



L-PRMD7509

05 JUL 25 AM 10:22

76 South Main Street  
Akron, Ohio 44308  
BUREAU OF  
FIXED UTILITY SERVICES

July 21, 2005

Mr. James J. McNulty, Secretary  
Pennsylvania Public Utility Commission  
P.O. Box 3265  
Harrisburg, PA 17120

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JUL 21 2005

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

Dear Secretary McNulty,

Pursuant to 52 Pa. Code Chapter 67.1, Metropolitan Edison Company ("Met-Ed") submits written notification of completed restoration efforts following storm conditions that caused multiple service interruptions in the Met-Ed service territory.

Early in the afternoon of Wednesday, July 13, 2005, a line of thunderstorms caused trees and branches to fall onto distribution poles and conductors resulting in both momentary and sustained interruptions in predominantly the Reading and Easton operating areas. Over 20,000 customers experienced service interruptions as a result of these storms.

Please find attached the details relative to the impact of this recent storm event and the restoration activities that took place. It should be noted that the review and approval process of this outage information is still in progress at the time of filing this report and as such, all outage information contained in this report should be considered preliminary. If you have any questions, please contact me at (330) 384-5970.

DOCUMENT  
FOLDER

Sincerely,

Eric J. Dickson  
Director, Operations Services

Attachment

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1-PRMD7509

05 JUL 25 AM 10:22

BUREAU OF  
FIXED UTILITY SERVICES

Met-Ed  
Power Outages due to Thunderstorms  
July 13, 2005

DOCUMENT  
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Weather Summary

At approximately 3:00 P.M. on July 13, 2005, multiple thunderstorms began affecting the Stroudsburg district in the Easton operating area. These storms intensified as they traveled in a southwest direction. At 5:14 P.M. the National Weather Service (NWS) issued a severe weather statement reporting that strong thunderstorms with frequent and dangerous cloud to ground lightning were moving slowly from the Easton area towards Reading. At 6:10 P.M. the NWS issued a severe storm statement for the Pottstown and Reading areas. At 6:41 P.M. the NWS issued a flood statement for the Reading area because the storms produced rainfall amounts in excess of two inches. During this time, the thunderstorm conditions with heavy lightning, rainfall and wind gusts caused trees and branches to fall onto poles and conductors resulting in widespread outages. These storms affected the Reading, Hamburg and Boyertown districts in the Reading operating area and the Stroudsburg district in the Easton operating area.

Customer and System Impacts

These storms affected over 20,000 customers primarily in the Reading operating area with the first case of trouble being reported on Wednesday, July 13, 2005 at 3:27 P.M. There were 104 outage orders created during this event with 107 restoration steps requiring action from line crews to restore customers. The last customer was restored on Thursday, July 14, 2005 at 5:30 P.M.

A breakdown of the restoration activity is as follows:

Operating Area	Customers Affected	Outage Orders	Restoration Steps <sup>(1)</sup>
Reading	18,896	82	85
Easton	1,113	14	14
York	87	8	8
Total	20,096	104	107

**DOCKETED**  
AUG 02 2005

<sup>(1)</sup> Restoration steps are the tasks that are conducted to restore electricity to customers.

### **Storm Response**

On-duty line crews were dispatched to make repairs as the outage calls were received in the Easton operating area. Afternoon shift line crews responded to outage calls in the Reading operating area. There were 38 Met-Ed linemen and 6 Met-Ed substation employees utilized during this storm and K.W. Reese, a forestry contractor, provided 10 forestry personnel.

Various other Met-Ed personnel such as dispatchers, a storm analyst and management supported the restoration efforts.

### **Commission Notifications:**

Don Beatty, FirstEnergy Energy Delivery Operations Services, made the initial notification to Dave Newcomer at approximately 1:05 A.M. on July 14, 2005. The last notification was made at 8:40 A.M. on Thursday, July 14, 2005.

### **Comments:**

It should be noted that the storm statistics contained in this report are preliminary. The review and approval of the storm statistics is still in progress at the time of filing this report.



**CITIZENS' ELECTRIC COMPANY**

1775 INDUSTRIAL BLVD • P.O. BOX 551 • LEWISBURG, PA 17837-0551 • (570) 524-2231 • FAX: (570) 524-5887

July 27, 2005

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Mr. James J. McNulty  
Bureau of Fixed Utility Services  
Pennsylvania Public Utility Commission  
PO Box 3265  
Harrisburg, PA 17105-3265

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FOLDER

JUL 27 2005

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

Dear Secretary McNulty:

L-00030161

Enclosed please find an original and six copies of the 2<sup>nd</sup> quarter, 2005  
Electric Reliability Report for Citizens' Electric Company.

Please contact me at 570-522-6143 or [kelchnerj@citizenselectric.com](mailto:kelchnerj@citizenselectric.com) if I  
can answer any questions.

Sincerely,



John A. Kelchner, PE  
Sr. Director of Engineering & Operations

cc: Pennsylvania Office of Consumer Advocate  
Pennsylvania Office of Small Business Advocate

Citizens' Electric Company  
 Quarterly Service Reliability Report  
 Second Quarter, 2005  
 Prepared by John A. Kelchner, PE  
 Sr. Director of Engineering & Operations  
 570-522-6143  
[kelchnerj@citizenselectric.com](mailto:kelchnerj@citizenselectric.com)  
 July 27, 2005

DOCUMENT  
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**§ 57.195(e)(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.**

Major Event Date & Time	Duration	# of Customers Affected	Cause
4/30/2005 @ 1:21 PM	92 Minutes	1,153	Equipment failure during extended rain storm
5/14/2005 @ 9:11 PM	51 Minutes	1,252	Limb from off r/w tree fell onto line during strong thunderstorm

The two Major Events we experienced this quarter were both isolated outages occurring during bad weather. On April 30<sup>th</sup>, a cutout failed during an extended rain storm, interrupting 1,153 customers. As described below, our crews are maintaining a heightened awareness to identify and replace specific types of equipment we have identified as potential outage causes, prior to failure.

The other Major Event occurred on May 14<sup>th</sup> when a limb from an off right-of-way tree came down onto a three-phase line during a strong thunderstorm. While outages from off right-of-way trees are difficult to eliminate, we are continuing to work with our customers to secure additional cutting and trimming rights where appropriate to reduce these types of outages.

**§ 57.195(e)(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.**

Index	Rolling 12-Month Value for Quarter	Benchmark	Standard
SAIFI	0.11	0.21	0.27
SAIDI	10	21	38
CAIDI	91	105	141

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SEP 16 2005

Total # of Customers Served	# of Interruptions	# of Customers Affected	Customer Minutes
6,738	40	758	69,113

The following outages were approved for exclusion as Major Events during the 12-month period and are not included in the above calculations:

Date	# of Customers Affected	Customer Minutes
7/8/2004	1,140	17,100
9/9/2004	1,100	115,500
4/30/2005	1,153	106,076
5/14/2005	1,252	63,852

**§ 57.195(e)(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.**

Outage Cause	Number of Interruptions	% of Interruptions	Number of Customers Affected	Customer Interruption Minutes
Trees (On R/W)	0	0.0	0	0
Trees (Off R/W)	6	15.0	124	28143
Animals	9	22.5	152	8391
Equipment	19	47.5	411	24571
Weather	4	10	32	2284
Vehicle	1	2.5	29	5394
Other	1	2.5	10	330
Total	40	100	758	69113

### Discussion

The outages we experienced during the past 12 months have generally affected small numbers of customers. On average, each outage affected less than 19 customers. Of the outages we experienced, approximately 47.5% were due to equipment failure. Most of these were due to the failure of a specific type of equipment. After identifying the failure of this type of equipment as a potential cause of outages, crews were instructed to maintain a heightened awareness to identify installations of similar equipment that had not yet failed. As a result of this ongoing awareness, several similar locations have been identified and inferior equipment was replaced prior to failure.

The second most common cause of outages on our system is wildlife contact. To address this cause, we are continuing our practice of installing insulated wildlife protectors on all new transformer installations, and at selected existing locations. We expect animal related outages to continue decreasing as a result of these ongoing installations.



# Wellsboro Electric Company

P. O. Box 138 • 33 Austin Street • Wellsboro, PA 16901 • (570) 724-3516 • FAX (570) 724-1798

July 27, 2005

George Dorow  
Pennsylvania Public Utility Commission

Dear George Dorow,

2004 Revised Annual Reliability Report

L-000 30161

Enclosed is a revised 2004 Annual Reliability Report from Wellsboro Electric reflecting the changes from your feedback after reviewing our Annual Report.

If you have any further questions or comments on this subject you can contact me at 570-724-3516.

Sincerely,

Robert S. McCarthy  
Vice-President, Operations & Engineering  
Wellsboro Electric Company

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PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

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# WELLSBORO ELECTRIC COMPANY

## 2004 Annual Reliability Report

### REVISED ANNUAL REPORT

### PER YOUR FEEDBACK

July 27, 2005

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JUL 29 2005

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU



**57.195 Section (a) Item 2**

**Wellsborough Electric Company**

The Name, title, telephone number and e-mail address of the person who has knowledge of the matters, and can respond to inquires.

Robert S. McCarthy

Vice-President, Engineering and Operations

Phone: 570-724-3516

E-Mail: [bobbym@ctenterprises.org](mailto:bobbym@ctenterprises.org)

Address: 33 Austin St. Wellsboro, Pa 16901

**57.195 Section (b) Item 1**

Wellsborough Electric Company

An overall current assesment 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.

Substations- Substations are inspected monthly, one-half off all substation transformers have an oil sample taken annually to check for abnormal conditions that nay be occurring with each unit.

Currently Wellsboro Electric has twenty voltage regulators in use in our substations, at least six units will be sent in for rebuild and evaluation in 2005.

Thirty percent of all hydraulic oil circuit reclosers in use in our substations are removed from service and rebuilt or testing each year

Infrared imaging is conducted annually on all substation equipment, three phase power lines and select single phase lines each year, usually two days are earmarked for infared imaging.

Wellsboro Electric will visually inspect 2500 poles in 2005, this inspection will include a visual inpection of each pole looking for obvious defects in the pole, crossarms and related equipment, Other utilities that may be attached to each pole will be documented and more importantly the inspection will be looking for National Electrical Safety Code issues for height and clearances.

One Thousand poles will be tested by an outside contractor for determine the internal condition of the pole

Wellsboro Electric uses a self -protected transformer for all residential and small commercial single phase customers on our 12 kV system, this eliminates the open fuse link or fused cutout These transformers have an animal bushing guard installed on the high voltage bushing and the high voltage lead from the power line to the transformer is done in coated wire to prevent an animal or tree contract on the unit.

For poly-phase customers and customers on our 4 kV system a conventional transformer is used. On these setups a fused coutout is used to protect the transformer, on these installations a animal guard is installed on the high voltage bushing and coated stinger wire is installed, the fused cutout is also covered with a guard along with the lightning arrestor to prevent animal or tree contact on this equipment.

Wellsboro Electric tracks causes of outages with our Outage Management System (OMS), this data is used to determine circuits or individual customers that are experiencing multiple outages due to animals, trees, etc. With this data we can take preventive action in an attempt to prevent future outages from occurring. One example of this is a street or circuit that has multiple outages from animals is looked and the entire street or circuit is covered up with animal guards on transformer bushing, covers on fused cutouts and lightning arrestors and coated stinger wire is installed. The same goes for individual transformers that have multiple outages. The data from the OMS is also used indentify circuits that tree clearing may be needed on, thus allowing us to preplan future trimming needs.

Wellsboro Electric is currently reviewing our current right-of-way program in conjunction with our parent company C&T Enterprises and looking at different options available, currently we are under a time and material contract for 2005, we are reviewing either a performance based contract or a lump sum contract for work to be performed in 2006. We currently perform around forty to fifty miles of line each year.

Wellsboro Electric began a chemical application program in 2004 to treat selected circuits in order to further decrease vegetation related outages and extend the manual tree trimming cycle, manual tree trimming is not only labor extensive but extremely expensive, with the chemical application program in place we should be able to lower the overall costs related to tree trimming. With this program being so new to us, it will take time to gather data to determine the final benefit of this program.

We also have an educational program in place in conjunction with the Wellsboro Shade Tree Commission in an attempt to educate customers in planting the proper species of tree in the proper location near power lines, information is listed on our web site, thru bill inserts and pamphlets in our office, We hold this program will help to prevent future problems with improperly planted vegetation.

With the small geographic area that our system covers, we have a good chance that employees are across a good portion of our system monthly. Employees such as our meter reader are trained to look for problems on our system and report them. Problems found are either repaired or a maintenance order is issues to our Operations Department for repair later, depending on the situation found.

Two distribution circuits are planned to have a fuse coordination and sectionalizing study completed on them in 2005.

**57.195 Section (b) Item 2**

Wellsborough Electric Company

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**

<b>Date</b>	<b>Time of Event</b>	<b>Duration of Event</b>	<b># Customers Affected</b>	<b>Cause</b>
9/17/04	5:11 PM	24 Hrs 29 Mins	2854	Flooding Heavy Rain
11/7/2004	1:21 PM	1Hr 32 mins	5622	Equipment Failure

**57.195 Section(2) Item 3**

**A table showing the actual values of each of the reliability indices(SAIFI,CAIDI,SAIDI) 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 minutes interruptions, the number of customers affected and the minutes of interruption.**

Benchmark for WECO	SAIFI	SAIDI	CAIDI
	1.23	153	124
Rolling 12-Month Standard	1.66	278	167

**Reliability Index Table for SAIFI, SAIDI and CAIDI for a Three year period.**

	<u>SAIFI</u>	<u>SAIDI</u>	<u>CAIDI</u>
<b>2002</b>	2.1	294	138
<b>2003</b>	2.5	289	115
<b>2004</b>	3.13	262.6	83.7

<b>2002 DATA</b>	<b>Average Number of Customers Served</b>		
	<b># of Interruptions</b>	<b># of Customers Interrupted</b>	<b>Total Customer Minutes</b>
Conductor Sag	1	1	49.8
Contamination	3	29	1456.8
Corrosion	1	1	70.2
Decay	4	681	80185.8
Electrical Overload	1	752	57076.8
Equipment	69	1550	241194
Fire	1	86	774
Lightning	45	731	64321.8
Maintenance	25	28	3241.2
Scheduled	36	384	18682.2
Public Activites	2	2	226.2
Animals	83	846	31797
Other, Utilities	1	22	8212.2

Trees	142	1943	337438.2
Unknown	170	1077	76582.2
Vehicles	5	576	55222.8
Wind	18	40	6703.2
	607	8749	983234.4

2003	DATA	Average Number of Customers Served		5798
Power Supplier	1	1	76.8	
Maintenance	15	272	43608.6	
Scheduled	10	1827	47946.6	
Equipment	31	98	381538.8	
Conductor Sag	10	40	4546.2	
Other, Faulty Equip	12	116	6403.8	
Overload	1	72	2160	
Decay	2	2	176.4	
Other, Deterioration	5	118	13492.8	
Lightning	9	243	99807	
Wind	6	238	29956.8	
Trees	46	4290	633550.2	
Weather, Other	1	10	1309.8	
Public Activites	2	28	2754	
Fire	1	1	148.8	
Small Animals	40	858	415995.4	
Vehicles	7	531	16150.2	
Other Utilities	4	177	11911.8	
Unknown	99	2180	214847.9	
	302	11102	1926382	

**2004 Outage Data****Average number of customers served****5847**

	Number of Interruptions	# Customers Interrupted	# Customer Minutes
Maintenance	4	283	134965
Scheduled	11	2906	220817
Equipment	27	1997	185870
Other Faulty Equip	10	626	26380
Corrosion	1	1	34.8
Electrical Overload	3	544	31711
Deterioration	1	193	18721
Lightning	17	170	7684.2
Wind	5	560	21131
Trees	40	1323	258490
Animals	42	331	11554.8
Vehicles	12	566	101001.4
Public Activites	3	54	6498
Fire	1	1	148.8
Other, Utilites	3	5675	182971.8
Unknown	41	3103	321650.8
	221	18333	1529630

**57.195 (b) Item 4**

A Breakdown and analysis of outage causes during the year being reported on, including the number and percentage of outages, the number of customers interrupted, and customer interruption minutes categorized by outage cause Proposed solutions to indentified service problems shall be reported.

2004 CAUSE	Average number of customers served		5847	Customers Affected
	# Of Interruptions	Percentage of Interruptions	Cust Mins	
Scheduled	11	4.98%	220817.2	2906
Maintenance	4	1.81%	134965	283
Equipment	37	16.74%	212250	2623
Corrosion	1	0.45%	34.8	1
Electrical Overload	3	1.36%	31711	544
Deterioration	1	0.45%	18721	193
Lightning	17	7.69%	7684.2	170
Wind	5	2.26%	21131	560
Trees	40	18.10%	258490	1323
Animals	42	19.00%	11554.8	331
Vehicles	12	5.43%	101001.4	566
Public Activites	3	1.36%	6498	54
Fire	1	0.45%	148.8	1
Other, Utilities	3	1.36%	182971.8	5675
Unknown	41	18.55%	, 321650.8	3103
	221	100.00%	1529630	18333



**57.195 (b) Item 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.

**Substations and Distribution System**

<b>Code</b>	<b>Description</b>	<b>Goal/Objective</b>	<b>Actual Results</b>
582	Substation Oil Testing	Test 50% of all Substation Transformers	13 Units 50% Tested
593.8	Sectionizing/Fuse Coordination SECOND CIRCUIT IS ABOUT 40% COMPLETED AT 12-31-04	Study of two circuits	One circuit completed
593.8	Substation Chemical Spraying	Spray 100% of Substations	100% Completed
593.8	Pole Testing VENDOR WAS UNABLE TO SCHEDULE WORK IN 2004	Test 1000 Poles	Not Completed
593.8	Visual Line Inspection	Visual inspection of 2500 Poles	Inspected 2500 poles
593.8	Infrared Imaging ALL SUBSTATION WERE COMPLETED AND THREE PHASE LINES	Perform two days of infrared inspection	Two Days Completed
593.1	Tree Trimming	Trim/Clear 30 Circuit miles of Line	35 Miles Trimmed
593.1	Right-of -way clearing (Chemical) ACTUAL AMOUNT COMPLETED IS OVER GOAL DUE TO REALLOCATION OF MONEY FROM MANUAL TRIMMING TO CHEMICAL	Spray 40 acres of right-of-way	Sprayed 114 Acres
593.9	Voltage Regulator rebuilds	Repair/rebuilt three units	Rebuilt/Repaired five units
593.9	Oil circuit breakers(Substations)	Calibrate and test three substation units	Calibrate and tested three units
593.9	OCR Repair/rebuild	Test and rebuilt six single phase units	Calibrated/rebuilt nine units

**NOTE\*** - As per our request to provide more detail to comment about vendor unable to schedule pole testing, A vendor was selected to perform testing in the fall of 2004, after numerous attempts to schedule with the vendor in the fall we were unable to schedule before the weather turned cold and the ground was frozen, Their claim was the workers were busy in the south mainly Florida. This vendor has since been removed from our vendor list, the poles were visually inspected by Wellsboro Electric employee's and sound tested.

As a side note a vendor has been selected for 2005 and the schedule is in place to perform the testing using a ultra-sonic test method.

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

**WELLSBORO ELECTRIC COMPANY  
COMPARATIVE STATEMENT OF OPERATIONS & MAINTENANCE EXPENSES**

57.195 (b) (7)

	<u>YTD</u> <u>Dec. 31, 2004</u>	<u>Annual</u> <u>Budget</u>
<b>DISTRIBUTION EXPENSES</b>		
580-Operation, supervision, & engineering	28,986.57	28,550.00
582-Station expense	12.51	3,400.00
583-Overhead line expense	31,650.37	17,800.00
584-Underground line expense	0.00	0.00
585-Street lighting expenses	2,447.68	1,300.00
586-Meter expenses	8,829.89	6,550.00
586.3-Meter expenses-small tools	414.59	600.00
586.4-Meter expenses-outside training	0.00	1,000.00
587-Customer installation expenses	7,955.63	9,650.00
588-Miscellaneous distribution expenses	52,446.59	38,750.00
588.1-Misc dist exp-general meetings	5,515.97	4,400.00
588.2-Misc dist exp-outside training	9,126.04	18,000.00
588.24-Misc dispatch center	0.00	0.00
588.3-Misc dist exp-on call standby	6,037.43	5,400.00
588.4-Misc dist exp-safety meeting training	4,969.67	9,650.00
588.5-Misc dist exp-sick leave	0.00	0.00
588.9-Misc dist exp-staking dept-tools	<u>188.85</u>	<u>1,000.00</u>
<b>Total operations</b>	<u>158,581.79</u>	<u>146,050.00</u>
590-Maintenance, supervision & engineering	16,805.34	27,900.00
591-Maintenance of structures	0.00	0.00
592-Maintenance of station equipment	5,734.08	5,500.00
593-Maintenance of overhead lines	128,425.44	93,600.00
593.1-Maint o/h line-brush contractors	141,414.75	140,000.00
593.2-Maint o/h line-servicemens phone	1,756.84	2,900.00
593.3-Maint o/h line-working off system	0.00	0.00
593.4-Maint o/h line-meals	41.53	500.00
593.5-Maint o/h line-major storm labor	8,864.11	41,500.00
593.6-Maint o/h line-major storm extra crews	1,793.68	0.00
593.7-Maint o/h line-material inventory	0.00	0.00
593.8-Maint o/h line-testing/inspect tools	10,836.89	23,600.00
593.9-Maint o/h line-special equipment repair	13,658.60	11,000.00
594-Maintenance of underground lines	10,297.92	2,250.00
594.4-Maint undgrd lines-materials inventory	0.00	0.00
594.9-Maint undgrd lines-pa one call	1,791.70	1,500.00
595-Maintenance of line transformers	10,972.78	6,900.00
595.8-Maint line transformers-oil disposal	6,970.35	11,000.00
596-Maintenance of street lights	240.78	0.00
597-Maintenance of meters	7,305.93	7,000.00
598-Maintenance of misc dist plant	<u>0.00</u>	<u>0.00</u>
<b>Total maintenance</b>	<u>366,910.72</u>	<u>375,150.00</u>
589-Distribution rents	<u>27,173.39</u>	<u>29,800.00</u>
<b>Total distribution expense</b>	<u>552,665.90</u>	<u>551,000.00</u>

**57.195 (b) Item 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.

	Budget	Actual
New Services	\$ 95,000.00	\$ 100,205.18
Misc. System Improvements/Pole Replacements	\$ 120,000.00	\$ 420,986.94
Hilltop Substation	\$ 100,000.00	
Bodine St. Pole Replacement	\$ 32,000.00	\$ -
Lower Hills Creek Lake	\$ 35,000.00	\$ -
Fischler St. Rebuild	\$ 11,000.00	\$ -
Ives Run Campground	\$ 12,000.00	\$ 43,557.82
West Ave. Rebuild	\$ 18,000.00	\$ -
Charleston Road Pole Replacements	\$ 50,000.00	\$ 37,473.78
Wellsboro Junction	\$ 16,000.00	\$ -
AMR - Turtle Meters	\$ 45,000.00	\$ 40,629.20
Industrial/Commercial Metering	\$ 5,000.00	\$ -
Voltage Capacitors	\$ 3,000.00	\$ 1,200.00
Oil Circuit Reclosers	\$ 12,000.00	\$ 14,625.00
	\$ 554,000.00	\$ 658,677.92

**57.195 (b) Item 9**

Quantified transmission and distribution operation and maintenance goals/objectives for the current calendar year detailed by system area (that is transmission, Substation, distribution)

**Year 2005**

**Substations**

G.L. Code	Description	Goal
582	Substation Oil Testing	Test thirteen units
593.8	Substation Weed Control	Spray all stations
593.8	Infrared Imaging	Infrared all stations
593.9	OCR/Relay Calibration/Testing	Calibrate / Test six substation units
593.9	Voltage Regulator Rebuilds	Rebuild three substation units

**Distribution System**

593.8	Fuse Coordination/Sectionalizing Study	Complete two distribution circuits
593.8	Pole Testing	Test 1000 Poles
593.8	Visual Line Inspection	Visual inspection of 2500 poles
593.1	Right-of-Way Clearing (Manual)	Clear/Trim 35 circuit mile of line
593.1	Right-of-Way Chemical Application	Spray 40 Acres
593.9	Regulator testing/repair	Test three distribution regulators
593.9	OCR testing/repair	Test/ repair six units
595.8	Transformer repair	as needed
593.8	Phase Marking	Mark/Update one distribution circuit

Additional information requested for the 2004 Annual Report

Pages have been numbered

The regulation being reported has been added

Customer minutes for 2004 have been corrected on section 3 and 4

Company benchmark and 12-month rolling index have been added

Detail provided on pole testing comment

Explanations of any variances 10% or greater have been provided for 57.195 (b) (8), I will provide an explanation for 57.195(b) (7) with the next quarterly report, if that ok, our VP of Finance is on vacation for two weeks, I need to meet with him to provide you this detail

The last column the heading should have been 2005 Engineering and Operation Budget

Explanation of variances 10% or greater for 57.195 (b) (8)

Misc System Improvements/Pole Replacements - Money was reallocated from other budgeted items for this account, It is for poles found in our day to day activities that were found to be in need of replacement, lines found to need replacement or relocated due to code violations, damage from storm and weather events and replacement of equipment that failed.

Hilltop Substation- Substation was not started until late 2004, no invoices were due by year-end

Bodine St. Pole Replacement, Lower Hills Creek, Fischler St. West Ave. and Wellsboro Junction  
Money was reallocated to the misc system improvement/pole replacement category

Ives Run Campground - More line was replaced than was planned due to the condition of the line found after the project started, plus the material cost of the underground cable was higher than budgeted

Charleston Road Pole Replacement - All poles planned were replaced, Contractor and material costs were lower than budgeted

Industrial/Commercial Metering - Money was budgeted for 2004, we were still in the process of evaluating meters that were compatible to our AMR system, did not order by year-end.  
Meters have since been ordered and received for 2005

Voltage Capacitors - Material and Labor costs were lower than budgeted

WELLSBOROUGH ELECTRIC  
COMPANY

QUARTERLY RELIABILITY REPORT  
57.195 REPORTING REQUIREMENTS

Second Quarter 2005

April thru June 2005

DOCUMENT  
FOLDER

SUBMITTED BY

ROBERT S. McCARTHY  
VICE-PRESIDENT, ENGINEERING AND OPERATIONS  
570-724-3516  
[bobbym@ctenterprises.org](mailto:bobbym@ctenterprises.org)

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JUL 29 2005

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU





# Wellsboro Electric Company

P. O. Box 138 • 33 Austin Street • Wellsboro, PA 16901 • (570) 724-3516 • FAX (570) 724-1798

---

Second Quarter reliability report from Wellsboro Electric is enclosed, as reported in previous reports we have been in the process of constructing a new substation. This station is complete and online serving load as of July 24, 2005. currently the new station serves approximately 2000 customers.

