Paul E. Russell Associate General Counsel

PPL.

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FEDERAL EXPRESS

January 31, 2013

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

JAN 3 1 2013

PA PUBLIC UTILITY COMMISSION SECRETARY'S BUREAU

Re: PPL Electric Utilities Corporation

Quarterly Reliability Report for the Period Ended December 31, 2012 Docket No. L-00030161

Dear Ms. Chiavetta:

Enclosed for filing on behalf of PPL Electric Utilities Corporation ("PPL Electric") are an original and five (5) copies of PPL Electric's Quarterly Reliability Report for the Period Ended December 31, 2012. Also enclosed, in a sealed envelope, is a copy of the report containing competitively sensitive and proprietary information. The Company hereby requests that the Commission treat that information, and the report containing the information, as privileged and confidential. 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 January 31, 2013, which is the date it was deposited with an overnight express delivery service as shown on the delivery receipt attached to the mailing envelope.

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

If you have any questions regarding this document, please call me or Joseph M. Kleha, PPL Electric's Manager-Regulatory Compliance and Rates at (610) 774-4486.

Very truly yours.

Paul E. Russell

Enclosures

cc: Mr. Darren Gill

Mr. Daniel Searfoorce



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

JAN 3 1 2013

PA PUBLIC UTILITY COMMISSION SECRETARY'S BUREAU

January 2013

PPL Electric Utilities Corporation ("PPL Electric") considers the contents of this report to be competitively sensitive and proprietary. As such, PPL Electric requests that the Pennsylvania Public Utility Commission treat the information contained in this report as privileged and confidential.

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.

During the morning of Monday, October 29, 2012, PPL Electric began to feel the effects of Hurricane Sandy. The heaviest winds were felt within PPL Electric's service territory during the late evening of Monday, October 29, 2012. Hazardous winds continued throughout the following day, with the Lehigh and Northeast regions experiencing the most severe and sustained winds. Various weather stations in Allentown recorded the highest wind gusts in the state ranging from 70 to 81 mph, while gusts above 60 mph were recorded in the Pocono area.

In addition to the hazardous winds, heavy rain blanketed the service territory from Monday night through late Tuesday, October 30, 2012, causing localized flooding and loose soil conditions. Most of PPL Electric's service territory experienced at least 2 inches of rain, while some areas received up to 5 inches. The wind and rain caused large trees and branches from outside PPL Electric's rights-of-way to make contact with transmission and distribution facilities, resulting in many downed conductors and broken poles. In some areas, restoration efforts early in the storm were hampered by the heavy wind because bucket trucks cannot safely operate in winds above 30 mph.

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

Actions taken to minimize the impact of similar future events include:

- Ensuring all PPL Electric employees have a storm role and are appropriately trained to perform that role.
- Ensuring consistent organizational structure across all regional storm rooms.
- Developing pre-defined layouts and improved planning for staging areas.
- Moving to a centralized database for human resource planning.
- In future storms, senior leaders will have the option to disable Estimated Restore Times (ERTs) at the outset of a storm. Customers calling in, using the Outage Center

or receiving multi-channel communications from PPL Electric would be told that estimated restoration times were not yet available. PPL Electric would provide system-wide or region-specific ERTs in those situations, but would not issue local ERTs until an informed, and more accurate, estimate of restoration can be made based on field assessment. In storm situations, the director of system emergency will decide whether to suppress ERTs.

- Implementing technology initiatives on the Outage Management System and the Mobile Operations Management system, along with website upgrades.
- Enhancing coordination with emergency management agencies and critical customers.

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 December 31, 2012¹.

SAIFI (Benchmark = 0.98; Rolling 12-month Std. = 1.18)	1.08
CAIDI (Benchmark = 145; Rolling 12-month Std. = 174)	152
SAIDI (Benchmark = 142; Rolling 12-month Std. = 205)	164
MAIFI ²	4.11
Average Number of Customers Served ³	1,392,408
Number of Sustained Customer Interruptions (Trouble Cases)	16,383
Number of Customers Affected ⁴	1,497,659
Customer Minutes of Interruptions	228,118,697
Number of Customer Momentary Interruptions	5,716,569

During the 4th quarter there was one (1) PUC major event, two (2) PUC Reportable storms, and one (1) other storm that required the opening of one or more area emergency centers to manage restoration efforts.

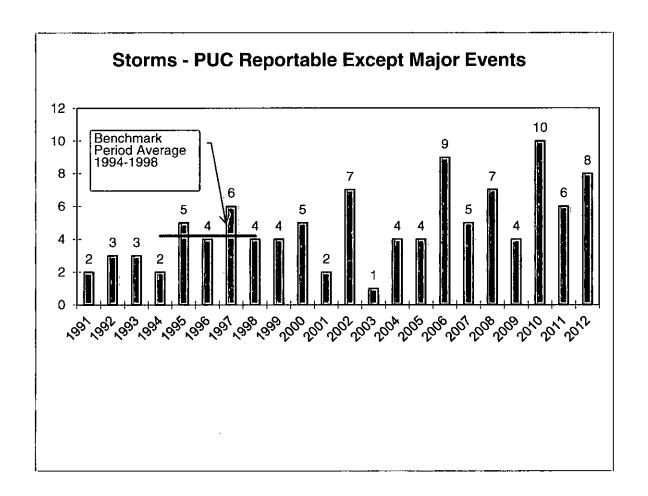
¹ Non-PPL Electric problems are excluded here, but may be found in Item 5.

² MAIFI data is obtained at the substation breaker and does not include momentary service interruptions at lower level devices.

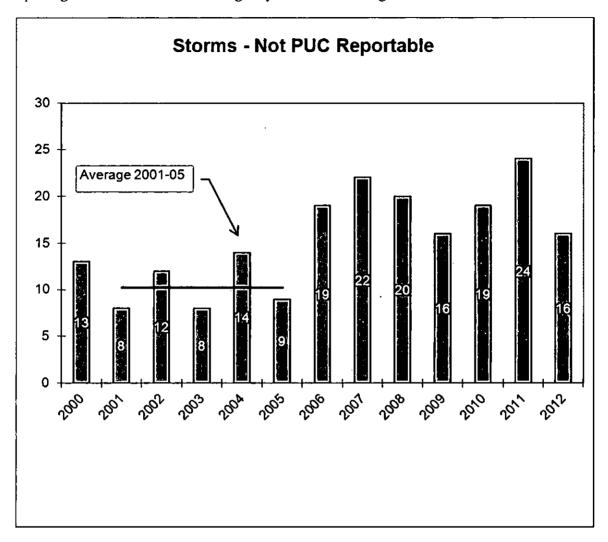
³ PPL Electric calculates the annual indices using customers served at the end of the period. This is consistent with the method used to calculate PPL Electric's benchmarks.

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

Specifically, during the 12-month reporting period, there was one (1) PUC major event and eight (8) PUC-reportable storms (\geq 2,500 customers interrupted for \geq 6 hours) other than major events.



In addition, there were sixteen (16) storms that were not reportable, but which did require the opening of one or more area emergency centers to manage restoration efforts.



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 ⁵	Customers	Cases of Trouble ⁶	Customer Minutes Interrupted	СРІ
1	28701	3.05	1,008.8	3,074.9	1.01	811	17	2,493,758	1,158
2	22601	7.37	136.59	1,006.8	4.87	1,057	57	1,064,190	1,022
3	13902	5.17	124.88	645.00	16.78	1,866	23	1,203,579	996
4	28302	5.34	158.19	844.61	5.14	2,795	90	2,360,693	987
5	11406	3.05	267.55	816.63	4.05	1,015	12	828,881	968
6	55502	4.64	121.11	561.37	1.06	1,593	20	894,270	906
7	45402	5.19	216.81	1,125.0	7.22	1,591	58	1,789,945	904
8	53302	6.05	114.08	690.23	3.07	357	15	246,411	902
9	67803	4.85	233.78	1,134.8	10.04	1,970	35	2,235,668	864
10	24401	2.56	705.90	1,810.1	5.10	1,228	42	2,222,865	823
11	25502	7.59	90.53	686.69	5.88	494	18	339,223	812
12	53901	4.65	120.27	559.07	4.14	1,183	25	661,376	799
13	53601	5.50	74.52	409.64	1.01	1,118	32	457,976	795
14	28402	4.46	190.59	849.97	10.20	1,586	41	1,348,056	792
15	51401	5.20	84.13	437.17	1.00	464	11	202,848	783
16	16802	4.35	128.48	558.49	16.72	859	35	479,745	775
17	28001	4.89	100.30	490.34	1.01	1,772	54	868,876	774
18	18501	3.84	220.37	846.16	3.02	1,453	32	1,229,466	774
19	47502	3.77	239.90	904.04	3.08	786	26	710,576	760
20	11404	5.53	57.27	316.59	3.01	767	9	242,822	752
21	16301	3.58	100.22	358.30	1.00	1,780	29	637,779	750
22	11401	4.77	67.47	321.66	3.98	969	18	311,689	725
23	20403	3.62	109.78	397.57	0.00	1,910	40	759,353	705
24	13503	3.60	141.24	508.18	7.47	1,428	19	725,676	701
25	47704	2.96	506.58	1,499.7	9.26	735	32	1,102,319	691
26	52002	3.66	109.82	401.79	6.01	1,664	20	668,581	690
27	25801	2.99	391.11	1,169.0	0.00	1,811	39	2,117,086	685
28	53602	5.06	69.03	349.11	3.14	2,184	69	762,459	684
29	62604	3.93	97.04	381.11	1.99	1,362	10	519,065	669

⁵ MAIFI data is obtained at the substation breaker and does not include momentary service interruptions at lower level devices.

⁶ Cases of trouble are the number of sustained customer service interruptions.

WPC Rank	Feeder ID	SAIFI	CAIDI	SAIDI	MAIFI ⁵	Customers	Cases of Trouble ⁶	Customer Minutes Interrupted	CPI
30	60406	9.53	127.94	1,219.5	2.04	201	1	245,127	665
31	43102	3.27	233.16	763.47	2.00	973	20	742,859	665
32	12102	2.60	307.95	802.12	0.00	1,113	31	892,761	662
33	46602	2.94	376.06	1,103.7	0.00	1,430	57	1,578,334	659
34	43101	3.26	287.04	934.77	1.99	1,438	27	1,344,203	657
35	27501	1.82	751.00	1,370.4	2.13	1,250	16	1,713,023	640
36	43302	5.69	264.36	1,503.0	7.14	175	10	263,036	633
37	28301	4.26	99.96	425.99	7.04	2,821	91	1,201,718	631
38	60502	4.36	110.87	483.30	2.01	1,887	30	911,982	623
39	66703	3.78	228.70	863.72	4.08	1,468	25	1,267,937	623
40	43001	3.89	155.12	604.11	4.08	975	53	589,008	620
41	55507	1.59	108.10	171.93	0.00	1,011	12	173,820	608
42	24402	3.20	243.84	780.98	3.00	493	15	385,025	594
43	26001	3.14	225.72	709.22	5.18	1,359	56	963,835	576
44	16202	2.20	503.43	1,105.2	1.99	1,464	15	1,618,013	566
45	23401	4.38	104.30	456.94	3.35	1,735	54	792,788	565
46	53501	3.90	124.61	485.86	6.18	2,142	40	1,040,702	565
47	16801	3.48	117.72	409.07	6.13	1,600	46	654,515	563
48	22602	4.10	64.14	262.68	6.14	1,538	36	404,002	561
49	22002	4.16	103.09	429.04	1.99	1,397	38	599,364	555
50	28501	1.00	1,267.8	1,267.8	0.00	1	1	1,268	554
51	46503	1.19	1,043.6	1,243.3	3.03	439	9	545,834	552
52	47703	2.73	299.54	817.62	8.02	1,383	43	1,130,764	552
53	56802	5.28	71.83	378.92	10.36	1,400	31	530,482	546
54	64202	3.28	212.04	695.84	3.15	1,019	26	709,065	540
55	11405	3.19	122.17	389.79	6.05	1,859	18	724,612	534
56	67402	2.50	224.77	561.76	14.37	1,322	30	742,643	526
57	24301	2.14	463.63	991.98	3.16	1,691	8	1,677,430	522
58	45501	2.07	434.75	899.03	2.04	1,443	58	1,297,294	515

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, which occurred during the time span, to determine whether there are causal patterns or geographic patterns for which corrective actions are feasible that would improve the circuit's CPI.

