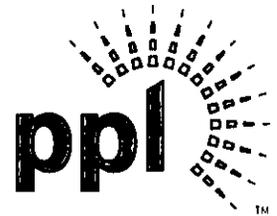


Paul E. Russell
Associate General Counsel

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



FEDERAL EXPRESS

July 31, 2013

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

RECEIVED

JUL 31 2013

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

**Re: PPL Electric Utilities Corporation
Quarterly Reliability Report for the
Period Ended June 30, 2013
Docket No. L-00030161**

Dear Ms. Chiavetta:

Enclosed for filing on behalf of PPL Electric Utilities Corporation ("PPL Electric") are an original and six (6) copies of PPL Electric's Quarterly Reliability Report for the Period Ended June 30, 2013. 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 52 Pa. Code § 57.195(d).

Pursuant to 52 Pa. Code § 1.11, the enclosed document is to be deemed filed on July 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 B. Kathryn Frazier, PPL Electric's Regulatory Affairs Manager at (610) 774-3372.

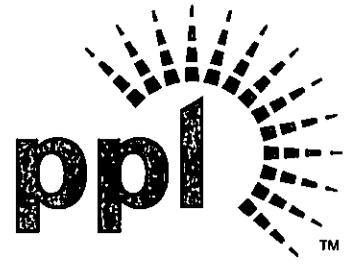
Very truly yours,

Paul E. Russell

Enclosures

cc: Mr. Paul Diskin
Mr. Daniel Searfoorce
Tanya J. McCloskey, Esquire

Mr. Darren Gill
Mr. John R. Evans



PPL Electric Utilities

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

July 2013

RECEIVED

JUL 31 2013

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

- 1) A description of each major event that occurred during the preceding quarter, including the time and duration of the event, the number of customers affected, the cause of the event and any modified procedures adopted in order to avoid or minimize the impact of similar events in the future.***

There were no major events during the second quarter of 2013.

- 2) **Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) for the EDC's service territory for the preceding quarter. The report shall include the data used in calculating the indices, namely the average number of customers served, the number of sustained customer interruptions, the number of customers affected, and the customer minutes of interruption. If MAIFI values are provided, the report shall also include the number of customer momentary interruptions.**

The following table provides data for the 12 months ended June 30, 2013¹.

SAIFI (Benchmark = 0.98; Rolling 12-month Std. = 1.18)	1.09
CAIDI (Benchmark = 145; Rolling 12-month Std. = 174)	151
SAIDI (Benchmark = 142; Rolling 12-month Std. = 205)	164
MAIFI²	4.10
Average Number of Customers Served³	1,393,478
Number of Sustained Customer Interruptions (Trouble Cases)	16,138
Number of Customers Affected⁴	1,514,294
Customer Minutes of Interruptions	227,983,231
Number of Customer Momentary Interruptions	5,709,719

During the 2nd quarter there were no (0) PUC major events, one (1) PUC Reportable storm, and six (6) other storms that required the opening of one or more area emergency centers to manage restoration efforts.

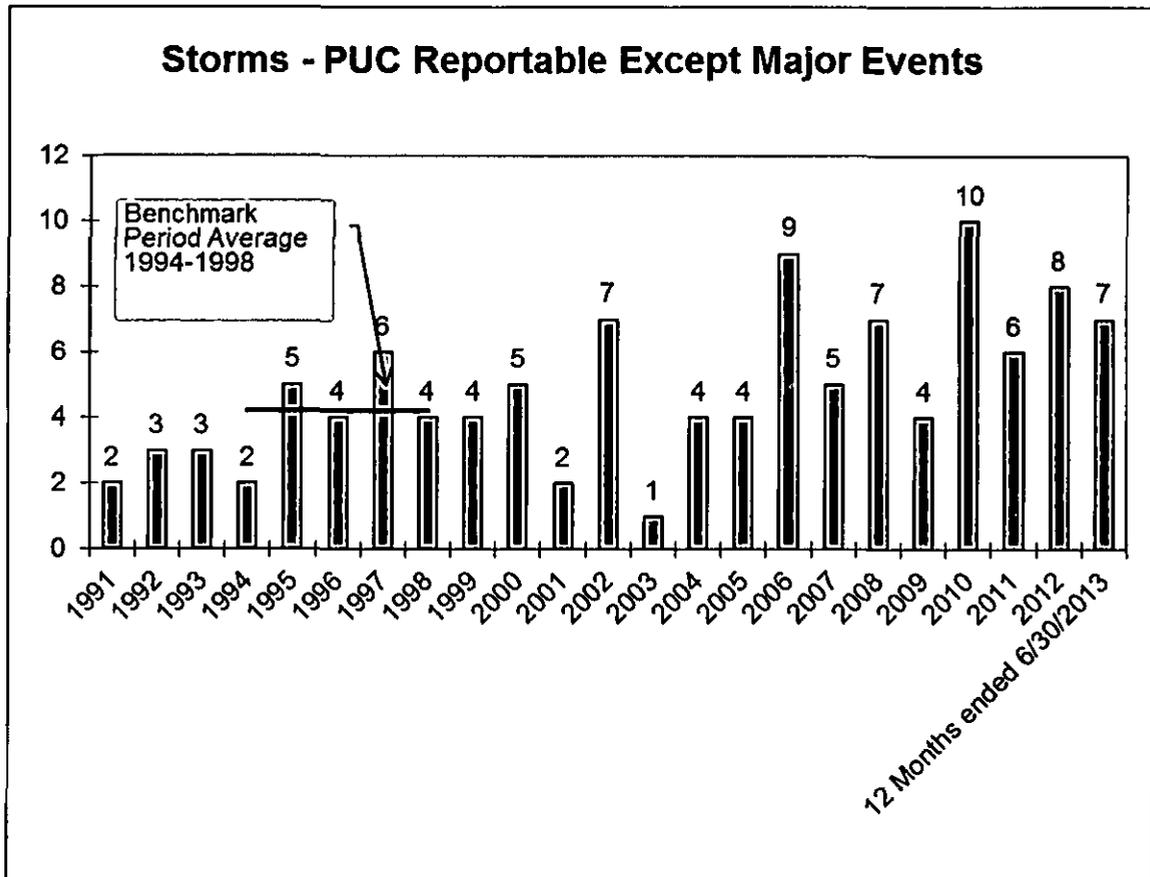
¹ Non-PPL Electric problems are excluded here, but may be found in Item 5.

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

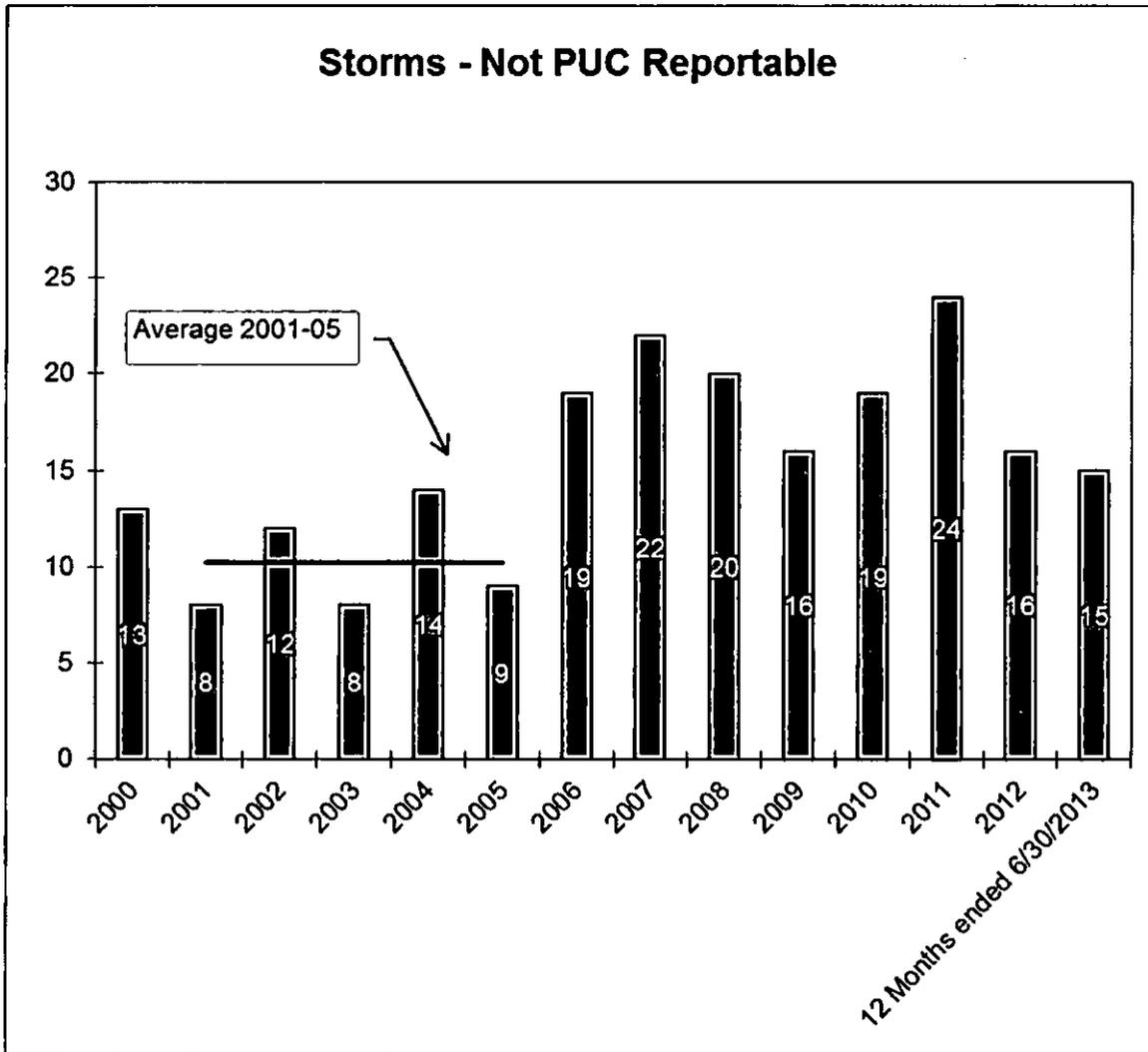
³ PPL Electric calculates the annual indices using customers served at the end of the period. This is consistent with the method used to calculate PPL Electric's benchmarks.

