005: Monitor future performance	Ongoing		
	4/10/2006: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/31/2006	

- (5) *A rolling 12-month breakdown and analysis of outage causes during the preceding quarter, 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 following table shows a breakdown of service interruption causes for the 12 months ended at the current quarter. The top three causes (Equipment Failure, Animals and Trees – Not Trimming Related), based on the percent of cases, are highlighted in the table. Service interruption definitions are provided in Appendix B. PPL Electric’s maintenance programs focus on corrective actions to address controllable interruptions (e.g., trees and equipment failure).

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
Improper Design	2	0.01%	2	0.00%	161	0.0%
Improper Installation	0	0.00%	0	0.00%	0	0.0%
Improper Operation	1	0.00%	686	0.05%	4,802	0.0%
Trees - Inadequate Trimming	1,380	6.64%	103,252	7.28%	20,023,987	10.2%
Trees - Not Trimming Related	3,742	18.01%	324,715	22.89%	73,249,252	37.3%
Animals	4,765	22.93%	77,520	5.46%	6,462,472	3.3%
Vehicles	835	4.02%	148,862	10.49%	17,877,222	9.1%
Contact/Dig-in	222	1.07%	28,776	2.03%	2,380,542	1.2%
Equipment Failure	5,490	26.42%	480,415	33.87%	49,500,440	25.2%
Forced Prearranged	679	3.27%	50,119	3.53%	2,874,391	1.5%
Other - Controllable	273	1.31%	24,841	1.75%	2,339,524	1.2%
Nothing Found	2,027	9.75%	98,386	6.94%	10,301,287	5.2%
Other - Public	96	0.46%	4,484	0.32%	435,310	0.2%
Other - Non-Controllable	1,269	6.11%	76,505	5.39%	10,778,690	5.5%
<b>Total</b>	<b>20,781</b>	<b>100.00%</b>	<b>1,418,563</b>	<b>100.00%</b>	<b>196,228,080</b>	<b>100.0%</b>

<sup>6</sup> Trouble cases 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.

**Trees – Inadequate Trimming:** In 2004, PPL Electric adopted an improved tree-trimming specification and shortened maintenance trimming cycles to reverse a gradual increase in service interruptions attributed to inadequate trimming. The shortened cycle times took effect on January 1, 2005. PPL Electric implemented the revised specification in the first quarter of 2005. PPL Electric is monitoring the effectiveness of these changes.

**Trees – Not Trimming Related:** Although their effect on reliability is significant, tree outages not related to trimming are caused by trees falling from outside of PPL Electric's rights-of-way, and generally are not controllable.

**Animals:** Animals account for about 23% 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 92% of the number of cases of trouble is associated with individual distribution transformers. However, when animal contacts affect substation equipment, the effect is widespread and potentially can interrupt thousands of customers on multiple circuits. PPL Electric installs squirrel guards on new installations and in any existing location that has been affected by multiple animal-related interruptions.

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

**Equipment Failure:** Equipment failure is one of the largest single contributors to the number of cases of trouble, customer interruptions and customer minutes. However, approximately 37% of the cases of trouble, 39% of the customer interruptions and 42% of the customer minutes attributed to equipment failure are weather-related and, as such, are not considered to be indicators of equipment condition or performance.

**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.

(6) *Quarterly and year-to-date information on progress toward meeting transmission and distribution inspection and maintenance goals/objectives. (For first, second and third quarter reports only.)*