As you review our outage date for the second quarter of 2005, 40% of our outages for this quarter was caused by lightning, we are currently reviewing our lightning protection schemes to insure it is adequate to protect the best we can from lightning. all lines that experienced a outage as a result of lightning will be patrolled and reviewed by Wellsboro Electric engineering staff to insure that proper lightning protection equipment is in place and working properly, such as lightning arrestors. The other two major causes were trees and animals, animals are always a challenge to protect from, our current animal protection program calls for animal guards to be installed on all new transformer installations along with a insulated high voltage stinger lead, all new transformers are internally fused eliminating the need for an external cutout which is prone to animal contacts and equipment failure. We have a current program in place where we review our outage data for customers that have experienced three animal related outages in the last two years these customers then have their equipment covered with animal guard material and insulated wire. Crews for the last year have been installing animal guards on any transformer or equipment that has caused an outage at the time they are on site to restore power from the outage.

Trees are another major challenge on our system with the rural territory we cover, we presently trim around forty five to fifty miles of existing line each year, and we are presently on a six year right-of-way cycle.

Wellsboro Electric truly takes reliability seriously, we completed a ten year work plan in 2000 for our entire distribution system, we are currently in the process of reviewing and updating this work plan on a circuit by circuit level with system reliability in mind this plan should be updated and in place by the spring of 2006 just one area we are focusing on is tie lines in strategic locations to allow the Company more flexibility in restoring power during outages.

**57.195 Reporting Requirements**

**Section (e) Item (2)**

Rolling 12-Month reliability index Values (SAIFI,CAIDI,SAIDI) 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.

**WELLSBORO ELECTRIC COMPANY**

**ROLLING TWELVE MONTH INTERRUPTION INDEXES**

**Second Quarter 2005**

SAIDI 325
--------------

SAIFI 3.3
--------------

CAIDI 97
-------------

**ROLLING TWELVE MONTH STANDARD AS ESTABLISHED BY THE PUC**

SAIDI 278
--------------

SAIFI 1.66
---------------

CAIDI 167
--------------

<b>Wellsboro Electric Company</b>	<b>Reliability Index</b>	<b>SAIDI</b>
<b>MONTH</b>	<b>TOTAL CUST MINUTES</b>	<b># CUSTOMERS SERVED</b>
July-04	44703.6	5849
August-04	2512.2	5859
Sept-04	5818.2	5855
Oct-04	157216.8	5853
Nov-04	368182.8	5860
Dec-04	447745.8	5869
Jan-05	588885	5849
Feb-05	2449.2	5850
March-05	12511.8	5850
April-05	55207.2	5869
May-05	47809.8	5877
June-05	173671.2	5874
	<b>1906714</b>	<b>70314</b>
	Average # Customers Served	5859.5

**Rolling 12 Month Average SAIDI Index**

**325.40551**

**WELLSBORO ELECTRIC COMPANY**

**Reliability Index**

**SAIFI**

<b>Month</b>	<b># of Customers Interrupted</b>	<b># of Cust Served</b>
July-04	741	5849
August-04	26	5859
Sept-04	130	5855
Oct-04	5804	5853
Nov-04	1925	5860
Dec-04	3328	5869
Jan-05	5670	5849
Feb-05	42	5850
March-05	127	5850
April-05	299	5869
May-05	179	5877
June-05	1245	5874
		70314
	<b>19516</b>	<b>5859.5</b> Avg # of Customers

**SAIFI INDEX** **3.33066**

**Wellsboro Electric Company**

**Reliability Index      CAIDI**

<b>Month</b>	<b>Total Customer Mins</b>	<b># of Customers Interrupted</b>
July-04	44703	741
August-04	2512.2	26
Sept-04	5818.2	130
Oct-04	157216.8	5804
Nov-04	368182.8	1925
Dec-04	447745.8	3328
Jan-05	588885	5670
Feb-05	2449.2	42
March-05	12511.8	127
April-05	55207.2	299
May-05	47809.8	179
June-05	173671.2	1245
	<b>1906713</b>	<b>19516</b>
<b>CAIDI INDEX</b>	<b>97.69999</b>	

57.195

**Reporting Requirements**

**Section (e) Item (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.**

<b>Date</b>	<b>Time of Event</b>	<b>Duration of Event</b>	<b># Cust Affected Affected</b>	<b># Customer Hours</b>	<b>Cause</b>
6/6/2005	11:30 AM	10 Hrs	1056	814.6	Insulator Failure

**57.195 (e) (5) -** A breakdown and analysis of outage causes during the preceding quarter, including the number and percentage of service outages 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.

Outages from April-June 2005

Outage Cause	Number of Customers Affected	Number of Outages	Customer Minutes	Percentage of Outages
Decay	8	1	99	1.7%
Corrosion	0	0	0	
Distribution	0	0	0	
Electrical Overload	0	0	0	0.0%
Equipment	92	6	13361.67	10.2%
Lightning	838	26	125032.8	44.1%
Maintenance	0	0	0	
Ice,Sleet,Frost	0	0	0	0.0%
Other, Deterioration	0	0	0	
Other,Faulty Equipment	0	0	0	0.0%
Scheduled	0	0	0	0.0%
Other Utilities	0	0	0	0.0%
Power Supplier	0	0	0	0.0%
Public Accidents	0	0	0	
Small Animals	317	11	51270	18.6%
Trees	196	12	57159	20.3%
Unknown	208	3	985020	5.1%
Vehicles	0	0	0	0.0%
Wind	0	0	0	
	1659	59	1231942	100.0%



UGI Utilities, Inc.  
Hanover Industrial Estates  
400 Stewart Road  
Post Office Box 3200  
Wilkes Barre, PA 18773-3200  
(570) 819-1212 Telephone

ORIGINAL

July 29, 2005

**FEDERAL EXPRESS**

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

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JUL 29 2005  
PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

RE: Quarterly Electric System Reliability Report  
12 Months Ending June 30, 2005

Dear Secretary McNulty:

Pursuant to the Commission's Final Rulemaking Order amending Electric Service Reliability Regulations (52 Pa. Code §§57.191 - 57.197) at Docket No. L-00030161, UGI Utilities, Inc. - Electric Division ("UGI") hereby files an original and six copies of its Quarterly System Reliability Report. This report contains SAIDI, SAIFI, and CAIDI results on a 12 month rolling basis for the period ending June 30, 2005, as well as the raw data utilized in the development of those results. The actual statistics continue to be favorable to both the benchmark and standard adopted for UGI. An extended period of relatively storm-free weather has been a contributing factor in the results noted. Also included is a breakdown of outages by cause for the 12 months ending June 30, 2005.

Any questions related to the attached report should be directed to Ms. Abigail J. Hemmerich at (610) 796-3431.

Please acknowledge receipt of this filing by date stamping the enclosed copy of this letter and returning it in the enclosed stamped, self-addressed envelope.

Sincerely,

Robert R. Stoyko  
Vice President - Electric Division

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Attachment

70



cc:

**FEDERAL EXPRESS**

Irwin A. Popowsky  
Office of Consumer Advocate  
555 Walnut St.  
5<sup>th</sup> Floor, Forum Place  
Harrisburg, PA 17101-1921

William R. Lloyd  
Office of Small Business Advocate  
Suite 1102, Commerce Bldg.  
300 North Second St.  
Harrisburg, PA 17101

Thomas E. Sheets  
Bureau of Audits  
Pennsylvania Public Utility Commission  
Commonwealth Keystone Bldg.  
3<sup>rd</sup> Floor, F East  
Harrisburg, PA 17101



UGI Utilities, Inc. – Electric Division  
System Reliability Report:  
Quarterly Update

DOCUMENT  
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SECRETARY'S BUREAU

August 1, 2005

**DOCKETED**  
AUG 01 2005

UGI Utilities, Inc. – Electric Division  
System Reliability Report

**§ 57.195(e)(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.**

No major events occurred during the preceding quarter.

**§ 57.195(e)(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.**

The reliability results for UGI's service area for the 12 month period ending June 30, 2005 are as follows:

**Rolling 12-Month Ending June 2005 Reliability Statistics**

	<b>SAIFI</b>	<b>SAIDI</b>	<b>CAIDI</b>
Results	<b>0.69</b>	<b>96</b>	<b>138</b>
Benchmark	0.83	140	169
Standard	1.12	256	228

Note: SAIFI – System Average Interruption Frequency Index  
SAIDI – System Average Interruption Duration Index  
CAIDI – Customer Average Interruption Duration Index

**While the results for each of the three reliability indices remain well below their respective standard and benchmark it is important to point out that favorable weather conditions over the past 12 months have contributed significantly to these results.**

**SAIFI**

UGI's SAIFI results have improved 16% over the .82 reported for the 12 month period ending March 2005. The above result is below the benchmark and standard adopted for UGI.

**SAIDI**

The SAIDI value for the 12 months ending June 30, 2005 is 96. This remains well below both the standard and benchmark adopted for UGI.

**UGI Utilities, Inc. – Electric Division  
System Reliability Report**

**CAIDI**

The CAIDI result of 138 for the 12 month period ending June 30, 2005 continues to remain below the benchmark and standard.

UGI Utilities, Inc - Electric Division  
 System Reliability - Raw Data  
 July 2004 - June 2005

**§ 57.195(e)(2) - Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI) 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.**

	Raw Data		
	TCI	TCB	TMCI
July-04	3,020	61,660	446,480
August-04	11,711	61,708	1,452,849
September-04	3,685	61,727	1,001,526
October-04	2,435	61,768	171,534
November-04	4,925	61,882	692,946
December-04	2,193	61,946	434,069
January-05	7,931	61,975	506,291
February-05	648	61,936	72,894
March-05	2,505	61,956	527,916
April-05	1,581	61,856	248,097
May-05	374	61,828	43,066
June-05	1,953	61,748	343,717

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TCI: Total Customers Interrupted  
 TCB: Total Customers  
 TMCI: Total Customer Minutes Interrupted

**Note: There were no major events that were excluded from the numbers used in calculating the indices.**

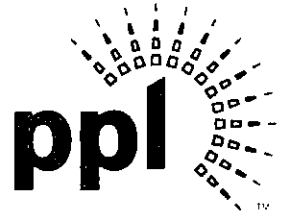
UGI Utilities, Inc - Electric Division  
System Reliability - Outage by Cause Analysis  
July 2004 - June 2005

§ 57.195(e)(5) - 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.

<b>Outage Cause</b>	<b>% Of Total Incidents</b>	<b>Number of Interruptions</b>	<b>Customers Interrupted</b>	<b>Minutes Interrupted</b>
Animal	7.95%	45	503	41,412
Construction Error	1.24%	7	133	10,444
Customer Problem	1.24%	7	11	1,156
Equipment Failure	33.04%	187	13,282	715,793
Structure Fire	1.06%	6	641	25,894
Lightning	5.65%	32	8,918	1,128,341
Motor Vehicle	6.01%	34	2,495	579,395
Public	4.77%	27	1,342	154,705
Trees	31.10%	176	14,279	3,084,737
Unknown	5.30%	30	464	86,395
Weather/Wind	1.41%	8	574	78,175
Weather/Ice	0.35%	2	22	4,188
Other	0.88%	5	297	30,750
<b>Total</b>	<b>100.00%</b>	<b>566</b>	<b>42,961</b>	<b>5,941,385</b>

**Paul E. Russell**  
Associate General Counsel

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



**FEDERAL EXPRESS**

July 29, 2005

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

**ORIGINAL RECEIVED**  
JUL 29 2005  
PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**Re: PPL Electric Utilities Corporation  
Quarterly Reliability Report for the  
Period Ended June 30, 2005  
Docket No. 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 Quarterly Reliability Report for the Period Ended June 30, 2005. 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 July 29, 2005, 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.

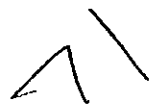
Very truly yours,

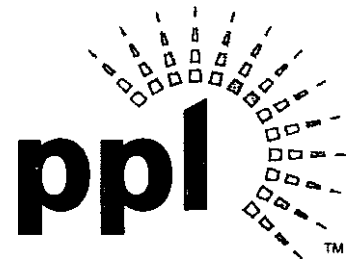
Paul E. Russell

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Enclosures

cc: Elizabeth H. Barnes, Esquire





**PPL Electric Utilities**

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

DOCUMENT  
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*July 2005*

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JUL 29 2005

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**DOCKETED**  
AUG 01 2005



- (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 June 30, 2005:

<b>SAIFI (Benchmark = 0.98; Rolling 12-month Std. = 1.18)</b>	1.034
<b>CAIDI (Benchmark = 145; Rolling 12-month Std. = 174)</b>	165
<b>SAIDI (Benchmark = 142; Rolling 12-month Std. = 205)</b>	170
<b>MAIFI</b>	4.715
<b>Average Number of Customers Served<sup>1</sup></b>	1,337,614
<b>Number of Sustained Customer Interruptions (Trouble Cases)</b>	18,373
<b>Number of Customers Affected<sup>2</sup></b>	1,382,596
<b>Customer Minutes of Interruptions</b>	227,948,938
<b>Number of Customer Momentary Interruptions</b>	6,307,154

---

<sup>1</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>2</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	Customers	Cases of Trouble <sup>3</sup>	Customer Minutes Interrupted	CPI
1	59301	0.97	2,080	2,020	2.13	1,565	67	3,161,979	602
2	55001	3.82	284	1,085	8.00	2,687	114	2,915,446	488
3	13806	0.13	2,411	308	2.00	227	2	69,933	467
4	16401	8.63	76	658	6.00	664	33	436,674	418
5	11506	4.95	288	1,425	3.00	1,244	69	1,772,879	415
6	12301	3.88	186	722	0.00	1,702	86	1,228,145	400
7	59401	1.87	459	856	2.00	2,477	88	2,120,298	382
8	27101	4.22	141	596	4.14	2,644	73	1,575,652	370
9	40902	1.36	860	1,172	12.00	2,184	61	2,559,234	370
10	16101	2.12	233	493	4.00	2,470	94	1,218,329	364
11	21203	4.44	139	617	3.00	1,168	59	720,459	342
12	53901	4.21	140	591	2.00	2,649	62	1,564,903	341
13	57502	5.76	265	1,530	9.01	1,437	29	2,198,119	337
14	28302	2.52	141	355	7.00	2,749	84	975,801	336
15	47001	3.17	232	735	8.00	2,357	67	1,733,453	333
16	10805	4.15	597	2,479	5.00	1,100	26	2,726,746	333
17	52401	3.67	276	1,013	12.00	1,697	56	1,719,046	332
18	28301	2.26	106	239	4.00	2,776	88	664,342	330
19	15701	3.61	96	346	8.00	2,169	69	749,530	329
20	13102	2.50	255	637	4.00	1,866	73	1,188,172	328
21	10702	0.06	1,569	94	4.00	1,836	9	172,571	323
22	40201	3.46	170	590	4.00	1,575	63	929,087	322
23	64802	4.55	109	494	0.00	1,245	51	614,616	319
24	45402	3.46	255	881	10.00	1,557	54	1,371,442	315
25	52402	3.49	108	377	7.00	1,570	64	591,932	314
26	16402	4.55	140	636	3.00	837	45	532,442	310

<sup>3</sup> Cases of trouble are the number of sustained customer service interruptions.

WPC Rank	Feeder ID	SAIFI	CAIDI	SAIDI	MAIFI	Customers	Cases of Trouble <sup>3</sup>	Customer Minutes Interrupted	CPI
27	43401	2.20	405	892	6.00	1,488	59	1,327,412	310
28	53602	2.21	166	368	0.00	2,733	76	1,006,158	309
29	45302	3.42	352	1,205	2.00	1,523	45	1,835,745	309
30	26002	3.27	200	652	1.00	958	58	624,608	308
31	42201	3.73	306	1,139	5.00	1,758	43	2,003,042	306
32	23002	2.05	510	1,045	3.00	2,286	52	2,388,754	306
33	10108	0.50	1,490	745	0.00	2	1	1,490	303
34	65603	1.84	388	715	14.00	2,253	62	1,610,954	301
35	10802	1.10	925	1,013	3.51	1,045	33	1,058,695	301
36	28402	4.55	106	482	8.00	1,513	43	729,027	299
37	17802	2.44	140	341	5.00	2,280	70	777,448	297
38	63601	4.65	62	287	26.00	1,602	44	459,539	297
39	59002	3.08	298	916	9.00	2,504	49	2,293,764	296
40	46302	3.01	187	563	6.00	1,739	58	979,886	296
41	56802	2.25	184	415	13.00	2,160	69	895,587	296
42	28801	2.38	115	272	10.00	2,502	72	681,005	295
43	26602	2.79	108	302	7.00	2,945	65	888,338	291
44	15601	2.42	148	357	6.00	2,346	67	838,667	290
45	50201	1.23	1,122	1,380	3.00	1,347	12	1,859,094	289
46	22002	3.88	152	589	1.01	1,312	45	772,665	288
47	25801	3.55	214	759	0.00	1,822	44	1,382,414	285
48	47704	2.65	696	1,844	5.00	680	21	1,253,943	284
49	56504	1.47	368	539	8.00	1,957	62	1,055,122	283
50	52403	3.24	138	448	2.00	1,106	53	495,784	282
51	10803	2.96	822	2,430	6.00	140	6	340,213	280
52	11001	3.57	278	994	3.00	849	37	843,614	280
53	40502	2.35	109	256	6.00	1,772	67	452,959	280
54	47002	2.10	321	674	10.00	1,855	54	1,251,133	277

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 duration, 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 that would reduce the incidence or duration of service interruptions.

**(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 Circuit ID: 59301 MCALISTERVILLE 93-01</b>				
	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 is expected to drop off the list of 5% WPCs. Circuit trimmed in December 2004.
	Circuit outage data analysis.	Completed	3/18/2005	The quarterly CPI has decreased 83% from the 3rd to the 4th quarter.
	Circuit outage data analysis.	Completed	5/27/2005	CPI continues to improve. With continued good performance circuit is expected to drop off the list of 5% WPCs in Q4 of 2005.
	Monitor future performance.	Ongoing		
<b>2 Circuit ID: 55001 NEWPORT 50-01</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 Maintenance inspection of circuit was completed and only a few items were found.
	Monitor future performance.	Ongoing		
<b>3 Circuit ID: 13806 SALISBURY 38-06</b>				
	Circuit outage data analysis - WPC not on preceding qtr. list. Field Services and Asset Management investigated the cause of this circuit's appearance on the worst performing list	Completed	12/23/2004	During the Ivan storm a tree branch broke free and caused an extended outage that was difficult to get to and fix. After visiting the site and reviewing the cause it is believed that there is a low probability of this incident repeating.
	Monitor future performance.	Ongoing		There were no cases in the first or second quarter of 2005 and only 3 cases of trouble during the past 12 months. Circuit expected to fall off list in Q3 of 2005.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**4 Circuit ID: 16401 MOUNT POCONO 64-01**

The line was recently 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	
The entire main line will be reconductored under B50921.	Completed	5/31/2005	The main three phase has been rebuilt with 477 AL XLP.
Line inspection-equipment. A portion of the line along Rt 314 (three phase branch off main line) will be inspected. This portion of the line already had maintenance work completed in January 2005 to fix galloping conductors.	Completed	5/31/2005	
Perform line maintenance identified by line inspection. WR 205426 was initiated to complete maintenance items found during the inspection.	Completed	5/13/2005	If performance seen during Q1 2005 continues, this circuit is expected to drop off the WPC list in Q4 2005.
Continue to monitor future performance.	Ongoing		

**5 Circuit ID: 11506 FREEMANSBURG 15-06**

Circuit outage data analysis.	Completed	6/11/2004	Circuit is a rural feeder, many single phase taps have a weak textlife 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. Fuse coordination study completed, and Field Services is about to begin installing additional fuses in January.	Completed	12/23/2004	Reduced outage risk. Work completed should 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		Inconclusive. Monitor future performance. Trimming and other minor work should begin to show performance improvements.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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### 6 Circuit ID: 12301 LANARK 23-01

	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.	In progress	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.	In progress	9/30/2005	Reduced customer count affected by each outage. Construction planned for August.
	Monitor future performance.	Ongoing		All of the above work is expected to improve the circuit's performance.

### 7 Circuit ID: 59401 RICHFIELD 94-01

	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 is expected to drop off the list of 5% WPCs.
	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.
	Circuit outage data analysis.	Completed	5/27/2005	Line Maintenance Inspection completed in 1st quarter 2005 nothing found. With continued good performance circuit is expected to drop off the list of 5% WPCs in Q4 of 2005.
	Monitor future performance.	Ongoing		

### 8 Circuit ID: 27101 GREENFIELD 71-01

	Circuit outage data analysis.	Completed	6/15/2004	Major contributor to CPI was the number of cases (73%). The contributing outages (mostly trees outside of the right-of-way and animal contacts, 53%) did not fall into a discernable pattern.
	Tree trimming. Tree trimming for this line began 6/21/04.	Completed	11/12/2004	Reduced outage risk.
	Line inspection-equipment. Due to the high number of animal contacts (30% of the total CPI) and equipment failures (18% of total CPI) an equipment line inspection will be performed.	Completed	11/30/2004	Several problems were found. Repairs to be made under WR 186259.
	Perform line maintenance identified by line inspection. Maintenance under WR 186259	Completed	5/13/2005	
	Monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**9 Circuit ID: 40902 JERSEY SHORE 09-02**

	Animal Guard Practices	Completed	3/9/2005	It was agreed that whenever an animal outage is discovered, a work request would be initiated if an animal guard were not installed prior to returning the customers to service.
	Circuit outage data analysis.	Completed	8/15/2005	100% of high CPI on Jersey Shore 9-2 reported during the third quarter of 2004, occurred when 1,700 customers experienced a 24 hour outage on 9-18-04, during hurricane IVAN which were caused by trees off the right of way (not tree trimming related). In addition, crews could not reach the sectionalizing switch to transfer these customers to another 12 kV circuit because the area was flooded and they could not perform work until floodings subsided. The 2004 circuit outage reports do not show any other significant high CPI events on 9-2 during 2004. A snow storm on 3/23/2005 caused the long outage in the first quarter 2005. No other significant outages in the Q1, 05. This circuit is expected to remain on the top 5% worst performing list until the third quarter of 2005; the CPI's are averaged together for one year. No further actions required.
	Tree trimming.	Scheduled for	6/30/2007	The line is 113 miles long ( 9 miles urban and 104 rural). The whole line is scheduled to be trimmed in 2007. The circuit will be reviewed and hot spot trimming will be done by the end of 2005 if required.
	Monitor future performance.	Ongoing		No further action was deemed necessary to improve this circuit's performance. The circuit is expected to drop off the 5% list in Q3 2005, when the IVAN outages are no longer included.

**10 Circuit ID: 16101 BINGEN 61-01**

	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. 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	8/18/2004	This was done to locate momentary problems that occur on the line. The installation is complete and the indicators are monitored.
	Improve sectionalizing capability. Investigating splitting the line to allow back feeding from other half.	Completed	2/28/2005	Inconclusive. Monitor future performance. 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	Scheduled for	11/30/2005	Reduced outage risk. Should see reduction in cases, and possibly lower circuit CAIDI

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>11 Circuit ID: 21203 EAST CARBONDALE 12-03</b>				
	7/13/2005. Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	8/31/2005	
<b>12 Circuit ID: 53901 HALIFAX 39-01</b>				
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	3/18/2005	Tree trim the West Shore portion of the circuit scheduled for summer 2005.
	Circuit outage data analysis.	Completed	5/27/2005	CPI has improved. Pole top fire on 2/14/2005 outaged the line.
	Monitor future performance.	Ongoing		
<b>13 Circuit ID: 57502 LAWNTON 75-02</b>				
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	12/22/2004	August 2004, twenty-four cases with 1.8 million cust minutes of interruption caused by a series of F1 tornados.
	Circuit outage data analysis.	Completed	3/18/2005	The quarterly CPI has decreased 82% from the 3rd to the 4th quarter.
	Circuit outage data analysis.	Completed	5/27/2005	CPI continues to improve.
	Monitor future performance.	Ongoing		
<b>14 Circuit ID: 28302 NEWFOUNDLAND 83-02</b>				
	Circuit outage data analysis.	Completed	8/15/2004	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.	In progress	9/30/2005	
	Line inspection-equipment. Field engineer will identify targeted areas for line inspection.	In progress	7/29/2005	
	Continue to monitor future performance.	Ongoing		



**Rank****Action****Status****Due/Complete****Result****15 Circuit ID: 47001 HUGHESVILLE 70-01**

Improve sectionalizing capability. Review line to determine if additional sectionalizing can be added to minimize the number of customers affected by emergency outages

Completed

3/31/2005

additional sectionalizing devices have been added which should improve line performance

Circuit outage data analysis.

Completed

6/1/2005

CPI was driven by cases of trouble (57; 45% of CPI) and SAIFI (3.536; 40% of CPI). The Hughesville 70-1 line was reported as having a high CPI during the 2nd quarter of 2004. 50% of this high CPI is due to 90 customers experiencing a 10 hr outage due to inadequate tree trimming on 2-3-2004; and the remaining 50% of the second quarter high CPI occurred on 4-4-2004 when 1050 customers experienced a 7 hr. outage due to vehicle accident. 70-1 is 160 miles in length with heavy tree foliage. This circuit was moderately affected by IVAN storm in the Q3, 2004 and by the snow storm on 3/23/05. No major outages in the fourth quarter of 2004.

Perform line maintenance identified by line inspection. Susquehanna Region line maintenance was performed in the first quarter of 2005 on a 3 mile portion of 70-1, and small pieces of wire damaged by lightning strikes were replaced.

Completed

6/1/2005

Line inspection-equipment.

Scheduled for

12/31/2005

The line was inspected last winter, and items were identified by inspection. Work requests were written to install tap fuses are expected to be done by the end of Q4, 2005.

Tree trimming.

Scheduled for

9/30/2006

The line is 160 miles long with 24 OCRs. The 15-mile urban section, coming out the sub, was trimmed in April, 2005. The other 145 mile is scheduled to be trimmed in 2006. The rural part of the line has been checked for tree conditions and some hot spotting will be done by the end of August, 2005. A lot of inaccessible areas of single phases exist on this line which affects both CAIDI.

Monitor future performance.

Ongoing

This circuit performance will continue to be monitored. Future tree trimming and other in-progress work is expected to improve this circuit's performance. The circuit improved in the last two quarters, and is expected to drop off the list by the end of Q3, 2005.

**16 Circuit ID: 10805 CHERRY HILL 08-05**

Replaced failed OCR controller.

Completed

10/31/2004

Reduced outage duration.

Circuit outage data analysis - WPC not on preceding qtr. list

Completed

2/28/2005

Primary performance issues were caused by a failing OCR controller which was replaced in Oct. 2004.

Developing plan to improve SCADA performance at Cherry Hill Substation. Meeting with Verizon this quarter to upgrade communications at the substation and estimate costs.

Completed

5/31/2005

Reduced outage duration. Software modifications are being made to the SCADA system at Cherry Hill Substation.

Monitor future performance.