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 seven (7) PUC-reportable storms ($\geq 2,500$ customers interrupted for ≥ 6 hours) other than major events.



In addition, there were fifteen (15) 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
1	25601	6.596	333.36	2,198.9	27.0	1127	27	2,478,220
2	28701	2.156	1369.2	2,952.5	1,476.3	812	17	2,397,472
3	65603	3.268	299.56	978.91	326.3	2394	34	2,343,502
4	28302	4.251	193.06	820.77	205.2	2797	81	2,295,699
5	24401	2.519	732.43	1,844.7	369.0	1230	36	2,269,088
6	25801	2.517	464.82	1,169.8	195.0	1813	39	2,120,986
7	67803	4.552	233.80	1,064.2	152.0	1965	34	2,091,191
8	10205	4.308	159.12	685.47	85.7	2825	26	1,936,450
9	46802	2.951	300.10	885.71	98.4	1953	59	1,729,788
10	24301	2.143	463.21	992.75	99.3	1690	8	1,677,755
11	59401	5.100	125.42	639.65	58.1	2593	56	1,658,612
12	27501	1.177	1101.7	1,296.8	108.1	1259	18	1,632,745
13	60803	2.864	283.08	810.85	62.4	1975	21	1,601,430
14	64904	1.236	429.42	530.66	37.9	3016	9	1,600,462
15	16202	1.212	903.69	1,094.9	73.0	1455	14	1,593,209
16	45402	2.497	381.22	952.00	59.5	1617	40	1,539,381
17	10903	2.000	359.03	718.07	42.2	2030	39	1,457,677
18	13202	2.377	289.94	689.32	38.3	1998	23	1,377,251
19	14307	1.193	645.68	770.54	40.6	1598	11	1,231,323
20	66703	3.276	245.10	803.04	40.2	1466	34	1,177,259
21	47704	4.450	356.78	1,587.6	75.6	736	37	1,168,476
22	65701	1.428	425.10	606.85	27.6	1918	6	1,163,933
23	26401	3.771	139.51	526.15	22.9	2155	66	1,133,860
24	18501	3.728	208.57	777.49	32.4	1458	38	1,133,586
25	47002	1.508	381.21	574.82	23.0	1969	47	1,131,818
26	28301	3.816	104.37	398.23	15.3	2835	77	1,128,992
27	47001	2.965	151.91	450.48	16.7	2455	69	1,105,933
28	28402	2.530	268.86	680.18	24.3	1591	28	1,082,173

⁵ MAIFI data is obtained at the substation breaker and does not include momentary 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
29	45501	0.845	875.06	739.70	25.5	1448	46	1,071,085
30	40101	3.495	141.65	495.03	16.5	2149	24	1,063,828
31	44505	1.615	277.23	447.72	14.4	2371	61	1,061,545
32	45002	1.254	418.68	524.88	16.4	1928	40	1,011,960
33	47703	2.398	303.55	728.05	22.1	1383	31	1,006,897
34	45302	1.523	538.39	819.91	24.1	1224	20	1,003,574
35	14404	1.172	558.76	654.95	18.7	1522	29	996,835
36	43402	3.135	305.50	957.72	26.6	1038	31	994,115
37	46702	2.470	313.32	773.99	20.9	1276	43	987,615
38	44301	2.252	213.49	480.73	12.7	2038	32	979,725
39	64203	3.778	189.07	714.31	18.3	1351	19	965,038
40	26001	2.930	240.93	705.96	17.6	1359	49	959,405
41	17802	2.611	192.88	503.53	12.3	1895	51	954,189
42	53501	2.945	145.95	429.78	10.2	2146	45	922,309
43	53602	3.834	108.24	415.06	9.7	2186	66	907,322
44	53601	4.824	163.76	789.99	18.0	1125	36	888,737
45	28001	5.256	94.606	497.23	11.0	1783	54	886,560
46	40602	1.637	231.99	379.66	8.3	2300	29	873,224
47	26604	2.762	129.29	357.14	7.6	2415	31	862,500
48	44703	2.366	204.37	483.46	10.1	1762	35	851,850
49	21206	3.447	97.450	335.87	6.9	2515	22	844,700
50	11406	2.337	352.87	824.54	16.5	1016	15	837,735
51	22905	1.295	168.25	217.85	4.3	3786	22	824,790
52	46302	1.548	487.67	755.07	14.5	1087	52	820,756
53	12102	2.309	318.77	735.99	13.9	1101	23	810,323
54	20403	3.754	110.20	413.76	7.7	1914	46	791,936
55	64202	5.948	130.00	773.27	14.1	1022	25	790,278
56	10904	2.981	177.93	530.45	9.5	1484	58	787,192
57	28601	1.767	195.20	344.99	6.1	2235	47	771,049
58	67402	3.412	171.19	584.04	10.1	1319	35	770,355

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

01 Circuit ID: 25601, ARROWHEAD 56-01

Performance Analysis

One major outage significantly affected this circuit's reliability during the past four quarters. On July 28, 2012 a tree from outside the right of way contacted the circuit and interrupted 1,955 customers for up to 1,871 minutes. In total, the 56-01 line had 27 outages between the months of July, 2012 and June, 2013. These include tree related (14), nothing found (4), equipment failures (4), animal related (3), and vehicles (2).

Remedial Actions

- A new line and terminal at the Arrowhead substation went into service during the first half of 2013. This new line reduced the customer count on the Arrowhead 56-01 by approximately half, and reduced the amount of primary overhead wire exposure by approximately half.
- A full circuit trim will be performed in the second half of this year.
- The performance of the reconfigured circuits will be monitored and additional actions will be identified during the second quarter WPC meeting

02 Circuit ID: 28701, HAMLIN 87-01

Performance Analysis

On July 26, 2013 a tree from outside the right of way came in contact with the overhead primary conductor causing the Hamlin 87-01 circuit breaker to trip to lockout. The outage affected 816 customers for up to 2,888 minutes.

On June 22, 2013 a vehicle came in contact with PPL's overhead primary conductor pole causing the Hamlin 87-01 circuit breaker to trip to lockout. The outage affected 891 customers for up to 153 minutes.

There have been 17 outages on the 87-01 circuit during the last twelve months. The causes have been equipment failures (8), animal contacts (4), tree related (3), vehicle hit (1), and nothing found (1).

Remedial Actions:

- Full circuit trimming is scheduled to be completed in the third quarter of 2013.
- In May 2014, PPL will be replacing two three phase OCRs and a manual tie load break air switch with two automated VCRs and an automated tie switch. These improvements will improve sectionalizing capability and reduce outage durations in the future.

- By December 2014, the Hamlin 87-01 to Madisonville 55-01 tie load break air switch will be replaced with an automated tie switch as part of PPL's 2014 Smart Grid program. These improvements will improve sectionalizing capability and reduce outage durations in the future. Once this device is installed, the entire circuit will be completely automated.
- In December 2013, a section of single phase circuit near the Hamlin substation will be relocated farther downstream. This will prevent further breaker operations that have resulted from single phase faults on this section.

03 Circuit: 65603, QUARRYVILLE 56-03

Performance Analysis

The Quarryville 56-03 line has 2,390 customers across 146 circuit miles. On October 20, 2012, this circuit was interrupted for over 37 hours due to a transmission outage as a result of a tornado that touched down in the Lancaster region with wind gusts of over 110 MPH. This one outage had a CMI of 1,793,060, or about 77% of the rolling 12 month CMI of the circuit.

There have been 34 outages on this circuit during the last 12 months. The causes have been: equipment failures (16), tree related (6), animal contacts (6), vehicle hits (4), and nothing found (2).

The Quarryville 56-03 has not previously appeared on the Worst Performing Circuit list.

Remedial Actions

- The circuit was last trimmed in 2012.
- Full circuit tree trimming is scheduled for 2016.
- An Expanded Operational Review on the circuit will be completed by August, 2013.
- A telemetrically controlled motor will be added to an existing sectionalizing device in November, 2013. The system operator will be able to remotely operate this device to minimize the number of customers affected by outages on the line.
- The circuit will be re-configured in November, 2014, to lower the customer count and circuit mileage of the line. This will help minimize the number of customers affected by outages and improve the overall reliability of the circuit.
- A new circuit out of the Quarryville substation will be built in May, 2016, that will further reduce the customer count and circuit mileage of the line.