PPL Electric currently is evaluating improvements to its Worst Performing Circuit program.

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

Rank	Action	Status	Due/Comple	te Result	
1 C	ircuit ID: 28701 HAMLIN 87-01	l		Location: Pocono	CPI: 1157
	9/2012: Circuit outage data analysis - WPC not list.	on preceding Complete	ed 8/31/2012	Two major power outages significantly affect past four quarters which lead to it being one circuits. On May 14, 2012 a tree from outsid caused the 87-1 breaker to trip to lockout. T PPL customers and lasted 137 minutes which minutes interrupted (CMI) value of 75,285. Coutside PPL's designated right of way cause lockout. This outage affected 814 PPL custowhich resulted in a total customer minutes in In total, the 87-1 12 kV line had 14 total outa 2011 and July 2012. The primary causes of contacts from outside PPL's right of way (4) failures (3), and vehicle hits (1).	of PPL's top 50 worst performing e PPL's designated right of way he outage affected a total of 813 ch resulted in a total customer on June 12, 2012, a tree from ed the 87-1 circuit breaker trip to omers and lasted 201 minutes a terrupted CMI of 58,009. ages between the months of June these outages include tree
	1/2013: Circuit outage data analysis - WPC not list.	on preceding Scheduled	for 2/20/2013		
1/2 Fo pha in r	18/2013: Tree trimming-selected line segments of presters will be spot trimming a section of line becase OCR at grid number 64925N45809. This acresponse to two breaker outages which were four trees contacts downstream of the OCR.	yond the single tion was taken	d 11/30/2012	Foresters completed their spot trimming bey number 64925N45809. There have been no section of line since the trimming was comp	tree related outages in this
	8/2013: Tree trimming. PPL will be tree trimmin 1 circuit in the early part of the 2013 calendar ye	•	for 7/31/2013		
1/3	11/2013: Install animal guard(s).	Scheduled	for 2/28/2013	Review of animal outage locations to audit a installed post restoration.	and ensure animal guards were

2 Circuit ID: 22601 KIMBLES 26-01			Location: Pocono	CPI: 1021
4/11/2012: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	5/30/2012	Two major power outages significantly affected this circuit's past four quarters which lead to it being one of PPL's top 50 circuits. On December 21, 2011 a tree branch from outside right of way came in contact with the primary conductor trip OCR to lockout. The outage affected 1,456 PPL customers minutes. PPL crews confirmed that all branches were clear then closed the circuit breaker restoring all customers. The minutes interrupted (CMI) for the outage was 118,632. On I device on the 12kV line caused a fault which resulted in the 12kV circuit breaker to lockout. The outage affected 1,455 I and lasted 497 minutes. The total customer minutes interrupoutage was 496,393. In total, the 26-1 12kV line experienced 44 total outages be and March 2012. The primary causes of these outages inclicontacts (13), equipment failures (12), and tree contacts from right of way (9).	O worst performing PPL's designated ping the upstream is and lasted 260 ed off the line and total customer March 31, 2012 a tripping of the PPL customers pted (CMI) for the tween April 2011 ude animal
8/31/2012: Improve sectionalizing capability. The new 69/12 kV Hawley Substation is scheduled to be completed in August 2012. When constructed, the new Hawley Substation will transfer over 700 customers from the Kimbles 26-1 to the new Hawley 12 kV lines. In addition to improving reliability for the transferred customers, the new substation line will reduce outage durations for the remaining customers through expanded sectionalizing capability.	Completed	9/3/2012	The Hawley 69/12kV substation was completed in August 2 substation transferred approximately 687 customers off the line.	
1/31/2013: Install animal guard(s).	Scheduled for	2/28/2013	Review of animal outage locations to audit and ensure animinstalled post restoration.	nal guards were
1/31/2013: Line inspection-vegetation.	Scheduled for	2/28/2013	Discuss circuit performance with Vegetation Management to cycle corrective action is necessary.	o determine if mid

Ran	k	Action		Status	Due/Complex	te Result		
3	Circu	it ID: 13902	SEIDERSVILLE 39-02			Location: Bethlehem	CPI:	995.
•	7/5/2012	2: Expanded Opera	ational Review.	Completed	7/31/2012	Developed 7 Work Requests to reduce outage risk and performance, including the installation of a LBAS, sing fusing, and transferring of 110 customers to a more re	le and three ph	nase
	7/19/201 qtr. list.	12: Circuit outage	data analysis - WPC not on preceding	Completed	8/31/2012	Determined that additional three phase sectionalizing greatly reduce customers affected and restoration time address these issues.		
	7/23/201 adjacent		0 customers to a more reliable,	Completed	8/30/2012	Reduced customer count affected by each outage.		
1	WO# 42	073599						
			. Installing Remote ltch to reduce restoration times.	Scheduled for	2/28/2013	•		
1	4207579	90, 42075787, 420, o isolate exposed s	WO#'s 42075448, 42075446, 75789, 42075788. ingle and 3 phase taps from tripping	Scheduled for	6/30/2013			
4	Circu	it ID: 28302	NEWFOUNDLAND 83-02	2		Location: Pocono	CPI:	987.
	7/19/201 qtr. list.	I2: Circuit outage	data analysis - WPC not on preceding	Completed	7/24/2012	This circuit has not been on the worst performing circuit quarters. On May 4, 2012 approximately 2,800 PPL or outage due to a substation relay malfunction, resulting 272,000. On March 3, 2012 the OCR at grid number 6 open due to a downstream vehicle accident. The outar customers and resulted in a CMI of 207,000. A new suline are currently under construction that will help mitito future outages.	istomers exper in a total CMI 6457N41772 to ge affected 430 ibstation and 3	ieced an of ripped) phase tie
5 3 1	substation schedule Ledgeda flexibility	on at Ledgedale is ed to be in service ale Substation proje v, reduce outage ex	nalizing capability. A new 69/12 kV currently being constructed and is April 2013. When constructed, the lect will create greater operational posure, and increase automation for y on the Newfoundland 83-2 12kV line.	Scheduled for	4/30/2013			
 - -	Newfour construc The new	ndland 83-2 and Ta sted and is expecte v tie will allow great e, and increase ab	ew 3 phase tie line between the lifton 80-1 line is currently being d to be completed by end of April 2013. er operational flexibility, reduce outage lity to remotely isolate and restore	Scheduled for	4/30/2013			

Ran	k A	Action			Status	Due/Complet	e Result		
5	Circui	it ID: 11406	FARMERSV	ILLE 14-06			Location: Bethlehem	CPI:	967.
	6/27/2012	2: Expanded Ope	rational Review.		Completed	10/1/2012	Developed two WO's to reduce outage risk and res	storation times.	
1	6/27/2012	2: Expanded Ope	rational Review.		Completed	10/1/2012	Developed WO to improve circuit performance.		
	10/11/20 qtr. list.	12: Circuit outage	data analysis - WP6	C not on preceding	Completed		Worst Performing Circuits meeting held to discuss The results of this meeting included a work order was recloser at 67056S50819. Work order also written new single phase fuse.	vritten to install a ne	W
		12: Load balancin ase B to A.	g. WO#: 42073592	@ 67100S50812.	Scheduled for	4/5/2013			
		12: Install 3 phase @ 67056S50819	e OCR(s). WO#: 42	073596 - Install nev	vScheduled for	3/31/2014			
	10/25/20 [.] 67464S5		. WO#: 42073597 -	Install fuse @	Scheduled for	12/25/2013			
6	Circui	it ID: 55502	HERSHEY 5	55-02			Location: Harrisburg	CPI:	906.
			inspection-OH line. with infrared camera		Completed		Reduced outage risk. Problematic vintage of discorplaced.	nnect switches wer	re
	7/28/2012 qtr. list.	2: Circuit outage o	data analysis - WPC	not on preceding	Completed		The Hershey 55-2 line has approximately 1,600 cumiles. The largest CPI contributor has been the pergreater than 3 interruptions. The circuit breaker exthe past year. On 03/10/12, a vehicle struck a pole for 17 minutes. On 03/31/12, a customer cut a tre line. On 06/30/12, a tree from outside the trimmin line. On 08/03/12, a tree branch making contact was span of XLP conductor and caused a permanent	ercentage of custom xperienced four outs e and interrupted cu- e down onto the dis g right of way fell or vore down the insula	ners with ages in istomers stribution in the

5/3/2013

Scheduled for

10/4/2012: Tree trimming. Trim circuit as part of its four year Vegetation Management schedule.

Rank	Action	Status Due/Complete	Result

1/11/2013: Circuit outage data analysis - WPC not on preceding Scheduled for qtr. list.

7 Circuit ID: 45402 WEST BLOOMSBURG 54	I-02		Location: Sunbury	CPI:	904.
11/13/2007: Install 3 phase OCR(s). Replace OCR 37694N30236 with telemetric OCR.	Completed	7/29/2011	Reduced outage duration.		
5/15/2008: Perform line maintenance identified by line inspection. Eliminate exposure of unused 3 phase line by Rte 487 bridge.	Completed	7/29/2011	Reduced outage risk.		
11/26/2008: Install 3 phase OCR(s). Upgrade OCR 38029N29537 with Telemetric VCR.	Completed	7/29/2011	Reduced outage duration.		
4/11/2012: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	6/14/2012	On February 20, 2012 all of the customers on this circuit were out of service when two conductors came down and contacted the ground at 36113N304 Restoration was delayed due to switching problems caused by cold load pup. On September 15, 2012 and September 27, 2012 the WBLO 54-2 Sec VCR at 37624N30209 tripped and did not reclose due to a Temporarily Cleared Green Tag Permit. There are 748 customers downstream from this device. This Green tag permit was likely taken out during construction of the WBLO 54-2 to WBER 53-3 tie. On May 27, 2011 a transmission outage less of the customers on this circuit out of service for 4.5 hours.		N30401. ad pick- Sect y n this of the
8 Circuit ID: 53302 GRATZ 33-02			Location: Harrisburg	CPI:	901.
3/14/2012: Thermographic inspection-OH line. Inspected all 2 and 3 phase primary lines with infrared camera.	Completed	3/14/2012	Reduced outage risk. Replaced 2 overheating loadbreak cu 706906, 706907)	touts (WP	ł