Inspection & Maintenance Goals/Objectives	Annual Budget	1 <sup>st</sup> Quarter		Year-to-date	
		Budget	Actual	Budget	Actual
<b>Transmission</b>					
Transmission C-tag poles (# of poles)	240	60	39	60	39
Transmission arm replacements (# of sets)	1,200	209	211	209	211
Transmission lightning arrester installations (# of sets)	24	3	7	3	7
Foot patrols (# of miles)	1,350	541	684	541	684
Transmission air break switch inspections (# of)	60	12	5	12	5
Transmission tree trimming (# of linear feet)	408,929	120,000	67,770	120,000	67,770
Transmission herbicide (# of acres)	5,002	300	278	300	278
<b>Substation</b>					
Substation batteries (# of activities)	833	606	684	606	684
Circuit breakers (# of activities)	3,195	709	861	709	861
Substation inspections (# of activities)	3,439	973	1,053	973	1,053
Transformer maintenance (# of activities)	2,109	646	566	646	566
<b>Distribution</b>					
Distribution C-tag poles replaced (# of poles)	2,232	641	557	641	557
C-truss distribution poles (# of poles)	384	0	16	0	16
Capacitor (MVAR added)	80	28	34	28	34
OCR replacements (# of)	510	223	296	223	296
Oil Switch replacements (# of)	60	14	18	14	18
Distribution air break switch inspections (# of)	258	65	33	65	33
Distribution pole inspections (# of poles)	79,831	0	896	0	896
Distribution line inspections (# of miles)	3,000	750	1,983	750	1,983
Group relamping (# of lamps)	18,500	4,625	5,300	4,625	5,300
Test sections of underground distribution cable	800	200	187	200	187
Distribution tree trimming (# of miles)	4,667	1,700	1,482	1,700	1,482
Distribution herbicide (# of acres)	1,325	90	92	90	92
LTN manhole inspections (# of)	407	80	168	80	168
LTN vault inspections (# of)	594	130	144	130	144
LTN network protector overhauls (# of)	82	31	14	31	14
LTN reverse power trip testing (# of)	108	27	17	27	17

- (7) *Quarterly and year-to-date information on budgeted versus actual transmission and distribution operation and maintenance expenditures in total and detailed by the EDC's own functional account code or FERC account code as available. (For first, second and third quarter reports only.)*

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

Activity	1 <sup>st</sup> Quarter		Year-to-date	
	Budget (\$1,000s)	Actual (\$1,000s)	Budget (\$1,000s)	Actual (\$1,000s)
Provide Electric Service	3,081	3,525	3,081	3,525
Vegetation Management	3,537	4,110	3,537	4,110
Customer Response	12,644	15,111	12,644	15,111
Reliability & Maintenance	14,615	13,835	14,615	13,835
System Upgrade	2,016	1,323	2,016	1,323
Customer Services/Accounts	17,888	17,275	17,888	17,275
Other	27,734	25,479	27,734	25,479
<b>Total O&amp;M Expenses</b>	<b>81,515</b>	<b>80,658</b>	<b>81,515</b>	<b>80,658</b>

- (8) *Quarterly and year-to-date information on budgeted versus actual transmission and distribution capital expenditures in total and detailed by the EDC's own functional account code or FERC account code as available. (For first, second and third quarter reports only.)*

The following table provides the capital expenditures for PPL Electric, as a whole, which includes transmission and distribution ("T&D") activities.

	1 <sup>st</sup> Quarter		Year-to-date	
	Budget (\$1,000s)	Actual (\$1,000s)	Budget (\$1,000s)	Actual (\$1,000s)
New Service/Revenue	20,141	21,648	20,141	21,648
System Upgrade	14,673	5,698	14,673	5,698
Reliability & Maintenance	10,193	11,093	10,193	11,093
Customer Response	583	1,359	583	1,359
Other	2,190	1,276	2,190	1,276
<b>Total</b>	<b>47,780</b>	<b>41,105</b>	<b>47,780</b>	<b>41,505</b>

- (9) *Dedicated staffing levels for transmission and distribution operation and maintenance at the end of the quarter, in total and by specific category (for example, linemen, technician and electrician).*

The following table shows the dedicated staffing levels as of the end of the quarter. Job descriptions are provided in Appendix C.