04 Circuit ID: 28302, NEWFOUNDLAND 83-02

Performance Analysis

On December 9, 2012 a vehicle contacted a pole causing the Newfoundland 83-02 OCR to trip to lockout. The outage affected 1,724 customers for up to 680 minutes, resulting in 1,098,974 CMI.

On April 19, 2013 a tree from outside the right of way came in contact with the overhead primary conductor causing an OCR to trip to lockout. The outage affected 254 customers for up to 759 minutes, resulting in 192,623 CMI.

On September 18, 2012 a tree from outside the right of way came in contact with the overhead primary conductor causing the Newfoundland 83-02 OCR to trip to lockout. The outage affected 99 customers for up to 1,277 minutes, resulting in 126,402 CMI.

There have been 81 outages on the 83-02 circuit during the last twelve months. The causes have been tree related (42), equipment failures (24), vehicle hits (6), animal contacts (5), nothing found (2), other controllable (1), and directed by a non PPL authority (1).

Remedial Actions:

- In June, 2013, construction of the Newfoundland 83-02 to Tafton 80-01 tie line was completed. The tie will improve sectionalizing capability and reduce customer outage durations on both circuits.
- In June, 2013, construction of the new Ledgesdale Substation was completed. This project transferred approximately 1,181 PPL customers off of the Newfoundland 83-02 circuit.
- In May, 2015, a new substation (Angels) will be constructed which will transfer 662 customers off the Newfoundland 83-02 circuit.
- In 2015 the entire Newfoundland 83-02 circuit will be trimmed.

05 Circuit ID: 24401, TINKER 44-01

Performance Analysis

On July 26, 2012, a tree from outside the right of way came in contact with the overhead primary conductor causing the OCR to trip to lockout. The outage affected 1,720 customers for up to 3,260 minutes, resulting in 1,817,808 CMI.

On July 29, 2012 a tree from outside the right of way came in contact with the overhead primary conductor causing the OCR to trip to lockout. The outage affected 170 customers for up to 515 minutes. The outage contributed 87,479 to the circuits total CMI.

There have been 36 outages on the 44-01 circuit during the last twelve months. The causes have been equipment failures (16), tree related (13), animal contacts (3), contact/dig-In (1), nothing found (2), and directed by a non-PPL authority (1).

Remedial Actions:

- Full circuit trimming is scheduled to be completed in the first quarter of 2014.
- In December 2014, a total of 250 single phase customers will be transferred to the more reliable Tinker 44-02 circuit as part of PPL's CEMI program.

- In December 2014, three VCRs and two automated tie switches will be upgraded as part of PPL's 2014 Smart Grid program. These upgrades will improve sectionalizing capability in order to reduce customer outage durations in the future.
- In December 2015, four sets of three phase voltage regulators will be installed on the Tinker 44-01 and Honesdale 34-01 circuits in order to improve sectionalizing capability in the future. The current tie line capability is currently limited by voltage levels. With this circuit improvement, the entire Tinker 44-01 can be transferred to external substation circuits.
- Future plans are currently being evaluated to construct a new tie line between the Tinker 44-01 and Tinker 44-02 circuits. This tie would improve further reliability through improved sectionalizing capabilities.

06 Circuit ID: 25801, SULLIVAN TRAIL 58-01

Performance Analysis

This circuit experienced three significant outages that adversely impacted its reliability over the past four quarters. On July 26, 2012 trees from outside the right of way contacted the circuit causing the circuit breaker to trip to lockout. This interrupted 1,955 customers for up to 1,871 minutes, resulting in 1,751,160 CMI.

On October 1, 2012 a vehicle contact caused a recloser to trip to lockout. This interrupted 810 customers for up to 525 minutes, resulting in 64,558 CMI.

On October 19, 2012 a tree from outside the right of way contacted the circuit causing a recloser to trip to lockout. This interrupted 814 customers for up to 262 minutes, resulting in 55,286 CMI.

In total, the Sullivan Trail 58-01 circuit experienced 43 outages between June 2012 and July 2013. The causes include tree related (15), animals (8), equipment failures (7), other (7), vehicles (3), nothing found (2), and contact/dig-in (1).

Remedial Actions

- A project has been developed to install a new remote controlled recloser, upgrade an existing recloser to have remote control capability, and upgrade an existing switch to have remote control capability. These devices are planned for installation in 2014.
- A project to further analyze the feasibility of building a tie to provide capability to transfer customers in the event of an outage is underway. This analysis will be completed by September 30, 2013.
- This circuit is scheduled for hazard tree trimming under the PPL CEMI Program by December 2013.
- The Sullivan Trail 58-01 line will be evaluated under the Smart Grid program.

07 Circuit: 67803, WEST LANCASTER 78-03

Performance Analysis

The West Lancaster 78-03 line has approximately 1,986 customers across 36 circuit miles. On July 7, 2012, due to a severe T&L storm, this circuit had an OCR outage with a CMI of 1,003,986, or about 48% of the rolling 12 month CMI for the circuit. The next highest CMI outage was equipment failure related, with a CMI of 278,193, or about 13% of the rolling 12 month CMI of the circuit. The West Lancaster 78-03 first appeared on the WPC list last quarter.

There have been 34 outages on this circuit during the last 12 months. The causes have been: equipment failures (14), tree related (14), nothing found (3), animal contacts (2), and vehicle hits (1).

Remedial Actions

- Full circuit tree trimming is scheduled for the first quarter of 2014.
- Hot spot tree trimming was done on various line sections of the circuit in the following months: June, July and August of 2012, and in January 2013 and again in June 2013.
- A large oak tree will be removed by the end of 2013 in an effort to prevent future outages should this tree fall.
- On January 30, 2013, a thermography inspection on the overhead two and three phase sections of the circuit was completed. Only one issue was found. During the scan, a phase wire was found resting on an alley arm. It was fixed that same day.
- On March 5, 2013, additional switches were installed to minimize the number of customers affected by outages.
- The underground primary cable in the Wood Gate residential development will be cable cured sometime during late 2013. This should greatly reduce the chances of having an underground cable failure in the development.
- An Expanded Operational Review on the circuit will be completed by December 2013.
- The Transformer #1 Circuit Breaker will be replaced in early 2015 to increase the capability of the substation which will help minimize the number of customer affected by interruptions.
- Existing sectionalizing and tie devices will be automated in 2015 as part of the Smart Grid program.

08 Circuit ID: 10205, ALLENTOWN 02-05

Performance Analysis

During the past twelve months there have been four circuit breaker lockouts that interrupted all 2,929 customers on this line. The first was in July 2012, when primary and neutral conductors fell causing the circuit breaker to open. The second outage occurred later in July when a tree was found on the three phase line. The third, in December 2012, was caused by a transmission outage. The fourth outage occurred in April 2013 when a vehicle hit a pole. There was one additional large outage in February 2013 when crews requested an outage of 170 customers so that repairs could be made to a pole after a vehicle accident.

In addition to these large outages, there have been several other outages involving distribution transformers and single phase tap fuses. Equipment failures have been the largest contributor to outages on this circuit.

There have been 34 outages on the 02-05 during the last 12 months. The causes have been equipment failures (9), tree related (8), animal contact (5), vehicle hit (5), other (5), and nothing found (2).

Remedial Actions

- This circuit will be trimmed in 2014.
- Five taps requiring single phase fusing were identified and one normally closed load break disconnect switch and all normally open switches at tie locations were identified as a candidates to be replaced with an automated switches. This will be done in 2013.
- In 2013, the entire circuit will be divided into 500 customer blocks to reduce the number of customer affected by future outages.
- This feeder will receive an Expanded Operational Review in 2013.
- Animal guarding will be added in 2014.

09 Circuit ID: 46802, HEPBURN 68-02

Performance Analysis

On July 15, 2012, all 1,967 customers on this circuit were out of service for 56 minutes due to an outage on the Lycoming – Hepburn 69kV. The circuit breaker at the Lycoming 230/69kV yard tripped during a period of thunder and lightning and failed to reclose. On November 27, 2012 a recloser operated to lockout when a truck hit a guy wire and caused a pole top to shear. This vehicle strike left 429 customers out of service for approximately 6 hours until repairs could be made. During a period of severe weather on April 10, 2013 all of the customers on this circuit were out of service for a period of time due to multiple devices operating to lockout. The outage on April 10, 2013 accounted for more than 60% of the total CMI over the last 12 months.

In total, the Hepburn 68-02 12 kV line had 59 outages between July 2012 and June 2013. The causes of these outages include: tree related (33), equipment failures (14), animal contacts (5), nothing found (5), vehicles (2).

Remedial Actions

- Trimming is scheduled for 2013.
- Single phase tap fusing was installed on June 25, 2012.
- Fault indicators were installed at all of the underground dips in October, 2012.
- SCADA was installed at the Hepburn substation in February, 2013.
- A project was developed to improve the reliability for 121 customers on the radial Crescent Tap. The Crescent Tap project will relocate inaccessible line, replace aging conductor, and install an additional recloser. The project is scheduled to be completed by December, 2014.

- There are plans to install solid blade disconnects at four locations, and to add additional slot fusing at two locations. This work is scheduled for 2014 and 2015.
- In 2014 a project will relocate inaccessible line at two locations and split a large single phase tap into two separate taps.