2/20/2013

Rank Action Status Due/Complete Result

9	Circuit ID: 67803 WEST LANCASTER 78-0	03		Location: Lancaster	CPI:	863.
	5/19/2008: Monitor future performance. LMI Inspection performed on 2 phase and 3 phase line - 3.7 miles total	Completed	12/30/2011	Reduced outage risk.		
	1/6/2011: Expanded Operational Review.	Completed	12/30/2011	No work is needed.		
	1/13/2011: Line inspection-equipment.	Completed	7/20/2011	Reduced outage risk.		
	1/13/2011: Thermographic inspection-OH line.	Completed	3/31/2011	Reduced outage risk.		
	10/11/2012: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	10/25/2012	Inconclusive. Monitor future performance. The West approximately 1,960 customers across 36 circuit mit contributor to the CPI (Circuit Performance Index) his top 10 outages in the past year, four occurred on the due to a severe T&L storm. That one storm resulted Minutes Interrupted) of over 975,000. Four of the oby trees from outside the trimming right of way. The trimmed in 2014. The West Lancaster 78-3 line has Performing Circuit list.	les. The largest as been SAIDI. e same day (July ed in a CMI (Cust ther outages were circuit is due to	Of the 7, 2012) omer e caused be
	1/21/2013: Thermographic inspection-OH line. A thermographic inspection on the overhead 2 and 3 phase sections of the circuit is scheduled for the week of January 28, 2013.		2/1/2013			
	1/28/2013: Improve sectionalizing capability. WO 43001930 Install manually operated Air Load Break Disconnect Switches (ALDS's) at grid 38703S25381. The switches are scheduled to be installed on 2/13/2013. This will help improve the SAIDI of the circuit.	Scheduled for	2/13/2013			
	1/28/2013: Tree trimming-selected line segments only (hot spots).	Completed	1/24/2013	Reduced outage risk. Hot Spot tree trimming was of sections of the circuit on the following dates: 6/23/27/28/2012, 8/18/2012, 10/06/2012 and 1/24/2013.		ne

Rank	Action		Status	Due/Complet	e Result		
10 Circ	uit ID: 24401 T	INKER 44-01			Location: Pocono	CPI:	823.
4/11/20 qtr. list		a analysis - WPC not on preceding	Completed		In May 2011, a part of the Tinker 44-1 12kV line load w East Carbondale 12-6 12kV line. The reliability was sig the transferred customers.		
10/17/2011: Evaluate potential ties.		Completed		Tie line capability is being analyzed between the Tinker 44-1 12kV line an Honesdale 34-1 12kV line. With this tie line capable of making transfers, customers from the Tinker line can be effectively restored during outages.			
10/11/: qtr. lis	•	ata analysis - WPC not on preceding	Completed		Two major power outages significantly affected this circular past four quarters which lead to it being one of PPL's to circuits. Both of these outages occurred on July 26, 20 by trees that were outside PPL's designated right of warespective upstream OCR to lockout. The first outage customers and had a total duration of 1720 minutes. The an additional 264 PPL customers and had a total duration of the combined customer minutes interrupted (CMI) of the amounted to 1.817,808. In total, the Tinker 44-1 12kV line had 45 total outages September 2011 and October 2012. The primary causinclude tree contacts from outside PPL's right of way (18), and animal contacts (7).	pp 50 worst pe 12 and were of y operating the affected 836 Pe e other outage ion of 1540 me two outages between the ness of these out	rforming caused e e PPL e affected inutes. s
the bei Tinker flexibil	nefits of constructing a 44-2 12kV lines. The n	tie line between the Tinker 44-1 and ew tie would allow greater operational osure, and increase ability to	Scheduled for	3/1/2013			
	-	PL will be trimming the entire Tinker the 2014 calendar year.	Scheduled for	7/31/2014			

11 Circuit ID: 25502 MADISONVILLE 55-02

10/11/2012: Circuit outage data analysis - WPC not on preceding Completed atr. list.

Location: Pocono

CPI: 811.

11/15/2012 Two major power outages significantly affected this circuit's reliability in the past four quarters which lead to it being one of PPL's top 50 worst performing circuits. The first major outage on the line occurred on July 27, 2012 when the 55-2 breaker tripped to lockout. Due to abnormal sectionalizing of the 12kV system at the time, the outage affected 2,138 PPL customers and lasted 35 minutes. The total customer minutes interrupted for this outage (CMI) was 75,835. The second largest outage occurred on July 15, 2012 when the transmission line feeding the Madisonville substation experienced an outage. This outage affected 506 PPL customers and lasted 133 minutes which resulted in a total CMI of 67,338.

In total, the 55-2 12kV line had 13 total outages between the months of September 2011 and October 2012. The primary causes of these outages include equipment failures (5), tree contacts from outside PPL's right of way (4), and animal contacts (3).

1/28/2013: Install 1 phase OCR(s). PPL will be investigating the Scheduled for replacement of the fuse at grid number 62366N43261 with a single phase OCR to improve future sectionalizing capability.

Scheduled for 7/31/2014

1/28/2013: Tree trimming. PPL will be trimming the entire Madisonville 55-2 circuit in the early part of the 2014 calendar year.

12/31/2013

12/31/2013

1/28/2013: Install 1 phase OCR(s). PPL will be replacing the fuse Scheduled for at grid number 61639N43545 with a single phase OCR as a result of the 2012 Expanded Operational Review (EOR) of the circuit.

12 Circuit ID: 53901 HALIFAX 39-01

Location: Harrisburg CPI: 798.

3/14/2012: Thermographic inspection-OH line. Inspected all 2 and 3 phase primary lines with infrared camera.

Completed 3/1

3/14/2012 Reduced outage risk. Replace secondary connections at 1 location (WR 711055)

1/11/2013: Circuit outage data analysis - WPC not on preceding Scheduled for qtr. list.

2/20/2013

13 Circuit ID: 53601 DALMATIA 36-01			Location: Harrisburg	CPI:	795.
10/12/2011: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/21/2011	The Dalmatia 36-1 line is a long distribution circuit in a ruterritory. The feeder has approximately 1,150 customers miles. The largest CPI contributors have been the percer with greater than 3 interruptions. The circuit breaker expeditage on 3/07/11 due to a failed insulator on the main the addition to the circuit breaker interruption, an OCR serving experienced four interruptions in the past year. The caus trimming related, a vehicle pole hit, and two trees not trimicircuit is currently being trimmed.	across 102 ntage of cust erienced a s ree phase li g 330 custor es include tr	circuit stomers single ine. In mers rees
11/21/2011: Tree trimming. Trim the Dalmatia 36-01 line as part of its four year vegetation management cycle.	Completed	12/30/2011	Reduced outage risk.		
12/31/2011: Tree trimming-selected line segments only (hot spots). Trim section of problematic evergreen trees just outside of right of way.	Completed	12/31/2011	Reduced outage risk.		
3/14/2012: Thermographic inspection-OH line. Inspected all 2 and 3 phase primary lines with infrared camera.	Completed	3/14/2012	No trouble spots found.		
7/16/2012: Expanded Operational Review.	Completed	8/31/2012	No new sectionalizing or protection location identified.		
10/4/2012: Patrol three mile section of line along Route 147 near Hemdon to identify possible locations for sectionalizing devices.	Completed	1/3/2013	No new sectionalizing locations found. The customer coumost common trouble locations limit potential reliability secutages are limited to 350 customers on this particular 3 to 250 customers.	vings. Thre	ee phase
1/11/2013: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	2/20/2013			
1/28/2013: Evaluate ties. Evaluate the existing load limited tie wit Elizabethville Substation to determine if it would be beneficial to reconductor with a larger conductor or construct another tie with an adjacent circuit.	h Scheduled for	5/1/2013			

1/11/2013: Circuit outage data analysis - WPC not on preceding Scheduled for

qtr. list.

			_			
14	Circuit ID: 28402 HARTLAND 84-02			Location: Central	CPI:	791.
	10/11/2012: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/15/2012	The Hartland 84-2 line has approximately 1590 customers approximately 80 circuit miles. The largest contributors to a were SAIDI and the number of customers who experience outages. The circuir breaker experienced two interruptions 3/26/12 and was due to a tree outside the right of way. The 7/7/12 and was due to an equipment issue during inclement recloser serving approximately half of the customers on the experienced three outages. Two of the outages were due right of way and the third was due to a vehicle.	circuit perfo d more than . The first e second w t weather. e circuit	in three was on was on A
	1/28/2013: Tree trimming-selected line segments only (hot spots).	Scheduled for	3/31/2013			
	1/30/2013: Improve sectionalizing capability. WR 12031597 was approved to Install a new VCR at grid location 44812N30137 to reduce the number of customers impacted by potential outages in the area.	Scheduled for	4/30/2013	The VCR will reduce the number of customers who might be future outages in the area.	e interrupt	ted during
15	Circuit ID: 51401 LYKENS 14-01			Location: Harrisburg	CPI:	782.
	3/14/2012: Thermographic inspection-OH line. Inspected all 2 and 3 phase primary lines with infrared camera.	Completed	3/14/2012	No problems identified.		
	10/11/2012: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/15/2012	The Lykens 14-1 line has approximately 480 customers ac miles. The largest CPI contributor has been the percentag greater than 3 interruptions. The circuit breaker experience the past year. Two of the outages were caused by transmit 6/6/12, a cross arm failed on the Sunbury-Dauphin 69 kV line tripped to lock out during a peand wind. The line was closed for test after 6 minutes and two distribution outages occurred in the month of July. On outside the trimming right of way interrupted the circuit breavy winds downed a section of three phase conductor.	e of custor ed four out ssion even ne. On 9/7 eriod of hea held. In ac 7/5/12, a t	ners with tages in nts. On 7/12, the avy rain ddition, ree from
	1/28/2013: Evaluate existing ties and protection device placement. Although short, this line may benefit from a telemetered recloser and remote operator-controlled switch.	Scheduled for	2/28/2013			
16	Circuit ID: 16802 WAGNERS 68-02			Location: Pocono	CPI:	774.
	1/14/2010: Install tie. SP50718 will create a tie to the Lake Harmony 54-3 line, RIS 5/2012. 1000 customers will be transferred from 68-2 to 54-3.	Completed	5/31/2012	Reduced customer count affected by each outage.		

2/20/2013

17 Circuit ID: 28001 TAFTON 80-01

4/20/2011: Install tie. A new 3 phase tie line (SP 33013) between Scheduled for Tafton 80-1 and the Newfoundland 83-2 line is currently being engineered and is expected to be completed by year end 2011. The new tie will allow greater operational flexibility, reduce outage exposure, and increase ability to remotely isolate and restore customers.

or 2/20/2013

4/30/2013

1/11/2013: Circuit outage data analysis - WPC not on preceding Scheduled for otr. list.

18 Circuit ID: 18501 CANADENSIS 85-01

10/18/2010: Improve sectionalizing capability. Completed 10/11/2012: Circuit outage data analysis - WPC not on preceding otr. list.

Location: Pocono

Location: Pocono

6/15/2011 Existing air breaks and OCRs were upgraded to automated devices.

11/15/2012 Two major power outages significantly affected this circuit's reliability in the past four quarters which lead to it being one of PPL's top 50 worst performing circuits. On September 18, 2012 a tree from outside PPL's designated right of way came in contact with the primary conductor tripping the 12kV circuit breaker to lockout. The outage affected 1,534 PPL customers and lasted 1842 minutes. On May 4, 2012 the relay controlling the 12kV circuit breaker failed resulting in the breaker operating to lockout. The outage affected 1,463 PPL customers and lasted 96 minutes. PPL crews promptly located the failure and made repairs. The combined customer minutes interrupted (CMI) for the two outages was 972,577.