<b>Transmission and Distribution (T&amp;D)</b>	
Lineman Leader	88
Journeyman Lineman	166
Lineman	82
Helper	114
Troubleman	42
<b>T&amp;D Total</b>	<b>492</b>
<b>Electrical</b>	
Leaders	45
Journeyman	102
Electricians	56
Helpers	50
<b>Electrical Total</b>	<b>253</b>
<b>Overall Total</b>	<b>745</b>

***PPL Electric Utilities Corporation  
Worst Performing Circuit Definition***

PPL Electric uses a Circuit Performance Index (CPI) to define the worst performing circuits on its system. The CPI covers over 1,000 feeders across the PPL Electric service area.

The CPI is derived using the following statistics and weighting factors:

- Cases of Trouble<sup>8</sup> - 33%
- CAIDI - 30%
- SAIFI - 37%

Major Events, momentary interruptions, and planned prearranged jobs are excluded.

The CPI values are obtained by multiplying the individual feeder statistics by coefficients based on the 5-year period, 1996-2000. Average values over this period were:

- Cases of Trouble - 16.6 per feeder per year
- CAIDI - 140 minutes
- SAIFI - 0.834 per customer per year

A hypothetical feeder with Cases of Trouble, CAIDI, and SAIFI values equal to the 5-year averages would have a CPI value of 100. Any variations in the values of Cases of Trouble, CAIDI, or SAIFI would affect the CPI values in accordance with the weighting factors.

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<sup>8</sup> Cases of trouble are the number of sustained customer service interruptions.

## Appendix B

### *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 three general classifications: Controllable, Non-Controllable and Public. 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 – Inadequate Trimming	Controllable	<ul style="list-style-type: none"><li>• Outages resulting from the lack of adequate tree trimming (within the Right of Way).</li></ul>
35 – Trees – Not Trim Related	Non-Controllable	<ul style="list-style-type: none"><li>• Outages due to trees, but not related to lack of or proper maintenance tree trimming. This includes trees falling into PPL Electric facilities from outside the right-of-way, danger timber blown into facilities, and trees or limbs cut or felled into facilities by a non-employee.</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 an interruption.</li></ul>
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>

## Appendix B

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>
80 – Scheduled Prearranged <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>
85 – Forced Prearranged	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>

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<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 prearranged when the interruption is postponed.

## Appendix B

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> </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 T&amp;L 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>
99 – Other – Non-Controllable (Lineman provides explanation)	Non-Controllable	<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, and fences, being accidentally blown or thrown into overhead facilities.</li> <li>• All interruptions caused by contact of energized equipment with facilities of other attached companies or by trouble on customer owned equipment.</li> </ul>

Appendix C

***PPL Electric Utilities Corporation  
Job Descriptions***

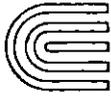
***Transmission and Distribution***

Helper	<ul style="list-style-type: none"><li>• Performs manual labor at any work areas containing non-exposed energized electrical equipment.</li><li>• This position can perform work requiring a limited degree of skill provided that the individual has demonstrated the ability.</li></ul>
Lineman	<ul style="list-style-type: none"><li>• Works by himself or as part of a crew on the maintenance, operation, and construction activities of the transmission and distribution systems associated with but not limited to PPL Electric facilities.</li><li>• This position can perform work requiring a moderate to high degree of skill provided the individual has demonstrated the ability.</li></ul>
Journeyman Lineman	<ul style="list-style-type: none"><li>• Works by himself or as part of a crew on the maintenance, operation, and construction activities of the transmission and distribution systems associated with but not limited to PPL Electric facilities.</li><li>• Under limited supervision, performs and is responsible for work involving the highest degree of skill provided the individual has demonstrated the ability.</li></ul>
Lineman Leader	<ul style="list-style-type: none"><li>• Responsible for completing assigned work by directing one or multiple groups of employees involved in the maintenance, operation, and construction activities of the transmission and distribution systems associated with but not limited to PPL Electric facilities.</li><li>• Engage in and perform work along with providing the necessary leadership, all-around knowledge, initiative, judgment, and experience to produce a quality job.</li><li>• Performs all the direct duties of the Journeyman Lineman when not acting as a Lineman Leader.</li></ul>
Troubleman	<ul style="list-style-type: none"><li>• Investigates and resolves trouble calls, voltage abnormalities on transmission and distribution systems associated with but not limited to PPL Electric facilities.</li></ul>