10 Circuit ID: 24301, RIVER 43-01

Performance Analysis

This circuit experienced one significant outage due to equipment failure that adversely impacted its reliability over the past four quarters. On December 21, 2012 an equipment issue caused the circuit breaker to trip to lockout. This interrupted 3,510 customers for up to 770 minutes, resulting in 1,673,131 CMI. It should be noted that the River 43-01 was carrying all the load and an additional 1,726 customers from an adjacent circuit at the time of this outage due to planned work. In total, the River 43-01 experienced 9 outages from June 2012 to July 2013. The causes include equipment failures (4), animal contacts (3), tree contact (1), and vehicle contact (1).

Remedial Actions

- A line patrol was conducted to identify maintenance items on this circuit. The maintenance work is scheduled to be completed by December, 2013.
- Fault indicators have been placed on the River 43-01 in response to the outage on December 21, 2012. This will help in identifying the location of the outage and shorten the restoration time of customers.
- The River 43-01 line will be assessed for sectionalizing devices under the Smart Grid program.

11 Circuit ID: 59401, RICHFIELD 94-01

Performance Analysis

Four circuit breaker outages significantly affected this circuit's reliability in the past four quarters. Equipment failures were the most common outage cause.

On June 25, 2013, high winds blew phase conductors into a building and interrupted the circuit breaker affecting 2,707 customers for up to 315 minutes, resulting in 453,771 CMI.

On June 28, 2013, a vehicle pole hit interrupted the circuit breaker affecting 2,708 customers for up to 285 minutes, resulting in 295,701 CMI.

On June 25, 2013, a tree from outside the right of way interrupted the circuit breaker affecting 2,709 customers for up to 185 minutes, resulting in 201,512 CMI.

On June 25, 2013, a vehicle pole hit interrupted the circuit breaker affecting 2,709 customers for up to 85 minutes, resulting in 180,999 CMI.

In total, the Richfield 94-01 circuit had 56 outages between July 2012 and June 2013. The causes of these outages include: equipment failures (26), tree contacts (12), animal contacts (10), nothing found (4), vehicles (3), and other-non controllable (1).

Remedial Actions

- The circuit is being evaluated for additional ROCs devices to be installed during 2014.
- The Richfield 94-01 circuit is scheduled to be trimmed in 2014.
- Additional remote operator controlled devices are scheduled to be added to the circuit in 2014. This will allow for faster sectionalizing in the event of an outage.
- A new circuit is scheduled to be installed at Richfield substation in 2015. The new circuit will reduce the customers, circuit miles, and exposure on the Richfield 94-01.
- SCADA is scheduled to be installed at Richfield substation in 2014.
- Two single phase reclosers are scheduled to be relocated in late 2013 in order to reduce customer exposure.

12 Circuit ID: 27501, WEISSPORT 75-01

Performance Analysis

This circuit experienced two significant tree related outages that adversely impacted reliability over the past four quarters. On July 26, 2012, a tree from outside the right of way contacted the circuit causing a recloser to trip to lockout. This interrupted 727 customers for up to 4,462 minutes, resulting in 1,552,346 CMI.

In total, the Weissport 75-01 experienced 19 outages during the past 12 months. Causes include: tree related (7) equipment failure (6), no cause found (2), animal contact (2), directed by non-PPL authority (1), vehicle contact (1).

Remedial Actions

- A project was developed to install a new recloser to reduce outage exposure. This recloser was installed during the first half of 2013.
- This circuit is currently being evaluated for additional tree trimming.

13 Circuit ID: 60803, BUCK 08-03

Performance Analysis

The Buck 08-03 line has approximately 1,995 customers across 81 circuit miles. On October 20, 2012, this circuit was interrupted for over 23 hours due to a transmission outage as a result of a tornado that touched down in the Lancaster region with wind gusts of over 110 MPH. This one outage accounted for 1,097,162 CMI, or about 69% of the rolling 12 month CMI of the circuit. The next highest CMI outage was a vehicle hit, with a CMI of 172,791, or about 11% of the rolling 12 month CMI of the circuit.

There have been 21 outages on this circuit during the last 12 months. The causes have been: tree related (8), equipment failures (6), animal contacts (4), and vehicle hits (3).

Remedial Actions

- Full circuit tree trimming is scheduled for 2015.
- A line inspection on the overhead two and three phase sections of the circuit was completed in April 2013. Minor issues were found and will be corrected by the end of 2013.
- Fault indicators were installed at various locations along the circuit in April 2013 to help identify faults more quickly. This will reduce outage duration.
- An Expanded Operational Review on the circuit will be completed by December 2013.
- The circuit will be re-configured in November 2014 to lower the customer count and circuit mileage of the line. This will help minimize the number of customers affected by an outage and improve the overall reliability of the circuit.
- An existing sectionalizing device will be relocated to a more advantageous location on the line, providing a higher level of protection and minimizing the number of customers affected by outages.
- A section of line will be relocated from the right-of-way to a more accessible location along a public road in late 2014, which will allow repairs to be made more easily and help reduce the outage duration.

14 Circuit ID: 64904, MILLERSVILLE 49-04

Performance Analysis

The Millersville 49-04 line has approximately 3,022 customers across 38 circuit miles. On July 7, 2012, due to a severe T&L storm, this circuit had a circuit breaker outage accounting for 1,547,529 CMI, or about 97% of the rolling 12 month CMI for the circuit.

There have been 9 outages on this circuit during the last 12 months. The causes have been: tree related (3), vehicle hits (3), equipment failures (2), and nothing found (1).

Remedial Actions

- Full circuit tree trimming is scheduled for the first quarter of 2014.
- Two automatic sectionalizing devices were installed on the line in January, 2013, to help minimize the number of customers affected outages.
- Six manual sectionalizing devices were installed in November, 2012, to help further reduce the number of customers affected by outages and shorten the duration of the outage for the majority of the customers.
- An Expanded Operational Review on the circuit will be completed by December, 2013.

15 Circuit ID: 16202, POCONO FARMS 62-02

On September 18, 2012 a tree from outside the right of way came in contact with the overhead primary conductor causing the circuit breaker to trip to lockout. The outage affected 1,654 customers for up to 1,245 minutes, resulting in 1,584,337 CMI.

There have been 14 outages on the 62-02 circuit during the last twelve months. The causes have been equipment failures (6), animal contacts (3), tree related (2), nothing found (2), and directed by a non-PPL authority (1).

Remedial Actions:

- The Pocono Farms 62-02 circuit is part of the Pocono Smart Grid project. The placement and automation of devices incorporated in the project scope during 2013 will improve sectionalizing capability and reduce customer outage durations.
- Full circuit trimming will take place in 2013.
- In November, 2015, a new line and terminal will be placed at the North Coolbaugh substation. This project will create a new tie between the new circuit and the Pocono Farms 62-02 circuit.

16 Circuit ID: 45402, WEST BLOOMSBURG 54-02

Performance Analysis

On July 7, 2012, 540 customers experienced a 2 day outage when trees outside of the right of way fell on conductors during a severe thunder and lightning storm. On July 26, 2012 a majority of the customers on this circuit experienced an outage when trees outside of the right of way fell on conductors during a thunder and lightning storm. These two outages accounted for approximately 65% of the total CMI over the past 12 months.

In total, the West Bloomsburg 54-02 12 kV line had 40 outages between July 2012 and June 2013. The causes of these outages include: tree related (21), equipment failures (9), nothing found (6), vehicles (2), other (2).

Remedial Actions

- Two reclosers with coordination problems will be replaced. New VCRs with new controls will be installed. Series fusing and solid blade disconnects to provide additional sectionalizing will also be installed. This work is scheduled to be completed by May 31, 2014.
- Slot fusing on single phase taps is scheduled to be completed by December 31, 2013.
- On February 11, 2013 an infrared inspection of this circuit was completed. There were no reliability concerns identified.
- The circuit has been patrolled by line maintenance inspectors and other personnel on a regular basis.
- As part of the Distribution Circuit Improvement Plan, "stem style" secondary connections to the overhead transformers were replaced with the more reliable "block style" connections.

- As part of the Smart Grid Initiative, existing reclosers and ROCS will be upgraded during 2014.

17 Circuit ID: 10903, COOPERSBURG 09-03

Performance Analysis

During the past twelve months there was one circuit breaker lockout that interrupted all 2,070 customers on this line. In September, 2012, trees fell on the primary and neutral conductors causing the circuit breaker to open. An outage affecting 760 customers occurred in July 2012 when a tree fell on the three phase from outside the right-of-way during inclement weather. In December, 2012, the line was affected by a transmission outage. An equipment failure affected 392 customers in October 2012.

In addition to these large outages, there have been several other outages involving distribution transformers and single phase tap fuses. Trees have been the largest contributor to outages on this circuit.

There have been 59 outages on the 09-03 during the last 12 months. The causes have been tree related (32), equipment failures (12), nothing found (4), animal contact (3), vehicle hit (3), other (3), and dig-ins (2).

Remedial Actions

- The circuit will be fully trimmed in 2015.
- A tie between the Coopersburg 09-03 and Lanark 23-01 is being built with an in service date of the fourth quarter 2013.
- Considering the transfer of approximately 400 customers from the Coopersburg 09-03 to the Richland 36-01 circuit, which is a more reliable and much shorter circuit. This would also assist in relieving heavy substation loading at Coopersburg.
- Automated sectionalizing devices will be added midline to help minimize the number of customers affected by an outage. Specific locations will be determined during a walk-down in early August 2013.
- All single-phase taps will be fused to isolate single-phase outages to that specific tap. Specific locations will be determined during a walk-down in early August 2013.
- This circuit is part of the Buck and Montgomery County (Buxmont) Smart Grid project. The placement and automation of devices incorporated in the project scope during 2014 will improve sectionalizing capability and reduce customer outage durations.