Ongoing

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**17 Circuit ID: 52401 GREEN PARK 24-01**

	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.
	Monitor future performance.	Ongoing		
	7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	In progress	8/31/2005	

**18 Circuit ID: 28301 NEWFOUNDLAND 83-01**

	Circuit outage data analysis.	Completed	8/25/2004	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.
	Field engineer has identified additional tap fuses which will be installed as soon as possible.	Scheduled for	7/30/2005	
	Improve sectionalizing capability. Field engineer will install additional single phase and three phase OCRs on the circuit pending additional review	Scheduled for	9/30/2005	
	Line inspection-equipment.	Scheduled for	9/30/2005	
	Monitor future performance.	Ongoing		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.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>19 Circuit ID: 15701 TANNERSVILLE 57-01</b>				
	Circuit outage data analysis.	Completed	6/15/2004	Inconclusive. Monitor future performance. 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.
	Tree trimming. This circuit was scheduled to be trimmed in support of reconductor. USF work to be completed by 11/05	In progress	9/30/2005	Approximately 1.5 miles of the main three phase line was trimmed in support of the upcoming USF work. The remaining line will be trimmed toward the end of the summer, 2005.
	Field engineer will review the circuit for additional tap fuses.	In progress	7/31/2005	
	1.5 miles of the main line will be reconducted under SP 51216. This circuit will be trimmed as part of the reconductor work.	Scheduled for	11/30/2005	
	Monitor future performance	Ongoing		
<b>20 Circuit ID: 13102 NORTHAMPTON 31-02</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 fourth quarter of 05.	In progress	12/31/2005	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		Inconclusive. Monitor future performance. Based on current performance, this circuit should fall off the list by Q3 2005.
<b>21 Circuit ID: 10702 CATASAUQUA 07-02</b>				
	Circuit outage data analysis - WPC not on preceding qtr. list. Field Services and Asset Management investigated the single outage that caused the poor ranking circuit performance.	Completed	12/23/2004	During the Ivan storm a non-trimming related tree outage lasted for an extended period of time, the incident was reviewed and investigated at the site of the outage and it was deemed that a similar incident has a very low probability of reoccurring. This outage contributed to 83% of the performance rating this quarter. This circuit should return to it's normal ranking.
	Monitor future performance.	Ongoing		Circuit Performing as usual previous to the single extended outage. Expected to drop off the list by Q3 2005.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**22 Circuit ID: 40201 BEAR GAP 02-01**

	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/12/2004	Major contributors to CPI were cases of trouble and SAIFI. Three events were responsible for over 40% of the CPI total. Two of these events involved programming problems with the substation OCR, causing the entire line to be lost each time. Training has been completed, and these events are not expected to occur again.
	Tree trimming.	Completed	12/31/2004	Reduced outage risk. This circuit is expected to drop off the list of 5% wpc's by Q4 2005.
	Line inspection-equipment.	Completed	1/31/2005	Reduced outage risk. No significant items were found.

**23 Circuit ID: 64802 MOUNT NEBO 48-02**

	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.
	Tree trimming.	Completed	7/1/2005	Tree trimming of the entire circuit is expected to reduce outage risk.
	Monitor future performance.	Ongoing		
	Improve sectionalizing capability.	Scheduled for	9/30/2005	
	Relocate inaccessible line.	Scheduled for	9/30/2005	

**24 Circuit ID: 45402 WEST BLOOMSBURG 54-02**

	Circuit outage data analysis.	Completed	6/1/2005	CPI was driven by SAIFI (3,338; 39% of the CPI) and number of cases (54; 44% of CPI). The major outages were because of Hurrican 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.
	Line inspection-equipment.	In progress	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, and the rest are scheduled for completion in June/ July 2005.
	Tree trimming.	Scheduled for	6/30/2006	The line is 100 miles long. 4 miles urban were trimmed in 2003, and the rest (96 miles) are scheduled to be trimmed in 2006. The circuit will be reviewed and hot spot trimming will be done by the end of 2005 if required
	Monitor future performance.	Ongoing		The circuit's CPI was primarily due to IVAN and a flood in the area. No further action was deemed necessary on this circuit, as it is expected to drop off the 5% WPC list once these events fall from the 12 month window by the Q3, 2005.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**25 Circuit ID: 52402 GREEN PARK 24-02**

7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list.      Scheduled for      8/31/2005

**26 Circuit ID: 16402 MOUNT POCONO 64-02**

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 wer some trimming related problems. This circuit did have some hotspot trimming completed earlier in 2004.

Tree trimming. Overgrown areas will be identified by field engineer for hot spot trimming.      Scheduled for      8/31/2005      Circuit is expected to drop off the list of the top 5% worst performing circuits after tree trimming is completed.

Monitor future performance      Ongoing

7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list.      Scheduled for      8/31/2005

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**27 Circuit ID: 43401 BENTON 34-01**

	Perform line maintenance identified by line inspection.	Completed	4/15/2005	The line was inspected last winter, 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 and the rest are scheduled for completion in July 2005.
	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 reviewed line for location to add OCR's, or other sectionalizing devices, no new locations were found.
	Circuit outage data analysis	Completed	6/1/2005	CPI was primarily driven by cases of trouble (73; 54% of CPI) . The Benton 34-1 line was reported as having a high CPI during the 1st, 2nd, and 3rd quarters of 2004. 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 is expected to drop off the list in the third quarter of 2005.
	Tree trimming. Hot Spot Trimming	In progress	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 Q3, 2005.
	Monitor future performance.	Ongoing		Scheduled tree trimming and other in-progress work is expected to improve this circuit's performance. This circuit performance will continue to be monitored.

**28 Circuit ID: 53602 DALMATIA 36-02**

	Circuit outage data analysis - WPC not on preceding qtr. list	Completed	12/22/2004	Area hit by Hurricane Ivan in the 3rd quarter. Circuit is expected to drop off the list of 5% WPCs. An electronic OCR was installed on the east side of the river crossing, reducing the 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. With continued good performance circuit is expected to drop off the list of 5% WPCs in Q4 of 2005.
	Monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>29 Circuit ID: 45302 WEST BERWICK 53-02</b>				
	Circuit outage data analysis.	Completed	6/21/2005	CPI was driven by SAIFI (4.902; 56% of CPI). 100% of the high CPI during the second quarter 2004 occurred on 6-17-04 when approximately 850 customers experienced outages ranging from 3 to 5 hrs due to trees inadequately trimmed. 100% of the high CPI reported during the 3rd quarter of 2004, on West Berwick 53-2 is due to the 9/18/2004 hurricane (VAN), approximately 1,800 customers experienced outages ranging from 7 hrs to 57 hrs, mainly due to trees off the right of way falling into the overhead lines. However, approximately 183 of these 1800 customers experienced a 51 hr outage during the hurricane from trees inadequate trimming. No major outages in Q4, 2005. The long outages in the first quarter 2005 were on 3/23/05 because of the snow and ice storm, which caused floods.
	Tree trimming.	In progress	9/30/2005	13.4 miles of West Berwick 53-2 urban miles were trimmed in 2002, as well as, 18.6 urban miles were trimmed in 2003; additional hot spotting and/or scheduled mileage work will be done in 2005. The 57 miles rural is scheduled to be trimmed by the Q3 of 2005.
	Line inspection-equipment.	Completed	6/21/2005	line inspection was conducted in January on 47 miles of this circuit. This circuit was patrolled last winter, and completed by December 2004. There were 16 items identified for repair/replacement, and work requests were written for each. Work to be completed by the third quarter of 2005.
	Monitor future performance.	Ongoing		Scheduled tree trimming and other in-progress work is expected to improve this circuit's performance. PPL will continue to monitor this circuit's performance in the future. This circuit is expected to drop off the 5% list after the Q3 of 2005.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>30 Circuit ID: 26002 WEST DAMASCUS 60-02</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.
	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.	In progress	7/31/2005	
	Line inspection-equipment.	Scheduled for	9/30/2005	
	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	9/30/2005	
	Monitor future performance.	Ongoing		
<b>31 Circuit ID: 42201 SHENANDOAH 22-01</b>				
	Line inspection-equipment.	Completed	5/31/2005	Reduced outage risk. 10-12 minor maintenance items were identified.
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	6/1/2005	Main contributor to CPI was SAIFI (58%). Ice storm in January and heavy snowstorm in March caused several outages. Trees (both inadequate trimming and non-trimming related) accounted for 43% of the CPI total.
	Improve sectionalizing capability.	Scheduled for	8/31/2005	Field is replacing an air break switch with an OCR.
	Tree trimming.	Completed	6/29/2005	Danger trees were removed in a problem section of the line.
	Install fuse(s).	Scheduled for	8/15/2005	Field installing one tap fuse before the first OCR and one after.
	Monitor future performance.	Ongoing		
<b>32 Circuit ID: 23002 SAINT JOHNS 30-02</b>				
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	6/1/2005	Main contributors to CPI were cases of trouble and SAIFI. Snow/ice storm on March 24 and 25 caused numerous outages on the line. Trees (both inadequate trimming and non-trimming related) accounted for 54% of CPI total.
	Improve sectionalizing capability.	Scheduled for	8/31/2005	Field is repositioning OCR to improve sectionalizing and cold load pickup problems.
	Monitor future performance.	Ongoing		This circuit is expected to drop off the 5% wpc list by Q2 2006.



<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>33 Circuit ID: 10108 ALLENTOWN 01-08</b>				
	Circuit outage data analysis - WPC not on preceding qtr. list. Monitor future performance.	Ongoing		A submersible transformer that serves one customer failed. This is the only case of trouble for this circuit over the past 12 months.
<b>34 Circuit ID: 65603 QUARRYVILLE 56-03</b>				
	Circuit outage data analysis.	Completed	9/28/2004	Largest interruption on this circuit was a transformer failure at the substation interrupting 2264 customers for 446 minutes. This outage was about 35 % of this circuit's total CPI. This event is not likely to occur again. There also were several local lightning storms that contributed to the CPI.
	Monitor future performance.	Ongoing		Circuit has continued to show improvement this quarter and is expected to fall off the WPC list at the end of the 3rd quarter of 2005.
<b>35 Circuit ID: 10802 CHERRY HILL 08-02</b>				
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	2/28/2005	Tree outages are the primary concern on this circuit
	Developing plan to improve SCADA performance at Cherry Hill Substation. Meeting with Verizon this quarter to upgrade communications at the substation and estimate costs.	Completed	5/31/2005	Reduced outage duration. Software modifications are being made to the SCADA system at Cherry Hill Substation.
	Tree trimming. 69kV customer tap shares ROW with this 12kV circuit. Trimming done for the 69kV tap should alleviate some of the problems going forward.	Scheduled for	9/30/2005	Reduced outage risk.
	Monitor future performance.	Ongoing		
<b>36 Circuit ID: 28402 HARTLAND 84-02</b>				
	Tree trimming.	Completed	1/3/2005	Reduced outage risk. This circuit is expected to drop off the list of 5% wpc's by Q2 2006.
	Circuit outage data analysis - WPC not on preceding qtr. list	Completed	6/1/2005	Main contributors to CPI were cases of trouble and SAIFI. Three separate vehicle hits accounted for 46% of the CPI total (the substation breaker tripped open each time). Snowstorm on March 23-24, 2005 was responsible for several outages as well.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**37 Circuit ID: 17802 GILBERT 78-02**

	Circuit outage data analysis.	Completed	8/23/2004	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	
	Monitor future performance.	Ongoing		
	7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Scheduled for	8/31/2005	

**38 Circuit ID: 63601 LETORT 36-01**

	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 Lighting Arrestors
	Tree trimming.	Completed	3/15/2004	Reduced Outage Risk
	Replace Failed Lighting 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	Scheduled for	8/31/2005	

**39 Circuit ID: 59002 MIFFLINTOWN 90-02**

	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 is expected to drop off the list of 5% WPCs.
	Circuit outage data analysis.	Completed	3/18/2005	The quarterly CPI has decreased 83% from the 3rd to the 4th quarter. Rural trimming done in 2001 and urban trimming done in 2003.
	Circuit outage data analysis.	Completed	5/27/2005	An insulator failed on 3/26/05 outaging the line. With continued good performance circuit is expected to drop off the list of 5% WPCs in Q4 of 2005.
	Monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**40 Circuit ID: 46302 ROHRSBURG 63-02**

Circuit outage data analysis.	Completed	6/1/2005	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 fourth quarter of 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.
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 device were found.
Tree trimming.	Scheduled for	6/30/2007	the 153 miles long line is scheduled to be trimmed in 2007.
Monitor future performance.	Ongoing		Much of this circuit's CPI was due to events that are not expected to occur again. No further action is required for this circuit, as the CPI will improve and expected to drop off the list in the third quarter of 2005. This circuit will continue to be monitored for future performance.

**41 Circuit ID: 56802 BENVENUE 68-02**

Circuit outage data analysis.	Completed	6/25/2004	A March 2003 ice storm contributed to CPI.
Circuit outage data analysis.	Completed	12/22/2004	Area hard hit by Hurricane Ivan in the 3rd quarter. Circuit is expected to drop off the list of 5% WPCs. An inaccessible portion of line is to be transferred to another source in the 1st qtr of 2005. The east side of the circuit is to be inspected in 2005.
Circuit outage data analysis.	Completed	3/18/2005	The inaccessible portion of line was transferred to another source in Q1. The quarterly CPI has decreased 41% from the 3rd to the 4th quarter.
Circuit outage data analysis.	Completed	5/27/2005	CPI continues to improve. With continued good performance circuit is expected to drop off the list of 5% WPCs in Q4 of 2005.
Monitor future performance.	Ongoing		

**42 Circuit ID: 28801 LAKEVILLE 88-01**

7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Scheduled for	8/31/2005	
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<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**43 Circuit ID: 26602 BROOKSIDE 66-02**

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.
Fault recorders will be installed on an inaccessible part of the line.	Completed	6/30/2005	
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.
Perform line maintenance identified by line inspection.	In progress	7/30/2005	
Monitor future performance.	Ongoing		

**44 Circuit ID: 15601 NO STROUDSBURG 56-01**

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	If performance seen in Q4 2004 and Q1 2005 continues this circuit is expected to fall off by Q4 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.	Scheduled for	7/28/2005	
Field engineer has identified several tap fuses that can be installed to help minimize the impact of potential faults on taps.	Scheduled for	7/28/2005	
This circuit will be thermovisioned to help identify failed equipment.	Scheduled for	12/31/2005	
Monitor Performance	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>45 Circuit ID: 50201 HARRISBURG 02-01</b>				
	Circuit outage data analysis - WPC not on preceding qtr. list	Completed	12/22/2004	In August 2004, 1.8 million cust minutes of interruption, due to trees-not trimming related caused by a series of F1 tornados.
	Circuit outage data analysis.	Completed	3/18/2005	The quarterly CPI has decreased 94% from the 3rd to the 4th quarter. 9.6 miles trimmed in the 1st quarter 2005.
	Monitor future performance.	Ongoing		
	7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Scheduled for	8/31/2005	
<b>46 Circuit ID: 22002 BOHEMIA 20-02</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.
	Monitor future performance.	Ongoing		
	7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Scheduled for	8/31/2005	
<b>47 Circuit ID: 25801 SULLIVAN TRAIL 58-01</b>				
	Installed 10 tap fuses under SAIFI initiative.	Completed	11/30/2003	Reduced customer count affected by each outage.
	Reconductored and relocated inaccessible section of line.	Completed	12/31/2003	Reduced outage risk.
	Circuit outage data analysis.	Completed	6/30/2004	Inconclusive. Monitor future performance. Main contributor to CPI was cases of trouble, primarily due to trees and animals.
	Review the process for animal guard installations to ensure that animal guards are installed for animal related OH transformer outages and new OH transformers.	Completed	6/30/2004	Field personnel verified that animal guards are installed on new transformers, as well as after animal-related transformer outages
	7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Scheduled for	8/31/2005	

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**48 Circuit ID: 47704 BLOOMSBURG 77-04**

	Circuit outage data analysis.	Completed	6/22/2005	100% of this high CPI is due to approximately 700 customers experiencing an outage ranging from 4 hrs to 31 hrs, on 9-18-2004 at 7:55 AM. The outage report indicates the reason for the outage was forced pre-arranged, also note on 9-18-04 hurricane IVAN also occurred. No major outages in the fourth quarter of 2004. 90 customers experienced about 16 hours outage in the Q1, 2005 because of a snow storm on 3/23/05. This circuit is expected to remain on the top 5% worst performing circuit list until the 3rd quarter 2005.
	Perform line maintenance identified by line inspection.	Completed	3/23/2005	C-tag pole replacements have been done on this line, and a section of 3-phase line was converted to 1-phase in an effort to improve the performance.
	Tree trimming.	Completed	6/22/2005	The 55 mile line rural was trimmed in 2004, but about \$20,000 is also being spent this year to take care of numerous danger trees along a section of this line.
	Improve sectionalizing capability.	In progress	9/30/2005	Additional sectionalizing will be done in Q3, 2005, including installing two air breaks to restore some customers when a tree comes down over the line and replacing cross arms poles. Work requests were written for those jobs.
	Monitor future performance.	Ongoing		This circuit's CPI was due mainly to two severe weather systems, and is expected to drop when these events fall off the third quarter of 2005. Additionally, work identified and in-progress is expected to help the circuit's performance. The circuit's performance will continue to be monitored, and it is expected to drop off the list by the end of Q3, 2005.

**49 Circuit ID: 56504 ROCKVILLE 65-04**

	Three new tap fuses were installed as part of SAIFI initiative.	Completed	12/31/2003	Reduced customer count affected by each outage.
	Line inspection-equipment	Completed	2/18/2004	Inconclusive. Monitor future performance.
	Circuit outage data analysis.	Completed	6/25/2004	Inconclusive. Monitor future performance. A wind storm in November 2003 contributed to the CPI. Trees-not trimming related caused most of the outages.
	Circuit outage data analysis.	Completed	12/22/2004	Area hard hit by Hurricane Ivan in the 3rd quarter. Circuit is expected to drop off the list of 5% WPCs. Eleven miles to be trimmed in 2005.
	Circuit outage data analysis.	Completed	3/18/2005	The quarterly CPI has decreased 81% from the 3rd to the 4th quarter. Tree trimming is on going.
	Circuit outage data analysis.	Completed	5/27/2005	Hot spot trimming in 3rd Q 2005. Installing XLP in heavily treed area and additional sectionalizing point in 3rd Q 2005. With continued good performance circuit is expected to drop off the list of 5% WPCs in Q4 of 2005.
	Monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
<b>50 Circuit ID: 52403 GREEN PARK 24-03</b>				
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	3/18/2005	This circuit is to be trimmed by the end of 2005. Circuit is expected to drop off the list of 5% WPCs.
	Circuit outage data analysis.	Completed	5/27/2005	The quarterly CPI has decreased 73% from the 4th quarter 2004 to the 1st quarter 2005. With continued good performance circuit is expected to drop off the list of 5% WPCs in Q4 of 2005.
	Monitor future performance.	Ongoing		
<b>51 Circuit ID: 10803 CHERRY HILL 08-03</b>				
	Tree trimming.	Completed	3/31/2004	Reduced outage risk.
	Circuit outage data analysis.	Completed	6/11/2004	SAIFI is biggest problem with the Cherry Hill 8-3 line. Circuit breaker failure and terminator failure at the substation were the biggest factors in SAIFI.
	Monitor future performance of line.	Ongoing		
	Investigating border line agreement with Met Ed Utility. Currently reviewing costs and business plan of creating a substation back up to feed the line in an emergency. New PPL served substation also being evaluated.	In progress	12/23/2005	Design being engineered, and contract being negotiated with Met Ed Utility.
	Developing plan to improve SCADA performance at Cherry Hill Substation. Meeting with Verizon this quarter to upgrade communications at the substation and estimate costs.	Completed	5/31/2005	Reduced outage duration. Software modifications are being made to the SCADA system at Cherry Hill Substation.
<b>52 Circuit ID: 11001 EAST GREENVILLE 10-01</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.
	Improve sectionalizing capability. Additional fuses will be added as well.	In progress	12/31/2005	Project being developed to resectionalize trouble spots, and add better fusing scheme to limit customer exposure. Inaccessible portion of the line will be re-fed from a new single phase section. Currently being developed to be placed in service at our earliest ability.
	Tree trimming.	Scheduled for	9/30/2005	Reduced outage risk.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**53 Circuit ID: 40502 CRESSONA 05-02**

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.
Circuit outage data analysis.	Completed	6/30/2004	inconclusive. Monitor future performance. Main contributors were cases of trouble and SAIFI.
7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Scheduled for	8/31/2005	

**54 Circuit ID: 47002 HUGHESVILLE 70-02**

Circuit outage data analysis.	Completed	12/30/2004	The Hughesville 70-2 12 kV line was reported as having a high CPI during the second and third quarter of 2004. 50% of the high CPI during the second quarter 2004 is due to animals causing equipment failure, on 6-17-2004, one customer was out of service for 17 hrs and the other 50% of th high CPI is due to equipment failure, several customers experienced an outage ranging from 3 to 10 hrs. The high CPI during the third quarter 2004 is due to hurricane IVAN, approximately 300 customers experienced outages from 35 to 56 hours, due to trees located off the right of way falling into the overhead lines.
Tree trimming.	Completed	12/31/2004	Trees were trimmed in October 2004 and December 2004. Additional tree hot spotting and/or scheduled mileage work will be done in 2005.
7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Scheduled for	8/31/2005	



- (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, Trees – Not Trimming Related and Animals), based on 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>4</sup>	Percent of Trouble Cases	Customer Interruptions <sup>5</sup>	Percent of Customer Interruptions	Customer Minutes	Percent of Customer Minutes
Improper Design	2	0.01%	8	0.00%	508	0.0%
Improper Installation		0.00%		0.00%		0.0%
Improper Operation	3	0.02%	5,908	0.43%	100,082	0.0%
Trees - Inadequate Trimming	1,418	7.72%	105,823	7.65%	27,486,610	12.1%
Trees - Not Trimming Related	3,440	18.72%	331,240	23.96%	87,084,418	38.2%
Animals	3,358	18.28%	53,907	3.90%	5,036,244	2.2%
Vehicles	856	4.66%	196,243	14.19%	24,719,910	10.8%
Contact/Dig-in	193	1.05%	14,678	1.06%	1,198,512	0.5%
Equipment Failure	5,032	27.39%	421,147	30.46%	54,681,118	24.0%
Forced Prearranged	754	4.10%	54,844	3.97%	5,126,488	2.2%
Other - Controllable	272	1.48%	16,376	1.18%	1,338,933	0.6%
Nothing Found	1,725	9.39%	99,688	7.21%	9,920,270	4.4%
Other - Public	76	0.41%	14,148	1.02%	1,553,482	0.7%
Other - Non-Controllable	1,244	6.77%	68,586	4.96%	9,702,363	4.3%
<b>Total</b>	<b>18,373</b>	<b>100.00%</b>	<b>1,382,596</b>	<b>100.00%</b>	<b>227,948,938</b>	<b>100.0%</b>

<sup>4</sup> Trouble cases are the number of sustained customer service interruptions (i.e., service outages).

<sup>5</sup> The data reflects the number of customers interrupted for each interruption event summed for all events, also known as customer interruptions. If a customer is affected by three separate cases of trouble, that customer represents three customer interruptions, but only one customer interrupted.

Analysis of causes contributing to the majority of service interruptions:

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

PPL Electric also tracks the effects of significant severe weather events, both PUC-reportable and non-reportable, on reliability performance. During the 12 months ended June 30, 2005, Hurricane Ivan alone was responsible for approximately 1,300 cases of trouble, representing more than 121,000 customer interruptions and affecting about 9% of the PPL Electric customer base. This contributed about 0.08 to SAIFI and 34 minutes to CAIDI for the period.

**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.

During the third quarter of 2004, Hurricane Ivan was responsible for 250 cases of trouble and 17,000 customer interruptions in this category.

**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.

During the third quarter of 2004, Hurricane Ivan was responsible for over 600 cases of trouble and 68,500 customer interruptions in this category.

**Animals:** Animals account for more than 18% 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 90% of the number of cases of trouble are 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, 47% of the customer interruptions and 54% 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.

During the third quarter of 2004, Hurricane Ivan was responsible for 174 weather-related cases of trouble and 20,000 customer interruptions in this category.

**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.)*

The following table provides the requested data.

Inspection & Maintenance Goals/Objectives	Annual Budget	2 <sup>nd</sup> Quarter		Year-to-date	
		Budget	Actual	Budget	Actual
<b>Transmission</b>					
Transmission C-tag poles	210	50	83	89	116
Transmission arm replacements (# of sets)	1,200	403	618	562	675
Transmission lightning arrester installations (# of structures)	14	3	13	5	17
Transmission air break switch inspections	60	18	22	30	29
Foot Patrols (# of miles)	1,750	851	532	1483	937
Transmission tree trimming(# of linear feet)	205,300	74,000	53,584	160,050	125,338
Transmission herbicide (# of acres)	7,006	1,950	1,834	2,150	2,011
<b>Substation</b>					
Substation batteries (# of activities)	821	101	95	720	712
Circuit breakers (# of activities)	3,310	1,225	999	2,082	1,728
Substation inspections (# of activities)	3,567	845	840	1,829	1,849
Transformer maintenance (# of activities)	1,938	501	614	1,150	1,077
<b>Distribution</b>					
Distribution C-tag poles replaced(# of poles)	1,500	465	519	942	928
C-truss distribution poles (# of poles)	300	58	37	58	49
Capacitor (MVAR added)	80	33	26	58	45
OCR replacements (# of)	510	154	135	312	430
Test sections of underground distribution cable	720	180	259	360	453
Distribution pole inspections	63,748	23,907	22,101	23,906	22,183
Group relamping	18,500	4,626	5,028	9,250	6,981
Distribution tree trimming (# of miles)	4,531	1,230	1,228	2,405	2,257
Distribution herbicide (# of acres)	928	40	19	70	19

- (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	2 <sup>nd</sup> Quarter		Year-to-date	
	Budget (\$1,000s)	Actual (\$1,000s)	Budget (\$1,000s)	Actual (\$1,000s)
Provide Electric Service	2,524	2,895	5,232	5,854
Vegetation Management	5,127	5,180	7,948	7,234
Customer Response	11,458	8,461	24,235	37,989
Reliability & Maintenance	14,160	12,421	26,612	23,613
System Upgrade	1,401	1,070	3,033	2,186
Customer Services/Accounts	19,259	18,700	39,069	37,472
Others	12,699	13,406	24,215	26,485
<b>Total O&amp;M Expenses</b>	<b>66,628</b>	<b>62,133</b>	<b>130,344</b>	<b>140,833</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 activities.

	2 <sup>nd</sup> Quarter		Year-to-date	
	Budget (\$1,000s)	Actual (\$1,000s)	Budget (\$1,000s)	Actual (\$1,000s)
New Service/Revenue	15,950	17,453	34,282	37,205
System Upgrade	9,176	10,566	20,093	19,197
Reliability & Maintenance	10,528	8,843	18,414	16,188
Customer Response	562	960	1,206	4,337
Other	1,849	1,331	3,698	2,405
<b>Total</b>	<b>38,065</b>	<b>39,153</b>	<b>77,693</b>	<b>79,332</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	89
Journeyman Lineman	195
Lineman	80
Helper	72
Troubleman	44
<b>T&amp;D Total</b>	<b>480</b>
<b>Electrical</b>	
Leaders	44
Journeyman	113
Electricians	59
Helpers	21
<b>Electrical Total</b>	<b>237</b>
<b>Overall Total</b>	<b>717</b>

- (10) *Quarterly and year-to-date information on contractor hours and dollars for transmission and distribution operation and maintenance.*

The following table provides the expenditures incurred for contractor services for T&D operation and maintenance, and includes the work identified in response to Item (6). PPL Electric does not track hours for all contractors.