CPI: 774.

CPI: 773.

In total, the 85-1 12kV line experienced 27 total outages between the months of September 2011 and October 2012. The primary causes of these outages include tree contacts from outside PPL's right of way (10), equipment failures (7), and animal contacts (4).

1/16/2013: Improve sectionalizing capability. PPL will be adding automation to this circuit as part of its second phase of Smart Grid due to be complete by end of year 2013. The project will improve reliability on this circuit by both reducing customer outage durations and a customer's exposure to outages.

12/30/2013

1/28/2013: Tree trimming. PPL will be trimming the Canadensis Scheduled for 85-1 circuit in the early part of the 2015 calendar year.

7/31/2015

Rank	Action	Status	Due/Complet	te Result	
19 Cir	reuit ID: 47502 NEW COLUMBIA 75-02			Location: Sunbury	CPI: 760.
1/6/2	2011: Expanded Operational Review. EOR Planned for 2011	Completed	12/31/2011	Reduced outage risk. A crimp in the secondary was discoduring Thermographic Inspection. Repairs were made on 641824.	
	2011: Thermographic inspection-OH line. Thermovision ection of 2 and 3 phase sections to be completed early 2011.	Completed	2/8/2011	Reduced outage risk. Completed 2/9/2011 - All necessary	y repairs completed.
7/12 qtr. I	/2011: Circuit outage data analysis - WPC not on preceding ist.	Completed	9/19/2011	This circuit was reviewed at the Susquehanna WPC meeti largest contributor to the circuit performance index was a sof 42.8%. On April 28, 2011 a microburst took down sever phase circuit which caused the circuit breaker to open. Du damage all of the customers on this line were out of service.	SAIDI contribution ral spans of three le to the extensive
20 Ci	reuit ID: 11404 FARMERSVILLE 14-04			Location: Bethlehem	CPI: 752.
	/2012: Install 3 phase OCR(s). Install 3-phase VCRs at 6S49932 (WO 42090312) and 67153S49753 (WO 42090310)	Scheduled for).	r 3/31/2014		
10/1 qtr.	1/2012: Circuit outage data analysis - WPC not on preceding list.	Scheduled fo	r 2/28/2013		
	5/2012: Intail 1200 kVAR capacitor @ 67473s49784 to ove voltage. WO#: 42071530	Scheduled fo	r 2/28/2013		
21 Ci	rcuit ID: 16301 ALTON PARK 63-01			Location: Lehigh	CPI: 750.
IMB. PH	/2012: Load balancing. GROUND RELAY TRIP DUE TO ALANCE ON 07/20/2012. SUGGESTED PHASE SWAP FROM ASE B TO PHASE A 1 Park 63-	Completed M	7/26/2012	Reduced outage risk. Help alleviate loading on both phas providing better load balancing and improve reliability. Resperforming a phase swap. (From B to A phase).	
1 Swa	62479\$45481 12017235420735736/25/2012	Phase			
1	/2012: Load balancing. Alton Park 63-	Completed	7/26/2012	Reduced outage risk. Help alleviate loading on both phas 61994s44999 12018648420775297/5/2012	e Bs and therefore RECLOSER
prov	iding better load balancing and improve reliability. Reduced ou	ıtage risk by		performing a phase swap. (From B to C phase).	
	4/2012: Install animal guard(s). Will install animal guards on nsformers off tap at 62001S45198. WR 12035476.	Scheduled fo	r 5/31/2013		
1/11 qtr. 1	/2013: Circuit outage data analysis - WPC not on preceding ist.	Scheduled fo	r 2/20/2013		

Kar	k Action	Status	Due/Complet	e Kesult	
22	Circuit ID: 11401 FARMERSVILLE 14-01			Location: Bethlehem	CPI: 724.
	6/25/2012: Expanded Operational Review. Farmersville 14-1 66662S49521 12015916 42070844 6/15/2012 ROC SWITCH	EOR initiated	11/25/2013	Reduced outage duration. Improve Reliability and O	outage Duration
	1/11/2013: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	2/20/2013		
23	Circuit ID: 20403 ASHFIELD 04-03			Location: Central	CPI: 704.
	10/11/2012: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed		The Ashfield 04-3 circuit has approximately 1900 cus approximately 127 line miles. The largest contributo has been the number of customers interrupted great outages were experienced by most of the customers one breaker outage and three recloser outages. Ea a tree outside the right of way.	or to circuit performance ter than three times. Four s on the circuit. There was
	1/16/2013: Evaluate potential ties.	Scheduled for	2/28/2013		
	1/16/2013: Evaluate improved sectionalizing capability	Scheduled for	2/28/2013		
	1/16/2013: Evaluate sectianalizing capability on single phase taps	Scheduled for	2/28/2013		
	1/16/2013: Tree trimming-selected line segments only (hot spots).	Scheduled for	3/31/2013		
24	Circuit ID: 13503 MCMICHAELS 35-03			Location: Pocono	CPI: 701.
	10/11/2012: Circuit outage data analysis - WPC not on preceding	Completed	11/15/2012	Two major power outages significantly affected this	circuit's reliability in the

10/11/2012: Circuit outage data analysis - WPC not on preceding Completed atr. list.

11/15/2012 Two major power outages significantly affected this circuit's reliability in the past four quarters which lead to it being one of PPL's top 50 worst performing circuits. On August 2, 2012 the OCR at grid number 63182N31101 failed to reclose properly. The resulting outage affected 668 PPL customers and lasted 139 minutes. PPL crews promptly restored all affected customers and replaced the OCR. The total customer minutes interrupted (CMI) of the outage was 92,471. On September 18, 2012 a tree from outside PPL's designated right of way came in contact with the primary conductor tripping the 12kV circuit breaker to lockout. The outage affected 1,487 PPL customers and lasted 1616 minutes. The total customer minutes interrupted (CMI) of the outage was 385,697.

> In total, the 35-3 12kV line experienced 21 total outages between September 2011 and October 2012. The primary causes of these outages include equipment failures (7), tree contacts from outside PPL's right of way (4), and animal contacts (2).

1/29/2013: Improve sectionalizing capability. PPL will be adding Scheduled for automation to this circuit as part of its second phase of Smart Grid due to be complete by end of year 2013. The project will improve reliability on this circuit by both reducing customer outage durations and a customer's exposure to outages.

12/31/2013

Rank	Action	Status	Due/Complete	Result

25	Circuit ID: 47704 BLOOMSBURG 77-04			Location: Sunbury	CPI:	690.
	10/12/2011: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	12/1/2011	This circuit was reviewed at the Susquehanna WPC mee Bloomsburg substation and customers served by this circ major flood conditions. The flooding was caused by recor from tropical storm Lee. Efforts to restore service were his of PPL's equipment was inaccessible due to flooding and customer's services were under water. No short term plar time. PPL will continue to monitor this circuit's performance.	uit were subj d setting rain ndered since some of our n is required a	ected to falls some
	12/30/2011: Install tie. SP 15410 Relieve the Bloomsburg 77-03 Line RIS 11/2014: This project will add a new ROCS device that w allow system operators to remotely transfer customers from the BLOO 47704 to the BLOO 47703 circuit.		11/30/2018			
26	Circuit ID: 52002 LINGLESTOWN 20-02			Location: Harrisburg	CPI:	689.
	3/14/2012: Thermographic inspection-OH line. Inspected all 2 and 3 phase primary lines with infrared camera.	Completed	3/14/2012	No problems identified.		
	7/16/2012: Expanded Operational Review.	Scheduled for	12/31/2013			
	7/19/2012: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	9/10/2012	The Linglestown 20-2 line has approximately 1,640 custo circuit miles. The largest CPI contributor has been the pecustomers with greater than 3 interruptions. The circuit b four outages in the past year. Two of the outages were coutside the trimming right of way during PUC reportable s and 06/29/12. Nothing was found during a third storm on outage on 06/03/12 was attributed to animal contact in the	ercentage of reaker exper aused by tree storms on 09/ 08/05/12.	ienced es from (07/11 A fourth
	10/4/2012: Tree trimming. Trim circuit as part of its four year vegetation management cycle.	Scheduled for	6/30/2013			
	10/4/2012: Investigate replacing a remote operator controlled switch with a three phase recloser along Old Jonestown Rd.	Canceled	1/3/2013	The affected area is part of the SMART Grid program. Reoperator controlled switch with a telemetric recloser will padditional benefit once the automated Distribution Manag	rovide minim	al

Rank Action Status Due/Complete Result

2	7 Circuit ID: 25801 SULLIVAN TRAIL 58-01			Location: Wilkes-Barre	CPI:	684.
	7/12/2011: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	8/30/2011	This feeder had 3 tree outages between May 2011 and June 2011, causing it to be on the WPC list for a seventh time. There are over 1,800 customers and 114 line miles on this feeder. Several projects have been identified for analysis by Distribution Planning, which will compare the alternatives of building a 3-phase loop, replacing manual switches with remote-controlled an transferring customers to another feeder to reduce the number of customers on this circuit.		
	9/29/2011: Circuit outage data analysis. Several projects will be analyzed by Distribution Planning, which will compare the alternatives of building a 3-phase loop, replacing manual switches with remote-controlled and transferring customers to another feeder to reduce the number of customers on this circuit.	Completed	11/30/2011	It was determined that outage duration could be reduced sinstalling an additional telemetric recloser and replacing a and manual air-break switch with remote-controlled device been developed to make these circuit reinforcements.	n existing re	ecloser

12/31/2013

Scheduled for

28 Circuit ID: 53602 DALMATIA 36-02

3/14/2012: Thermographic inspection-OH line. Inspected all 2 Completed 5/22/2012 Reduced outage risk. Replace primary connection at 1 location (WR and 3 phase primary lines with infrared camera. 710558); Replace 1 pin insulator (WR 710562); Replace secondary stem connectors at 2 locations (WR 711056, 711057)

5/30/2014

7/16/2012: Construct a new 69-12 kV substation in the Meiserville Scheduled for area to reduce customer counts and circuit miles on the Dalmatia 36-02 12kV line. The new substation will also increase transfer capability by providing a new source in the area with remote operator controlled devices. The substation was originally intended to go into service in November 2012 but has been delayed by land acquisitions and condemnation proceedings. If a successful resolution can be reached with outstanding property owners by the early 2013, the new substation will be scheduled for completion by fourth quarter 2014.

1/11/2013: Circuit outage data analysis - WPC not on preceding Scheduled for

7/16/2012: Expanded Operational Review. Completed 8/31/2012 No new sectionalizing or protection points identified.

7/19/2012: Circuit outage data analysis - WPC not on preceding Completed 9/10/2012 The Dalmatia 36-2 line has approximately 2,180 customers across 195 circuit

qtr. list.

miles. The largest CPI contributor has been the percentage of customers with greater than 3 interruptions. The circuit breaker experienced two outages in the past year when the Sunbury-Dauphin 69 kV line tripped and interrupted a total of 10,220 customers. On 05/18/12, a contractor caused contact on the 69 kV while performing rigging activities. On 06/06/12, a 69 kV cross arm failed and a section of the line. In addition to the two transmission outages, a three phase recloser serving 1,175 customers experienced two interruptions.

2/20/2013

The causes were attributed to a lightning strike and failed distribution transformer switch.

Location: Harrisburg

CPI: 684.

transformer s

qtr. list.