## Appendix C

### *Electrical*

Helper	<ul style="list-style-type: none"><li>• Performs manual labor at any work areas containing non-exposed energized electrical equipment.</li><li>• This position can perform work requiring a limited degree of skill provided that the individual has demonstrated the ability.</li></ul>
Electrician	<ul style="list-style-type: none"><li>• Performs and is responsible for work of a moderate to high degree of skill in various types of construction and maintenance work associated with but not limited to PPL Electric facilities such as:<ul style="list-style-type: none"><li>• Installation and repair work at substations, underground distribution, LTN, and underground transmission facilities.</li></ul></li><li>• Performs excavating, control wiring, installing of cable and conduit.</li><li>• Uses standard electric test equipment to perform simple troubleshooting related to Field Services electrical work.</li></ul>
Journeyman Electrician	<ul style="list-style-type: none"><li>• Under limited supervision, performs and is responsible for work involving the highest degree of skill in various types of construction and maintenance work associated with but not limited to PPL Electric facilities such as:<ul style="list-style-type: none"><li>• Installation and repair work at substations, underground distribution, LTN, and underground transmission facilities.</li></ul></li><li>• Uses microprocessor based equipment for troubleshooting and revising relay logic and its control systems related to the Field Services electrical discipline.</li></ul>
Electrician Leader	<ul style="list-style-type: none"><li>• Responsible for completing assigned work by directing one or multiple groups of employees involved in the construction and maintenance activities of the transmission and distribution systems associated with but not limited to PPL Electric facilities.</li><li>• Engage in and perform work along with providing the necessary leadership, all-around knowledge, initiative, judgment, and experience to produce a quality job.</li><li>• Performs all direct duties of the Journeyman Electrician when not acting as a leader.</li></ul>



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ORIGINAL

May 2, 2006

Mr. Honorable James J. McNulty  
 Secretary  
 Pennsylvania Public Utility Commission  
 Commonwealth Keystone Building  
 400 North Street  
 Harrisburg, PA 17120

DOCUMENT  
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RECEIVED  
 MAY 02 2006  
 PA PUBLIC UTILITY COMMISSION  
 REGULATORY BUREAU

**Re: Electric Service Reliability Regulations  
 Docket No. L-00030161**

Dear Secretary McNulty:

In accordance with the Electric Reliability Regulations adopted by the Pennsylvania Public Utility Commission in its order dated May 20, 2004 in Docket No. L-00030161 and a March 17, 2004, letter from James J. McNulty extending the filing date, Pike County Light & Power Company hereby files an original and six copies of its Service Reliability Report for 2005 System Performance. This report has been revised from the original that was filed on April 28, 2006, to correct the Standards that were included in the filing. The original filing listed proposed standards that have not yet been formally adopted by the Board.

Any questions regarding this report should be addressed to me at the address listed above, or I can be reached at (845) 577-3341.

Very truly yours,

Timothy T. Garvin  
 Manager  
 Performance & Operational Engineering

TTG/dlp

Enclosures

cc: Office of Consumer Advocate  
 Office of Small Business Advocate  
 Pennsylvania AFL-CIO

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PIKE COUNTY LIGHT AND POWER COMPANY  
ORANGE AND ROCKLAND UTILITIES, INC.

**Pike County Light and Power Company  
(Orange and Rockland Utilities, Inc.)**

**Annual Electric Reliability Report**

**2005**

**April 2006**  
Revised May 2, 2006

**§ 57.195. (b)(1)** An overall 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.

## **Overall Current Assessment**

Orange & Rockland Utilities' "Northern Division" serves Pike County Light and Power (Pike or the Company), as well as portions of Orange County and Sullivan County in New York State, and portions of Sussex County in New Jersey. Pike County is the westernmost portion of Orange & Rockland Utilities' "Northern Division". This area is primarily fed from two 34.5 kV radial circuits that back up each other.