	<b>2005 Actual (\$1,000s)</b>
<b>2<sup>nd</sup> Quarter</b>	8,147
<b>YTD Total</b>	<b>13,961</b>

- (11) *Monthly call-out acceptance rate for transmission and distribution maintenance workers presented in terms of both the percentage of accepted call-outs and the amount of time it takes the EDC to obtain the necessary personnel. A brief description of the EDC's call-out procedure should be included where appropriate.*

The following table shows the average response rate for transmission and distribution personnel currently included in PPL Electric's measured callout response program.

<b>April</b>	<b>44%</b>
<b>May</b>	<b>38%</b>
<b>June</b>	<b>41%</b>
<b>Quarter Average</b>	<b>41%</b>
<b>YTD Average</b>	<b>41%</b>

PPL Electric currently does not have a process to track and measure the amount of time it takes to obtain necessary personnel.

PPL Electric's call-out procedure is defined by bargaining unit agreements. Under the agreements, PPL Electric uses a computer-based callout roster to determine the order in which personnel are called to respond to after-hour emergencies in a given geographic area. Personnel are called sequentially. When sufficient personnel cannot be secured from the rosters for that geographic area, rosters from adjacent areas are utilized. There is no electronic link from one roster to another that enables calculation of when the original needed crew size is achieved. PPL Electric can track when personnel were called to provide assistance; and which personnel accepted or refused, but PPL Electric currently does not have an automated method to calculate elapsed time per callout.

PPL Electric has completed the installation of a new callout system during the second quarter of 2005. PPL Electric plans to develop the necessary reporting capability using the new system and the recently approved industry definitions by the end of 2005.

***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>6</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>6</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>7</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>7</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

<p>90 – Other – Controllable (Lineman provides explanation)</p>	<p>Controllable</p>	<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>
<p>96 – Nothing Found</p>	<p>Non-Controllable</p>	<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>
<p>98 – Other Public (Lineman provides explanation)</p>	<p>Public</p>	<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>
<p>99 – Other – Non-Controllable (Lineman provides explanation)</p>	<p>Non-Controllable</p>	<ul style="list-style-type: none"> <li>• Any outage occurring because of a fire, flood, or a situation that develops as a result of a fire or flood. Do not use when facilities are de-energized at the request of civil authorities.</li> <li>• When an interruption is caused by objects other than trees, such as kites, balls, model airplanes, roofing material, 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>

**Brian D. Crowe**  
Director  
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July 29, 2005

**Via Federal Express**

Mr. James McNulty, Secretary  
Pennsylvania Public Utility Commission  
Commonwealth Keystone Building  
400 North Street  
Second Floor  
Harrisburg, Pennsylvania 17120

CONFIDENTIAL  
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JUL 29 2005  
PA PUBLIC UTILITY COMMISSION  
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**Re: PUC Docket No. L-00030161  
Rulemaking Re Amending Electric Service Reliability Regulations at  
52 Pa. Code Chapter 57**

Dear Secretary McNulty:

In accordance with Electric Service Reliability Regulations at 52 Pa. Code Chapter 57, enclosed are an original and six copies of PECO Energy's 2005 Quarterly Reliability Report for the period ending June 30, 2005.

Because portions of the report contain sensitive and proprietary information, PECO Energy is filing two versions of the report, one public and one proprietary. PECO Energy requests that the proprietary report, which has been separated and clearly marked with a "Confidential and Proprietary" header on each page, be kept confidential, pursuant to commission procedures and pending final commission action on PECO's Petition for Protective Order filed on December 30, 2004. If you have any further questions regarding this matter, please call me at 215-841-5316.

Sincerely,



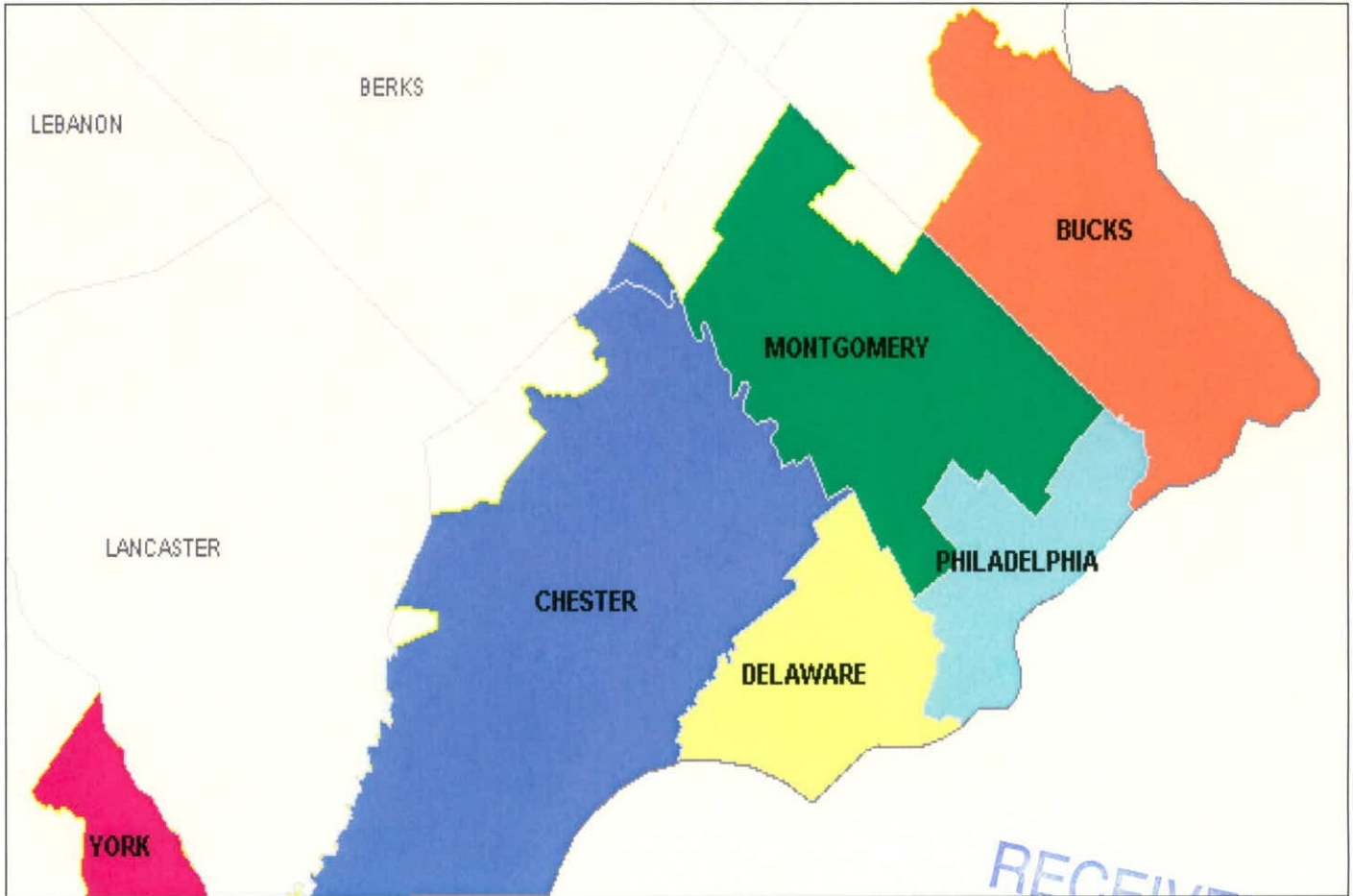
cc: Office of Consumer Advocate  
Office of Small Business Advocate

enclosures

WJP/mpb

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**PECO Energy Company  
Quarterly Reliability Report  
For Period Ending June 30, 2005**



**DOCUMENT  
FOLDER**

**August 1, 2005**

**DOCKETED**  
AUG 01 2005

**RECEIVED**  
JUL 29 2005  
PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**PECO Energy ("PECO")**  
**Quarterly Reliability Report for the Period Ending June 30, 2005**  
**filed with the Pennsylvania Public Utility Commission**

Submitted per Rulemaking Re: Amending Electric Service, Docket No. L-00030161 Reliability Regulations at 52 Pa.Code Chapter 57

**Section 57.195(e)(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".

PECO experienced no major events in the second quarter of 2005.

**Section 57.195(e)(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".

PECO Customers	Sustained Customer Interruptions	Sustained Customer Hours	Momentary Customer Interruptions	Sustained Customer Minutes	SAIFI	CAIDI	SAIDI	MAIFI
1,617,945	1,682,339	3,029,225	1,497,108	181,753,480	1.04	108	112	0.93

\*\*Data reflects 12 months ending 6/30/2005

PECO Benchmarks and Rolling 12-Month Standards				
	SAIFI	CAIDI	SAIDI	MAIFI
Benchmark	1.23	112	138	N/A
Rolling 12-Month Standard	1.48	134	198	N/A

SAIFI, CAIDI, and SAIDI are all better than the respective benchmarks and standards established on May 7, 2004. No benchmark or standard was established for MAIFI.

**Section 57.195(e)(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."

In 2004 PECO's selection criteria changed. PECO's worst performing 5% circuits for 2005 are selected based on rolled up customer interruptions – a count of all customer interruptions on a given circuit and on other circuits for which it is a source, due to outages on the given circuit in a 12 month period. This measure is oriented toward its contribution to system SAIFI.



**Section 57.195(e)(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."

12 Months Ending June 30, 2005					
Cause	Cases of Trouble	% Cases of Trouble	Customer* Interruptions	% Customer Interruptions	Customer Minutes
Animal Contact	658	6.3%	46,526	2.8%	2,687,813
Contact / Dig In	292	2.8%	24,462	1.5%	1,959,272
Equipment Failure	3,481	33.1%	579,547	34.4%	56,447,356
Lightning	775	7.4%	117,516	7.0%	16,131,326
Transmission / Substation	22	0.2%	48,141	2.9%	5,804,179
Vegetation - Broken / Uprooted	1,785	17.0%	374,440	22.3%	47,287,140
Vegetation - In-growth	1,123	10.7%	75,775	4.5%	10,919,045
Vehicles	318	3.0%	110,097	6.5%	7,443,383
Unknown	1,252	11.9%	181,872	10.8%	23,621,182
Other	795	7.6%	123,963	7.4%	9,452,783

\*The data supplied is the number of interrupted customers for each interruption event summed for all events, also known as customer interruptions. A customer interrupted by three separate trouble cases represents three customer interruptions, but only one customer interrupted.

The largest contributors to customer interruptions were equipment failure and tree-related interruptions. The leading groups within the equipment failure category were aerial equipment and underground equipment, with smaller contributions from substation equipment and customer-owned equipment. Most customer interruptions caused by trees came from broken branches, trunks or uprooted trees (83% of vegetation-related customer interruptions), while ingrowth accounted for 17%.

**Section 57.195(e)(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)."

Predictive and Preventive Maintenance Program – status as of June 30, 2005					
	2 <sup>nd</sup> Quarter Tasks		YTD Tasks		2005 Total Planned
	Planned	Complete	Planned	Complete	
Manhole Inspections	984	918	1,267	1,335	2,534
Circuit Patrol & Thermography	221	299	442	892	736
Recloser Inspections	124	118	124	131	209
Center City Network Inspections	124	140	316	384	318
T&S Maintenance	678	812	1,792	1,800	4,097
T&S Testing	237	201	474	615	948
Totals	2,368	2,488	4,415	5,157	8,842

Vegetation Management Preventive Maintenance Program – status as of June 30, 2005					
	2 <sup>nd</sup> Quarter Miles		YTD Miles		2005 Total Planned
	Planned	Complete	Planned	Complete	
Distribution Lift and Manual Trimming	774	770	1,538	1,542	2,737
Transmission Trimming and Removals	57	62	109	116	198
Totals	831	832	1,647	1,658	2,935

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ORIGINAL

Orange and Rockland Utilities, Inc.  
390 West Route 59  
Spring Valley NY 10977-5300  
www.oru.com

August 2, 2005

Pennsylvania Public Utility Commission  
P.O. Box 3265  
Harrisburg, PA 17105-3265

DOCUMENT  
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Attention: Secretary James J. McNulty

Re: Second Quarter 2005 Quarterly Report for Pike County Light and Power  
PUC Docket No. L-00030161; Rulemaking Re Amending Electric  
Service Reliability Regulations At 52 Pa. Code Chapter 57

Dear Secretary McNulty:

Pike County Light & Power Company ("Pike") hereby submits six copies of its Second Quarter 2005 quarterly report as set forth in the Pennsylvania Public Utility Commission's ("Commission, PUC") Docket No. L-00030161 adopted Rulemaking Re Amending Electric Service Reliability Regulations At 52 Pa. Code Chapter 57 ("Order"), and as per your letter dated September 8, 2003, clarifying the quarterly reporting requirement timeframes as set forth in Annex A at Section 57.195(d) of the Order.

As such, Pike's quarterly reporting requirements, as set forth in Section 57.195(e) (1) (2) and (5) of the Order, are enclosed.

Please contact me if you have any questions regarding this report or require any additional information.

Very truly yours,

Timothy T. Garvin  
Manager  
Performance & Operational Engineering  
Pike County Light and Power  
(Orange and Rockland Utilities, Inc.)

cc: Office of Consumer Advocate  
Office of Small Business Advocate

Enclosures

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

Quarterly Reliability Report

Second Quarter  
2005

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AUG 02 2005

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**§ 57.195. (e)(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.**

**2nd Quarter 2005  
Major Events**

Date	Time	Circuit	Cause	Duration	Customers Affected	Cust Min of Interruption
2005/04/02	22:01:00	L07-06-34	Storm	Various	266	308,399
2005/04/14	11:20:00	L07-06-34	Non-Comp Acc.	68 minutes	2,230	138,872
2005/05/02	20:42:00	104-03-13	Equip. Failure	32 minutes	820	26,240
2005/05/30	14:11:00	L07-06-34	Equip. Failure	1035 minutes	2,804	34,741
2005/06/10	13:09:00	L07-06-34	Non-Comp Acc.	273 minutes	2,804	738,697
2005/06/17	09:59:00	L07-06-34	Tree Contact	95 minutes	2,706	111,864
2005/06/22	18:08:00	L07-06-34	Tree Contact	95 minutes	2,232	381,583

**2nd Quarter 2005  
Pre-Arranged Outages**

Date	Time	Circuit	Cause	Duration	Customers Affected	Cust Min of Interruption
2005/04/20	09:40:00	05-10-34	Pre-Arranged	Various	328	27,450
2005/06/02	09:31:00	L07-06-34	Pre-Arranged	Various	150	6,967

§ 57.195. (e)(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.

**Interruption Data  
Rolling 12-Month Data**

<u>Year</u>	<u>Quarter</u>	<u>Customers Served Rolling 12 Mth</u>	<u>Number of Interruptions Rolling 12 Mth</u>	<u>Customers Affected Rolling 12 Mth</u>	<u>Customer Min of Interruptions Rolling 12 Mth</u>
2004	3rd Qtr	4,351	41	2,292	396,597
2004	4th Qtr	4,350	43	2,267	390,469
2005	1st Qtr	4,355	51	2,616	439,859
2005	2nd Qtr	4,360	62	3,475	446,686

**Performance Ratios  
Rolling 12-Month Data**

	<b>Frequency SAIFI</b>	<b>Restoration CAIDI (Min)</b>	<b>Duration SAIDI (Min)</b>
Benchmark	.39	178	69
Rolling 12 Mth Standard	.53	240	127

<b>Year</b>	<b>Qtr</b>	<b>Frequency SAIFI Rolling 12 Mth</b>	<b>Restoration CAIDI Rolling 12 Mth</b>	<b>Duration SAIDI Rolling 12 Mth</b>
2004	3rd Qtr	.53	173	91
2004	4th Qtr	.52	172	90
2005	1st Qtr	.60	168	101
2005	2nd Qtr	.80	129	102

§ 57.195. (e)(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.

**Second Quarter 2005  
Cause Analysis  
Rolling 12 Months Data  
\*Excludes Storms, Major Events, Pre-Arranged**

Cause	Number of Interr.	Number of Interr. Rolling 12 Mth. (%)	Customers Affected	Customers Affected Rolling 12 Mth. (%)	Customer Min. Interr.	Customer Min. Interr. Rolling 12 Mth. (%)
	Rolling 12 Mth.		Rolling 12 Mth.		Rolling 12 Mth.	
Animal Contact	2	3.2%	134	3.9%	7,533	1.7%
Tree Contact	28	45.2%	1,784	51.3%	210,811	47.2%
Overload	2	3.2%	157	4.5%	18,718	4.2%
Work Error	1	1.6%	73	2.1%	3,066	.7%
Equip. Failure	8	12.9%	321	9.2%	90,481	20.3%
Non-Comp Acc.	7	11.3%	390	11.2%	53,479	12.0%
Custmr Problem	0	.0%	0	.0%	0	.0%
Lightning	7	11.3%	256	7.4%	29,351	6.6%
Unknown-Other	7	11.3%	360	10.4%	33,247	7.4%
All Causes	62	100.0%	3,475	100.0%	446,686	100.0%



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August 2, 2005

**VIA FEDERAL EXPRESS**

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

RECEIVED

AUG 02 2005

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**Re: Second Quarter 2005 Reliability Report of Allegheny Power**

Dear Secretary McNulty:

L-00030161

Enclosed please find an original and six copies of the Second Quarter 2005 Reliability Report of Allegheny Power. This report is filed by Federal Express and is deemed filed today, August 2, 2005. Copies have been served on the Office of Consumer Advocate and the Office of Small Business Advocate.

Very truly yours,

*John L. Munsch*  
John L. Munsch  
Senior Attorney

cc: Thomas Sheets-PAPUC- Bureau of Audits

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FOLDER

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**Allegheny Power**  
**Quarterly Report for Second Quarter 2005**

This quarterly report is being submitted in accordance with Title 52. Public Utilities - Part I. Public Utility Commission -Subpart C. Fixed Services Utilities – Chapter 57. Electric Service Subchapter N. Electric Reliability Standards.

§ 57.195 (e) (2) *The name, title, telephone number and e-mail address of the persons who have knowledge of the matters, and can respond to inquiries, shall be included.*

James D. Cormack  
Manager, Distribution reliability  
(724) 838-6540  
JCORMAC@ALLEGHENYPOWER.COM

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AUG 02 2005

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

§ 57.195 (e) (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.*

- a. The following Major Events occurred during the second quarter of 2005. Note that these events are excluded based upon the proposed service-area-wide definition.
- b. Major events occurred on the following dates. A description of the events is attached as Appendix VI in form of final 'Distribution System Outage Reports' reports as previously issued to the Commission if applicable.
  - i. There were no Major Events in the second quarter.
- c. Allegheny Power's Restore Service Process Management Team constantly monitors the process and conducts post-event meetings in an attempt to enhance the restoration process for future events.
- d. Although not excluded from statistics, AP's Pennsylvania service territory experienced several minor events ('RS Events') in second quarter 2005 characterized by having received a severe weather alert accompanied by at least 5,000 Allegheny Power Company customers interrupted. The following summary indicates the extent of these RS Events affecting Pennsylvania customers:

# RS Events	# Customers Interrupted	Total CMI
21	160,285	44,203,914

**DOCKETED**  
AUG 03 2005

§ 57.195 (e) (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.*

- a. The following table provides Allegheny Power's Pennsylvania 12-month ending reliability statistics for month ending June 2005. MAIFI statistics are not recorded nor readily available at Allegheny Power. As disclosed in prior filings, sufficient field equipment is not available to provide meaningful data for momentary interruptions.

Zone	Incidents	Interrupted Customers	Avg Cust Served	kVA	Calls	CMI	SAIDI	ASAI	CAIDI	SAIFI
Pennsylvania	16260	749,064	691,387	7,459,518	113,521	147,840,913	214	0.999593	197	1.08

§ 57.195 (e) (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.*

- a. This report provides a listing of all of Allegheny Power's Pennsylvania circuits ranking in the lowest five percent as ranked by the Distribution Circuit Interruption Index (DCII). The data is ranked by DCII and includes all of the standard indices. The report is attached as Appendix I.
- b. Distribution Circuit Interruption Index is a composite index based on the SAIFI, CAIDI, SAIFI, and ASAI (see the description of the calculation of this index in Appendix V).

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

- a. Allegheny's current process for addressing poor performing circuits and line segments is outlined in the Reliability Improvement Program (RIP). The details of which have been previously submitted to the Commission staff. In summary, the RIP program addresses all circuits experiencing two or more lockouts as well as any other protective device experiencing three or more lockouts/operations. Field personnel review outages on these circuits or line segments and corrective action is taken as necessary to address any immediate reliability concerns.
- b. Remedial work for the 5% circuits is shown in Appendix II. Field personnel review these circuits quarterly. After the third quarter reporting is complete, outage causes are evaluated and action plans are developed for circuits requiring more comprehensive maintenance and these plans are incorporated in next year's budgets and work plans.

- c. AP has also continued a Reliability Improvement Initiative (RIPInit) for 2005 to review over-current protection on poor performing and high-density distribution circuits. This initiative focuses on installing additional sectionalizing equipment to reduce main line exposure and to minimize the number of customers impacted by forced interruptions. Many of these RIPInit circuits are also on the worst performing circuit list.
- d. AP has initiated a circuit improvement initiative whereby AP's recent 100 worst performing circuits are identified, studied, and targeted for further possible improvements based on the review of outage causes. Approximately one-third of these circuits are Pennsylvania circuits.

§ 57.195 (e) (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.

- a. A summary of outage causes by customers interrupted and by customer minutes interrupted follows.
- b. Note that 73% of all customer interruptions are caused by non-equipment-related causes. Also note that 97% of customers interrupted by trees are a result of trees falling from outside of the right-of-way.
- c. AP's definition of tree-related outages includes those cases where trees have fallen as a result of severe weather conditions.
- d. 'Weather' definition includes weather-related outages involving lightning damage, severe snow/ice loading, extreme wind, flooding, etc. and **does not** include tree-related outages.

Outage Cause	Customers Interrupted 12 Month ending June 2005		Customers Minutes Interrupted 12 Month ending June 2005	
	Number	Percent	Number	Percent
<b>Animals</b>	33,596	4.5%	3,673,461	2.5%
<b>Overhead Equipment Failure</b>				
Overhead Line Equipment	29,685	4.0%	4,767,823	3.2%
Overhead Line Material	84,780	11.3%	11,545,954	7.8%
Overhead Wire	50,179	6.7%	7,520,730	5.1%
<b>Underground Equipment</b>				
Underground Line Material	1,425	0.2%	333,625	0.2%
Underground Line Equipment	1,772	0.2%	594,251	0.4%
Underground Cable	12,200	1.6%	3,233,125	2.2%
<b>Service Equipment</b>	61	0.0%	12,310	0.0%
<b>Substation Equipment</b>	20,746	2.8%	3,201,194	2.2%
<b>Other</b>	16,718	2.2%	1,150,102	0.8%
<b>Public/Customer</b>	138,995	18.6%	24,017,036	16.2%
<b>Trees</b>				
On Right of Way	7,216	1.0%	1,437,555	1.0%
Off Right of Way	198,792	26.5%	53,413,493	36.1%
<b>Unknown</b>	50,004	6.7%	6,605,333	4.5%
<b>Weather</b>	102,895	13.7%	26,334,921	17.8%
<b>Total</b>	749,064	100%	147,840,913	100%

*§ 57.195 (e) (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).*

- a. A report attached as Appendix III provides a listing of updates to the planned Ensure Reliable Service work for 2005.
- b. AP's goals may vary slightly throughout the year as work may be modified to meet new or changing field conditions. Some work has more inherent uncertainty associated with establishing budgets and goals more than a year ahead of time.

*§ 57.195 (e) (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.)*

- a. Please note that AP's financial expenditure reporting system is based on a hierarchical view of the company. Cost categories may change as individual groups are sometimes realigned but the total T&D O&M expenditures will remain consistent.

Category	2005 Q1 Budget (\$1,000)	2005 Q1 Actual (\$1,000)	2005 Q2 YTD Budget (\$1,000)	2005 Q2 YTD Actual (\$1,000)
D istribution DEPT	0.0	0.0	0.0	0.0
Distribution Support DEPT	883.4	791.7	1,847.9	1,784.8
Field Operations DEPT	4,556.1	5,054.4	8,986.7	10,540.8
Forestry DEPT	3,701.5	2,423.3	7,964.1	5,743.4
Transportation DEPT	1.6	16.6	3.3	19.4
Distribution Subtotal	9,142.7	8,285.9	18,802.0	18,088.4
System Planning DEPT	182.7	214.5	330.3	423.6
Substations DEPT	1,603.4	1,745.3	3,451.1	3,334.5
System Operations DEPT	1,261.5	1,161.9	2,683.6	2,319.6
Technical Services DEPT	702.6	789.0	1,381.3	1,524.4
Transmission Other DEPT	74.5	-67.8	147.7	-109.5
Transmission Engineering	690.1	569.7	1,374.0	1,229.7
Transmission Projects DEPT	72.3	153.0	185.5	298.3
Transmission Subtotal	4,587.0	4,565.7	9,553.3	9,020.3
Total T&D O&M	13,729.7	12,851.6	28,355.3	27,108.9

*§ 57.195 (e) (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.)*

Equipment Category	Q1 Budget	Q1 Actual	Q2 Budget YTD	Q2 Actual YTD
Distribution Lines	\$ 9,585	\$ 10,943	\$ 19,170	\$ 22,018
Distribution Substation	\$ 976	\$ 1,680	\$ 1,952	\$ 4,044
EHV Lines	\$ -	\$ -	\$ -	\$ 30
EHV Substation	\$ -	\$ 27	\$ -	\$ 44
General Plant	\$ 1,700	\$ 1,084	\$ 3,399	\$ 2,536
Sub-transmission Line	\$ 157	\$ 168	\$ 313	\$ (502)
Subtotal Distribution	\$ 12,417	\$ 13,902	\$ 24,833	\$ 28,170
				\$ -
Transmission Substation	\$ 976	\$ 660	\$ 1,951	\$ 1,051
Transmission Line	\$ 505	\$ 738	\$ 1,010	\$ 1,107
Subtotal Transmission	\$ 1,480	\$ 1,398	\$ 2,961	\$ 2,158
				\$ -
Total T&D	\$ 13,897	\$ 15,300	\$ 27,794	\$ 30,328

§ 57.195 (e) (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).