Rank	Action	Status	Due/Complex	te Result	
29 Cir	cuit ID: 62604 ENGLESIDE 26-04			Location: Lancaster	CPI: 668.
	011: Expanded Operational Review. Check one unfused tap. rid of double circuit. Check various animal guarding.	Completed	12/30/2011	Reduced outage risk.	
1/13/	2011: Line inspection-equipment.	Completed	5/10/2011	Reduced outage risk.	
1/13/	2011: Thermographic inspection-OH line.	Completed	3/31/2011	Reduced outage risk.	
10/11 qtr. li	/2012: Circuit outage data analysis - WPC not on preceding st.	Completed	10/26/2012	Inconclusive. Monitor future performance. The Engleside 2 approximately 1,290 customers across 23 circuit miles. The contributor has been the percentage of customers with greinterruptions. The circuit breaker experienced two outages On 06/21/12, the line needed to be de-energized for safety interrupted customers for 67 minutes. On 06/22/12, the circuit experienced an improper operation and interrupted custom On 6/10/12, and again on 9/8/12, approximately 1,200 cus interrupted due to equipment failures. On 7/7/12 during a 63 customers were interrupted for 1,500 minutes due to a the trimming right of way fell on the line. The circuit is due 2014. This is the first time the Engleside 26-4 line has bee performing circuit list.	e largest CPI ater than 3 in the past year. reason and cuit breaker ers for 12 minutes. tomers were severe T&L storm, ree from outside to be trimmed in
30 Cir	cuit ID: 60406 DILLERVILLE 04-06			Location: Lancaster	CPI: 664.
1/2/20	012: Expanded Operational Review.	Completed	4/5/2012	Reduced outage duration. A WO was written to relocate a Switch from a location that obstructed the proper moveme the switch to a more desirable location. Moving this switch customers more quickly in the case of an outage. Everthin was found to be in proper form.	nt and operation of will help to restore
5/16/	2012: Line inspection-equipment.	Completed	10/30/2012	Reduced outage risk. During the line inspection, we found the OH primary conductor where the Arc Protection Device missing. A work order was written and the APD's re-installithese ADP's will greatly minimize a potential outage due to A capacitor bank fuse was also found to be open. The cap tested, the needed repairs were made, the fuse reclosed, a placed back in service to help maintain voltage on the line.	s (APD's) were ed. Replacing a lightning strike. acitor bank was
5/16/	2012: Thermographic inspection-OH line.	Completed	6/1/2012	Reduced outage risk.	
10/11 qtr. li	/2012: Circuit outage data analysis - WPC not on preceding st.	Completed	10/26/2012	Inconclusive. Monitor future performance. The Dillerville 4-approximately 184 customers across 33 circuit miles. The to the CPI (Circuit Performance Index) is SAIDI. On 9/18/breaker opened and interrupted 1,900 customers due to a line. At the time, the Dillerville 4-6 line, which usually only customers, was being used to supply an adjacent circuit the customers in it. The circuit was last trimmed in 2012. The has only been on the Worst Performing Circuit list one time years.	largest contributor 12, the circuit tree that fell into the r supplies 184 at had over 1,800 Dillerville 4-6 line

Rank	Action		Status	Due/Comple	te Result		
1/6/2		SOUTH MILTON 31-02 Inspection-OH line. Thermovision completed early 2010.	Completed	10/27/2011	Location: Sunbury Reduced outage risk. Minor maintenance repairs complet transformers.	CPI: ted on three	
32 Cir	rcuit ID: 12102	SO ALLENTOWN 21-02			Location: Lehigh	CPI:	662.
6/29	9/2011: Install animal gr 9/2011: Replace lightnin nections identified by th	ng arrestor and transformer	Completed Scheduled for	6/30/2011 2/28/2013	Reduced outage risk. Reduced outage risk. WR 445919, 445925, 445931 - condeferred, currently awaiting scheduling	nplete. WR	445940
10/1 qtr.	•	data analysis - WPC not on preceding	Completed	11/15/2012	Meeting and walkdown was held to have further discussio following the Worst Performing Circuits Meeting. Discussion regarding possible ways to relocate the line away from inattracks and a a wooded area.	ons took pla	ace
10/1 in 20		. Entire circuit is due for tree trimming	Scheduled for	12/31/2013			
at tw). Will install LBAS and fault indicators 318 and 64231S46331. WRs 12033671	Scheduled for	5/31/2013			
33 Ci	rcuit ID: 46602	LARRYS CREEK 66-02			Location: Susquehanna	CPI:	658.
7/6/2	2010: Install fuse(s).		Completed	3/1/2011	Reduced customer count affected by each outage. Install outage exposure. WR 556905 - Install 5 fuses WR 556906 - Install 1 fuse WR 556915 - Install 1 fuse WR 556903 - Install 1 fuse WR 556899 - Install 1 fuse on Pine Run Rd WR 535701 - Install 1 fuse along Spook Hollow Rd WR 556898 - Install 2 fuses on Youngs Rd WR 556897 - Install 1 fuse on Level Corners Rd	ed fusing to) reduce
7/7/2	2010: Relocate inacces	ssible line.	Scheduled for	3/14/2013	WR 556910 - Relocate Inaccessible Line along Tombs Ru	ın Rd.	

Ran	ık	Action		Status	Due/Comple	te Result	
34	Circu	uit ID: 43101	SOUTH MILTON 31-	01		Location: Sunbury	CPI: 657.
	7/19/20 qtr. list.	_	data analysis - WPC not on preced	ding Completed	9/24/2012	On May 3, 2012 and June 22, 2012 all of the out of service due to lightning strikes on the the 69kV fuses at the SMIL substation to blo WPC before. PPL will continue to monitor the	SMIL 43101 circuit that caused ow. This circuit has not been a
	due to t		01 12kV circuit breaker that failed to on May 3, 2012 and June 22, 201 on Q1 2013.		3/31/2013		
	circuit v Besz. T several schedu	was patrolled by Joo The patrol revealed I spots along Route led to be replaced i	n-equipment. On June 29, 2012 the Doyle, Frank Dempsey, and Matt that the conductor was "bird caging 15. The damaged conductor is a November. A static wire will be that for lightning protection.	•	6/29/2012		
	Helicop circuit spots a	ter Patrol of the Su revealed that the co and that there were	ne. On September 18, 2012 a squehanna River crossing section anductor was "bird caging" in severalso several broken strands. This pe replaced in November 2012.		12/17/2012	Reduced outage risk.	
35	Circu	uit ID: 27501	WEISSPORT 75-01			Location: Central	CPI: 640.
	10/11/2	2012: Circuit outage	data analysis - WPC not on prece	edina Completed	11/15/2012	The Weissport 75-1 circuit has approximate	ly 1270 customers across 23

10/11/2012: Circuit outage data analysis - WPC not on preceding Completed qtr. list. The Weissport 75-1 circuit has approximately 1270 customers across 23 circuit miles. The largest contributor to circuit performance is SAIDI. The was one significant outage on 7/26/12 that occurred during inclement weathat contributed significantly to the customer minutes interrupted on the	 011041112121111111111111111111111111111				011. 0.0.
leeder.	, ,	Completed	11/15/2012	circuit miles. The largest contributor to circuit performance is was one significant outage on 7/26/12 that occurred during in	s SAIDI. There nclement weather

1/16/2013: Evaluate potential ties. Scheduled for 2/28/2013

10/12/2011: Circuit outage data analysis - WPC not on preceding Completed

36 Circuit ID: 43302 WATSON 33-02 Location: Sunbury CPI: 632.

qtr. list.

April 28. 2011 all of the customers on this circuit as well as 97 customers that are normally served by the NECO 47502 circuit experienced an outage. This outage was caused by trees taking down wires and breaking cross arms.

Customers from the NECO 47502 were temporarily transferred to the WATS 43302 since a helicopter crash took down the river crossing on July 19, 2010.

12/1/2011

Until repairs were made to the NECO 47502 this circuit had increased exposure to trees and load could not be sectionalized and transferred to the NECO 47502. This circuit was never on the WPC list before. PPL will continue to monitor this circuit's performance.

This circuit was reviewed at the Susquehanna WPC meeting on 12/1/11. On

37 Circuit ID: 28301 NEWFOUNDLAND 83-01

Location: Pocono

CPI: 631.

1/11/2013: Circuit outage data analysis - WPC not on preceding Scheduled for qtr. list.

2/20/2013

38 Circuit ID: 60502 NORTH MANHEIM 05-02

Location: Lancaster

CPI: 623.

2/4/2011: Thermographic inspection-OH line. 2/4/2011: Line inspection-equipment. Line Inspection on 2 & 3

Completed 2/23/2011

1/15/2013

2/4/2011 Reduced outage risk.

phase equipment - 15.6 miles

Completed

Reduced outage risk.

1/11/2013: Circuit outage data analysis - WPC not on preceding atr. list.

Completed

Inconclusive. Monitor future performance. The North Manheim 5-2 line has approximately 1.898 customers across 78 circuit miles. The largest contributor to the CPI (Circuit Performance Index) is SAIDI. Of the top 10 outages in the past year, five outages occured during wind storms and one during a T&L storm. Four of the outages were caused by trees from outside the trimming right of way, two were caused by vehicle hits, two from equipment failures and one where no cause was found. The circuit was trimmed in 2012. The North Manheim 5-2 line was a Worst Performing Circuit

for two quarters back in 2008.

Location: Lancaster

Location: Sunbury

39 Circuit ID: 66703 STRASBURG 67-03

1/11/2013: Circuit outage data analysis - WPC not on preceding Completed atr. list.

1/16/2013

inconclusive. Monitor future performance. The Strasburg 67-3 line has approximately 1.456 customers across 63 circuit miles. The largest contributor to the CPI (Circuit Performance Index) is SAIDI. Of the top 10 outages in the past year, seven outages occured during T&L and/or wind storms. Seven of the outages were caused by trees from outside the trimming right of way, two were caused by equipment failures and one that was outside the control of PPL. The circuit was last trimmed in 2009 and is scheduled to be trimmed again in 2015. The line was a Worst Performing Circuit for two quarters back in 2010.

40 Circuit ID: 43001 ALLENWOOD 30-01

4/11/2012: Circuit outage data analysis - WPC not on preceding Completed atr. list.

CPI: 620.

CPI: 623.

6/14/2012 On December 1, 2012 all of the customers on this circuit were out of service when the Lycoming - Lewisburg 69 kV line went out. All 973 customers on this circuit were transferred to the WATS 33-1 circuit after the OCR at 22908N34599 was bypassed. On December 26, 2012, 542 customers downstream of OCR 20972N34933 experienced an outage when the device operated to lockout. The neutral broke loose and wrapped around the primary.

10/11/2012: Circuit outage data analysis - WPC not on preceding Completed qtr. list.

12/14/2012 A transmission outage on October 15, 2011 left all 972 of the customers on this circuit out of service for 1 hour and 15 minutes. The Lycoming 69kV Bus #1 opened on July 15, 2012 and left all 1014 of the customers on this circuit out of service for 2 hours and 45 minutes. On July 26th the OCR at the ALWD sub operated to lockout due to trees, leaving all the customers on this circuit out of service for more than 5 hours.