The Standards to which Pike operates are as follows:

- 12-Month Frequency (SAIFI) 0.53 interruptions per customer served
- 12-month Restoration (CAIDI) 240 minutes of interruption per customer interrupted
- 12-month Duration (SAIDI) 127 minutes per customer served

In 2005, the Pike County service territory experienced a frequency (SAIFI) of 1.85 interruptions per customer served, a restoration time (CAIDI) of 109 minutes, and duration (SAIDI) of 202 customer minutes of interruption (Table 2). SAIFI was more than three times the standard for frequency, while CAIDI achieved a 55% improvement over the 240-minute average reliability standard for restoration. The resultant SAIDI was 59% more than the reliability standard for duration.

It should be noted, however, that two interruptions affecting more than 10% of Pike customers were not approved for exclusion from the statistics. These types of interruptions had previously been excluded. With these two incidents excluded, the 12-month SAIFI would have been reduced to 0.971, the 12-month CAIDI would have increased to 178 minutes, and the 12-month SAIDI would have been reduced to 173 minutes. These adjusted metrics would remain significantly different from the existing standards. In addition, temporary circuit configurations due to capital improvements increased the impact of interruption on the Pike System. Refer to Table 2 for a listing of the reliability statistics and the data used in calculating these indices for the past 3 years.

There were ten major events affecting Pike County during the year 2005 that were accepted by the Commission to be excluded from the statistics. These events are noted in Table 1.

Table 3 shows a summary by cause, for the Pike County interruptions experienced in 2005, with pre-arranged outages and major events removed. The major cause is tree contact with 39 interruptions affecting 3,160 customers for a total of 540,843 minutes. This represents 43% of the number of interruptions, 39% of the customers affected, and 61% of the customer minutes of interruption. The program targeted to improve this area is the four-year, cycle-based tree clearance program. A "cycle-buster" trimming program was also in effect to address key areas where recurring outages have occurred. The Company's Service Reliability programs, discussed later in this report, are designed to target equipment and circuits that require performance upgrades.

The distribution inspection and maintenance goals/objectives and distribution and capital expenses, are listed starting on page 6. Presently, Pike County has no transmission lines.

§ 57.195. (b)(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 to avoid or minimize the impact of similar events in the future.

### Major Events

Date	Cause	Time	Duration (minutes)	Customers Affected	Cust Min of Interruption
2005/01/12	Tree Contact	15:18	240	234	35,424
	Unknown-Other	11:06	72	234	16,848
2005/03/24	Storm (6 Interruptions)	1:32	848	4,212	1,067,666
2005/04/14	Non-Comp Acc.	11:20	68	2,230	138,872
2005/05/02	Equip. Failure	20:42	32	820	26,240
2005/06/10	Non-Comp Acc.	13:09	273	2,804	738,697
2005/06/17	Tree Contact	9:59	95	2,706	111,864
2005/06/22	Tree Contact	16:59	234	2,232	381,583
2005/08/08	Storm (3 Interruptions)	13:02	176	3,052	221,297
2005/08/12	Storm (4 Interruptions)	19:45	1,166	1,727	290,416
2005/11/06	Storm (5 Interruptions)	19:33	1,156	2,255	259,065
<b>TOTAL</b>				<b>22,506</b>	<b>3,287,972</b>

Table 1

**§ 57.195. (b)(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 interruptions, the number of customers affected, and the minutes of interruption. If MAIFI values are provided, the number of customer momentary interruptions shall also be reported.