18 Circuit ID: 13202, PALMERTON, 32-02

Performance Analysis

During the past twelve months there have been two circuit breaker lockouts interrupting all 2,000 customers on this line. In July 2012, trees fell on the primary and neutral conductors from

outside the right-of-way during inclement weather causing the circuit breaker to open. An external object fell on the primary and neutral in June 2013 causing the breaker to open.

In addition to these large outages, there have been several other outages involving equipment failures and animal contacts. Trees have been the largest contributor to outages on this circuit.

There have been 30 outages on the 32-02 during the last 12 months. The causes have been tree related (12), equipment failures (6), animal contact (4), other (3), nothing found (2), vehicle hit (2), and tree related (1).

Remedial Actions

- Automated sectionalizing devices will be added midline to help minimize the number of customers affected by an outage. Specific locations will be determined during a walk-down in early August 2013.
- All single-phase taps will be fused to isolate single-phase outages to that specific tap. Specific locations will be determined during a walk-down in early August 2013.
- The benefits of performing a thermography inspection are being assessed.
- The benefits of relocating sections of the 3-phase lines, which currently are located off road, to the roadway is being evaluated.
- Full trimming of the circuit will be completed in 2015.

19 Circuit ID: 14307, SUMNER, 43-07

Performance Analysis

During the past twelve months there has been one circuit breaker lockout that interrupted all 2,000 customers on this line. In July 2012, an equipment failure at the substation caused the circuit breaker to open.

In addition to this outage, there have been several other outages involving trees and single phase tap fuses. Equipment failures have been the largest contributor to outages on this circuit.

There have been 21 outages on the 32-02 during the last 12 months. The causes have been equipment failures (6), nothing found (4), tree related (4), other (3), animal contact (2), and vehicle hit (2).

Remedial Actions

- Automated sectionalizing devices will be added midline to help minimize the number of customers affected by an outage. Specific locations will be determined during a walk-down in early August 2013.
- All single-phase taps will be fused to isolate single-phase outages to that specific tap. Specific locations will be determined during a walk-down in early August 2013.
- The benefits of performing a thermography inspection are being assessed.
- Full trimming of the circuit will be completed in 2015.

20 Circuit ID: 66703, STRASBURG 67-03

Performance Analysis

The Strasburg 67-03 line has approximately 1,468 customers across 63 circuit miles. On July 26, 2012, due to a wind storm, this circuit had an OCR outage accounting for 483,323 CMI, or about 41% of the rolling 12 month CMI for the circuit. The next highest CMI outage was tree related, accounting for 299,647 CMI, or about 25% of the rolling 12 month CMI of the circuit.

There have been 34 outages on this circuit during the last 12 months. The causes have been: equipment failures (15), tree related (16), nothing found (2), and animal contacts (1).

Remedial Actions

- Full circuit tree trimming is scheduled for 2015.
- A line inspection on the overhead two and three phase sections of the circuit was completed in April, 2013. No problems or issues were found.
- A thermography inspection on the overhead two and three phase sections of the circuit was completed January, 2013. No problems or issues were found.
- An Expedited Operational Review on the circuit will be completed by December, 2013.
- A new automatic sectionalizing device will be installed at the mid-point of the main three phase line in 2014 to minimize the number of customers affected by an outage.
- Existing sectionalizing and tie devices will be automated in 2015 as part of the Smart Grid program.

21 Circuit ID: 47704, BLOOMSBURG 77-04

Performance Analysis

In July, 2012, the Bloomsburg 77-04 was carrying a portion of the Millville 32-01 for planned work at the Millville Substation. On July 7, 2012, a loop burned open on the Millville 32-01 circuit and caused an OCR on circuit to operate to lockout. On July 15, 2012 the CB opened due to downed conductors on the Millville 32-01 circuit, which was still being carried by the Bloomsburg 77-04 circuit. These two outages, which occurred during an abnormal configuration, accounted for approximately 85% of the total CMI over the past 12 months.

In total, the Bloomsburg 77-04 12 kV line had 39 outages between July 2012 and June 2013. The causes of these outages include: tree related (22), equipment failures (6), nothing found (5), animal contacts (4), vehicles (1), contact/dig-in (1).

Remedial Actions

- A new ROCS device will be installed to allow system operators to remotely transfer customers from the 77-04 circuit to the 77-03 circuit. This project is scheduled to be completed by November, 2015.
- On February 11, 2013, an infrared inspection of this circuit was completed. There were no reliability concerns identified.
- SCADA installation at the Millville substation was completed on July 26, 2012.
- A project was developed to improve the reliability for 10 customers on the Davenport Tap. The Mellick Hollow Road project will relocate inaccessible line and replace aging conductor. The project is scheduled to be completed by December, 2014.

22 Circuit ID: 65701, ROSEVILLE 57-01

Performance Analysis

The Roseville 57-01 line has 1,896 customers across 35 circuit miles. On September 8, 2012, due to a severe wind storm, this circuit had an OCR outage accounting for 1,026,810 CMI, or about 88% of the rolling 12 month CMI for the circuit.

There have been 6 outages on this circuit during the last 12 months. The causes have been: equipment failures (3), tree related (2), and animal contacts (1).

Remedial Actions

- Full circuit tree trimming is scheduled for 2015.
- Fault indicators were installed at various locations along the line in October, 2012, to help identify faults more quickly. This will shorten the duration of future outages.
- A manual sectionalizing device was installed in November, 2012, to help reduce the number of customers affected by outages, and to shorten outage duration.
- An automatic sectionalizing device will be installed on the line in late 2013 to help minimize the number of customers affected by an outage.
- An Expanded Operational Review on the circuit will be completed by December, 2013.
- Existing sectionalizing and tie devices will be automated in 2015 as part of the Smart Grid program.

23 Circuit ID: 26401, INDIAN ORCHARD 64-01

Performance Analysis

On July 26, 2012 a tree from outside the right of way came in contact with the overhead primary conductor causing an OCR to trip to lockout. The outage affected 182 customers for up to 1,068 minutes, resulting in 190,716 CMI.

On July 26, 2012 a tree from outside the right of way came in contact with the overhead primary conductor causing an OCR to trip to lockout. The outage affected 91 customers for up to 1,520 minutes, resulting in 138,596 CMI.

On August 10, 2012 a tree from outside the right of way came in contact with the overhead primary conductor causing an OCR to trip to lockout. The outage affected 2,063 customers for up to 195 minutes, resulting in 130,125 CMI.

There have been 66 outages on the 64-01 circuit during the last twelve months. The causes have been tree related (40), equipment failures (14), nothing found (8), animal contacts (3), and vehicle hit (1).

Remedial Actions:

- Full circuit trimming is scheduled for 2014.
- In 2014, PPL will be installing three new automated VCR switches and upgrading the communication controls on four of the existing automated devices. These improvements will improve sectionalizing capabilities and lead to reduced outage durations for customers in the future.
- Additional remedial plans for this circuit will be developed in August, 2013.

24 Circuit ID: 18501, CANADENSIS 85-01

Performance Analysis

On September 18, 2012 a tree came in contact with overhead primary conductor causing the Canadensis 85-01 circuit breaker to trip to lockout. The outage affected 1,534 customers for up to 1,842 minutes, resulting in 833,358 CMI.

On July 15, 2012 a tree from outside the right of way came in contact with the overhead primary conductor causing a single phase OCR to trip to lockout. The outage affected 175 customers for up to 563 minutes, resulting in 79,483 CMI.

There have been 38 outages on the 85-01 circuit during the last twelve months. The causes have been tree related (16), equipment failures (8), nothing found (7), vehicle hits (3), animal contacts (3), and other-controllable (1).

Remedial Actions:

- The Canadensis 85-01 circuit is part of the Smart Grid project plan. In 2013 the placement and automation of devices will improve sectionalizing capability and reduce customer outage durations.
- A single phase line relocation that will move nine high risk customers to the more reliable Canadensis 85-02 circuit is scheduled for 2014.
- Full circuit trimming is planned for 2015.

25 Circuit ID: 47002, HUGHESVILLE 70-02

Performance Analysis

On July 7, 2012, 653 customers on the radial Eagles Mere Tap and 168 customers on three different taps were out of service for more than 48 hours. Trees outside of the right of way fell on conductors during a severe thunder and lightning storm. On July 13, 2012 the Eagles Mere Tap recloser operated to lock out due to trees outside the right of way falling on conductors. These two outages accounted for approximately 75% of the total CMI over the past 12 months.

In total, the Hughesville 70-02 circuit had 48 outages between July 2012 and June 2013. The causes of these outages include: tree related (29), equipment failures (6), nothing found (5), animal contacts (5), vehicles (2), other (1).

Remedial Actions

- As part of the Smart Grid Initiative, existing reclosers and ROCS will be upgraded. This work is planned for 2014.
- Additional slot fusing will be added at three locations during 2013.