Rank Action	Status	Due/Complex	te Result
41 Circuit ID: 55507 HERSHEY 55-07			Location: Harrisburg CPI: 607.
9/27/2010: Install 3 phase OCR(s). Install new 3 phase OCR outside of substation. Field to identify location.	Completed	3/9/2011	Reduced outage risk.
1/26/2011: Thermographic inspection-OH line.	Completed	2/28/2011	Reduced outage risk. Replace secondary stem connectors at 1 location (WR 638934); Replace 1 primary crimp (WR 638574)
3/14/2012: Thermographic inspection-OH line. Inspected all 2 and 3 phase primary lines with infrared camera.	Completed	3/14/2012	No problems found.
10/11/2012: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/15/2012	The Hershey 55-7 line has approximately 1,000 customers across 12 circuit miles. The largest CPI contributor has been the percentage of customers with greater than 3 interruptions. The circuit breaker experienced one interruption in the past year due to a tree from outside the right of way during a storm on 06/29/12. In additional, trees from outside the trimming right of way interrupted a three phase recloser serving 450 customers on 05/27/12 and 10/29/11.

Due/Complete Result

42 Circuit ID: 24402 TINKER 44-02

7/12/2011: Circuit outage data analysis - WPC not on preceding qtr. list.

Completed

Ongoing

8/31/2011

Location: Pocono CPI: 593. Inconclusive. Monitor future performance. This circuit has not been on the

WPC list for several quarters. On April 13, 2011 498 PPL customers experienced an outage to to a substation power fuse operation. PPL Crews addressed the cause of the operation and restored all affected customers, the total outage CMI was 46,624. Approximately 26 customers experienced an OCR outage on April 28, 2011. Upon crew assesment, a tree was determined to have fallen from outside PPL's right of way and cause the OCR to trip. The outage a total CMI of 20,835.

10/11/2012: Circuit outage data analysis - WPC not on preceding Completed qtr. list.

11/15/2012 Two major power outages significantly affected this circuit's reliability in the past four quarters which lead to it being one of PPL's top 50 worst performing circuits. On June 29, 2012 a tree from outside PPL's designated right of way came in contact with the primary conductor tripping the 12kV circuit breaker to lockout. The outage affected 493 PPL customers and lasted 324 minutes. The total customer minutes interrupted (CMI) of the outage was 124,059. On July 26, 2012 a tree from outside PPL's designated right of way came in contact with the primary conductor tripping the 12kV circuit breaker to lockout. The outage affected 63 PPL customers and lasted 1,452 minutes. The customer minutes interrupted (CMI) of the outage was 91,492.

> In total, the 44-2 12kV line experienced 14 total outages between September 2011 and October 2012. The primary causes of these outages include tree contacts from outside PPL¿s right of way (6), equipment failures (4), and animal contacts (4).

1/16/2013: Evaluate potential ties. PPL is currently investigating. Scheduled for the benefits of constructing a tie line between the Tinker 44-1 and Tinker 44-2 12kV lines. The new tie would allow greater operational flexibility, reduce outage exposure, and increase ability to remotely isolate and restore customers.

1/16/2013: PPL is currently investigating the benefits of constructing a tie line between the Tinker 44-1 and Tinker 44-2 12kV lines. The new tie would allow greater operational flexibility, reduce outage exposure, and increase ability to remotely isolate and restore customers.

3/1/2013

43	Circuit ID: 26001 WEST DAMASCUS 60-03	1		Location: Pocono	CPI:	575.
	10/21/2010: Improve sectionalizing capability.	Completed	10/21/2011	Upon the completion of the project, the customers have fuse related outage in the past three years.	re only experier	nced one
	10/17/2011: Install tie. SP 31105 builds a new 3 phase tie between the West Damascus 60-1 and the West Damascus 60-2 12kV lines. This project will benefit 886 customers and will reduce outage durations and increase operational flexibility and overall reliability in the area.	Scheduled for	5/30/2015			
	10/17/2011: Evaluate potential ties.	Completed	12/30/2012	Upon the complete analysis of the circuits surrounding decided that reliability for customers on the 60-1 line wimprovement with a tie to the WDAM 60-2 line instead. The tie project was initiated by PPL immediately follow	vould see the g of the HONE	reatest
	1/11/2013: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	2/20/2013			
	Circuit ID: 16202 POCONO FARMS 62-02			Location: Pocono	CPI:	565.
	10/11/2012: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	11/15/2012	Two major power outages significantly affected this cir four quarters which lead to it being one of PPL's top 5 circuits. On June 10, 2012 a vehicle hit a pole at grid r tripping the 12kV circuit breaker to lockout. The outage customers and lasted 1,245 minutes. The total custom (CMI) of the outage was 26,316. On September 18, 20 PPL's designated right of way came in contact with the tripping the 12kV circuit breaker to lockout. The outage customers and lasted 1,245 minutes. The customer m of the outage was 1,584,337. In total, the 62-2 12kV line experienced 19 total outage.	50 worst perforn number 65755N e affected 1,46 ner minutes inte 012 a tree from e primary condi e affected 1,65 ninutes interrupt	ming N38075 2 PPL errupted I outside uctor 4 PPL ted (CMI)
				2011 and October 2012. The primary causes of these contacts (7), equipment failures (4), tree contacts from	outages includ	le animal

1/16/2013: Improve sectionalizing capability. PPL will be adding Scheduled for automation to this circuit as part of its second phase of Smart Grid 12/30/2013 due to be complete by end of year 2013. The project will improve reliability on this circuit by both reducing customer outage durations and a customer's exposure to outages.

way (2), and vehicle hits (2).

Rank	Action	Status	Due/Comple	te Result	
45 Cir	cuit ID: 23401 HONESDALE 34-01			Location: Pocono	CPI: 564.
7/12/2011: Circuit outage data analysis - WPC not on preceding qtr. list.		Completed	10/18/2011	Several outages occurred over the rolling four quarters as a result of non trimming related tree contacts. Of these outages, the three that accounted for the largest customer minutes interrupted values occcured in the past four months. On 6/9/11, a tree from outside the right of way contacted the primary wire and caused an outage for 1,805 customers and netted a CMI value of 596,296. Then on 7/29/11, a tree from outside the right of way caused an OCR to trip to lockout. This caused an outage for 751 PPL customers and resulted in a value of 431,575 CMI. On 9/5/11 the same OCR tripped to lockout due to a tree falling on the primary line from outside the right of way. This caused an outage for 751 PPL customers and totaled 166,122 CMI.	
10/1	7/2011: Evaluate potential ties.	Completed	6/29/2012	PPL is inspecting the capability of the tie line that connects the HONE 34-1 line to the TINK 44-1 line. If the tie line is nearing its capability to transfer in the next few years or reliability could be improved in any way, it is imperative that a project is planned to improve the reliability for the customers on these circuits.	
10/2	6/2012: Improve sectionalizing capability.	in progress	5/30/2015		
46 Cir	cuit ID: 53501 ELIZABETHVILLE 35-0	1		Location: Harrisburg	CPI: 564.
	/2012: Thermographic inspection-OH line. Inspected all 2 3 phase primary lines with infrared camera.	Completed	3/14/2012	Nothing found.	•

2/20/2013

1/11/2013: Circuit outage data analysis - WPC not on preceding Scheduled for qtr. list.

47 Circuit ID: 16801 WAGNERS 68-01

10/11/2012: Circuit outage data analysis - WPC not on preceding Completed gtr. list.

Location: Pocono

11/15/2012 Two major power outages significantly affected this circuit's reliability in the past four quarters which lead to it being one of PPL's top 50 worst performing circuits. On July 26, 2012 a tree from outside PPL's designated right of way came in contact with the primary conductor tripping the upstream three-phase OCR to lockout. The outage affected 706 PPL customers and lasted 1,173 minutes. The total customer minutes interrupted (CMI) of the outage was 211,169. On September 18, 2012 a tree from outside PPL's designated right of way came in contact with the primary conductor tripping the 12kV circuit breaker to lockout. The outage affected 1,471 PPL customers and lasted 444 minutes. The customer minutes interrupted (CMI) of the outage was 168,481.

CPI: 563.

In total, the 68-1 12kV line experienced 56 total outages between September 2011 and October 2012. The primary causes of these outages include animal contacts (25), tree contacts from outside PPL's right of way (13), and equipment failures (8).

1/16/2013: Improve sectionalizing capability. PPL will be adding. Scheduled for automation to this circuit as part of its second phase of Smart Grid due to be complete by end of year 2013. The project will improve reliability on this circuit by both reducing customer outage durations and a customer's exposure to outages.

12/30/2013

48 Circuit ID: 22602 KIMBLES 26-02

10/15/2010: Improve sectionalizing capability. PPL will be extending a section of single phase from the Bohemia 20-2 and to a portion of the Kimbles 26-2 over to BOHE 20-2

12/31/2013

Location: Pocono

Scheduled for

3/9/2012: Improve sectionalizing capability. The Twin Lakes New Scheduled for

Line and Terminal project will relieve around 200 customers from the Kimbles 26-2 line. In addition to the customers transfered, this project will also improve tie and sectionalizing capabilities between the Kimbles 26-2 line and Twin Lakes Substation.

5/31/2014

10/11/2012: Circuit outage data analysis - WPC not on preceding Completed qtr. list.

11/15/2012 Two major power outages significantly affected this circuit's reliability in the past four quarters which lead to it being one of PPL's top 50 worst performing circuits. On December 8, 2011 a tree from outside PPL's designated right of way came in contact with the primary conductor tripping the upstream threephase OCR to lockout. The outage affected 1,091 PPL customers and lasted 923 minutes. The total customer minutes interrupted (CMI) for the outage was 186,490. On September 18, 2012 a tree from outside PPL's designated right of way came in contact with the primary conductor tripping the same threephase OCR to lockout. The outage affected 1,149 PPL customers and lasted 151 minutes. The total customer minutes interrupted (CMI) for the outage was 166.167.

CPI: 561.

In total, the 26-2 12kV line experienced 39 total outages between September 2011 and October 2012. The primary causes of these outages include tree contacts from outside PPL's right of way (16), animal contacts (13), and equipment failures (4).

12/31/2012 Tree trimming on all three phase lines was completed before the December

31st required completion date.

12/31/2012: Tree trimming. The Kimbles substation circuit lines is Completed scheduled for tree trimming in 2012.

1/16/2013: Install tie. A new 3 phase tie line (SP33607) between Scheduled for the new Twin Lakes 81-1 and the Kimbles 26-2 line is currently

being engineered and is expected to be completed in May 2014. The new tie will allow greater operational flexibility, reduce outage exposure, and increase ability to remotely isolate and restore customers.

5/31/2014

35

Due/Complete Result Status

49 Circuit ID: 22002 BOHEMIA 20-02

4/26/2010: Install tie. SP 33608 will build tie from Bohemia 20-2 Scheduled for to Twin Lakes 81-2. This will create a tie for 1,150 radial customers. Remotely operated devices will be installed.

5/31/2014

Location: Pocono

outage was 140.827.

Location: Central

4/21/2011: Install new line and terminal. SP33607: A new line and Scheduled for terminal at Bohemia will relieve the 20-2 line and reduce the customer count from 1,400 to 750.

11/30/2013

10/11/2012: Circuit outage data analysis - WPC not on preceding Completed gtr. list.