Position Name	Count
Lead Lineman	113
Lineman A	68
Lineman B	1
Lineman C	2
SS Crew Leader Construction	1
SS Crew Leader Maintenance	14
SS Electrician A	34
SS Electrician Apprentice	8
SS Electrician B	3
SS Electrician C	4
Serviceman A	89
Serviceman Apprentice	11
Serviceman B	3
Utilitymen A	8
Utilitymen B	2
Total	361

§ 57.195 (e) (10) Quarterly and year-to-date information on contractor hours and dollars for transmission and distribution operation and maintenance.

a. Contract dollars include capital as well as O&M work as available from AP financial reporting system. Note that much of AP's contracted work involves firm price contracts for which no man-hours are documented.

Quarter	Contract Dollars - Qtr	Contract Dollars - YTD
1 <sup>st</sup> qtr	\$3,994,406	\$3,994,406
2 <sup>nd</sup> qtr	\$4,558,183	\$8,552,589

*§ 57.195 (e) (11) Monthly call-out acceptance rate for transmission and distribution maintenance workers PRESENTED IN TERMS OF BOTH THE PERCENTAGE OF ACCEPTED CALL-OUTS AND THE AMOUNT OF TIME IT TAKES THE EDC TO OBTAIN THE NECESSARY PERSONNEL. A BRIEF DESCRIPTION OF THE EDC'S CALL-OUT PROCEDURE SHOULD BE INCLUDED WHEN APPROPRIATE.*

- a. Attached as Appendix IV is a report indicating call out acceptance for the each service center in AP Pennsylvania service territory.
- b. The monthly call-out acceptance rate does not include statistics for crewmembers who are assigned ready-response duties, where applicable.
- c. Allegheny Power implemented its Automated Resource Call Out System (ARCOS) on June 10, 2005. This system will provide the capability to report the amount of time to obtain necessary personnel. Because the system was implemented at the end of the most-recent quarter (as previously indicated to the Commission), the company does not have any meaningful data to report for this quarterly report. Allegheny Power was issued a waiver for this reporting requirement. (Please note: The approved waiver mentions both '*Allegheny's request for waiver is for the quarterly reports for the reporting periods through and including the second quarter of 2005*', and '*Allegheny's request for temporary waiver is granted until the report is due for the second quarter of 2005...*'). Allegheny Power will have a full quarter of meaningful data to report for the third quarter report due November 1, 2005.

### Appendix I – 5% Distribution Circuit Statistics

SCName	SSName	CktName	CustServed	DCII	SAIFI	SAIDI	CAIDI	ASAI	CMI	CustIntrup	CircuitLockouts	Incidents
Arnold	MATEER	DIME RD	1170	69	1.59	267	168	0.9995	311,490	1,854	1	79
Arnold	MATEER	SOUTH BEND	1192	55	1.51	468	309	0.9991	557,630	1,803	-	81
Arnold	MURRYSVILLE	RUBRIGHT	746	78	1.50	132	88	0.9997	97,949	1,117	1	21
Arnold	MURRYSVILLE	WALLACE LANE	957	66	2.58	225	87	0.9996	215,370	2,464	1	29
Arnold	TUNNELTON	TUNNELTON_DIST	96	41	1.00	602	602	0.9989	57,770	96	1	1
Butler	BRANCHTON	FORESTVILLE	1121	82	1.26	96	76	0.9998	107,363	1,407	1	15
Butler	BUTLER	CENTER AVE	1676	74	1.14	210	183	0.9996	350,280	1,913	-	40
Butler	HERMAN	HERMAN	796	44	2.38	628	264	0.9988	499,707	1,891	1	30
Butler	HILLIARDS	HILLIARDS	889	72	0.83	231	277	0.9996	204,795	738	-	26
Butler	PARKER	PARKER	993	82	1.20	102	85	0.9998	101,130	1,186	1	15
Butler	SAXONBURG	BUTLER RD	758	28	2.31	906	393	0.9983	685,426	1,746	2	12
Butler	SHERWIN	WEST SUNBURY	777	62	2.52	298	119	0.9994	232,371	1,957	1	23
Charleroi	CHARLEROI	N. CHARLEROI	1141	49	2.29	543	236	0.9990	617,648	2,612	2	24
Charleroi	SMITHTON	HUTCHINSON	859	68	2.10	245	117	0.9995	210,262	1,798	-	26
Charleroi	WESTRAVER	WEST NEWTON	1730	69	1.60	265	165	0.9995	456,998	2,774	1	40
Clanton	NEW BETHLEHEM	CLIMAX	1113	43	2.64	625	236	0.9988	693,188	2,933	1	49
Clanton	SLIGO	REIDSBURG	662	16	4.73	926	194	0.9982	608,290	3,131	3	38
Clanton	SLIGO	SLIGO	488	-	4.85	1,261	260	0.9976	616,246	2,367	3	28
Clanton	WIDNOON	TIDAL	325	65	1.26	332	263	0.9994	107,821	410	-	13
Jeannette	HUNTINGDON	SCOTCH HILL	751	31	2.97	828	278	0.9984	621,174	2,231	1	35
Jeannette	LEVELGREEN	COWTOWN	1341	81	1.35	109	81	0.9998	145,581	1,803	1	13
Jeannette	MURRYCREST	SARDIS ROAD	1280	80	0.38	104	271	0.9998	132,936	490	-	27
Jeannette	ROBBINS	BRADDOCKS TRAIL	1300	(3)	6.20	1,139	183	0.9978	1,476,858	8,053	4	43
Jeannette	WHITE VALLEY	BORLANDS RD	642	83	1.36	78	57	0.9999	49,775	872	1	21
Jefferson	BRAVE	SPRAGG	666	70	0.58	214	370	0.9996	141,628	383	-	18
Jefferson	FRANKLIN	ROGERSVILLE	849	24	3.00	964	322	0.9982	817,611	2,541	1	40
Jefferson	MARIANNA	TEN MILE	333	25	0.94	777	830	0.9985	258,841	312	-	45
Jefferson	RUTAN	BRISTORIA	1144	-	4.50	1,303	290	0.9975	1,489,309	5,140	-	78
Kittanning	TROY HILL	IRON BRIDGE	635	87	0.59	73	123	0.9999	46,349	376	-	13
Latrobe	STAHLSTOWN	KREAGER	276	75	1.02	194	190	0.9996	53,498	281	1	3
Latrobe	STAHLSTOWN	MANSVILLE	483	71	1.12	246	220	0.9995	118,390	539	1	8
Latrobe	STAHLSTOWN	ROUTE 711 NORTH	269	48	1.63	586	360	0.9989	157,638	438	1	7
Latrobe	STAHLSTOWN	ROUTE 711 SOUTH	403	72	1.18	233	197	0.9996	93,480	474	1	14
McConnellsburg	WARFORDSBURG	SUCK VALLEY	765	83	0.64	109	170	0.9998	83,164	489	-	37
McConnellsburg	WHITETAIL	RESORT	275	46	2.50	595	238	0.9989	163,524	688	-	22
McDonald	PARIS	PARIS	767	73	0.63	201	318	0.9996	154,179	485	-	15
McDonald	SMITH	FLORENCE	761	52	1.68	526	314	0.9990	400,132	1,275	-	37
State College	WATERVILLE	WATERVILLE	338	(27)	7.29	1,504	206	0.9971	507,864	2,461	-	23
Uniontown	LAKE LYNN	FANCY HILL	939	88	0.11	23	213	1.0000	21,696	102	-	23
Uniontown	MERRITTSTOWN	REPUBLIC	1690	43	1.37	640	467	0.9988	1,082,470	2,320	-	32
Washington	AMITY	AMITY	302	21	3.52	971	275	0.9982	486,327	1,766	2	44
Washington	LAGONDA	CLUB FORTY	885	91	0.43	40	94	0.9999	35,593	380	-	15
Waynesboro	CHAMBERS 5	EAST	6	75	1.00	197	197	0.9996	1,179	6	1	1

Note: The Stahlstown circuit was split into the Kreager/Mansville/Route 11 North and Route 11 South circuits.

## Appendix II – 5% Distribution Circuit Remedial Actions

SCName	SSName	CktName	2004 RIPInit	2005 RIPInit	Actions Taken or Planned	Status
Arnold	MATEER	DIME RD	63	-	Trees trimmed and sectionalizers added in 2004.	Installation complete. Monitor results.
Arnold	MATEER	SOUTH BEND	24	-	Trees trimmed and sectionalizers added in 2004.	Installation complete. Monitor results.
Arnold	MURRYSVILLE	RUBRIGHT	-	15	Sectionalizers planned for addition in 2005.	Engineering complete.
Arnold	MURRYSVILLE	WALLACE LANE	-	12	Sectionalizers planned for addition in 2005.	Engineering complete.
Arnold	TUNNELTON	TUNNELTON_DIST	-	-	Fuse added to tap to isolate customer-caused outages.	Monitor results.
Butler	BRANCHTON	FORESTMILLE	-	55	Sectionalizers planned for addition in 2005. Tree trimming planned in 2005.	Complete work in 3rd qtr.
Butler	BUTLER	CENTER AVE	43	-	Trees trimmed and sectionalizers added in 2004.	Installation complete. Monitor results.
Butler	HERMAN	HERMAN	50	-	Trees trimmed and sectionalizers added in 2004.	Installation complete. Monitor results.
Butler	HILLIARDS	HILLIARDS	-	43	Sectionalizers planned for addition in 2005. Review for possible substation automation.	Complete RIPInit work in 3rd qtr.
Butler	PARKER	PARKER	-	43	Sectionalizers planned for addition in 2005.	Engineering complete.
Butler	SAXONBURG	BUTLER RD	-	22	Sectionalizers planned for addition in 2005.	Engineering complete.
Butler	SHERWIN	WEST SUNBURY	-	-	Inspect line. Complete any noted work by 12/1/05.	Plan work.
Charleroi	CHARLEROI	N. CHARLEROI	21	-	Sectionalizers added in 2004. Tree trimming planned for 2005.	Installation complete. Monitor results.
Charleroi	SMITHTON	HUTCHINSON	22	-	Sectionalizers added in 2004. Tree trimming planned for 2005.	Installation complete. Monitor results.
Charleroi	WESTRAVER	WEST NEWTON	21	-	Sectionalizers added in 2004. Tree trimming planned for 2005.	Installation complete. Monitor results.
Clarion	NEW BETHLEHEM	CLIMAX	32	-	Trees trimmed and sectionalizers added in 2004.	Installation complete. Monitor results.
Clarion	SUGO	REIDSBURG	-	45	Sectionalizers and tree trimming planned for addition in 2005. Install automated 25kV transfer switch at substation.	Plan work.
Clarion	SUGO	SUGO	-	-	Install automated 25kV transfer switch at substation by 12/1/05. Tree trimming planned in 2006.	Plan work.
Clarion	WIDNOON	TIDAL	-	7	Sectionalizers and tree trimming planned for addition in 2005.	Engineering complete.
Jeannette	HUNTINGDON	SCOTCH HILL	-	7	Sectionalizers planned for addition in 2005. Tree trimming planned in 2006.	Engineering complete.
Jeannette	LEVELGREEN	COWTOWN	-	17	Trees trimmed in 2004. Sectionalizers planned for 2005.	Engineering complete.
Jeannette	MURRYCREST	SARDIS ROAD	-	4	Trees trimmed in 2004. Sectionalizers planned for 2005.	Engineering complete.
Jeannette	ROBBINS	BRADDOCKS TRAIL	5	-	Sectionalizers added in 2004. Plan for a portion of underground replacement. Trim trees in 2006.	Installation complete. Monitor results.
Jeannette	WHITE VALLEY	BORLANDS RD	4	-	Sectionalizers added in 2004. Tie point added to another circuit to pick up customers during outages.	Installation complete. Monitor results.
Jefferson	BRAVE	SPRAGG	-	-	High winds caused circuit outage (70% of CMI) in Nov. 2003. Tree trimming planned in 2006.	Work complete. Circuit now off 5% list.
Jefferson	FRANKLIN	ROGERSVILLE	-	14	Sectionalizers planned for addition in 2005. Tree trimming planned in 2005.	Engineering complete.
Jefferson	MARIANNA	TEN MILE	-	12	Sectionalizers planned for addition in 2005.	Engineering complete for work.
Jefferson	RUTAN	BRISTORIA	19	-	Sectionalizers added in 2004. Trees trimmed in 2004.	Installation complete. Monitor results.
Kittanning	TROY HILL	IRON BRIDGE	11	-	Sectionalizers added in 2004.	Installation complete. Monitor results.
Latrobe	STAHLSTOWN	STAHLSTOWN	2	-	Sectionalizers added in 2004.	Installation complete. Monitor results.
McConnellsburg	WARFORDSBURG	BUCK VALLEY	-	3	Sectionalizers planned for addition in 2005.	Engineering complete.
McConnellsburg	WHITETAIL	RESORT	-	-	Repairs made for conductor slap problem. Tree trimming planned in 2006.	Work complete. Circuit now off 5% list.
McDonald	PARIS	PARIS	10	-	Sectionalizers added in 2004.	Installation complete. Monitor results.
McDonald	SMITH	FLORENCE	-	22	Sectionalizers planned for addition in 2005.	Engineering complete.
State College	WATERVILLE	WATERVILLE	-	3	Sectionalizers planned for addition in 2005.	Engineering complete.
Uniontown	LAKE LYNN	FANCY HILL	-	-	2004 outages were due to a severs thunderstorm. Recloser replaced due to miscoordination. Tree trimming in 2006.	2005 work complete.
Uniontown	MERRITTSTOWN	REPUBLIC	19	-	Sectionalizers added in 2004. Tree trimming planned for 2005.	Installation complete. Monitor results.
Washington	AMITY	AMITY	-	10	Sectionalizers planned for addition in 2005. Tree trimming planned in 2005.	Engineering complete.
Washington	LAGONDA	CLUB FORTY	12	-	Trees trimmed and sectionalizers added in 2004.	Monitor results.
Waynesboro	CHAMBERS 5	EAST	-	-	Circuit inspected in 2004 (mostly underground). Faulty MOV lightning arrester found as cause of outages.	Monitor results.



### Appendix III – Goals Progress

2005 Goals - Pennsylvania - Complete Planned ERS Work				
Second Quarter Results				
ERS Program/Project	Unit of Measurement	Target for 2005	Actual Completed	% Completed
Transmission Herbicide Application	# Transmission Lines	20	2	10%
Transmission Lines Trimming and Clearing	# Transmission Lines	36	9	25%
Subtransmission Herbicide Application	# of Subtransmission Lines	48	17	35%
Subtransmission Line Trimming and Clearing	# of Subtransmission Lines	53	36	68%
Distribution Line Trimming, Clearing & Herbicide Applic.	# of Distribution Line Miles	6,283	3,576	57%
Major ERS SS Projects	# Projects	16	5	28%
Major ERS Lines Projects	# Projects	4	3.4	84%
Transmission Comprehensive Patrol	# Transmission Lines	29	29	100%
Transmission General Patrol	# Transmission Lines	120	36	30%
Ground & Footer Inspections	# Transmission Lines	33	6	18%
Pole Inspection	# Poles	38	19	50%
Pole Replacements	# Poles	2	1	50%
Non-Critical Transmission Repairs	# Non-Critical Items	16	5	31%
Subtransmission General Patrol	# Subtransmission Lines	325	28	9%
SS Work (Includes Capital, Planned, & Preventative)	Man-Hours	71,740	28,122	39%
SS Spraying	Man-Hours	2,400	2,692	112%
Controls Work (Includes Cap., Planned, & Preventative)	Man-Hours	5,209	2,108	40%
Individual ERS Budget Projects	Man-Hours	10,657	4,217	40%
Small Planning Projects	Man-Hours	25,374	12,171	48%
Pole Inspection	# of Circuits	68	44	65%
Pole Reinforcement	# Poles	64	0	0%
Danger Poles	# Danger Poles	52	27	52%
Reject Poles	# Reject Poles	187	130	70%
AIM Work	Points Completed	1,258	854	68%
RIP Program	Manhours	44,767	47,442	106%
UG Equipment Inspections	# Locations	7,171	5,687	79%
Recloser Inspections	# Reclosers	3,555	3,001	84%
Regulator Inspections	# Regulators	270	175	65%
Capacitors Inspections	# Capacitors	1,300	1,145	88%
Recloser Replacements	# Reclosers	255	79	31%
UGD Cable Replacement	# Feet	89,000	63,879	72%
Cable Injection	# Feet	19,000	5,930	31%

8/1/2005

## Appendix IV – Callout Acceptance

Allegheny Power 2006															
Linemen															
Service Center	Jan, Feb, Mar			Apr, May, Jun			Jul, Aug, Sep			Oct, Nov, Dec			YTD		
	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average
Arnold	705	174	25%	1272	211	17%	0	0		0	0		1977	385	19%
Boyce	286	128	45%	612	180	29%	0	0		0	0		898	308	34%
Buller	527	223	42%	920	282	31%	0	0		0	0		1447	505	35%
Charlora	244	103	42%	648	177	27%	0	0		0	0		892	280	31%
Clorton	73	32	44%	114	42	37%	0	0		0	0		187	74	40%
Jeannette	1067	161	15%	1570	196	12%	0	0		0	0		2637	357	14%
Jefferson	325	83	26%	459	117	26%	0	0		0	0		784	200	26%
Kittanning	109	60	55%	165	71	43%	0	0		0	0		274	131	48%
Latrobe	298	125	42%	511	172	34%	0	0		0	0		809	297	37%
McConnellsburg	129	72	56%	124	72	58%	0	0		0	0		253	144	57%
McDonnell	111	20	18%	352	76	22%	0	0		0	0		463	96	21%
Pleasant Valley	289	119	41%	352	129	37%	0	0		0	0		641	248	39%
St. Mary's	138	85	62%	267	144	54%	0	0		0	0		405	229	57%
State College	472	153	32%	782	224	29%	0	0		0	0		1254	377	30%
Uniontown	506	151	30%	431	148	34%	0	0		0	0		937	299	32%
Washington	460	115	25%	787	147	19%	0	0		0	0		1247	262	21%
Waynesboro	415	114	27%	872	178	20%	0	0		0	0		1287	292	23%
<b>Total AP Average</b>	<b>6154</b>	<b>1918</b>	<b>31%</b>	<b>10238</b>	<b>2566</b>	<b>25%</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>		<b>16392</b>	<b>4484</b>	<b>27%</b>
Electricians															
Service Center	Jan, Feb, Mar			Apr, May, Jun			Jul, Aug, Sep			Oct, Nov, Dec			YTD		
	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average
Arnold	40	25	63%	28	18	64%	0	0		0	0		68	43	63%
Boyce	8	7	88%	2	2	100%	0	0		0	0		10	9	90%
Buller	24	14	58%	31	21	68%	0	0		0	0		55	35	64%
Charlora	20	12	60%	13	7	54%	0	0		0	0		33	19	58%
Jeannette	17	4	24%	7	3	43%	0	0		0	0		24	7	29%
Jefferson	45	19	42%	2	2	100%	0	0		0	0		47	21	45%
Kittanning	7	7	100%	7	4	57%	0	0		0	0		14	11	79%
Latrobe	20	7	35%	18	6	33%	0	0		0	0		38	13	34%
Pleasant Valley	39	8	21%	4	1	25%	0	0		0	0		43	9	21%
St. Mary's	13	6	46%	7	6	86%	0	0		0	0		20	12	60%
State College	0	0		0	0		0	0		0	0		0	0	
Washington	16	3	19%	6	2	33%	0	0		0	0		22	5	23%
Waynesboro	28	13	46%	33	14	42%	0	0		0	0		61	27	44%
<b>Total AP Average</b>	<b>277</b>	<b>125</b>	<b>45%</b>	<b>158</b>	<b>86</b>	<b>54%</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>		<b>435</b>	<b>211</b>	<b>49%</b>
<b>Total Combined AP Average</b>	<b>6431</b>	<b>2043</b>	<b>32%</b>	<b>10396</b>	<b>2552</b>	<b>25%</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>		<b>16827</b>	<b>4695</b>	<b>28%</b>

### Appendix V – Sample DCII Calculation

AP calculates the DCII to provide a single index for ranking circuits. The DCII compares the SAIFI, SAIDI, CAIDI and ASAI for each circuit to the 5-year system averages of each index and combines them into a single index. An example of this calculation is shown below:

<u>Index</u>	<u>System Average</u>	<u>Sample Circuit</u> <u>Index</u>
SAIFI	0.66	2.32
SAIDI	181.95	258.8
CAIDI	275.71	176.23
ASAI	0.999654	0.999769

- 1) The SAIFI, SAIDI and CAIDI are compared to the system average indexes.

$$\begin{aligned} \text{Actual SAIFI / System Average SAIFI} &= 2.32 / 0.66 = 3.52 \\ \text{Actual SAIDI / System Average SAIDI} &= 258.8 / 181.95 = 1.42 \\ \text{Actual CAIDI / System Average CAIDI} &= 176.23 / 275.71 = 0.64 \end{aligned}$$

- 2) To permit the average to equal 70 percent this ratio is then inversely proportioned:

$$SF = 1 - (0.3 \times (\text{Actual SAIFI} / \text{Average SAIFI})) = 1 - (0.3 \times 3.52) = -0.0560$$

$$SD = 1 - (0.3 \times (\text{Actual SAIDI} / \text{Average SAIDI})) = 1 - (0.3 \times 1.42) = 0.5740$$

$$CD = 1 - (0.3 \times (\text{Actual CAIDI} / \text{Average CAIDI})) = 1 - (0.3 \times 0.64) = 0.8080$$

- 3) The sum of the values is then divided by 3 to assign each index an equal weight in the calculation.

$$(SF + SD + CD) / 3 = (-0.0560 + 0.5740 + 0.8080) / 3 = 0.4420$$

- 4) The Actual ASAI is then multiplied directly to this value to get the interruption factor which when multiplied by 100 provides the DCII.

$$((SF + SD + CD) / 3) \times ASAI \times 100 = DCII = 0.4420 \times 0.999769 \times 100 = 44.19$$

## **Appendix VI – Major Event Descriptions**

Commission reports for the following major events are presented on the pages following this appendix:

- i. There were no Major Events in the second quarter.

### Appendix I – 5% Distribution Circuit Statistics

SCName	SSName	CktName	CustServed	DCI	SAIFI	SAIDI	CAIDI	ASAI	CMI	CustIntrup	CircuitLockouts	Incidents
Arnold	MATEER	DIME RD	1170	69	1.59	267	168	0.9995	311,490	1,854	1	79
Arnold	MATEER	SOUTH BEND	1192	55	1.51	468	309	0.9991	557,630	1,803	-	81
Arnold	MURRYSVILLE	RUBRIGHT	746	78	1.50	132	88	0.9997	97,949	1,117	1	21
Arnold	MURRYSVILLE	WALLACE LANE	957	66	2.58	225	87	0.9996	215,370	2,464	1	29
Arnold	TUNNELTON	TUNNELTON_DIST	96	41	1.00	602	602	0.9989	57,770	96	1	1
Butler	BRANCHTON	FORESTVILLE	1121	82	1.26	96	76	0.9998	107,363	1,407	1	15
Butler	BUTLER	CENTER AVE	1676	74	1.14	210	183	0.9996	350,380	1,913	-	40
Butler	HERMAN	HERMAN	796	44	2.38	628	264	0.9988	499,707	1,891	1	30
Butler	HILLIARDS	HILLIARDS	889	72	0.83	231	277	0.9996	204,795	738	-	26
Butler	PARKER	PARKER	993	82	1.20	102	85	0.9998	101,130	1,186	1	15
Butler	SAXONBURG	BUTLER RD	758	28	2.31	906	393	0.9983	685,426	1,746	2	12
Butler	SHERWIN	WEST SUNBURY	777	62	2.52	298	119	0.9994	232,371	1,957	1	23
Charleroi	CHARLEROI	N. CHARLEROI	1141	49	2.29	543	236	0.9990	617,648	2,612	2	24
Charleroi	SMITHTON	HUTCHINSON	859	68	2.10	245	117	0.9995	210,262	1,798	-	26
Charleroi	WESTRAVER	WEST NEWTON	1730	69	1.60	265	165	0.9995	456,998	2,774	1	40
Clarion	NEW BETHLEHEM	CLIMAX	1113	43	2.64	625	236	0.9988	693,188	2,933	1	49
Clarion	SLIGO	REDSBURG	662	16	4.73	926	194	0.9982	608,290	3,131	3	38
Clarion	SLIGO	SLIGO	488	-	4.85	1,261	260	0.9976	616,246	2,367	3	28
Clarion	WIDNOON	TIDAL	325	65	1.26	332	263	0.9994	107,821	410	-	13
Jeannette	HUNTINGDON	SCOTCH HILL	751	31	2.97	828	278	0.9984	621,174	2,231	1	35
Jeannette	LEVELGREEN	COWTOWN	1341	81	1.35	109	81	0.9998	145,581	1,803	1	13
Jeannette	MURRYCREST	SARDIS ROAD	1280	80	0.38	104	271	0.9998	132,936	490	-	27
Jeannette	ROBBINS	BRADDOCKS TRAIL	1300	(3)	6.20	1,139	183	0.9978	1,476,858	8,053	4	43
Jeannette	WHITE VALLEY	BORLANDS RD	642	83	1.36	78	57	0.9999	49,775	872	1	21
Jefferson	BRAVE	SPRAGG	666	70	0.58	214	370	0.9996	141,628	383	-	18
Jefferson	FRANKLIN	ROGERSVILLE	849	24	3.00	964	322	0.9982	817,611	2,541	1	40
Jefferson	MARIANNA	TEN MILE	333	25	0.94	777	830	0.9985	258,841	312	-	45
Jefferson	RUTAN	BRISTORIA	1144	-	4.50	1,303	290	0.9975	1,489,309	5,140	-	78
Kittanning	TROY HILL	IRON BRIDGE	635	87	0.59	73	123	0.9999	46,349	376	-	13
Latrobe	STAHLSTOWN	KREAGER	276	75	1.02	194	190	0.9996	53,498	281	1	3
Latrobe	STAHLSTOWN	MANSVILLE	483	71	1.12	246	220	0.9995	118,390	539	1	8
Latrobe	STAHLSTOWN	ROUTE 711 NORTH	269	48	1.63	586	360	0.9989	157,638	438	1	7
Latrobe	STAHLSTOWN	ROUTE 711 SOUTH	403	72	1.18	233	197	0.9996	93,480	474	1	14
McConnellsburg	WARFORDSBURG	BUCK VALLEY	765	83	0.64	109	170	0.9998	83,164	489	-	37
McConnellsburg	WHITETAIL	RESORT	275	46	2.50	595	238	0.9989	163,524	688	-	22
McDonald	PARIS	PARIS	767	73	0.63	201	318	0.9996	154,179	485	-	15
McDonald	SMITH	FLORENCE	761	52	1.68	526	314	0.9990	400,132	1,275	-	37
State College	WATERVILLE	WATERVILLE	338	(27)	7.29	1,504	206	0.9971	507,864	2,461	-	23
Uniontown	LAKE LYNN	FANCY HILL	939	88	0.11	23	213	1.0000	21,696	102	-	23
Uniontown	MERRITTSTOWN	REPUBLIC	1690	43	1.37	640	467	0.9988	1,082,470	2,320	-	32
Washington	AMITY	AMITY	502	21	3.52	971	275	0.9982	486,327	1,766	2	44
Washington	LAGONDA	CLUB FORTY	885	91	0.43	40	94	0.9999	35,593	380	-	15
Waynesboro	CHAMBERS 5	EAST	6	75	1.00	197	197	0.9996	1,179	6	1	1

Note: The Stahlstown circuit was split into the Kreager/Mansville/Route 11 North and Route 11 South circuits.