26 Circuit ID: 28301, NEWFOUNDLAND 83-01

Performance Analysis

On December 22, 2012, a vehicle came in contact with an overhead primary conductor pole causing the circuit breaker to trip to lockout. The outage affected 3,043 customers for up to 322 minutes, resulting in 453,017 CMI.

On May 22, 2013 a tree from outside the right of way came in contact with the overhead primary conductor causing an OCR to trip to lockout. The outage affected 2,635 customers for up to 86 minutes, resulting in 177,872 CMI.

There have been 77 outages on the 83-01 circuit during the last twelve months. The causes have been tree related (50), equipment failures (13), animal contacts (6), nothing found (4), vehicle hits (3), and other-controllable (1).

Remedial Actions:

- Full circuit tree trimming was completed on the circuit during the second quarter of 2012.
- In June 2013, the new Ledgesdale Substation project was completed. The new substation with one of its three circuits has transferred approximately 700 customers off of the Newfoundland 83-01 circuit, reducing the total circuit customer count to 2,000. The project has also improved sectionalizing capability in the area and will significantly reduce future customer outage durations.
- In 2014, approximately sixty high risk customers on a single phase line section will be relocated in order to improve their reliability as part of the CEMI program.

27 Circuit ID: 47001, HUGHESVILLE 70-01

Performance Analysis

On July 7, 2012, 217 customers were out of service for more than 40 hours after trees from outside of the right of way fell on conductors during a severe thunder and lightning storm. A vehicle hit on December 20, 2012, caused the circuit breaker to operate, impacting 2,524 customers for an hour and a half, and 13 customers for more than 6 hours. On April 10, 2013 all 2,541 customers on this circuit were out of service when the circuit breaker operated to lock out during storm activity. Restoration of service was delayed since multiple trouble calls needed to be investigated prior to system operators reclosing the breaker. These three outages account for approximately 75% of the total CMI over the past 12 months.

In total, the Hughesville 70-01 line had 69 outages between July 2012 and June 2013. The causes of these outages include: tree related (28), equipment failures (16), animal contacts (12), nothing found (9), vehicles (2), contact/dig-In (1), other (1).

Remedial Actions

- A project will extend the three phase backbone of the Hughesville 70-01 and create a tie with the Millville 32-02. The tie will be automated and additional automated devices will be installed. This project is scheduled to be completed in the first quarter of 2014.
- Ten slot fuses are scheduled to be installed during 2013.

28 Circuit ID: 28402, HARTLAND 84-02

Performance Analysis

This circuit experienced three significant outages that adversely impacted its reliability over the past four quarters. On July 26, 2012, a tree from outside the right of way contacted the circuit, causing a recloser to trip to lockout. This interrupted 921 customers for up to 2,890 minutes resulting in a total of 451,035 CMI.

On July 7, 2012, an equipment failure caused the breaker to trip to lockout. This interrupted 1,639 customers for up to 1,498 minutes, resulting in a total of 380,213 CMI.

On July 26, 2012, a tree from outside the right of way contacted the circuit and caused a recloser to trip to lockout. This interrupted 749 customers for up to 2,655 minutes resulting in a total of 123,178 CMI.

In total, the Hartland 84-02 experienced 35 outages between June 2012 and July 2013. The causes include tree related (15), equipment failures (12), animals (3), nothing found (3), public contact (1), vehicle contact (1).

Remedial Actions

- The line will be evaluated for the installation of remote controlled switches by August 31, 2013.
- The Hartland 84-02 line will have seven automatic devices installed in 2014 under the Smart Grid program.

- An expanded operational review is scheduled for 2014.
- A new tie line project between Hartland 84-02 and Bloomsburg 54-02 will be evaluated. The project will help the reliability of both circuits and allow for increased transfer capability.

29 Circuit ID: 45501, DERRY 55-01

Performance Analysis

On July 7, 2012 a recloser protecting 543 customers operated to lockout due to trees falling on conductors during a severe thunder and lightning storm. Customers were out of service for over 39 hours. During a storm on July 26, 2012 a recloser that protects 166 customers operated to lockout due to trees falling on conductors. These customers were out of service for over 23 hours. These two outages accounted for approximately 85% of the total CMI over the past 12 months.

In total, the Derry 55-01 line had 46 outages between July 2012 and June 2013. The causes of these outages include: tree related (15), equipment failures (14), nothing found (9), animal contacts (4), other (3), and vehicles (1).

Remedial Actions

- SCADA was installed at the substation in April 2013.
- In May, 2013, the Watson 33-04 - Derry 55-01 tie was completed. This project expanded the three phase backbone and added a new ROCS device that will allow system operators to remotely transfer customers from the Derry 55-01 circuit to the Watson 33-04 circuit.

30 Circuit ID: 40101, HUNTER 01-01

Performance Analysis

This circuit experienced five significant outages that adversely impacted its reliability over the past four quarters. On October 20, 2012, a tree from outside the right of way contacted the circuit interrupting 2,272 customers for up to 226 minutes, resulting in a total of 299,432 CMI.

On September 1, 2012, a tree from outside the right of way tree contacted the circuit, interrupting 1,326 customers for up to 230 minutes, resulting in a total of 298,834 CMI.

On September 1, 2012, a tree from outside the right of way contacted the circuit, interrupting 942 customers for up to 271 minutes, resulting in a total of 255,367 CMI.

On June 13, 2013, a tree from outside the right of way contacted the circuit, interrupting 1,330 customers for up to 49 minutes, resulting in a total of 65,170 CMI

On April 19, 2013a tree from outside the right of way contacted the circuit, interrupting 1,328 customers for up to 49 minutes, resulting in 63,810 CMI.

In total, the Hunter 01-01 experienced 29 outages between June 2012 and July 2013. The causes include tree related (16), equipment failures (7), animals (4), and nothing found (2).

Remedial Actions

- The normally open device between Hunter 01-01 and Fairview 15-03 will be upgraded to a remote operated device. This will allow operators to remotely transfer customers between the Hunter 01-01 and Fairview 15-03.
- Hazard tree trimming will be completed on the Hunter 01-01 by August 15th, 2013.
- A new tie project will be evaluated between Hunter 01-01 and Dalmatia 36-01. This will increase both lines transfer capability.
- A new substation project for the area will be studied. This will benefit the surrounding circuits including Hunter 01-01.

31 Circuit ID: 44505, HAMILTON 45-05

Performance Analysis

On July 15, 2012, during a period of severe weather, trees outside the right of way fell on the three phase and brought 3 spans of conductor down. A recloser limited the number of customers affected to 560. On July 26, 2012 a recloser operated to lockout when trees outside of the right of way fell on conductors during a thunder and lightning storm. These two outages accounted for approximately 80% of the total CMI over the past 12 months.

In total, the Hamilton 45-05 line had 61 outages between July 2012 and June 2013. The causes of these outages include: equipment failures (23), tree related (22), animal contacts (10), nothing found (5), and vehicles (1).

Remedial Actions

- A new Reliability Substation (Augustaville) will be constructed by December, 2013, to improve the reliability for customers currently served by the Hamilton 45-05 line.
- As part of the Smart Grid Initiative, existing reclosers and ROCS will be upgraded. This work is planned for 2014.

32 Circuit ID: 45002, LIMESTONE 50-02

Performance Analysis

On July 7, 2012, the Limestone 50-02 circuit breaker operated to lockout when a tree fell on the three phase and broke a cross arm during a severe thunder and lightning storm. This outage accounted for approximately 90% of the total CMI over the past 12 months.

In total, the Limestone 50-02 line had 40 outages between July 2012 and June 2013. The causes of these outages include: equipment failures (17), tree related (14), and animal contacts (9).

Remedial Actions

- The manual load break air switch that ties the Limestone 50-02 to the Laurelton 10-01 was upgraded to a ROCS device in April 2013.
- In 2014 several VCR installations and upgrades are scheduled.

33 Circuit ID: 47703, BLOOMSBURG 77-03

Performance Analysis

On July 7, 2012, the Bloomsburg 77-03 circuit breaker operated to lockout due to trees outside the right of way falling on conductors during a severe thunder and lightning storm. On August 20, 2012, the circuit breaker tripped and failed to automatically reclose due to a closing coil malfunction. The circuit was patrolled prior to attempting to reclose the circuit breaker and no problems were found. These two outages accounted for approximately 90% of the total CMI over the past 12 months.

In total, the Bloomsburg 77-03 12 line had 33 outages between July 2012 and June 2013. The causes of these outages include: tree related (18), nothing found (7), equipment failures (3), vehicles (2), contact/dig-in (1), animal contacts (1), and other (1).

Remedial Actions

- Trimming is scheduled for later this year.
- In November, 2015, a new ROCS device that will allow system operators to remotely transfer customers from the 77-03 circuit to the 77-04 circuit will be installed.
- On February 11, 2013 an infrared inspection of this circuit was completed. There were no reliability concerns identified.
- As part of the Smart Grid Initiative, existing reclosers and ROCS will be upgraded and a new sectionalizing device will be added. This work is planned for 2014.

34 Circuit ID: 45302, WEST BERWICK 53-02

Performance Analysis

On July 7, 2012, a recloser protecting 543 customers operated to lockout due to trees falling on conductors during a severe thunder and lightning storm. Customers were out of service for over 23 hours. During a storm on July 26, 2012, a recloser operated to lockout and a tap fuse operated due to trees falling on conductors. These two events accounted for approximately 90% of the total CMI over the past 12 months.