**Reliability Indices  
2003 - 2005**

<b>Year</b>	<b>Frequency SAIFI (Cust Aff/ Cust Srvd)</b>	<b>Restoration CAIDI (Cust Min/ Cust Aff)</b>	<b>Duration SAIDI (Cust Min/ Cust Srvd)</b>	<b>Avg Cust Served</b>	<b>Interruptions</b>	<b>Customers Affected</b>	<b>Cust Min of Interruption</b>
2003	.52	184	96	4,321	56	2,250	414,845
2004	.52	172	90	4,349	43	2,267	390,469
2005	1.85	109	202	4,386	90	8,123	885,329

Table 2

**§ 57.195. (b)(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 identify service problems shall be reported.

### Causes Of Interruptions

<b>Cause</b>	<b>Interruptions</b>	<b>% of Interruptions</b>	<b>Customers Affected</b>	<b>Cust Min of Interruption</b>
Animal	4	4.4%	229	17,010
Tree	39	43.3%	3,160	540,843
Overload	4	4.4%	178	21,881
Work Error	1	1.1%	73	3,066
Eq Failure	20	22.2%	3,691	212,029
Non-Comp Acc	10	11.1%	428	59,540
Cust Problem	0	.0%	0	0
Lightning	5	5.6%	44	3,048
None Fnd/Other	7	7.8%	320	27,912
<b>TOTAL</b>	<b>90</b>		<b>8,123</b>	<b>885,329</b>

Table 3

**§ 57.195. (b)(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.

**T/D  
Inspection/Maintenance  
Goals/Objectives**

**Goals/Objectives vs. Results**

Distribution goals and objectives focused on completing all scheduled preventive maintenance, These goals were met. Pike has no transmission.

- **Distribution Tree Trimming**  
In 2005, 68.2 miles of the 85.5 total were scheduled to be completed by years end, as the 2005 schedule included L7 and 6-8, as well as the Met-Ed fed area. This tree maintenance goal was met.
- **Infrared Inspection Program**  
Our 2005 program included follow up of outstanding 2004 hot spots, and shooting all 3 phase mainline circuitry again. The infrared inspection goals were met.
- **Power Quality**  
The 2005 maintenance season required inspection of 14 capacitors and 5 regulators. 5 regulators were inspected. 12 Capacitors were inspected, and 2 were removed due to voltage conversions. The Power Quality goals were met.
- **Mid-point Recloser / Sectionalizing Program**  
The 2005 maintenance season required inspection of 1 sectionalizer and 1 recloser. The Mid-point Recloser / Sectionalizing Program goals were met.

**§ 57.195. (b)(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.

**T&D  
Operation and Maintenance  
Expenses**

<b>O&amp;M</b>	<b>2005 Budget k\$</b>	<b>2005 Actual k\$</b>
580 Operation Supervision And Engineering	\$ 29.0	\$ 66.6
581 Load Dispatching	4.2	3.7
582 Station Expenses	3.4	19.8
583 Overhead Line Expenses	29.7	112.8
584 Underground Line Expenses	(0.3)	10.3
586 Meter Expenses	40.8	8.8
587 Customer Installation Expenses	0.8	0.3
588 Miscellaneous Distribution Expenses	29.9	35.8
589 Rents	0.8	0.3
592 Maintenance Of Structures And Equipment	-	0.2
593 Maintenance of Overhead Lines	69.5	218.1
594 Underground Line Expenses	0.0	20.1
595 Maintenance of Line Transformers	-	-
596 Maintenance of Street Lighting and Signal Systems	4.6	14.4
597 Maintenance of Meters	3.8	13.8
598 Maintenance of Miscellaneous Distribution Plant	-	0.2
599 Joint use	90.0	121.5
Total Distribution	\$ 306.2	\$ 646.7

Overall 2005 O&M Expenses exceeded the Budget by more than 10%. Within the O&M expenses, additional costs in the Maintenance of Overhead Lines, Operation Supervision and Engineering, and Overhead Line Expenses were incurred. Increased costs in these areas were incurred as the result of additional work due to load growth, damage due to storm activity, and efforts to improve reliability including voltage conversions.