## Appendix II – 5% Distribution Circuit Remedial Actions

SCName	SSName	CktName	2004 RIPinit	2005 RIPinit	Actions Taken or Planned	Status
Arnold	MATEER	DIME RD	63	-	Trees trimmed and sectionalizers added in 2004.	Installation complete. Monitor results.
Arnold	MATEER	SOUTH BEND	24	-	Trees trimmed and sectionalizers added in 2004.	Installation complete. Monitor results.
Arnold	MURRYSVILLE	RUBRIGHT	-	15	Sectionalizers planned for addition in 2005.	Engineering complete.
Arnold	MURRYSVILLE	WALLACE LANE	-	12	Sectionalizers planned for addition in 2005.	Engineering complete.
Arnold	TUNNELTON	TUNNELTON DIST	-	-	Fuse added to tap to isolate customer-caused outages.	Monitor results.
Butler	BRANCHTON	FORESTVILLE	-	55	Sectionalizers planned for addition in 2005. Tree trimming planned in 2005.	Complete work in 3rd qtr.
Butler	BUTLER	CENTER AVE	43	-	Trees trimmed and sectionalizers added in 2004.	Installation complete. Monitor results.
Butler	HERMAN	HERMAN	50	-	Trees trimmed and sectionalizers added in 2004.	Installation complete. Monitor results.
Butler	HILLIARDS	HILLIARDS	-	43	Sectionalizers planned for addition in 2005. Review for possible substation automation.	Complete RIPinit work in 3rd qtr.
Butler	PARKER	PARKER	-	43	Sectionalizers planned for addition in 2005.	Engineering complete.
Butler	SAXONBURG	BUTLER RD	-	22	Sectionalizers planned for addition in 2005.	Engineering complete.
Butler	SHERWIN	WEST SUNBURY	-	-	Inspect line. Complete any noted work by 12/1/05.	Plan work.
Charleroi	CHARLEROI	N. CHARLEROI	21	-	Sectionalizers added in 2004. Tree trimming planned for 2005.	Installation complete. Monitor results.
Charleroi	SMITHTON	HUTCHINSON	22	-	Sectionalizers added in 2004. Tree trimming planned for 2005.	Installation complete. Monitor results.
Charleroi	WESTRAVER	WEST NEWTON	21	-	Sectionalizers added in 2004. Tree trimming planned for 2005.	Installation complete. Monitor results.
Clanton	NEW BETHLEHEM	CUMAX	32	-	Trees trimmed and sectionalizers added in 2004.	Installation complete. Monitor results.
Clanton	SLIGO	REIDSBURG	-	45	Sectionalizers and tree trimming planned for addition in 2005. Install automated 25kV transfer switch at substation.	Plan work.
Clanton	SLIGO	SLIGO	-	-	Install automated 25kV transfer switch at substation by 12/1/05. Tree trimming planned in 2006.	Plan work.
Clanton	WIDNOON	TIDAL	-	7	Sectionalizers and tree trimming planned for addition in 2005.	Engineering complete.
Jeannette	HUNTINGDON	SCOTCH HILL	-	7	Sectionalizers planned for addition in 2005. Tree trimming planned in 2005.	Engineering complete.
Jeannette	LEVELGREEN	COWTOWN	-	17	Trees trimmed in 2004. Sectionalizers planned for 2005.	Engineering complete.
Jeannette	MURRYCREST	SARDIS ROAD	-	4	Trees trimmed in 2004. Sectionalizers planned for 2005.	Engineering complete.
Jeannette	ROBBINS	BRADDOCKS TRAIL	5	-	Sectionalizers added in 2004. Plan for a portion of underground replacement. Trim trees in 2006.	Installation complete. Monitor results.
Jeannette	WHITE VALLEY	BORLANDS RD	4	-	Sectionalizers added in 2004. Tie point added to another circuit to pick up customers during outages.	Installation complete. Monitor results.
Jefferson	BRAVE	SPRAGG	-	-	High winds caused circuit outage (70% of CMI) in Nov. 2003. Tree trimming planned in 2006.	Work complete. Circuit now off 5% list.
Jefferson	FRANKLIN	ROGERSVILLE	-	14	Sectionalizers planned for addition in 2005. Tree trimming planned in 2005.	Engineering complete.
Jefferson	MARIANNA	TEN MILE	-	12	Sectionalizers planned for addition in 2005.	Engineering complete for work.
Jefferson	RUTAN	BRISTORIA	19	-	Sectionalizers added in 2004. Trees trimmed in 2004.	Installation complete. Monitor results.
Kittanning	TROY HILL	IRON BRIDGE	11	-	Sectionalizers added in 2004.	Installation complete. Monitor results.
Lafayette	STAHLSTOWN	STAHLSTOWN	2	-	Sectionalizers added in 2004.	Installation complete. Monitor results.
McConnellsburg	WARFORDSBURG	BUCK VALLEY	-	3	Sectionalizers planned for addition in 2005.	Engineering complete.
McConnellsburg	WHITETAIL	RESORT	-	-	Repairs made for conductor slap problem. Tree trimming planned in 2006.	Work complete. Circuit now off 5% list.
McDonald	PARIS	PARIS	10	-	Sectionalizers added in 2004.	Installation complete. Monitor results.
McDonald	SMITH	FLORENCE	-	22	Sectionalizers planned for addition in 2005.	Engineering complete.
State College	WATERVILLE	WATERVILLE	-	3	Sectionalizers planned for addition in 2005.	Engineering complete.
Uniontown	LAKE LYNN	FANCY HILL	-	-	2004 outages were due to a severs thunderstorm. Recloser replaced due to miscoordination. Tree trimming in 2006.	2005 work complete.
Uniontown	MERRITTSTOWN	REPUBLIC	19	-	Sectionalizers added in 2004. Tree trimming planned for 2005.	Installation complete. Monitor results.
Washington	AMITY	AMITY	-	10	Sectionalizers planned for addition in 2005. Tree trimming planned in 2005.	Engineering complete.
Washington	LAGONDA	CLUB FORTY	12	-	Trees trimmed and sectionalizers added in 2004.	Monitor results.
Waynesboro	CHAMBERS 5	EAST	-	-	Circuit inspected in 2004 (mostly underground). Faulty MOV lightning arrester found as cause of outages.	Monitor results.

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ERS Program/Project	Unit of Measurement	Target for 2005	Actual Completed	% Completed
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Major ERS SS Projects	# Projects	16	5	28%
Major ERS Lines Projects	# Projects	4	3,4	84%
Transmission Comprehensive Patrol	# Transmission Lines	29	29	100%
Transmission General Patrol	# Transmission Lines	120	36	30%
Ground & Footer Inspections	# Transmission Lines	33	6	18%
Pole Inspection	# Poles	38	19	50%
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Non-Critical Transmission Repairs	# Non-Critical Items	16	5	31%
Subtransmission General Patrol	# Subtransmission Lines	325	28	9%
SS Work (Includes Capital, Planned, & Preventative)	Man-Hours	71,740	28,122	39%
SS Spraying	Man-Hours	2,400	2,692	112%
Controls Work (Includes Cap., Planned, & Preventative)	Man-Hours	5,209	2,108	40%
Individual ERS Budget Projects	Man-Hours	10,657	4,217	40%
Small Planning Projects	Man-Hours	25,374	12,171	48%
Pole Inspection	# of Circuits	68	44	65%
Pole Reinforcement	# Poles	64	0	0%
Danger Poles	# Danger Poles	52	27	52%
Reject Poles	# Reject Poles	187	130	70%
AIM Work	Points Completed	1,258	854	68%
RIP Program	Manhours	44,767	47,442	106%
UG Equipment Inspections	# Locations	7,171	5,687	79%
Recloser Inspections	# Reclosers	3,555	3,001	84%
Regulator Inspections	# Regulators	270	175	65%
Capacitors Inspections	# Capacitors	1,300	1,145	88%
Recloser Replacements	# Reclosers	256	79	31%
UGD Cable Replacement	# Feet	89,000	63,879	72%
Cable Injection	# Feet	19,000	5,930	31%

8/1/2005

## Appendix IV – Callout Acceptance

Allegheny Power 2005															
Linemen															
Service Center	Jan, Feb, Mar			Apr, May, Jun			Jul, Aug, Sep			Oct, Nov, Dec			YTD		
	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average
Arnold	705	174	25%	1272	211	17%	0	0		0	0		1977	365	19%
Boyce	286	128	45%	612	180	29%	0	0		0	0		898	308	34%
Butler	527	223	42%	920	282	31%	0	0		0	0		1447	505	35%
Charleroi	244	103	42%	648	177	27%	0	0		0	0		892	280	31%
Clairton	73	32	44%	114	42	37%	0	0		0	0		187	74	40%
Jennette	1067	161	15%	1570	196	12%	0	0		0	0		2637	357	14%
Jefferson	325	83	26%	459	117	25%	0	0		0	0		784	200	26%
Kittanning	109	60	55%	165	71	43%	0	0		0	0		274	131	48%
Lutrope	298	125	42%	511	172	34%	0	0		0	0		809	257	37%
McConnellsburg	129	72	56%	124	72	58%	0	0		0	0		253	144	57%
McDonald	111	20	18%	352	76	22%	0	0		0	0		463	96	21%
Pleasant Valley	289	119	41%	352	129	37%	0	0		0	0		641	248	39%
St. Mary's	138	85	62%	267	144	54%	0	0		0	0		405	229	57%
State College	472	153	32%	782	224	29%	0	0		0	0		1254	377	30%
Uniontown	506	151	30%	431	148	34%	0	0		0	0		937	299	32%
Washington	460	115	25%	787	147	19%	0	0		0	0		1247	262	21%
Waynesboro	415	114	27%	872	178	20%	0	0		0	0		1287	292	23%
<b>Total AP Average</b>	<b>6154</b>	<b>1918</b>	<b>31%</b>	<b>10236</b>	<b>2566</b>	<b>25%</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>		<b>16392</b>	<b>4484</b>	<b>27%</b>
Electricians															
Service Center	Jan, Feb, Mar			Apr, May, Jun			Jul, Aug, Sep			Oct, Nov, Dec			YTD		
	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average	No. of Calls	No. Accepted	Average
Arnold	40	25	63%	28	18	64%	0	0		0	0		68	43	63%
Boyce	8	7	88%	2	2	100%	0	0		0	0		10	9	90%
Butler	24	14	58%	31	21	68%	0	0		0	0		55	35	64%
Charleroi	20	12	60%	13	7	54%	0	0		0	0		33	19	58%
Jennette	17	4	24%	7	3	43%	0	0		0	0		24	7	29%
Jefferson	45	19	42%	2	2	100%	0	0		0	0		47	21	45%
Kittanning	7	7	100%	7	4	57%	0	0		0	0		14	11	79%
Lutrope	20	7	35%	18	6	33%	0	0		0	0		38	13	34%
Pleasant Valley	39	8	21%	4	1	25%	0	0		0	0		43	9	21%
St. Mary's	13	6	46%	7	6	86%	0	0		0	0		20	12	60%
State College	0	0		0	0		0	0		0	0		0	0	
Washington	16	3	19%	6	2	33%	0	0		0	0		22	5	23%
Waynesboro	28	13	46%	33	14	42%	0	0		0	0		61	27	44%
<b>Total AP Average</b>	<b>277</b>	<b>125</b>	<b>45%</b>	<b>158</b>	<b>86</b>	<b>54%</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>		<b>435</b>	<b>211</b>	<b>49%</b>
<b>Total Combined AP Average</b>	<b>6431</b>	<b>2043</b>	<b>32%</b>	<b>10396</b>	<b>2652</b>	<b>26%</b>	<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>		<b>16827</b>	<b>4695</b>	<b>28%</b>



### Appendix V – Sample DCII Calculation

AP calculates the DCII to provide a single index for ranking circuits. The DCII compares the SAIFI, SAIDI, CAIDI and ASAI for each circuit to the 5-year system averages of each index and combines them into a single index. An example of this calculation is shown below:

<u>Index</u>	<u>System Average</u>	<u>Sample Circuit</u> <u>Index</u>
SAIFI	0.66	2.32
SAIDI	181.95	258.8
CAIDI	275.71	176.23
ASAI	0.999654	0.999769

- 1) The SAIFI, SAIDI and CAIDI are compared to the system average indexes.

$$\begin{aligned} \text{Actual SAIFI / System Average SAIFI} &= 2.32 / 0.66 = 3.52 \\ \text{Actual SAIDI / System Average SAIDI} &= 258.8 / 181.95 = 1.42 \\ \text{Actual CAIDI / System Average CAIDI} &= 176.23 / 275.71 = 0.64 \end{aligned}$$

- 2) To permit the average to equal 70 percent this ratio is then inversely proportioned:

$$\begin{aligned} \text{SF} &= 1 - (0.3 \times (\text{Actual SAIFI} / \text{Average SAIFI})) = 1 - (0.3 \times 3.52) = -0.0560 \\ \text{SD} &= 1 - (0.3 \times (\text{Actual SAIDI} / \text{Average SAIDI})) = 1 - (0.3 \times 1.42) = 0.5740 \\ \text{CD} &= 1 - (0.3 \times (\text{Actual CAIDI} / \text{Average CAIDI})) = 1 - (0.3 \times 0.64) = 0.8080 \end{aligned}$$

- 3) The sum of the values is then divided by 3 to assign each index an equal weight in the calculation.

$$(\text{SF} + \text{SD} + \text{CD}) / 3 = (-0.0560 + 0.5740 + 0.8080) / 3 = 0.4420$$

- 4) The Actual ASAI is then multiplied directly to this value to get the interruption factor which when multiplied by 100 provides the DCII.

$$((\text{SF} + \text{SD} + \text{CD}) / 3) * \text{ASAI} \times 100 = \text{DCII} = 0.4420 * 0.999769 * 100 = 44.19$$

## **Appendix VI – Major Event Descriptions**

Commission reports for the following major events are presented on the pages following this appendix:

- i. There were no Major Events in the second quarter.

Re: Allegheny Power Second Quarter 2005  
Reliability Report

**CERTIFICATE OF SERVICE**

I certify that this 2nd day of August 2005, I have served a true and correct copy of the Quarterly Reliability Report of Allegheny Power, by first-class mail, postage prepaid, upon the following:

**VIA FIRST-CLASS MAIL**

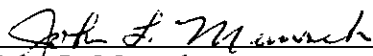
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Office of Consumer Advocate  
555 Walnut Street  
Forum Place, 5<sup>th</sup> Floor  
Harrisburg, PA 17101-1921

**AUG 02 2005**

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

Office of Small Business Advocate  
Suite 1102, 300 North 2<sup>nd</sup> Street  
Harrisburg, PA 17101

  
\_\_\_\_\_  
John L. Munsch  
Attorney for ALLEGHENY POWER



**ORIGINAL**

Orange and Rockland Utilities, Inc.  
 390 West Route 59  
 Spring Valley NY 10977-5300  
 www.oru.com

October 25, 2005

Pennsylvania Public Utility Commission  
 P.O. Box 3265  
 Harrisburg, PA 17105-3265

Attention: Secretary James J. McNulty

**DOCUMENT  
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**RECEIVED**  
 2005 OCT 31 AM 10:51  
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Re: Third Quarter 2005 Quarterly Report for Pike County Light and Power  
 PUC Docket No. L-00030161; Rulemaking Re Amending Electric  
 Service Reliability Regulations At 52 Pa. Code Chapter 57

Dear Secretary McNulty:

Pike County Light & Power Company ("Pike") hereby submits six copies of its Third Quarter 2005 quarterly report as set forth in the Pennsylvania Public Utility Commission's ("Commission, PUC") Docket No. L-00030161 adopted Rulemaking Re Amending Electric Service Reliability Regulations At 52 Pa. Code Chapter 57 ("Order"). As such, Pike's quarterly reporting requirements, as set forth in Section 57.195(e) (1) (2) and (5) of the Order, are enclosed.

The Third Quarter 2005 report reflects the denial of three requests to exclude interruptions that affected more than 10% of our Pennsylvania customers:

Date	Time	Circuit	Cause	Duration	Customers Affected	Cust. Min. of Interruption
05/02/05	20:42	104-3-13	Equipment	32 Minutes	820	26,240
05/30/05	14:11	L7-6-34	Equipment	Various	2804	34,741
08/11/05	16:12	104-3-13	Tree Contact	Various	1060	92,268

Inclusion of these three interruptions substantially increases Frequency and Duration, while reducing Restoration. The table below, listing 12-Month reliability data, illustrates the significant impact that these three incidents have on our measured performance.

	Frequency	Restoration	Duration
Excluding Only Accepted Interruptions - 2 <sup>nd</sup> Qtr. - 05	1.63	73	119
- 3 <sup>rd</sup> Qtr. - 05	1.89	96	182
Excluding All Requested Interruptions - 2 <sup>nd</sup> Qtr. - 05	0.80	129	102
- 3 <sup>rd</sup> Qtr. - 05	0.82	176	143

- continued -

Pennsylvania Public Utility Commission  
Secretary James J. McNulty  
October 25, 2005  
Page 2

Please contact me if you have any questions regarding this report or require any additional information.

Very truly yours,

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



Timothy T. Garvin  
Manager - Performance & Operational Engineering

cc: Office of Consumer Advocate  
Office of Small Business Advocate

Enclosures

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

Quarterly Reliability Report

Third Quarter  
2005

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**§ 57.195. (e)(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.**

**3rd Quarter 2005  
Major Events**

Date	Time	Circuit	Cause	Duration	Customers Affected	Cust Min of Interruption
2005/08/08	13:02:00	L07-06-34	Storm	Various	3,052	221,297
2005/08/12	19:45:00	L07-06-34	Storm	Various	1,727	290,416

**3rd Quarter 2005  
Pre-Arranged Outages**

Date	Time	Circuit	Cause	Duration	Customers Affected	Cust Min of Interruption
2005/07/21	10:20:00	L07-06-34	Pre-Arranged	120 minutes	19	2,280
2005/07/26	06:36:00	L07-06-34	Pre-Arranged	Various	27	4,300
2005/08/18	09:43:00	05-10-34	Pre-Arranged	Various	142	13,043
2005/08/22	11:08:00	104-03-13	Pre-Arranged	Various	10	130

§. 57.195. (e)(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.

**Interruption Data  
Rolling 12-Month Data**

Year	Quarter	Customers Served Rolling 12 Mth	Number of Interruptions Rolling 12 Mth	Customers Affected Rolling 12 Mth	Customer Min of Interruptions Rolling 12 Mth
2004	4th Qtr	4,350	43	2,267	390,469
2005	1st Qtr	4,355	51	2,616	439,859
2005	2nd Qtr	4,360	66	7,121	519,450
2005	3rd Qtr	4,372	85	8,276	793,819

**Performance Ratios  
Rolling 12-Month Data**

	Frequency SAIFI	Restoration CAIDI (Min)	Duration SAIDI (Min)
Benchmark	.39	178	69
Rolling 12 Mth Standard	.53	240	127

Year	Qtr	Frequency SAIFI Rolling 12 Mth	Restoration CAIDI Rolling 12 Mth	Duration SAIDI Rolling 12 Mth
2004	4th Qtr	.52	172	90
2005	1st Qtr	.60	168	101
2005	2nd Qtr	1.63	73	119
2005	3rd Qtr	1.89	96	182

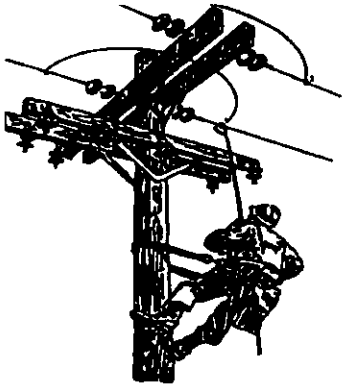


§. 57.195. (e)(5)

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.

**Third Quarter 2005  
Cause Analysis  
Rolling 12 Months Data  
\*Excludes Storms, Major Events, Pre-Arranged**

Cause	Number of Interr. Rolling 12 Mth.	Number of Interr. Rolling 12 Mth. (%)	Customers Affected Rolling 12 Mth.	Customers Affected Rolling 12 Mth. (%)	Customer Min. Interr. Rolling 12 Mth.	Customer Min. Interr. Rolling 12 Mth. (%)
Animal Contact	3	3.5%	188	2.3%	13,581	1.7%
Tree Contact	39	45.9%	2,753	33.3%	447,810	56.4%
Overload	4	4.7%	178	2.2%	21,881	2.8%
Work Error	1	1.2%	73	.9%	3,066	.4%
Equip. Failure	18	21.2%	4,325	52.3%	222,749	28.1%
Non-Comp Acc.	8	9.4%	391	4.7%	53,622	6.8%
Custmr Problem	0	.0%	0	.0%	0	.0%
Lightning	5	5.9%	44	.5%	3,048	.4%
Unknown-Other	7	8.2%	324	3.9%	28,062	3.5%
All Causes	85	100.0%	8,276	100.0%	793,819	100.0%



# CITIZENS' ELECTRIC COMPANY

1775 INDUSTRIAL BLVD • P.O. BOX 551 • LEWISBURG, PA 17837-0551 • (570) 524-2231 • FAX: (570) 524-5887

October 27, 2005

ORIGINAL

DOCUMENT FOLDER

Mr. James J. McNulty  
Bureau of Fixed Utility Services  
Pennsylvania Public Utility Commission  
PO Box 3265  
Harrisburg, PA 17105-3265

Dear Secretary McNulty:

L-00030161

Enclosed please find an original and six copies of the 3rd quarter, 2005 Electric Reliability Report for Citizens' Electric Company.

Please contact me at 570-522-6143 or [kelchnerj@citizenselectric.com](mailto:kelchnerj@citizenselectric.com) if I can answer any questions.

Sincerely,

John A. Kelchner, PE  
Sr. Director of Engineering & Operations

cc: Pennsylvania Office of Consumer Advocate  
Pennsylvania Office of Small Business Advocate

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37

**Citizens' Electric Company**  
**Quarterly Service Reliability Report**

Third Quarter, 2005

Prepared by John A. Kelchner, PE  
 Sr. Director of Engineering & Operations  
 570-522-6143

[kelchnerj@citizenselectric.com](mailto:kelchnerj@citizenselectric.com)

October 27, 2005

**§ 57.195(e)(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.**

We experienced no Major Events during the preceding quarter.

**§ 57.195(e)(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.**

Index	Rolling 12-Month Value for Quarter	Benchmark	Standard
SAIFI	0.12	0.21	0.27
SAIDI	11	21	38
CAIDI	96	105	141

Total # of Customers Served	# of Interruptions	# of Customers Affected	Customer Minutes
6,681	34	776	74,862

The following outages were approved for exclusion as Major Events during the 12-month period and are not included in the above calculations:

Date	# of Customers Affected	Customer Minutes
4/30/2005	1,153	106,076
5/14/2005	1,252	63,852

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**§ 57.195(e)(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.**

Outage Cause	Number of Interruptions	% of Interruptions	Number of Customers Affected	Customer Interruption Minutes
Trees (On R/W)	0	0	0	0
Trees (Off R/W)	4	11.8	115	26,680
Animals	9	26.5	154	8,339
Equipment	18	52.9	431	32,367
Weather	2	5.9	47	2,082
Vehicle	1	2.9	29	5,394
Other	0	0	0	0
Total	34	100	776	74,862

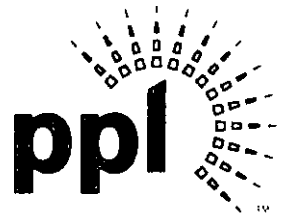
**Discussion**

We experienced relatively mild weather during the preceding quarter. The typical outage for the past twelve months has been an equipment failure affecting an average of 23 customers. We are continuing to assign a high priority to the detection and replacement of faulty pole equipment prior to its failure, through ongoing infrared inspections and visual line patrols. Our annual line and equipment inspection and maintenance program is under way and yielding good results.

**Paul E. Russell**  
Associate General Counsel

**DOCUMENT  
FOLDER**

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



**FEDERAL EXPRESS**

October 31, 2005

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

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OCT 31 2005

**PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU**

**Re: PPL Electric Utilities Corporation  
Quarterly Reliability Report for the  
Period Ended September 30, 2005  
Docket No. L-00030161**

Dear Mr. McNulty:

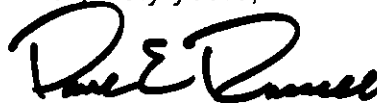
Enclosed for filing on behalf of PPL Electric Utilities Corporation ("PPL Electric") are an original and five (5) redacted copies of PPL Electric's Quarterly Reliability Report for the Period Ended September 30, 2005. An original Proprietary and Confidential version also is being filed in a sealed envelope. 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 October 31, 2005, 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.

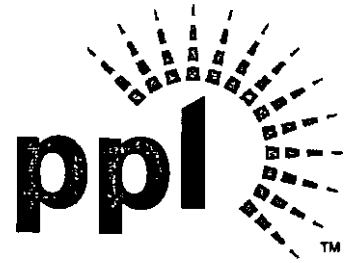
**DOCKETED**  
NOV 08 2005

Very truly yours,  
  
Paul E. Russell

Enclosures

cc: Elizabeth H. Barnes, Esquire

70



**PPL Electric Utilities**

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

*October 2005*

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OCT 31 2005

**PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU**

- (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 September 30, 2005.

<b>SAIFI (Benchmark = 0.98; Rolling 12-month Std. = 1.18)</b>	0.930
<b>CAIDI (Benchmark = 145; Rolling 12-month Std. = 174)</b>	128
<b>SAIDI (Benchmark = 142; Rolling 12-month Std. = 205)</b>	119
<b>MAIFI</b>	4.816
<b>Average Number of Customers Served<sup>1</sup></b>	1,342,890
<b>Number of Sustained Customer Interruptions (Trouble Cases)</b>	17,334
<b>Number of Customers Affected<sup>2</sup></b>	1,249,209
<b>Customer Minutes of Interruptions</b>	160,310,730
<b>Number of Customer Momentary Interruptions</b>	6,467,532

---

<sup>1</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>2</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.<sup>3</sup> An explanation of how PPL Electric defines its worst performing circuits is included in Appendix A.