In total, the West Berwick 53-02 line had 20 outages between July 2012 and June 2013. The causes of these outages include: tree related (8), equipment failures (6), animal contacts (3), nothing found (2), and vehicles (1).

The Bloomsburg West Berwick 53-02 was last trimmed in 2011 and is scheduled to be trimmed in 2016. This circuit has been on the WPC 6 quarters since 2007.

Remedial Actions

- A ROCS device was added that will allow operators to remotely transfer load from the West Berwick 53-02 to the Scott 49-04. A new telemetric VCR and an additional ROCS device were added to provide additional sectionalizing. These projects were completed in 2012.

35 Circuit ID: 14404, SOUTH SLATINGTON, 44-04

Performance Analysis

During the past twelve months there has been one circuit breaker lockout that interrupted all 1,600 customers on this line. In July, 2012, trees fell on the primary and neutral conductors from outside the right-of-way during inclement weather causing the circuit breaker to open. In June, 2013, a tree fell on the primary and neutral conductors causing an outage for 129 customers.

In addition to these large outages, there have been several other outages involving distribution transformers and single phase tap fuses. Trees have been the largest contributor to outages on this circuit.

There have been 39 outages on the 32-02 during the last 12 months. The causes have been trees: related (19), equipment failures (7), animal contact (7), nothing found (3), vehicle hit (1), and other (2).

Remedial Actions

- This circuit is new to the WPC list this quarter and will be evaluated for remedial actions in August, 2013.
- The South Slatington 44-04 will be trimmed in 2014.

36 Circuit ID: 43402, BENTON 34-02

Performance Analysis

On July 7, 2012, the Benton 34-02 circuit breaker operated to lockout due to trees falling on conductors during a severe thunder and lightning storm. On May 19, 2013, the Rohrsburg 63-02 circuit was transferred to the Benton 34-01 to install SCADA and replace the transformers at the Rohrsburg Substation. On May 20, 2013 an excavator contacted the overhead primary and caused an outage for all of the customers on the Benton 34-02 and the Rohrsburg 63-02. These two events accounted for approximately 90% of the total CMI over the past 12 months.

In total, the Benton 34-02 line had 31 outages between July 2012 and June 2013. The causes of these outages include: tree related (11), equipment failures (9), animal contacts (4), other (4), contact/dig-in (1), vehicles (1), nothing found (1).

Remedial Actions

- SCADA was installed at the Benton substation in March 2013.
- SCADA installation at the Rohrsburg substation was completed in June 2012 and the Benton 34-02 was returned to its normal configuration.
- Trimming is scheduled for 2014.

37 Circuit ID: 46702, RENOVO 67-02

Performance Analysis

On May 22, 2013, and June 13, 2013, the North Bend tap recloser operated to lock out. On both occasions 669 customers experienced an outage when trees outside the right of way fell on conductors during a period of thunder and lightning. On April 10, 2013, during heavy thunderstorm activity, there were four separate cases of trouble on this circuit that affected 198 customers. These three events accounted for approximately 70% of the total CMI over the past 12 months.

In total, the Renovo 67-02 12 circuit had 43 outages between July 2012 and June 2013. The causes of these outages include: tree related (28), equipment failures (7), animal contacts (4), nothing found (3), other (1).

Remedial Actions

- An expanded operation review is scheduled for 2013.
- 17 slot fuses are scheduled to be installed in 2013.
- As part of the Smart Grid Initiative, existing reclosers and ROCS will be upgraded and a new sectionalizing device will be added. This work is planned for 2014.
- A section of three phase along Renovo Road will be rebuilt. The project will relocate a section of the line to reduce the exposure to trees and add sectionalizing devices, and is scheduled for 2015.
- Circuit trimming is scheduled for 2014.
- 0.7 miles of two-phase will be rebuilt in 2015.

38 Circuit ID: 44301, BEAVERTOWN 43-01

Performance Analysis

On July 15, 2012, all 1,967 customers on this circuit were out of service for 169 minutes due to an outage on the Sunbury – Middleburg 69kV transmission line. The Middleburg East and

Middleburg West 69kV circuit breakers at the Sunbury 69kV yard tripped to lockout due to a static wire falling on the conductors. On February 2, 2013 a vehicle strike caused 1,197 customers downstream of McClure Tap recloser to lose service for over 6 hours until repairs were made. These two outages accounted for approximately 70% of the total CMI over the past 12 months.

In total, the Beavertown 43-01 line had 32 outages between July 2012 and June 2013. The causes of these outages include: equipment failures (15), animal contacts (6), tree related (4), vehicles (4), other (2), and nothing found (1).

Remedial Actions

- Trimming is scheduled for 2014.
- SCADA is scheduled to be installed at the Beavertown substation in 2013.
- 900 feet of new single phase will be built along Ettinger Road so that inaccessible line can be removed. This work is scheduled for 2014.

39 Circuit ID: 64203, KINZER 42-03

Performance Analysis

The Kinzer 42-03 line has approximately 1,341 customers across 37 circuit miles. On October 19, 2012, this circuit was interrupted for almost 19 hours due to a transmission outage as a result of a tornado that touched down in the Lancaster region with wind gusts of over 110 MPH. This one outage had a CMI of 603,901, or about 63% of the rolling 12 month CMI of the circuit. The next highest CMI outage was a vehicle hit, with a CMI of 155,902, or about 16% of the rolling 12 month CMI of the circuit.

There have been 19 outages on this circuit during the last 12 months. The causes have been: tree related (5), vehicle hits (5), equipment failures (4), animal contacts (3), and nothing found (2).

Remedial Actions

- Full circuit tree trimming is scheduled for 2015.
- An Expedited Operational Review on the circuit will be completed by December 2013.
- Existing sectionalizing and tie devices will be automated in 2015 as part of PPL's Smart Grid program.

40 Circuit ID: 26001, WEST DAMASCUS 60-01

Performance Analysis

On July 26, 2012, a tree from outside PPL's right of way came in contact with the overhead primary conductor causing the West Damascus 60-01 single phase OCR to trip to lockout. The outage affected 130 customers for up to 1,416 minutes, resulting in 161,731 CMI.

On July 26, 2012 a tree from outside the right of way came in contact with the overhead primary conductor causing the West Damascus 60-01 single phase OCR to trip to lockout. The outage affected a 74 customers for up to 1,823 minutes, resulting in 134,851 CMI.

There have been 49 outages on the 60-01 circuit during the last twelve months. The causes have been tree related (26), equipment failures (12), animal contacts (6), nothing found (4), and contact/dig-in (1).

Remedial Actions:

- In 2012, the entire West Damascus 60-01 circuit was trimmed.
- A new tie line project between the West Damascus 60-01 and West Damascus 60-02 circuits is scheduled to be constructed in 2015. This project will improve sectionalizing capability between the circuits, reducing outage durations.

41 Circuit ID: 17802, GILBERT 78-02

Performance Analysis

On January 31, 2013 a tree from outside the right of way came in contact with overhead primary conductor causing the Gilbert 78-02 OCR to trip to lockout. The outage affected 1,440 customers for up to 386 minutes, resulting in 276,375 CMI.

On September 18, 2012, a tree from outside the right of way came in contact with the overhead primary conductor causing the Gilbert 78-02 single phase OCR to trip to lockout. The outage affected 132 customers for up to 1,581 minutes, resulting in 202,928 CMI.

On December 14, 2012, a vehicle came in contact with an overhead primary conductor pole causing the Gilbert 78-02 OCR to trip to lockout. The outage affected 1,441 customers for up to 135 minutes, resulting in 121,068 CMI.

There have been 51 outages on the 78-02 circuit during the last twelve months. The causes have been tree related (23), equipment failures (12), animal contacts (6), nothing found (5), vehicle hits (4), and directed by non-PPL authority (1).

Remedial Actions:

- Full circuit trimming is scheduled for 2016.
- This circuit is new to the WPC list this quarter and will be evaluated for remedial actions in August, 2013.
- The Gilbert 78-02 had an IR scan (2- and 3-phase) in early March, 2013
- An Expanded Operational Review for Gilbert 78-02 is 40% complete – the rest is planned to be complete in the next month.

42 Circuit ID: 53501, ELIZABETHVILLE 35-01

Performance Analysis

Four major outages significantly affected this circuit's reliability in the past four quarters. Tree related outages were the most common cause.

On December 21, 2012, a three phase recloser was interrupted after several spans of primary were knocked down during storm weather. 976 radial customers were interrupted for up to 219 minutes, resulting in 212,866 CMI.

On June 27, 2013, the Sunbury-Dauphin 69kV circuit tripped to lockout at the due to a broken transmission pole caused by a tree from outside the right of way falling on a guy wire. This outage affected approximately 13,100 customers at Dalmatia, Elizabethville, Lykens, Gratz, and Williamstown substations. 2,229 customers on the Elizabethville 35-01 were interrupted for up to 74 minutes, resulting in 162,828 CMI.

On July 26, 2012, a tree from outside the right of way interrupted 115 customers downstream from a recloser for up to 1,254 minutes, resulting in 144,317 CMI.

On December 7, 2012, the Sunbury-Dauphin 69kV circuit was interrupted due to a failed conductor. The outage affected approximately 13,200 customers on Dalmatia, Lykens, Elizabethville, Gratz, and Millersburg substations. 2,220 customers on the Elizabethville 35-01 were interrupted for up to 55 minutes, resulting in 123,654 CMI.