11/15/2012 Two major power outages significantly affected this circuit's reliability in the past four quarters which lead to it being one of PPL's top 50 worst performing circuits. On November 19, 2011 a tree branch from outside PPL's designated right of way came in contact with the primary conductor tripping the 12kV circuit breaker to lockout. The outage affected 1,433 PPL customers and lasted 217 minutes. PPL crews confirmed that all branches were cleared off the line and then closed the circuit breaker restoring all customers. The total customer minutes interrupted (CMI) for the outage was 221,756. On July 17, 2012 a device on the 12kV line caused a fault which resulted in the tripping of the 12kV circuit breaker to lockout. The outage affected 1,389 PPL customers and lasted 144 minutes. The total customer minutes interrupted (CMI) for the

> In total, the 20-2 12kV line experienced 42 total outages between September 2011 and October 2012. The primary causes of these outages include tree contacts from outside PPL's right of way (18), animal contacts (8), and equipment failures (8).

1/16/2013: Install tie. A new 3 phase tie line (SP33608) between Scheduled for Twin Lakes 81-2 and the Bohemia 20-2 line is currently being engineered and is expected to be completed in May 2014. The new tie will allow greater operational flexibility, reduce outage exposure, and increase ability to remotely isolate and restore customers.

5/31/2014

50 Circuit ID: 28501 FABRI-KAL 85-01

4/11/2012: Circuit outage data analysis - WPC not on preceding Completed atr. list.

5/30/2012 This circuit serves one customer. The outage was due to a lightning strike in the substation that serves the customer and there is no inherent reliability issue with the circuit.

10/11/2012: Circuit outage data analysis - WPC not on preceding Completed gtr. list.

2/20/2013

11/15/2012 The FabriKal 85-1 circuit serves one customer. One outage contributed to the performance of this circuit. An issue with substation equipment led to a long duration outage for the single customer served from the substation. This issue has been resolved.

51 Circuit ID: 46503 LOCK HAVEN 65-03

1/11/2013: Circuit outage data analysis - WPC not on preceding Scheduled for atr. list.

Location: Susquehanna

CPI: 552.

CPI: 553.

CPI: 555.

Rank Action	Status	Due/Complete	Result
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52 Circuit ID: 47703 BLOOMSBURG 77-03			Location: Sunbury	CPI: 552.
8/26/2010: Install tie. A project was placed into the budget to create a tie between Bloomsburg 47703 and Bloomsburg 47704. This will enhance the reliability of both Bloomsburg circuits by providing additional operating flexibility through use of remotely operated interrupting and switching devices.	Scheduled for	11/30/2018		
11/11/2010: Line inspection-equipment.	Completed	5/2/2011	Reduced outage risk. The line inspection reveal blown lightning arrestors, broken strands on the broken Insulators and broken guy wires. The foll completed to fix the problems identified by the in 641068.	primary, 1 broken wire tie, owing Work Requests were
9/16/2011: Raise the control panel for the normally open ROCS device that ties the 47703 to the 47707 circuit. The control panel was under water in the aftermath of Tropical Storm Lee.	Completed	9/30/2011	The control panel for the normally open ROCS d level.	evice was raised above flood

Ran	ık	Action	Status	Due/Complet	te Result
53	Circu	iit ID: 56802 BENVENUE 68-02			Location: West Shore CPI: 546.
	4/11/20 qtr. list.	11: Circuit outage data analysis - WPC not on preceding	Completed	5/25/2011	The largest CPI contributor has been the percentage of customers with greater than 3 interruptions. The Benvenue 68-02 line experienced two circuit breaker interruptions when a failed insulator on the Green Park 69kV tap interrupted the JUNI-SDLE 69kV line. In addition, there have been two long duration vehicle pole hits affecting 930 customers. Restoration times were delayed due to traffic caused by the vehicle accidents. The pole that was hit is behind a guard rail and down a steep embankment away from the road. The two accidents are considered to be by chance. Relocating the pole does not provide any clear reliability benefit.
		 Improve sectionalizing capability. Automate tie with kville 65-04 circuit. 	Completed	5/20/2011	Reduced outage duration. A telemetric VCR and ROCS device were installed to automate the potential transfer of 750 customers at the end of the
					68-02 line.
	Sherma custome	11: Repair the failed circuit breaker on the Juniata- nsdale 69kV line. This line serves approximately 7,500 ers at Benvenue, Green Park, New Bloomfield, nsdale, and South Shermansdale substations.	Completed	8/24/2011	Reduced outage risk.
		011: Extend single phase approximately 600 feet to serve a oment of CEMI customers from a source closer to the on.	Completed	11/15/2012	Reduced customer count affected by each outage.
		12: Tree trimming. Trim circuít as part of its four year on management cycle.	Completed	9/1/2012	Reduced outage risk.
	7/16/20	12: Expanded Operational Review.	Completed	12/31/2012	Reduced outage risk. Two phase swaps identified to better balance the circuit breaker: @21645s40898 swap from B phase to A phase (WR 12043978) and @21476s38044 swap from C phase to A phase (WR 12043974).
	7/19/20 qtr. list.	12: Circuit outage data analysis - WPC not on preceding	Completed	9/10/2012	The Benvenue 68-2 line has approximately 1,400 customers across 76 circuit miles. The largest CPI contributor has been the percentage of customers with greater than 3 interruptions. The circuit breaker experienced two outages in the past year. On 04/17/12, a vehicle stuck a pole and tripped the circuit breaker. On 06/03/12 multiple trees from outside the trimming right of way interrupted the circuit breaker. In addition to the circuit breaker outages, a three phase recloser serving 230 customers was interrupted three times. The causes include vehicles (05/08/12), nothing found (07/16/12) and other: non-controllable (07/26/12).
	1/11/20 qtr. list.	13: Circuit outage data analysis - WPC not on preceding	Scheduled fo	r 2/20/2013	

Rank	k A	Action	Status	Due/Complet	e Result		
54 (Circui	it ID: 64202 KINZER 42-02			Location: Lancaster	CPI:	539.
	/14/201 tr. list.	1: Circuit outage data analysis - WPC not on preceding	Completed	2/18/2011	Two of the four significant outages experienced were transmiss failure at Wakefield interrupted the Kinzer 13 circuit and switch performing AB Maint.)		
		Perform line maintenance identified by line inspection. line inspection on 2 and 3 phase line sections - 16.3	Completed	3/31/2011	Reduced outage risk.		
		1: Line inspection-equipment. Perform line inspection on phase line sections - 16.3 miles	Completed	7/12/2011	Reduced outage risk.		
	/12/201 tr. list.	1: Circuit outage data analysis - WPC not on preceding	Completed		This circuit experienced a circuit breaker outage due to a vehic pole. The total customers interrupted was double the normal, to due to the transfer of the ATGL 2-1 line under job W-1326. Other contributors were equipment failures and trees, not trimmer This circuit is scheduled for tree trimming in 2012.	otal cus	stomers
	/11/201; tr. list.	3: Circuit outage data analysis - WPC not on preceding	Completed	1/16/2013	Inconclusive. Monitor future performance. The Kinzer 42-2 line approximately 1,015 customers across 87 circuit miles. The la contributor to the CPI (Circuit Performance Index) is SAIDI. Or outages in the past year, three outages occurred during T&L a storms. Three of the outages were caused by trees from outsi right of way, two were caused by vehicles hitting a pole, one w trees that were not adequately trimmed, one was caused by a failure and two where nothing was found. The circuit was last 2008, and is scheduled to be trimmed in 2013. The line was a Performing Circuit 9 times over the last 34 quarters, with the la 2011.	rgest i the top nd/or w de the i as caus n equip trimmed Worst	ind trimming sed from oment d in
55 (Circui	it ID: 11405 FARMERSVILLE 14-05			Location: Bethlehem	CPI:	534.
6	/26/201	2: WO#: 42073594 - Install ROCS @ 68207S49508	Scheduled for	r 12/31/2013			
	6/26/2012 68562S4		Scheduled for	11/25/2013			
	0/11/20 qtr. list.	12: Circuit outage data analysis - WPC not on preceding	Scheduled for	2/21/2013			

Rank Action Status Due/Complete Result

56 Circuit ID: 67402 WAKEFIELD 74-02			Location: Lancaster East	CPI:	526.
1/14/2011: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	5/6/2011	Customers experiencing greater than three outages (32%) SAIFI (20%) all were contributors to the CPI. This was due trimming and equipment failure related outages. Tree trim the line in 2011. This circuit will be discussed on more detaat the worst performing circuit meeting.	to several ming is pla	tree-not inned for
4/20/2011: Line inspection-equipment. Additional Inspection on Multi-phase Equipment	Completed	4/20/2011	Reduced outage risk.		
1/11/2013: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	2/20/2013			
57 Circuit ID: 24301 RIVER 43-01			Location: Wilkes-Barre	CPI:	522.
1/11/2013: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	2/20/2013			
58 Circuit ID: 45501 DERRY 55-01			Location: Sunbury	CPI:	515.
12/15/2009: Install tie. Construct a tie between the Derry 55-1 and the Watson 33-4.	Scheduled for	5/31/2013			
8/26/2010: Install tie. A project was placed into the budget to create a tie between Watson 43304 and Derry 45501. This projec is scheduled to go in service in 5/2013.	Scheduled for t	5/31/2013			
10/11/2012: Circuit outage data analysis - WPC not on preceding qtr. list.	Completed	12/14/2012	A transmission outage on October 15, 2011 left all 972 of this circuit out of service for 1 hour and 15 minutes. The Lyr #1 opened on July 15, 2012 and left all 1014 of the custom out of service for 2 hours and 45 minutes. On July 26th the sub operated to lockout due to trees, leaving all the custom out of service for more than 5 hours.	coming 69 ers on this OCR at th	kV Bus circuit e ALWD
1/11/2013: Circuit outage data analysis - WPC not on preceding qtr. list.	Scheduled for	2/20/2013			

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 Failures, Tree Related, and Animals), which are based on the percent of cases of trouble, 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 service interruptions (e.g., trees and equipment failure).

Cause Description	Trouble Cases ⁷	Percent of Trouble Cases	Customer Interruptions ⁸	Percent of Customer Interruptions	Customer Minutes	Percent of Customer Minutes
Animals	2,888	17.63%	51,003	3.41%	4,166,711	1.83%
Contact/Dig-In	148	0.90%	20,526	1.37%	1,796,313	0.79%
Directed by Non-PPL	171	1.04%	8,209	0.55%	666,646	0.29%
Authority						
Equipment Failures	5,339	32.59%	526,630	35.16%	63,974,525	28.04%
Improper Design	1	0.01%	1,375	0.09%	205,329	0.09%
Improper Installation	-	0.00%	-	0.00%	1	0.00%
Improper Operation	23	0.14%	20,399	1.36%	725,226	0.32%
Nothing Found	1,373	8.38%	98,557	6.58%	7,387,553	3.24%
Other-Controllable	78	0.48%	4,483	0.30%	322,674	0.14%
Other-Non Control	409	2.50%	92,472	6.17%	8,227,593	3.61%
Other-Public	65	0.40%	7,240	0.48%	563,912	0.25%
Tree Related	5,149	31.43%	503,399	33.61%	121,250,759	53.15%
Vehicles	738	4.50%	163,365	10.91%	18,831,335	8.26%
Total	16,382	100.00%	1,497,658	100.00%	228,118,576	100.00%

⁷ Cases of trouble are the number of sustained customer service interruptions (i.e., service outages).

⁸ The data reflects the number of customers interrupted for each interruption event summed for all events, also known as customer interruptions. If a customer is affected by three separate cases of trouble, that customer represents three customer interruptions, but only one customer interrupted.