WPC Rank	Feeder ID	SAIFI	CAIDI	SAIDI	MAIFI	Customers	Cases of Trouble <sup>4</sup>	Customer Minutes Interrupted	CPI
1	63601	15.89	62	987	20.00	466	41	459,959	704
2	16401	8.08	86	695	11.00	669	43	464,859	425
3	26002	3.84	327	1,255	3.00	950	74	1,192,526	394
4	53901	4.14	136	563	6.00	2,656	74	1,494,521	369
5	28301	2.59	109	281	4.00	2,791	93	785,421	356
6	46301	3.49	439	1,531	7.00	839	52	1,284,898	346
7	45402	4.19	158	664	8.00	1,563	60	1,038,135	339
8	15601	3.51	139	488	8.00	2,382	71	1,162,799	339
9	28302	1.45	232	335	8.00	2,740	89	919,108	326
10	52401	4.44	181	802	19.00	1,698	47	1,362,047	319
11	43401	3.54	205	726	9.00	1,504	58	1,091,533	319
12	27101	3.57	139	497	1.14	2,643	62	1,313,129	318
13	11001	4.82	110	531	6.00	848	45	450,240	315
14	16402	4.20	134	561	7.00	845	51	474,308	311
15	46302	3.17	212	671	7.00	1,746	60	1,170,994	311
16	12301	3.06	190	581	0.00	1,703	63	989,689	311
17	28801	2.20	125	275	14.00	2,529	80	696,721	311
18	52402	3.73	108	403	12.00	1,588	59	639,311	310
19	46602	1.74	311	541	2.00	1,522	72	823,337	308
20	10108	0.50	1,490	745	0.00	2	1	1,490	303
21	45702	3.34	335	1,121	8.00	1,652	44	1,851,356	300
22	55001	2.05	151	309	4.04	2,699	76	833,505	300
23	53501	3.44	120	411	8.00	2,101	57	863,060	296
24	43202	2.21	220	486	9.00	2,039	66	990,074	293
25	22002	3.78	181	682	3.01	1,314	45	895,922	289

<sup>3</sup> One feeder (21903 with 14 customers) that the calculation method identified among the worst performing due to a data error was deleted from this listing.

<sup>4</sup> Cases of trouble are the number of sustained customer service interruptions.



WPC Rank	Feeder ID	SAIFI	CAIDI	SAIDI	MAIFI	Customers	Cases of Trouble <sup>4</sup>	Customer Minutes Interrupted	CPI
26	21203	3.55	154	548	2.00	1,173	50	642,404	289
27	28601	3.32	191	633	4.00	2,027	50	1,283,308	287
28	16101	1.95	93	181	4.00	2,479	76	448,089	285
29	53602	2.50	92	229	1.00	2,730	68	625,569	285
30	17802	2.36	88	207	5.00	2,298	69	475,434	281
31	11506	3.10	120	371	1.00	1,246	56	462,381	281
32	44202	4.01	184	739	11.00	1,486	38	1,097,980	281
33	26401	1.87	135	253	3.00	2,550	72	645,660	280
34	23002	2.16	462	998	9.01	2,309	43	2,305,234	278
35	17803	2.43	188	457	9.00	2,408	58	1,101,345	275
36	65603	2.68	292	783	9.00	2,263	46	1,772,752	273
37	40502	2.37	104	247	4.00	1,784	63	440,831	269
38	16405	6.01	76	454	18.00	280	12	127,091	267
39	24401	2.35	216	509	2.00	1,198	54	609,209	267
40	16801	3.77	109	410	13.01	1,542	41	631,709	265
41	44505	1.19	180	214	18.06	2,321	71	496,243	261
42	42201	3.01	284	855	3.00	1,749	37	1,495,994	260
43	64802	4.04	101	406	1.00	1,252	35	508,822	258
44	59401	1.36	159	217	3.03	2,478	69	537,105	258
45	28102	1.55	135	210	0.00	1,638	67	343,933	255
46	26702	1.81	55	99	0.00	2,376	68	235,987	252
47	25801	3.31	184	607	0.00	1,819	37	1,104,397	252
48	16901	2.31	120	277	16.00	2,082	56	576,686	252
49	15701	2.37	121	287	6.00	2,187	54	626,732	249
50	46903	4.78	76	363	5.00	1,386	22	502,672	247
51	27503	2.08	369	768	12.00	2,176	39	1,671,352	247
52	26001	1.50	168	253	3.00	1,413	62	357,200	247
53	26602	0.90	241	218	4.00	2,950	65	642,055	246
54	17801	2.70	115	310	4.00	2,057	47	637,586	242

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 that would improve the circuit's CPI.

**(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 Circuit ID: 63601 LETORT 36-01</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	Inconclusive. Monitor future performance. All of the minor maintenance items on this circuit identified through the line maintenance inspection have been fixed. Also, the circuit was just split into two separate lines which should reduce the outage exposure on this circuit.
<b>2 Circuit ID: 16401 MOUNT POCONO 64-01</b>				
	The line was recently 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	If performance seen during Q1 2005 continues, this circuit is expected to drop off the WPC list in Q4 2005.
	The entire main line will be reconductored under B50921.	Completed	5/31/2005	The main three phase has been rebuilt with 477 AL XLP.
	Line inspection-equipment. A portion of the line along Rt 314 (three phase branch off main line) will be inspected. This portion of the line already had maintenance work completed in January 2005 to fix galloping conductors.	Completed	5/31/2005	
	Continue to monitor future performance.	Ongoing		Outages caused by trees outside the right of way were a significant component of the CPI. Equipment failure with galloping conductor also contributed to the CPI. This problem was fixed earlier this year. Other CPI points are case driven.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**3 Circuit ID: 26002 WEST DAMASCUS 60-02**

	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	6/8/2005	
	Field engineer identified additional tap fusing, which will be installed as soon as possible.	In progress	10/30/2005	
	Line inspection-equipment.	Scheduled for	10/30/2005	
	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	10/30/2005	
	Monitor future performance.	Ongoing		

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

	Circuit outage data analysis - WPC not on preceding qtr. list	Completed	3/18/2005	Tree trim the West Shore portion of the circuit scheduled for summer 2005.
	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. Tree trimming the West Shore portion of circuit to be completed by end of 2005.
	Monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**5 Circuit ID: 28301 NEWFOUNDLAND 83-01**

	Circuit outage data analysis.	Completed	8/25/2004	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 68696N44869.	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.
	Improve sectionalizing capability. Field engineer will install additional single phase and three phase OCRs on the circuit pending additional review	Scheduled for	10/30/2005	
	Line inspection-equipment.	Scheduled for	11/30/2005	
	Tree trimming.	In progress	1/31/2006	Hot spotting being done in 2006.
	Monitor future performance.	Ongoing		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.

**6 Circuit ID: 46301 ROHRSBURG 63-01**

	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	Scheduled for	11/30/2005	

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

	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 Hurrican 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 avoide 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, and some trimming was done by the end of 9/30/2005.
	Monitor future performance.	Ongoing		No further action was deemed necessary on this circuit. PPL will continue to monitor this circuit's performance in the future.

**8 Circuit ID: 15601 NO STROUDSBURG 56-01**

	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	If performance seen in Q4 2004 and Q1 2005 continues this circuit is expected to fall off by Q4 2005.
	Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	6/8/2005	
	Line inspection-vegetation. Forester will perform a vegetation line inspection and perform hot spot trimming as required.	Completed	7/28/2005	
	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# 224008, WR# 224423: OCR and fuse installation;	Scheduled for	12/30/2005	Fuses identified under SAIDI work to reduce customer minutes lost. WR 218967, WR 224357 and WR 224423 are completed. WR 224008 is still pending.
	This circuit will be thermovisioned to help identify failed equipment.	Scheduled for	12/31/2005	
	Monitor Performance	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**9 Circuit ID: 28302 NEWFOUNDLAND 83-02**

	Circuit outage data analysis.	Completed	8/15/2004	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 68629N42489 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.	In progress	10/30/2005	
	Line inspection-equipment. Field engineer will identify targeted areas for line inspection.	In progress	12/31/2005	
	Continue to monitor future performance.	Ongoing		

**10 Circuit ID: 52401 GREEN PARK 24-01**

	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. With continued good performance circuit is expected to drop of the list of 5% WPCs in Q3 of 2006.
	Monitor future performance.	Ongoing		

**Rank**

**Action**

**Status**

**Due/Complete**

**Result**

**11 Circuit ID: 43401 BENTON 34-01**

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. The circuit is expected to drop off the list in the third quarter of 2005 if no major storm in the third quarter of 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 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.

Monitor future performance.

Ongoing

In progress tree trimming and other in-progress work is expected to improve this circuit's performance. PPL will continue to monitor this circuit's performance. If no major outages in the third quarter of 2005, the circuit is expected to drop off the list by the end of Q3, 2005.

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**12 Circuit ID: 27101 GREENFIELD 71-01**

Circuit outage data analysis.	Completed	6/15/2004	Major contributor to CPI was the number of cases (73%). The contributing outages (mostly trees outside of the right-of-way and animal contacts, 53%) did not fall into a discernable pattern.
Tree trimming. Tree trimming for this line began 6/21/04.	Completed	11/12/2004	Reduced outage risk.
Line inspection-equipment. Due to the high number of animal contacts (30% of the total CPI) and equipment failures (18% of total CPI) an equipment line inspection will be performed.	Completed	11/30/2004	Several problems were found. Repairs to be made under WR 186259.
Perform line maintenance identified by line inspection. Maintenance under WR 186259	Completed	5/13/2005	
Coordination study to look at an overtripping OCR outside the sub	Completed	9/15/2005	Results sent to field
Monitor future performance.	Ongoing		

**13 Circuit ID: 11001 EAST GREENVILLE 10-01**

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.	In progress	3/31/2006	Additional switches to be installed in the northern portion of the circuit to provide for sectionalizing and possible transfer of load to the Macungie 27-1 line. Fault indicators are also being installed 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 re-fed from a new single phase section. Currently being developed to be placed in service as soon as possible.

**14 Circuit ID: 16402 MOUNT POCONO 64-02**

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	Circuit is expected to drop off the list of the top 5% worst performing circuits after tree trimming is completed.
7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Completed	8/31/2005	
Monitor future performance	Ongoing		



<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**15 Circuit ID: 46302 ROHRSBURG 63-02**

	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 of 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 device 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	8/30/2007	the 153 miles long line is scheduled to be trimmed in 2007. The line will be checked for trees, and hot spot trimming will be performed by the end of 2005.
	Monitor future performance.	Ongoing		Much of this circuit's CPI was due to events that are not expected to occur again. No further action is required for this circuit, as the CPI will improve. This circuit will continue to be monitored for future performance.

**Rank****Action****Status****Due/Complete****Result****16 Circuit ID: 12301 LANARK 23-01**

Load balancing.	Completed	12/31/2003	Reduced outage duration.
Circuit outage data analysis.	Completed	6/15/2004	The number of cases is 87% 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.	In progress	12/31/2005	Reduced customer count affected by each outage. Construction planned for August.
Install 3 switches in southern part of circuit. Fault indicators to be installed next to the new switches.	In progress	12/31/2005	Provide additional sectionalizing and provide more flexibility to restore customers. The fault indicators will help identify where faults occur and which should reduce restoration time.
Monitor future performance.	Ongoing		All of the above work is expected to improve the circuit's performance.

**17 Circuit ID: 28801 LAKEVILLE 88-01**

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.	Scheduled for	10/31/2005	
Install fuse(s). WR# 242026; WR#241998; WR#241849	Scheduled for	12/31/2005	New fuses being installed to improve SAIDI
Monitor future performance.	Ongoing		

**18 Circuit ID: 52402 GREEN PARK 24-02**

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. With continued good performance circuit is expected to drop off the list of 5% WPCs in Q4 of 2005.
Monitor future performance.	Ongoing		

<b>Rank</b>	<b>Action</b>	<b>Status</b>	<b>Due/Complete</b>	<b>Result</b>
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**19 Circuit ID: 46602 LARRYS CREEK 66-02**

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	Larry Creek is 100 miles long in total. High CPI due partially to a vehicle accident 8/03 pole hit, and local area - high winds 11/03 causing trees to fall into line.
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.	Scheduled for	10/30/2004	The review was originally proposed to be completed by the fourth quarter of 2004. The review was not complete. The line will be reviewed by Susquehanna Region by the end of November, 2005. If additional sectionalizing locations are identified, the region will install sectionalizing devices by the end of the first quarter of 2006.
10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	11/30/2005	

**20 Circuit ID: 10108 ALLENTOWN 01-08**

Circuit outage data analysis - WPC not on preceding qtr. list. Monitor future performance.	Ongoing		A submersible transformer that serves one customer failed. This is the only case of trouble for this circuit over the past 12 months.
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**21 Circuit ID: 45702 LINDEN 57-02**

10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	11/30/2005	
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**22 Circuit ID: 55001 NEWPORT 50-01**

Improve sectionalizing capability. Three tap fuses were installed.	Completed	12/31/2003	Reduced customer count affected by each outage.
Circuit outage data analysis.	Completed	8/25/2004	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 Maintenance Inspection of circuit was completed and 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. With continued good performance circuit is expected to drop off the list of 5% WPCs in Q3 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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**23 Circuit ID: 53501 ELIZABETHVILLE 35-01**

Tree trimming. The entire circuit was trimmed.	Completed	11/29/2003	Reduced outage risk.
Ten tap fuses were installed.	Completed	12/31/2003	Reduced customer count affected by each outage.
Circuit outage data analysis.	Completed	6/25/2004	Eighty percent of CPI for this circuit is due to number of cases.
Monitor future performance.	Ongoing		
10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	11/30/2005	

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

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 first quarter of 2004, on 2-6-2004, approximately 254 customers experienced a 1 hr. outage, nothing found was reported. During the second quarter 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 Q3, 2004 because of hurrican IVAN on 9/18/05 where 22 customers experienced long duration outage because of flood and closed roads. The snow storm in the Q1, 2005 also caused long duration outages on 3/23/2005. The hurrican 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	The 32-2 line was reviewed for locations to add/install additional sectionalizing devices, none 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.
Tree trimming.	Scheduled for	9/30/2006	the line 160 miles long. The 9 miles urban were trimmed in 2004. the 151 miles rural section is in the budget to be trimmed in 2006. The majority of this line is in inaccessible area. Some hot spotting was done in Apr/May, 2005....70 trees trimmed, 6 trees removed. A line inspection is scheduled to begin w/in a week and will be completed by September. Any hot spotting indentified will be reviewed by the region forestry staff and completed as required.
Monitor future performance.	Ongoing		The majority of outages on this circuit were because of storm events. No further action is required for this circuit, as the CPI will improve when these events fall from the 12 month window after the Q3, 2005. the circuit performance will continue to be monitored.
10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	11/30/2005	

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**25 Circuit ID: 22002 BOHEMIA 20-02**

Circuit outage data analysis.	Completed	6/15/2004	Major contributors to CPI were the number of cases and SAIFI. Blooming Grove - West Damascus 89kV 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
Monitor future performance.	Ongoing		

**26 Circuit ID: 21203 EAST CARBONDALE 12-03**

7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list			
WR #226162: OCR moved from 74388N48808 to 74321N48825 and WR#235364	Completed	8/31/2005	Sectionalizing completed as part of SAIDI effort to reduce customer minutes lost
Tie line being created from 12-01 line to 12-03 to enable load transfer capability (WR #224383)	Scheduled for	12/18/2005	
Continue to monitor future performance	Ongoing		

**27 Circuit ID: 28601 BLYTHEBURN 86-01**

10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Scheduled for	11/30/2005	
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<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**28 Circuit ID: 16101 BINGEN 61-01**

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. Cases alone contribute 80% 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 monitored.
Improve sectionalizing capability. Investigating splitting the line to allow back feeding from other half.	Completed	2/28/2005	Inconclusive. Monitor future performance. 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.	Cancelled	7/22/2005	Project was cancelled due to capacity concerns on the Richland Substation.
Reconductoring 7 single phase taps with XLP and stronger conductor	In progress	11/30/2005	Reduced outage risk. Should see reduction in cases, and possibly lower circuit CAIDI

**29 Circuit ID: 53602 DALMATIA 36-02**

Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	12/22/2004	Area hit by Hurricane Ivan in the 3rd quarter. Circuit is expected to drop off the list of 5% WPCs. An electronic OCR was installed on the east side of the river crossing, reducing the 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. With continued good performance circuit is expected to drop off the list of 5% WPCs in Q4 of 2005.
Circuit outage data analysis.	Completed	8/31/2005	Line Maintenance Inspection found a pole requiring replacement on an island in the river crossing due to bank erosion. With continued good performance circuit is expected to drop off the list of 5% WPCs in Q4 of 2005.
Monitor future performance.	Ongoing		

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**30 Circuit ID: 17802 GILBERT 78-02**

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	10/31/2005	Work indentified under SAIDI effort to reduce customer minutes lost. WR 221771 and WR 224357 are completed. WR 228965 is pending
Tree trimming.	Scheduled for	12/31/2005	
Monitor future performance.	Ongoing		

**31 Circuit ID: 11506 FREEMANSBURG 15-06**

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	8/30/2004	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		Inconclusive. Monitor future performance. Trimming and other minor work should begin to show performance improvements.

**32 Circuit ID: 44202 POINT 42-02**

10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	11/30/2005	
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<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**33 Circuit ID: 26401 INDIAN ORCHARD 64-01**

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 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.	In progress	12/31/2005	
10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Scheduled for	11/30/2005	

**34 Circuit ID: 23002 SAINT JOHNS 30-02**

Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	6/1/2005	Main contributors to CPI were cases of trouble and SAIFI. Snow/ice storm on March 24 and 25 caused numerous outages on the line. Trees (both inadequate trimming and non-trimming related) accounted for 54% of CPI total.
Improve sectionalizing capability.	Completed	9/23/2005	Reduced outage risk. reset trip curves on existing OCRs
Monitor future performance.	Ongoing		This circuit is expected to drop off the 5% wpc list by Q2 2006.
10/1/2005: Improve sectionalizing capability.	Scheduled for	12/23/2005	Reduced customer count affected by each outage. Sectionalizer to be installed upon Penn Dot issuing permit.

**35 Circuit ID: 17803 GILBERT 78-03**

10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	11/30/2005	
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**36 Circuit ID: 65603 QUARRYVILLE 56-03**

Circuit outage data analysis.	Completed	9/28/2004	Largest interruption on this circuit was a transformer failure at the substation interrupting 2264 customers for 446 minutes. This outage was about 35 % of this circuit's total CPI. This event is not likely to occur again. There also were several local lightning storms that contributed to the CPI.
Monitor future performance.	Ongoing		Circuit has continued to show improvement this quarter and is expected to fall off the WPC list by the end of the year. Also, there were miscoded outages in the second quarter data. These outages have been corrected.



<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**37 Circuit ID: 40502 CRESSONA 05-02**

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.
Circuit outage data analysis.	Completed	8/30/2004	Inconclusive. Monitor future performance. Main contributors were cases of trouble and SAIFI.
7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	8/31/2005	
Tree trimming.	Completed	8/31/2005	Reduced outage risk.

**38 Circuit ID: 16405 MOUNT POCONO 64-05**

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.	Scheduled for	11/30/2005	

**39 Circuit ID: 24401 TINKER 44-01**

10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	11/30/2005	
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**40 Circuit ID: 16801 WAGNERS 68-01**

10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	11/30/2005	
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**41 Circuit ID: 44505 HAMILTON 45-05**

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. This circuit is not expected to be on the 5% worst performing circuits list after the third quarter in 2005, i.e. the CPI values for a circuit are averaged together for one year.
10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	11/30/2005	

<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**42 Circuit ID: 42201 SHENANDOAH 22-01**

Line inspection-equipment.	Completed	5/31/2005	Reduced outage risk. 10-12 minor maintenance items were identified.
Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	6/1/2005	Main contributor to CPI was SAIFI (58%). Ice storm in January and heavy snowstorm in March caused several outages. Trees (both inadequate trimming and non-trimming related) accounted for 43% of the CPI total.
Tree trimming.	Completed	6/29/2005	Danger trees were removed in a problem section of the line.
Install fuse(s).	Completed	8/15/2005	Field installing one tap fuse before the first OCR and one after.
Improve sectionalizing capability.	Completed	9/16/2005	Field is replacing an air break switch with an OCR.

**43 Circuit ID: 64802 MOUNT NEBO 48-02**

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.	Scheduled for	12/31/2005	Reduced customer count affected by each outage. Work requests have been initiated to install 2 new single phase OCRs and 8 slot fuses. This work is currently in the design phase and will be completed by the end of the year.
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: 59401 RICHFIELD 94-01**

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 is expected to drop off the list of 5% WPCs.
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.
Circuit outage data analysis.	Completed	5/27/2005	Line Maintenance Inspection completed in 1st quarter 2005, this line has many inaccessible locations. Inspection identified animal guards to be installed and LAs and cutouts to be replaced. With continued good performance circuit is expected to drop off the list of 5% WPCs in Q4 of 2005.
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 reoccur. Line Maintenance Inspection identified work completed 5/2005. This line has many inaccessible locations. Installed animal guards and replaced cutouts.
Monitor future performance.	Ongoing		

**45 Circuit ID: 28102 TWIN LAKES 81-02**

10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Scheduled for	11/30/2005	
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**46 Circuit ID: 26702 HEMLOCK FARMS 67-02**

10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Scheduled for	11/30/2005	
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**47 Circuit ID: 25801 SULLIVAN TRAIL 58-01**

Installed 10 tap fuses under SAIFI initiative.	Completed	11/30/2003	Reduced customer count affected by each outage.
Reconductored and relocated inaccessible section of line.	Completed	12/31/2003	Reduced outage risk.
Circuit outage data analysis.	Completed	6/30/2004	Inconclusive. Monitor future performance. Main contributor to CPI was cases of trouble, primarily due to trees and animals.
Review the process for animal guard installations to ensure that animal guards are installed for animal related OH transformer outages and new OH transformers.	Completed	6/30/2004	Field personnel verified that animal guards are installed on new transformers, as well as after animal-related transformer outages
7/13/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Completed	8/31/2005	
9/15/2005: Relocate inaccessible line.	Scheduled for	12/31/2005	Reduced outage duration. Should lower outage risk from flooding and improve restoration ability and time.

**48 Circuit ID: 16901 MECKESVILLE 69-01**

10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list	Scheduled for	11/30/2005	
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<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**49 Circuit ID: 15701 TANNERSVILLE 57-01**

Circuit outage data analysis.	Completed	6/15/2004	Inconclusive. Monitor future performance. 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. USF work to be completed by 11/05	In progress	12/31/2005	Approximately 1.5 miles of the main three phase line was trimmed in support of the upcoming USF work. The remaining line will be trimmed toward the end of the year (2005).
1.5 miles of the main line will be reconducted under SP 51216. This circuit will be trimmed as part of the reconductor work.	Scheduled for	11/30/2005	
Tree trimming.	In progress	12/31/2005	
Monitor future performance	Ongoing		

**50 Circuit ID: 46903 MONTGOMERY 69-03**

10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	11/30/2005	
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**51 Circuit ID: 27503 WEISSPORT 75-03**

10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	11/30/2005	
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**52 Circuit ID: 26001 WEST DAMASCUS 60-01**

10/10/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	11/30/2005	
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<i>Rank</i>	<i>Action</i>	<i>Status</i>	<i>Due/Complete</i>	<i>Result</i>
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**53 Circuit ID: 26602 BROOKSIDE 66-02**

	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.	In progress	10/30/2005	
	Line being reconductored for 0.3 miles (WR# 233124)	Scheduled for	11/30/2005	
	Tree trimming. Hot Spotting being done as needed	In progress	12/31/2005	
	Monitor future performance.	Ongoing		

**54 Circuit ID: 17801 GILBERT 78-01**

	10/27/2005: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	11/30/2005	
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- (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, Trees – Not Trimming Related and Animals), based on 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>5</sup>	Percent of Trouble Cases	Customer Interruptions <sup>6</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	1,225	7.07%	93,023	7.45%	15,442,882	9.6%
Trees - Not Trimming Related	2,888	16.66%	245,965	19.69%	45,837,313	28.6%
Animals	3,344	19.29%	52,422	4.20%	4,431,921	2.8%
Vehicles	831	4.79%	186,589	14.94%	23,348,280	14.6%
Contact/Dig-in	206	1.19%	16,266	1.30%	1,380,702	0.9%
Equipment Failure	5,011	28.91%	441,130	35.31%	49,460,031	30.9%
Forced Prearranged	631	3.64%	35,536	2.84%	2,346,136	1.5%
Other - Controllable	271	1.56%	23,788	1.90%	1,707,183	1.1%
Nothing Found	1,706	9.84%	77,293	6.19%	7,515,829	4.7%
Other - Public	71	0.41%	13,599	1.09%	1,506,110	0.9%
Other - Non-Controllable	1,148	6.62%	62,911	5.04%	7,329,488	4.6%
<b>Total</b>	<b>17,334</b>	<b>100.00%</b>	<b>1,249,209</b>	<b>100.00%</b>	<b>160,310,730</b>	<b>100.0%</b>

<sup>5</sup> Trouble cases are the number of sustained customer service interruptions (i.e., service outages).

<sup>6</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 more than 19% 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 are 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 35% of the cases of trouble, 43% of the customer interruptions and 45% 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.

***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>7</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>7</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>8</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>8</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

<p>90 – Other – Controllable (Lineman provides explanation)</p>	<p>Controllable</p>	<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>
<p>96 – Nothing Found</p>	<p>Non-Controllable</p>	<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>
<p>98 – Other Public (Lineman provides explanation)</p>	<p>Public</p>	<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>
<p>99 – Other – Non-Controllable (Lineman provides explanation)</p>	<p>Non-Controllable</p>	<ul style="list-style-type: none"> <li>• Any outage occurring because of a fire, flood, or a situation that develops as a result of a fire or flood. Do not use when facilities are de-energized at the request of civil authorities.</li> <li>• When an interruption is caused by objects other than trees, such as kites, balls, model airplanes, roofing material, 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>



**Duquesne Light**

A DQE Company

Rates & Regulatory Affairs Unit  
411 Seventh Avenue 8-6  
Pittsburgh, Pennsylvania 15219

ORIGINAL

October 31, 2005

VIA OVERNIGHT MAIL DELIVERY:

DOCUMENT  
FOLDER

RECEIVED

James J. McNulty, Secretary  
Pennsylvania Public Utility Commission  
P. O. Box 3265  
Harrisburg, Pennsylvania 17105-3265

OCT 31 2005

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

Dear Mr. McNulty:

L-00030161

On December 28, 2004, Duquesne filed with the Commission a Petition for Protective Order Pertaining to Information contained in its Quarterly and Annual Reliability Reports. Pending Commission action upon that request, Duquesne is submitting an original and six (6) copies of its report for the quarter ended September 30, 2005, in two versions, both included under this transmittal letter. The first version contains only that information for which Duquesne did not request confidential treatment. The second version includes all of the information required by 52 Pa. Code §57.195, is marked "confidential and proprietary" and is enclosed in a sealed envelope.

Duquesne respectfully requests that version marked "confidential and proprietary" not be made available to the public.

Please return a date-stamped copy of this letter in the enclosed, self-addressed stamped envelope.

If you have any questions regarding the information provided, please contact me at (412) 393-6334 or nkrajovic@duqlight.com.