**§ 57.195. (b)(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.

**T/D  
Capital Expenditures**

<b>Account Code</b>		<b>2005 Budget k\$</b>	<b>2005 Actual k\$</b>
70-9669	Matamoras Substation	\$ -	\$ 26.9
90-9680	Matamoras Substation U/G Exits	-	(54.7)
90-9681	Matamoras - PJ UG 13.2KV Tie	-	(20.1)
70-9676/9688	Distribution Automation Blkt	-	12.1
70-9682	Matamoras - PJ Overhead Tie PA	-	244.7
90-various	Electric Distribution Blankets - PA	44.2	90.9
70-various	Electric Distribution Blankets - PA	235.9	342.5
90-0125	Transformers - U/G PA	-	109.1
70-0777/7210/7202	Electric Meter Purchases - PA	60.2	49.8
70-0888	Meter First Install Blanket - PA	11.1	39.0
	<b>Total Distribution</b>	<b>\$ 351.4</b>	<b>\$ 840.2</b>

The 2005 overall Capital Expenditures exceeded the Budget by more than 10%. Within Capital Expenditures, additional costs in the construction of the Matamoras Substation and Tie circuits, Underground Transformer purchase, and Electric Distribution Blankets were incurred. The additional costs incurred for the Matamoras Substation and associated projects were due to the fact that the work that was scheduled for 2004 was carried over to the beginning of 2005. The additional Underground Transformer costs were the result of several New Business jobs. The Electric Distribution Blankets were exceeded as the result of additional work due to efforts to improve reliability and an increase in New Business activities.

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

**T/D  
Inspection and Maintenance  
Goals/Objectives  
Quantified**

Inspection and maintenance programs, designed with the intention to improve frequency of interruption and minimize the resultant increases in restoration (as frequency is improved), have been in effect for over 10 years. These programs are focused on field facilities and customer satisfaction, and are effective in minimizing the probability of an interruption while limiting the number of customers affected per interruption. The major programs are:

- **Distribution Tree Trimming**  
In 2005, 68.2 miles of the 85.5 total was completed, and in 2006, the Matamoras area, the remaining 17.3 miles, is scheduled. This tree maintenance goal will be met by the end of the first quarter of 2006.
- **Infrared Inspection Program**  
Our 2006 program will include shooting all 3 phase mainline circuitry again.
- **Power Quality**  
The 2006 maintenance program will require inspection or removal due to voltage conversions, of 12 capacitors and inspection of 5 regulators.
- **Mid-point Recloser / Sectionalizing Program**  
The 2006 maintenance season will require inspection of 1 sectionalizer and 1 recloser.

§ 57.195. (b)(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.

**T/D Operation and Maintenance  
Expenses By FERC Account**

	2006 Budget k\$
580 Operation Supervision And Engineering	\$ 59.7
581 Load Dispatching	4.4
582 Station Expenses	4.6
583 Overhead Line Expenses	\$71.80
584 Underground Line Expenses	(2.4)
586 Meter Expenses	110.1
587 Customer Installation Expenses	1.2
588 Miscellaneous Distribution Expenses	23.1
589 Rents	0.7
593 Maintenance of Overhead Lines	115.0
596 Maintenance of Street Lighting and Signal Systems	4.2
597 Maintenance of Meters	9.8
599 Joint use	\$100.80
<b>Total Distribution</b>	<b>\$ 503.0</b>

§ 57.195. (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.

**T/D Capital Expenditures  
By FERC Account**

Account Code	Capital	2006 Budget k\$
70/90 -Various	Electric Distribution Blankets - New Business OH	181.6
70/90 -Various	Electric Distribution Blankets - System Integrity OH	167.4
70-9696	Line 7 Matamoras to RT 84 Crossing	296.5
70-0777, 70-0888	Electric Meter Purchases / Installs	72.1
<b>Pike Total 2006 Capital Budget</b>		<b>\$ 714.6</b>

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

**T/D  
Inspection and Maintenance  
Programs  
Significant Changes**

**Inspection & Maintenance Changes**

No significant changes