Analysis of causes contributing to the majority of service interruptions:

Weather Conditions: PPL Electric records weather conditions, such as wind or lightning, as contributing factors to service interruptions, but does not code them as direct interruption causes. Therefore, some fluctuations in cause categories, especially tree- and equipment-related causes, are attributable to weather variations. PPL Electric has experienced an elevated level of both reportable and non-reportable storms during this reporting period.

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

Animals: Animals accounted for about 17.6% of PPL Electric's cases of trouble. Although this represents a significant number of cases, the effect on SAIFI and CAIDI is small because approximately 81% of the number of cases of trouble was associated with individual distribution transformers. However, when animal contacts affect substation equipment, the effect may be widespread and potentially can interrupt thousands of customers on multiple circuits. In addition to guarding new distribution transformers and substations, in 2009, PPL Electric initiated distribution and substation animal guarding programs to focus systematically on protecting existing facilities most at risk of incurring animal-caused interruptions.

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

Equipment Failure: Equipment failure is one of the largest single contributors to the number of cases of trouble, customer interruptions and customer minutes. However, approximately 42% of the cases of trouble, 43% of the customer interruptions and 58% of the customer minutes attributed to equipment failure were weather-related and, as such, are not considered to be indicators of equipment condition or performance. In 2009, to help reduce the risk of incurring interruptions due to equipment failures, PPL Electric initiated an Asset Optimization Strategy project to assess equipment health and generate a long-term plan for proactive infrastructure replacement and enhanced maintenance practices. It is anticipated that, over time, this strategy will improve reliability performance as it pertains to PPL Electric's distribution, substation and transmission assets.

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

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

Inspection & Maintenance Goals/Objectives		4th Q	uarter	Year-t	o-date
inspection & Maintenance Goals/Objectives	Budget	Budget	Actual	Budget	Actual
Transmission					
Transmission C-tag poles (# of poles)	240	70	87	240	242
Transmission arm replacements (# of sets)	50	8	77	50	130
Transmission air break switch inspections (# of switches)	64	23	6	64	16
Transmission lightning arrester installations (# of sets)	0	0	0	0	1
Transmission pole inspections (# of poles)	0	0	0	0	0
Transmission reclearing (# of miles) BES Only	637.34	0	0	637.34	637.34
Transmission reclearing (# of miles) 69 kV	865.95	327.04	346.91	865,95	865.95
Transmission reclearing (# of miles) 138 kV	296,60	130.21	86.49	296.60	296,60
Transmission danger tree removals-Bulk Power (# of trees)	N/A	70	87	240	242
Substation					
Substation batteries (# of activities)	885	28	132	885	854
Circuit breakers (# of activities)	1495	539	277	1495	1502
Substation inspections (# of activities)	5227	1240	1254	5227	5200
Transformer maintenance (# of activities)	2186	640	433	2186	2224
Distribution					
Distribution C-tag poles replaced (# of poles)	2,126	309	304	2,126	1,895
C-truss distribution poles (# of poles)	6,092	2,057	1,171	6,092	5,206
Capacitor (MVAR added)	80	3	7	80	81
OCR replacements (# of)	644	96	77	644	593
Distribution pole inspections (# of poles)	90,000	22,482	17,710	90,000	89,894
Distribution line inspections (# of miles)	5,040	1,509	1,431	5,040	6,705
Group re-lamping (# of lamps)	26,869	2,000	1,607	26,869	26,869
Test sections of underground distribution cable	493	100	178	493	515
Distribution tree trimming (# of miles)	7087.50	1652.76	1818.48	7087.50	7025.79
LTN manhole inspections (# of)	132	41	7	132	133
LTN vault inspections (# of)	774	200	95	774	804
LTN network protector overhauls (# of)	71	34	12	71	78
LTN reverse power trip testing (# of)	141	28	4	141	127

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).

	4th Q	uarter	Year-to-date		
Activity	Budget (\$000)	Actual (\$000)	Budget (\$000)	Actual (\$000)	
Provide Electric Service	2,316	1,950	9,132	9,823	
Vegetation Management	10,907	14,058	43,674	47,573	
Customer Response	17,095	41,153	64,865	92,481	
Reliability & Maintenance	17,396	14,855	68,994	63,465	
System Upgrade	74	1,061	979	1,828	
Customer Services/Accounts	33,532	31,371	128,684	126,273	
Others	16,593	15,349	63,880	60,500	
Total O&M Expenses	97,913	119,797	380,208	401,943	

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

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

	4th Q	uarter	Year-to-date		
	Budget (\$000)	Actual (\$000)	Budget (\$000)	Actual (\$000)	
New Service/Revenue	15,947	21,813	71,080	80,008	
System Upgrade	77,315	113,368	262,272	268,412	
Reliability & Maintenance	52,208	53,811	206,174	200,930	
Customer Response	2,747	13,457	9,790	20,399	
Other	7,091	9,000	25,159	21,793	
Total	155,308	211,449	574,475	591,542	

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.

Transmission and Distribution (T&D)		
Lineman Leader	74	
Journeyman Lineman	218	
Journeyman Lineman-Trainee	79	
Helper	23	
Groundhand	4	
Troubleman	50	
T&D Total	448	
Electrical		
Elect Leaders-UG	5	
Elect Leaders-Net	8	
Elect Leaders-Sub	25	
Journeyman Elect-UG	27	
Journeyman Elect-Net	15	
Journeyman Elect-Sub	57	
Journeyman Elect Traince-UG	1	
Journeyman Elect Trainee-Net	14	
Journeyman Elect Trainee	20	
Helper	11	
Laborer-Network	0	
Laborer-Substation	0	
Electrical Total	183	
Overall Total	631	

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 about 1,100 feeders across the PPL Electric service area.

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

- SAIDI 35%
- SAIFI 30%
- Fraction of customers interrupted more than three times 20%
- Fraction of customers with an interruption over four hours 15%

Major Events, momentary service interruptions, and planned pre-arranged jobs are excluded.

The CPI values are obtained by multiplying the individual feeder statistics by coefficients based on the 5-year period, 2001-2005. Average values over this period were:

- SAIDI 121.9 per customer per year
- SAIFI 0.929 per customer per year
- Fraction of customers interrupted more than three times 4% per feeder per year
- Fraction of customers with an interruption over four hours 10% per feeder per year

A hypothetical feeder with the values of SAIDI, SAIFI, and the fraction of customers interrupted more than three times, and the fraction of customers with an interruption over four hours, equal to the 5-year averages would have a CPI value of 100. Any variations in the values of the above criteria would affect the CPI values in accordance with the weighting factors.

1

PPL Electric Utilities Corporation Service Interruption Definitions

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

10 – Improper Design	Controllable	When an employee or agent of PPL Electric is responsible for an error of commission or omission in the engineering or design of the distribution system. (Facility Records personnel use only)
11 – Improper Installation	Controllable	When an employee or agent of PPL Electric is responsible for an error of commission or omission in the construction or installation of the distribution system. (Facility Records personnel use only)
12 – Improper Operation	Controllable	When an employee or agent of PPL Electric is responsible for an error of commission or omission in the operation or maintenance of the distribution system. (Facility Records personnel use only)
30 – Trees – Trimming Related ⁹	Controllable	Outages resulting from conductors contacted by tree growth within the clearance zone defined by the current trimming specification (within the Rights-of- Way).
35 – Trees – Not Trimming Related	Non- Controllable	Outages due to trees, but not related to lack of proper tree trimming maintenance. This includes danger timber blown into PPL Electric facilities, and trees or limbs felled by the public.
40 – Animals	Controllable	Any outage caused by an animal directly or indirectly coming in contact with PPL Electric facilities. This includes birds, squirrels, raccoons, snakes, cows, etc.
41 – Vehicles	Public	When cars, trucks or other types of vehicles or their cargoes strike facilities causing a problem.

⁹ The title and description of this code have been revised for clarity. The purpose and application of the code have not changed.

51 – Contact/Dig-in	Public	 When work in the vicinity of energized overhead facilities results in interruptions due to accidental contact by cranes, shovels, TV antennas, construction equipment (lumber, siding, ladders, scaffolding, roofing, etc.). When contact is made by a non-employee with an underground facility causing interruption.
60 – Equipment Failure	Controllable	 Outages resulting from equipment failures caused by corrosion or contamination from build-up of materials, such as cement dust or other pollutants. Outages resulting from a component wearing out due to age or exposure, including fuse tearing or breaking. Outages resulting from a component or substance comprising a piece of equipment failing to perform its intended function. Outage resulting from a failure that appears to be the result of a manufacturer's defect or can not be described by any other code indicating the specific type of failure.
77 – Non-PPL Electric Problem – Other	Non-PPL Electric	Where no PPL Electric or customer facilities were affected, and no repair or restoration was carried out on PPL Electric equipment.
78 – Non-PPL Electric Problem – Customer Facility	Non-PPL Electric	Where no PPL Electric facilities were affected, and no repair or restoration was carried out on PPL Electric equipment.
80 – Scheduled Outage ¹⁰	Controllable	 Interruptions under the control of a PPL Electric switchman or direction of a PPL Electric System Operator for the purpose of performing scheduled maintenance, repairs and capacity replacements for the safety of personnel and the protection of equipment. Includes requests from customers for interruption of PPL Electric facilities.

¹⁰ 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 <u>immediately</u>, but are reported as a scheduled outage when the interruption is <u>postponed</u>.

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

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

Appendix C

PPL Electric Utilities Corporation Job Descriptions

Transmission and Distribution

Groundhand	Performs manual labor and assists employees in higher job classifications.
Helper	 Performs semi-skilled labor at any work location on de-energized overhead and underground transmission, and distribution facilities to prepare the employee for entrance into the Journeyman Lineman Apprenticeship Program.
Journeyman Lineman	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.
Journeyman Lineman-Trainee	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.
Lineman Leader	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.
	Engage in and perform work along with providing the necessary leadership, all-around knowledge, initiative, judgment, and experience to produce a quality job.
	Performs all the direct duties of the Journeyman Lineman when not acting as a Lineman Leader.
Troubleman	Investigates and resolves trouble calls, voltage abnormalities on transmission and distribution systems associated with, but not limited to, PPL Electric facilities.

Electrical

Electrician Leader - Substation - Network - Underground	 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. Engage in and perform work along with providing the necessary leadership, all-around knowledge, initiative, judgment, and experience to produce a quality job. Performs all direct duties of the Journeyman Electrician when not acting as a leader.
Helper - Substation - Network - Underground	Performs manual labor at any work location including those areas containing non-exposed energized electrical equipment, and to prepare the employee for entrance into the Apprenticeship Program.
Laborer - Substation - Network - Underground	Performs manual labor and assists employees in higher job classifications.
Journeyman Electrician - Substation - Network - Underground	 Normally under limited supervision performs and is responsible for work associated with, but not limited to, PPL Electric facilities involving the highest degree of skill in construction and maintenance work associated with substations, LTN or underground distribution and transmission. Uses microprocessor based equipment for troubleshooting and revising relay logic and its control systems related to the Field Services electrical discipline.
Journeyman Electrician - Trainee - Substation - Network - Underground	 Normally under limited supervision performs and is responsible for work associated with, but not limited to, PPL Electric facilities involving the highest degree of skill in construction and maintenance work associated with substations, LTN or underground distribution and transmission. Uses microprocessor based equipment for troubleshooting and revising relay logic and its control systems related to the Field Services electrical discipline.

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