Sincerely,

Nancy J. D. Krajovic  
Manager, Regulatory Affairs

Enclosures

- c: Mr. K. F. Cadden – Bureau of CEEP
- Mr. I. A. Popowsky – Office of Consumer Advocate
- Mr. W. R. Lloyd – Office of Small Business Advocate
- Mr. B. J. Loper – Bureau of CEEP

w/ enclosure

"  
"  
"

**DUQUESNE LIGHT COMPANY  
QUARTERLY RELIABILITY REPORT  
November 1, 2005**

**57.195 Reporting Requirements**

**(d)(2) The name, title, telephone number and e-mail address of the persons who have knowledge of the matters, and can respond to inquiries.**

Wayne H. Honath - Manager, Asset Management  
(412) 393-8332, whonath@duqlight.com

Nancy J. Krajovic - Manager, Regulatory Affairs  
(412) 393-6334, nkrajovic@duqlight.com

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OCT 31 2005

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

**DOCKETED**  
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FOLDER**

(e)(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.

No major events occurred during the third quarter of 2005.

(e)(2) Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) for the electric distribution company'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.

**RELIABILITY BENCHMARKS AND STANDARDS**

**Duquesne Light Company**

**System Performance Measures with Major Events Excluded**

Entire System				
	SAIDI	SAIFI	CAIDI	MAIFI
Benchmark	126	1.17	108	*
12 Month Standard	182	1.40	130	*
2005 2Q (Rolling 12 mo)	104	1.07	98	*

\* Sufficient information to calculate MAIFI is unavailable.

**Data used in calculating the indices**

Total KVA interrupted for the period: 7,281,749 KVA  
 Total KVA-minutes interrupted: 712,583,772 KVA-Minutes  
 System connected load as of 6/30/05: 6,835,496 KVA

**Formulas used in calculating the indices**

$$\text{SAIFI} = \frac{(\text{Total KVA interrupted}) - (\text{KVA impact of major events})}{\text{System Connected KVA}}$$

$$\text{SAIDI} = \frac{(\text{Total KVA-minutes interrupted}) - (\text{KVA-minute impact of major events})}{\text{System Connected KVA}}$$

$$\text{CAIDI} = \text{SAIDI/SAIFI}$$

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**(e)(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 electric distribution company defines its worst performing circuits shall be included.**

Rank	Circuit	Connected KVA	KVA Min Interrupted	KVA Interrupted	SAIDI	SAIFI	CAIDI
1	22869 Midland-Cooks Ferry	34,481	12,143,326	94,773	352	2.7	128
2	23620 Raccoon	39,826	8,899,757	109,394	223	2.7	81
3	23840 Arsenal	31,644	9,520,036	131,470	301	4.2	72
4	23783 Valley	42,521	4,170,536	133,420	98	3.1	31
5	22565 Parkview-Blaw Knox	19,832	4,942,476	46,084	249	2.3	107
6	23920 Logans Ferry	39,493	6,504,394	88,661	165	2.2	73
7	22563 Pine Creek-Blaw Knox	12,269	10,900,174	44,055	888	3.6	247
8	23630 Sewickley	33,192	10,931,712	51,953	329	1.6	210
9	23670 Montour	32,800	5,644,396	74,493	172	2.3	76
10	23704 North	32,282	5,487,203	43,838	170	1.4	125
11	22860 Valley-Morado No. 2	11,185	11,472,800	23,971	1026	2.1	479
12	23710 Pine Creek	29,470	6,083,002	52,244	206	1.8	116
13	23760 Wilmerding	11,530	1,106,479	32,223	96	2.8	34
14	23870 Mt. Nebo	30,771	18,345,064	176,625	596	5.7	104
15	23622 Raccoon	37,650	8,510,698	96,871	226	2.6	88
16	23715 Pine Creek	31,790	4,603,762	32,936	145	1.0	140
17	23635 Ambridge	30,062	11,361,705	80,505	378	2.7	141
18	22862 Ambridge-Sewickley No.3	16,242	8,521,428	56,214	525	3.5	152
19	22854 Phillips-Alliquippa	11,117	3,884,810	48,157	349	4.3	81
20	23683 Woodville	43,880	6,129,188	66,830	140	1.5	92

Circuit performance is based on an annual statistical evaluation performed by SGS Statistical Services. Scores are assigned to each circuit based on time-weighted, multi-year outage data, and are typically available in the first quarter of the year. The composite scores include analysis of outage duration, outage frequency, mean time between failures, and customers served by each circuit. A gap score is calculated for each circuit by subtracting its composite score percentile from its connected KVA percentile. The circuits are stack-ranked according to gap scores and assigned a performance rank, with 1 being the lowest rank. The circuits in the above list are sorted by performance rank.

Additionally, Duquesne Light's Asset Management group monitors the number of operations of automatic devices (circuit breakers, sectionalizers, reclosers, and fuses) to identify smaller pockets of customers experiencing frequent outages. This analysis goes beyond the circuit level, and is a proactive method of addressing small areas before they begin to affect circuit or system performance indices. This information is used throughout the year to plan and prioritize additional reliability projects. Projects identified by this method are rolled into the work plan on an ongoing, dynamic basis.

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

Rank	Circuit	Remedial Actions Planned or Taken
1	22869 Midland-Cooks Ferry	VM completed Q4 2002; VM scheduled for 2007. IR survey 7/28/04; hot spots repaired 8/23/04. Lateral fuses installed 5/3/04. Installed new sectionalizer 5/4/05. An additional sectionalizer to replace underarm switch was installed 10/24/05.
2	23620 Raccoon	VM completed 10/15/04; VM scheduled for 2009. IR survey scheduled for 8/10/05. Lateral fusing started 6/05. A new circuit, Crescent 23662, will reduce exposure and load on this circuit, to be energized in 2007. Overload relief for two step-down transformer areas scheduled for design in 2005 and construction in 2006. Additional sectionalizing proposed for 2006, including accelerating installation of devices proposed for 23662 where practical.
3	23840 Arsenal	Extended circuit Arsenal 23844 to reduce exposure and load on this circuit. VM completed Q1 2005. Lateral fusing and infrared surveying to be completed by the end of 2005.
4	23783 Valley	VM completed Q3 2002; VM scheduled for 2006. IR survey 9/7/04; hot spots repaired 9/13/04. Lateral fuses installed 2/19/04. Additional sectionalizers to be proposed for 2006.
5	22565 Parkview-Blaw Knox	The circuit was eliminated in July 2005. Customers were transferred to circuit 22567, and this circuit is being monitored and reported in our Reliability Reports through year-end 2005.
6	23920 Logans Ferry	VM completed Q1 2002; VM scheduled for 2005. IR survey 6/17/04; hot spots repaired 9/1/04. Lateral fuses installed 2/23/04. A new circuit, Logans Ferry 23923, and new circuits from California Substation will greatly reduce exposure and connected KVA. Expected cut-in for Logans Ferry 23923 is 12/05, and for California Substation is 6/06.
7	22563 Pine Creek-Blaw Knox	The distribution load on this circuit will be transferred to a new 23 kV circuit supplied from the new California SS, which is to be completed by 6/06.
8	23630 Sewickley	VM completed Q3 2003; VM scheduled for 2007. IR survey 8/10/04; hot spots repaired 9/30/04. Lateral fuses installed. A bulk power supply substation is scheduled to be installed at Sewickley by 12/06. Related work will include conversion of 4 kV circuits and installation of a second Sewickley 23 kV circuit, including rearrangement of the area.
9	23670 Montour	VM completed Q4 2001; VM scheduled for 2006. IR survey 2000; IR survey scheduled for 2005. Lateral fuses installed 6/05. A new circuit, Findlay 23613 is being installed to reduce exposure and load on this circuit. Rights of way to be acquired in 2005, but may require litigation. Construction to be completed by 12/05, or approximately 6 months after right of way is obtained, whichever is later.
10	23704 North	VM completed in 2003. New Wildwood substation will allow reduced exposure and load on this circuit. The expected cut-in date for Wildwood Substation is 6/07. Lateral fusing completed 3/3/05. IR survey planned for 2005.
11	22860 Valley-Morado No. 2	VM completed Q2 2000; VM scheduled for 2005. Overloaded step-down transformers and non-standard aerial cable will be eliminated through conversion to 23 kV distribution and rearrangement of the area by 12/06.
12	23710 Pine Creek	New circuit Pine Creek 23718 is planned to reduce exposure and load on this circuit. The expected cut-in date for this project is 11/30/05.
13	23760 Wilmerding	VM completed Q3 2000; VM scheduled for 2005. IR survey 6/17/04; hot spots repaired 8/24/04. Lateral fuses installed 6/1/04. New circuit Port Perry 23970 was cut in 6/18/05, and will greatly reduce this circuit's exposure and connected KVA.
14	23870 Mt. Nebo	Repaired sectionalizer that misoperated. VM completed in 2003. New circuit Mount Nebo 23871 is planned to reduce exposure and connected KVA on this circuit. Lateral fuses installed 2/5/04. IR survey 7/15/04; hot spots repaired 8/23/04.
15	23622 Raccoon	VM completed Q4 2000; VM scheduled for 2005. IR survey 6/29/04; hot spots repaired 8/23/04. Lateral fuses installed 6/30/04. Additional lateral fuses installed 5/05. Identified and repaired failed lightning arresters and replaced faulty strain insulators. Overload relief for two step-down transformer areas scheduled for design in 2005 and construction in 2006. Facilities inspections started and Underground Maintenance Plan currently in development.
16	23715 Pine Creek	VM completed 2/4/05. New Wildwood substation is scheduled for cut-in June, 2007. This circuit is not part of the present scope but will be added to the project if necessary. This will reduce exposure and load. Lateral fusing completed on 2/16/05. IR survey planned for 2005.
17	23635 Ambridge	VM completed Q3 2003; VM scheduled for 2007. IR survey 1998. Lateral fusing scheduled for 2006.
18	22862 Ambridge-Sewickley #3	VM completed Q3 2003; VM scheduled for 2007. IR survey 1999.
19	22854 Phillips-Aliquippa	VM scheduled for 2005 and 2010. A new circuit, Crescent 23662, will be extended to this area in 2006. Remote controlled devices will be installed for service restoration.
20	23683 Woodville	VM completed Q3 2002; VM scheduled for 2006. IR survey 9/7/04; hot spots repaired 9/13/04. Lateral fuses installed 3/30/04.

**Notes: VM = Vegetation Management Line Clearance  
IR = Infrared Inspection of Overhead Equipment**

**(e)(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.**

October 1, 2004 through September 30, 2005

Cause	No of Outages	Outage Percentage	KVA Total	KVA Percentage	KVA-Minute Total	KVA-Minute Percentage
Storms:	989	27%	2,254,988	31%	270,129,350	38%
Trees (Contact):	118	3%	119,534	2%	11,060,853	2%
Trees (Falling):	419	11%	816,494	11%	96,144,057	13%
Equipment Failures:	967	26%	2,475,560	34%	219,358,390	31%
Overloads:	567	16%	69,222	1%	7,431,476	1%
Vehicles:	156	4%	295,125	4%	33,449,589	5%
Other:	437	12%	1,250,826	17%	75,010,057	11%
Totals:	3,653	100%	7,281,749	100%	712,583,772	100%

We developed cause codes related to specific types of equipment, and implemented them in 2004. We have begun to review outage with the intent to analyze the types of equipment that have the biggest impact on reliability, and to determine what projects or programs are feasible in order to address these specific pieces of equipment

**(e)(11) Monthly call-out acceptance rate for transmission and distribution maintenance workers presented in terms of both the percentage of accepted call-outs and the amount of time it takes the EDC to obtain the necessary personnel. A brief description of the EDC's call-out procedure should be included when appropriate.**

**Call-out Acceptance Rate**

	Accepts	Refusals	Total	Percentage
July	230	328	558	41%
August	249	417	666	37%
September	68	131	199	34%

### Amount of time it to obtain the necessary personnel

The Energy Association of Pennsylvania and the PUC developed guidelines for this measure, to ensure that all Pennsylvania EDCs are reporting in the same manner and using the same definitions. The Guidelines for Call-Out Reporting were issued by EAP on May 24, 2005 with the approval of PUC Staff.

Based on the Guideline, we developed a process to collect and report the required data, and are now able to report it, beginning with the third quarter of 2005. We had originally expected to be able to report this additional data beginning with the first quarterly report for year 2006.

	<b>Total Calls</b>	<b>Workers Accepting</b>	<b>Average Response Time/Crew Call-out</b>	<b>Average Response Time/Worker</b>
July	73	230	16.2 (1,183/73)	5.1 (1,183/230)
August	70	249	28.9 (2,022/70)	8.1 (2,022/249)
September	23	68	25.7 (591/23)	8.7 (591/68)
<b>Quarter</b>	166	547	22.9 (3,796/166)	6.9 (3,796/547)
<b>YTD</b>	166	547	22.9 (3,796/166)	6.9 (3,796/547)

**ORIGINAL**

L-00030161

**WELLSBOROUGH ELECTRIC  
COMPANY**

**QUARTERLY RELIABILITY REPORT  
57.195 REPORTING REQUIREMENTS**

**Third Quarter 2005**

**DOCUMENT  
FOLDER**

**July thru September 2005**

**SUBMITTED BY**

**ROBERT S. McCARTHY  
VICE-PRESIDENT, ENGINEERING AND OPERATIONS  
570-724-3516  
[bobbym@ctenterprises.org](mailto:bobbym@ctenterprises.org)**

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**57.195 Reporting Requirements**

**Section (e) Item (2)**

Rolling 12-Month reliability index Values (SAIFI,CAIDI,SAIDI) 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.

**WELLSBORO ELECTRIC COMPANY**

**ROLLING TWELVE MONTH INTERRUPTION INDEXES**

**Third Quarter of 2005**

SAIDI 394
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SAIFI 4
------------

CAIDI 97
-------------

**ROLLING TWELVE MONTH STANDARD AS ESTABLISHED BY THE PUC**

SAIDI 278
--------------

SAIFI 1.66
---------------

CAIDI 167
--------------

<b>Wellsboro Electric Company</b>	<b>Reliability Index</b>	<b>SAIDI</b>
<b>MONTH</b>	<b>TOTAL CUST MINUTES</b>	<b># CUSTOMERS SERVED</b>
Oct-04	157216.8	5853
Nov-04	368182.8	5860
Dec-04	447745.8	5869
Jan-05	588885	5849
Feb-05	2449.2	5850
March-05	12511.8	5850
April-05	55207.2	5869
May-05	47809.8	5877
June-05	173671.2	5874
July-05	52243.2	5883
August-05	40179.6	5899
September-05	367795.8	5894
	<b>2313898</b>	<b>70427</b>
	Average # Customers Served	5868.917

Rolling 12 Month Average SAIDI Index

**394.26326**

**WELLSBORO ELECTRIC COMPANY**

**Reliability Index**

**SAIFI**

<b>Month</b>	<b># of Customers Interrupted</b>	<b># of Cust Served</b>
Oct-04	5804	5853
Nov-04	1925	5860
Dec-04	3328	5869
Jan-05	5670	5849
Feb-05	42	5850
March-05	127	5850
April-05	299	5869
May-05	179	5877
June-05	1245	5874
July-05	493	5883
August-05	644	5899
Sept-05	4117	5894
		70427
	<b>23873</b>	<b>5868.9167</b> Avg # of Customers

**SAIFI INDEX** **4.067701**



**Wellsboro Electric Company**

**Reliability Index      CAIDI**

<b>Month</b>	<b>Total Customer Mins</b>	<b># of Customers Interrupted</b>
Oct-04	157216.8	5804
Nov-04	368182.8	1925
Dec-04	447745.8	3328
Jan-05	588885	5670
Feb-05	2449.2	42
March-05	12511.8	127
April-05	55207.2	299
May-05	47809.8	179
June-05	173671.2	1245
July-05	52243.2	493
August-05	40179.6	644
Sept-05	367795.8	4117

**2313898**

**23873**

**CAIDI INDEX**

**96.92532**

57.195

Reporting Requirements

Section (e) Item (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.

<b>Date</b>	<b>Time of Event</b>	<b>Duration of Event</b>	<b># Cust Affected Affected</b>	<b># Customer Hours</b>	<b>Cause</b>
7/26/2005	7:30 P.M.	20.5 Hrs	601	12320.5	Severe Thunderstorm

**57.195 (e) (5) -** A breakdown and analysis of outage causes during the preceding quarter, including the number and percentage of service outages and customer interruption minutes categorized by outage cause such as equipment failure, animal contact, tree related, and so forth Proposed solutions to indentified service problems shall be reported.

Outages from July-Sept 05

Outage Cause	Number of Customers Affected	Number of Outages	Customer Minutes	Percentage of Outages
Decay	0	0	0	0.0%
Corrosion	0	0	0	
Distribution	0	0	0	
Electrical Overload	0	0	0	0.0%
Equipment	2608	11	137543.4	10.7%
Lightning	383	34	25381.8	33.0%
Maintenance	0	0	0	
Ice,Sleet,Frost	0	0	0	0.0%
Other, Deterioration	0	0	0	
Other,Faulty Equipment	0	0	0	0.0%
Scheduled	0	0	0	0.0%
Other Utilities	0	0	0	0.0%
Power Supplier	0	0	0	0.0%
Public Accidents	0	0	0	
Small Animals	139	8	3258.6	7.8%
Trees	193	10	8892.6	9.7%
Unknown	360	29	20367	28.2%
Car Pole Accidents	552	4	94114.8	3.9%
Wind	1019	7	170658.6	6.8%
	5254	103	460216.8	100.0%

Enclosed is the Third Quarter 2005 Reliability Report from Wellsboro Electric Company.

Wellsboro Electric Company is concerned about our SAIDI and SAIFI index, We feel the reason for the increase in these indexes are multiple. First the Summer of 2005 was very hot and humid, our system was hit by many hit and miss thunderstorms every few days this summer, these storms brought high winds and frequent sky to ground lightning. As the detail outage reports show we had thirty four (34) lightning related outages in the third quarter of 2005 that affected 383 customers and accounted for 25381.7 customer outage minutes, of these storms one was a major event for our Company that we were granted an exemption from reporting.

Second equipment failures, we are experiencing a rash of equipment failures mainly failing porcelain cutouts or fuse devices, most of these failures have caused fairly large outages, the devices that are failing were installed in the early to mid 1990's. We are doing everything possible in an attempt to identify and replace defective units, the means we are employing is visual inspections of cutouts, and we have tried infrared imaging of these units with no success in finding the units that are cracked. Our line crews have been instructed to replace any A.B. Chance porcelain cutout anytime they are at a location performing maintenance or outage restoration activities.

Third, trees are another large cause of outages. Of the outages in the third quarter from tree's the majority was from off right-of-way trees that were damaged or weakened from previous storms, in an attempt to prevent further outages we are implementing a more detailed inspection of lines and right-of-ways after storms in the areas affected in an attempt to find and remove damaged timber before in falls and creates more outages. We have had an aggressive right-of-way program in effect since 1997, were we trim and clear 50 circuit miles of line each year and will continue this program; we are presently out for bid for 55 miles of line for 2006.

Fourth, Animal contacts have accounted for a large amount of outages.

We are presently implementing a plan to address these issues in an attempt to prevent future outages from occurring, on all circuits that had an outages from lightning in 2005 will be patrolled by our Engineering Department to confirm that lightning arrestors are installed at each protective device and tap on these circuits, all new construction calls for two lightning arrestors to be installed at each protective device installed, one on the load side and one on the line side, this setup has been used for the last six years, on the circuits that we will patrol from lightning related outages we will install the two arrestor setup on all existing lines that had a lightning related outages in 2005, we also install lightning arrestors at locations on lines in higher elevations that are prone to lightning. As part of the patrol we will identify and install arrestors at the locations we find not to have them. If possible and coordination of the electric system allows, we will remove line fuses on longer taps and install oil circuit reclosers in their place in an attempt to ride through a lightning strike.

In an attempt to prevent animal related outages, we have had a practice in place to install an animal guard on all new transformer installations and to insulate the wire from the primary conductor to the transformer bushing to eliminate the area an animal could contact an energized part. For customers and lines that had a animal related outage in 2005 if the transformer or equipment that the animal contacted was not covered up as we call it a maintenance order will be issued and the device will have an animal guard and insulated wire installed, these will include transformers, cutouts, voltage regulators, capacitors, Etc.

Unknown cause of outages has always been an issue for us, we feel if these was an outage there had to be a reason for it, but many times we are unable to find a reason. We will continue to patrol in an attempt to find a cause and prevent a future outage, I believe some of these outages are again related to weather events that can weaken or damage trees that later fall into line and cause an outage but cause no damage to the facilities and the crew in unable to locate the reason the line is out., we notice after lightning storms more unknown outages. again we believe that a lighting event may weaken a fuse and it may fail days or weeks after the weather event.

After future weather events, lines or areas affected will be patrolled and detail paid to off right of way timber in an attempt to find and remove hazards that could affect the electric system and also confirm that the appropriate lightning protection is in place according to industry standards.

As part of our normal line inspection activities that normally occur over the winter months, more detail will be paid to porcelain cutouts on our system, crews will visually inspect every porcelain cutout they encounter in an attempt to identify and replace units that are cracked that could fail. We know we have hundreds of these on our system, our older records does not indicate were on the system the cutouts purchased in the early to mid 1990's were installed. It is normal practice to replace these cutouts anytime work is being preformed at a location that has them presently.

One of the final reasons I believe might be causing the change in the reliability indexes is our outage management system and engineering model that drives the outage system in getting to be a lot more accurate that it had been in the past, prior to the late 1990's Wellsboro did not have a computerized outage management system, outages were tracked by hand, since the implementation of our outage system we have been working hard to identify electrical phasing on our system and insuring that the customers locations are on our engineering model and the phase is correct. we also have GIS based mapping system that is constantly being updated and corrected, which also makes our outage system more accurate. It will take a few years of data in the outage system to conform this.

If you have any further questions on this report. I would be more than glad to discuss this in further detail if you so desire.

Respectfully Submitted by Robert S. McCarthy, Vice-President, Engineering and Operations. Wellsboro Electric Company. 570-724-6701



**Robert R. Stoyko**  
Vice President - Electric Distribution

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October 31, 2005

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

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

RE: Quarterly Electric System Reliability Report  
12 Months Ending September 30, 2005

DOCUMENT  
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Dear Secretary McNulty:

Pursuant to the Commission's Final Rulemaking Order amending Electric Service Reliability Regulations (52 Pa. Code §§57.191 - 57.197) at Docket No. L-00030161, UGI Utilities, Inc. - Electric Division ("UGI") hereby files an original and six copies of its Quarterly System Reliability Report. This report contains SAIDI, SAIFI, and CAIDI results on a 12 month rolling basis for the period ending September 30, 2005, as well as the raw data utilized in the development of those results. The actual statistics continue to be favorable to both the benchmark and standard adopted for UGI. An extended period of relatively storm-free weather has been a contributing factor in the results noted. Also included is a breakdown of outages by cause for the 12 months ending September 30, 2005.

Any questions related to the attached report should be directed to Ms. Abigail J. Hemmerich at (610) 796-3431.

Please acknowledge receipt of this filing by date stamping the enclosed copy of this letter and returning it in the enclosed stamped, self-addressed envelope.

Sincerely,

Attachment

75

cc: **FEDERAL EXPRESS**

Irwin A. Popowsky  
Office of Consumer Advocate  
555 Walnut St.  
5<sup>th</sup> Floor, Forum Place  
Harrisburg, PA 17101-1921

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UGI Utilities, Inc. – Electric Division  
System Reliability Report:  
Quarterly Update

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November 1, 2005

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**UGI Utilities, Inc. – Electric Division  
System Reliability Report**

**§ 57.195(e)(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.**

No major events occurred during the preceding quarter.

**§ 57.195(e)(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.**

The reliability results for UGI's service area for the 12 month period ending September 30, 2005 are as follows:

	<b>SAIFI</b>	<b>SAIDI</b>	<b>CAIDI</b>
Results	<b>0.59</b>	<b>76</b>	<b>127</b>
Benchmark	0.83	140	169
Standard	1.12	256	228

Note: SAIFI – System Average Interruption Frequency Index  
SAIDI – System Average Interruption Duration Index  
CAIDI – Customer Average Interruption Duration Index

**While the results for each of the three reliability indices remain well below their respective standard and benchmark it is important to point out that favorable weather conditions over the past 12 months have contributed significantly to these results.**

**SAIFI**

UGI's SAIFI results have improved 15% over the .69 reported for the 12 month period ending June 2005. This improvement is attributed to a reduction in the number of outages caused by lightning strikes and motor vehicle accidents. The above result is below the benchmark and standard adopted for UGI.

**SAIDI**

The SAIDI value for the 12 months ending September 2005 is 76, a 21% reduction compared to last quarter's report. The improvement is due to the same factors noted for the SAIFI index. This remains well below both the standard and benchmark adopted for UGI.

**UGI Utilities, Inc. – Electric Division  
System Reliability Report**

**CAIDI**

The CAIDI result of 127 for the 12 month period ending September 30, 2005 continues to remain below the benchmark and standard.

UGI Utilities, Inc - Electric Division  
System Reliability - Raw Data  
October 2004 - September 2005

§ 57.195(e)(2) - Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI) 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.

	Raw Data		
	TCI	TCB	TMCI
October-04	2,435	61,768	171,534
November-04	4,925	61,882	692,946
December-04	2,193	61,946	434,069
January-05	7,931	61,975	506,291
February-05	648	61,936	72,894
March-05	2,505	61,956	527,916
April-05	1,581	61,856	248,097
May-05	374	61,828	43,066
June-05	1,953	61,748	343,717
July-05	4,681	61,720	837,628
August-05	4,575	61,952	485,081
September-05	2,926	61,743	308,140

TCI: Total Customers Interrupted  
TCB: Total Customers  
TMCI: Total Customer Minutes Interrupted

**Note:** There were no major events that were excluded from the numbers used in calculating the indices.

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UGI Utilities, Inc - Electric Division  
 System Reliability - Outage by Cause Analysis  
 October 2004 - September 2005

§ 57.195(e)(5) - 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.

<b>Outage Cause</b>	<b>% Of Total Incidents</b>	<b>Number of Interruptions</b>	<b>Customers Interrupted</b>	<b>Minutes Interrupted</b>
Animal	6.87%	36	1,367	114,974
Construction Error	1.34%	7	1,052	115,186
Customer Problem	1.15%	6	9	958
Equipment Failure	34.16%	179	14,003	746,852
Structure Fire	1.15%	6	641	25,894
Lightning	8.59%	45	3,240	448,021
Motor Vehicle	5.34%	28	960	195,355
Public	4.20%	22	810	103,409
Trees	30.73%	161	13,573	2,769,032
Unknown	3.44%	18	321	53,986
Weather/Wind	1.72%	9	610	82,243
Weather/Ice	0.38%	2	22	4,188
Other	0.95%	5	119	11,281
<b>Total</b>	<b>100.00%</b>	<b>524</b>	<b>36,727</b>	<b>4,671,379</b>

**Proposed Solutions to Identified Problems:**

A significant percentage of the outages reported above resulted from equipment failure. They are the result of a manufacturing defect in a distribution-type fuse cutout utilized on the UGI system. UGI has implemented a replacement program that actively identifies and replaces existing installations that utilize this type of cutout.

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