In total, the Elizabethville 35-01 circuit had 45 outages between July 2012 and June 2013. The causes of these outages include: tree related (22), equipment failures (9), animal contacts (7), nothing found (5), vehicles (1), and other-public (1).

Remedial Actions

- A comprehensive helicopter patrol of the Sunbury-Dauphin 69 kV circuit was completed on June 21, 2012. 19 sets of critical pole arms were identified and replaced by July 25, 2012. An additional 68 sets of heavy rot arms were also identified and replaced by December 14, 2012.
- The Elizabethville 35-01 circuit is scheduled to be trimmed by October 2013.
- *Radio communication* is scheduled to be added to a recloser and normally open air break by September 2013. This will allow remote operator controlled switching between Elizabethville and Millersburg substations.
- Approximately 50 danger trees were removed around the transmission poles and guy wires in response to the June 27, 2013 Sunbury-Dauphin 69kV outage at the end of June and early July.

43 Circuit ID: 53602, DALMATIA 36-02

Performance Analysis

Two major circuit breaker outages significantly affected this circuit's reliability in the past four quarters. Tree related outages were the most common cause.

On June 27, 2013, the Sunbury-Dauphin 69kV circuit tripped to lockout at the due to a broken transmission pole caused by a tree from outside the right of way falling on a guy wire. This outage affected approximately 13,100 customers at Dalmatia, Elizabethville, Lykens, Gratz, and Williamstown substations. 2,356 customers on the Dalmatia 36-02 were interrupted for up to 447 minutes, resulting in 380,496 CMI.

On December 7, 2012, the Sunbury-Dauphin 69kV circuit was interrupted due to a failed conductor. The outage affected approximately 13,200 customers on Dalmatia, Lykens, Elizabethville, Gratz, and Millersburg substations. 2,350 customers on the Dalmatia 36-02 were interrupted for up to 56 minutes, resulting in 131,107 CMI.

In total, the Dalmatia 36-02 circuit had 66 outages between July 2012 and June 2013. The causes of these outages include: tree related (26), equipment failures (18), animal contacts (7), nothing found (6), other-non controllable (3), vehicles (2), contact / dig-in (1), directed by non-PPL authority (1), other (2).

Remedial Actions

- The Dalmatia 36-02 circuit is scheduled for trimming in 2014.
- A comprehensive helicopter patrol of the Sunbury-Dauphin 69 kV circuit was completed on June 21, 2012. 19 sets of critical pole arms were identified and replaced by July 25, 2012. An additional 68 sets of heavy rot arms were also identified and replaced by December 14, 2012.
- About half a dozen various distribution equipment repairs were identified and completed after circuit patrols in late 2012. The work included replacing a cross arm, guy wire, bolts, and a strand of damaged primary.
- Additional radio communication is scheduled to be added to a recloser and normally open air break by September 2013. This will allow remote operator controlled switching for approximately 200 customers.
- A new 69-12 kV substation in the Meiserville area is scheduled for construction. The project will significantly reduce customer counts and circuit miles on the Dalmatia 36-02 circuit as well increase transfer capability in the area. 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, the new substation will be scheduled for completion by the fourth quarter of 2015.
- Approximately 50 danger trees were removed around the transmission poles and guy wires in response to the June 27, 2013 Sunbury-Dauphin 69kV outage at the end of June and early July.

44 Circuit ID: 53601, DALMATIA 36-01

Performance Analysis

Four major circuit breaker operations significantly affected this circuit's reliability in the past four quarters. Equipment failure is the most common outage cause.

On June 27, 2013, the Sunbury-Dauphin 69kV circuit tripped to lockout at the due to a broken transmission pole caused by a tree from outside the right of way falling on a guy wire. This outage affected approximately 13,100 customers at Dalmatia, Elizabethville, Lykens, Gratz, and Williamstown substations. 1,203 customers on the Dalmatia 36-01 were interrupted for up to 447 minutes, resulting in 444,278 CMI.

On January 16, 2013, a squirrel caused a pole top fire after making contact with a distribution transformer. The pole top fire caused the circuit breaker to trip and interrupted 1,197 customers for up to 223 minutes, resulting in 155,894 CMI.

On November 10, 2012, a three phase VCR failed and caused the 36-01 circuit breaker trip to lockout interrupting 1,193 customers for up to 116 minutes, resulting in 114,945 CMI.

On December 7, 2012 the Sunbury-Dauphin 69kV circuit was interrupted due to a failed conductor. The outage affected approximately 13,200 customers on Dalmatia, Lykens, Elizabethville, Gratz, and Millersburg substations. 1,196 customers on the Dalmatia 36-01 were interrupted for up to 54 minutes, resulting in 64,118 CMI.

In total, the Dalmatia 36-01 circuit had 36 outages between July 2012 and June 2013. The causes of these outages include: equipment failures (15), tree related (12), nothing found (4), animal contacts (3), vehicles (1), and other (1).

Remedial Actions

- A comprehensive helicopter patrol of the Sunbury-Dauphin 69 kV circuit was completed on June 21, 2012. Nineteen sets of critical pole arms were identified and replaced by July 25, 2012. An additional 68 sets of heavy rot arms were also identified and replaced by December 14, 2012.
- Additional single phase fusing was installed on a problematic tap on June 1, 2013.
- In October 2012, a patrol was completed on a three mile section of circuit along Route 147 near Herndon to identify possible locations for sectionalizing devices. No new sectionalizing locations were found. The customer count distribution and most common trouble locations limit potential reliability savings. Three phase outages are limited to 350 customers on this particular 3 mile radial tap.
- A new three phase tie with the Penns 74-1 circuit is planned for 2015. The tie will provide transfer capability to approximately 800 radial customers and would assist with restoration in the event of a transmission failure.
- A three phase switch was replaced with a telemetered recloser in June 2013 to provide additional fault detection and isolation to limit outages seen by the circuit breaker.
- Approximately 50 danger trees were removed around the transmission poles and guy wires in response to the June 27, 2013 Sunbury-Dauphin 69kV outage at the end of June and early July.

45 Circuit ID: 28001, TAFTON 80-01

Performance Analysis

On December 8, 2012, the circuit breaker operated incorrectly, causing an outage for the entire Tafton 80-01 circuit. The outage affected 1,858 customers for up to 26 minutes, resulting in 49,386 CMI.

On December 21, 2012, a tap fuse failed to operate correctly, causing the Tafton 80-01 OCR to trip to lockout. The outage affected 1,344 customers for up to 362 minutes, resulting in 485,937 CMI.

There have been 54 outages on the 80-01 circuit during the last twelve months. The causes have been tree related (19), equipment failures (17), animal contacts (8), nothing found (7), and vehicle hits (3).

Remedial Actions:

- In June 2013, a new tie line between Newfoundland 83-02 and Tafton 80-01 was added to improve sectionalizing capability and reduce customer outage durations on both circuits.
- In June 2013, construction was completed on the new Ledge Dale Substation. This project transferred approximately 870 customers off the Tafton 80-01 circuit.

46 Circuit ID: 40602, PINE GROVE 06-02

Performance Analysis

This circuit experienced two significant outages that adversely impacted its reliability over the past four quarters. On March 8, 2013, a vehicle damaged a remote controlled switch interrupting 2,477 customers for up to 282 minutes, resulting in 608,384 CMI.

On March 24, 2012, a vehicle contact interrupted 465 customers for up to 608 minutes, resulting in a total of 105,564 CMI.

In total, the Pine Grove 06-02 experienced 35 outages between June 2012 and July 2013. The causes include equipment related (16) tree related (8), animals (4), nothing found (4), vehicles (2), directed by non-PPL personnel (1)

Remedial Actions

- Two additional sectionalizing locations will be evaluated by August 31, 2013.
- This circuit is new to the WPC list this quarter and will be evaluated for remedial actions in August, 2013.

47 Circuit ID: 26604, BROOKSIDE 66-04

Performance Analysis

On July 26, 2012, a tree from outside the right of way came in contact with overhead primary conductor causing the Brookside 66-04 circuit breaker to trip to lockout. The outage affected 2,428 customers for up to 212 minutes, resulting in 202,928 CMI.

On January 29, 2013, an equipment failure affected 1,160 customers downstream of a temporary disconnect for up to 274 minutes, resulting in 140,517 CMI.

On June 14, 2013, a tree from outside the right of way came in contact with overhead primary conductor causing the Brookside 66-4 circuit breaker to trip to lockout. The outage affected 2,570 customers for up to 151 minutes, resulting in 128,525 CMI.

There have been 31 outages on the 66-04 circuit during the last twelve months. The causes have been equipment failures (13), tree related (10), nothing found (4), vehicle hits (2), and animal contacts (2).

Remedial Actions:

- Full circuit trimming is scheduled to be completed in the first quarter of 2015.
- The investigation of two new tie lines is being conducted. The new tie lines will improve sectionalizing capability and reduce future outage durations for all customers on the circuit.
- Plans are currently being evaluated to construct a new line and terminal in the Brookside substation in order to reduce the customer count on the 66-04 circuit to below 1,200 customers.
- An EOR will be completed on this circuit by December, 2013.
- A full line inspection will be completed by December, 2013.

48 Circuit ID: 44703, MUNCY 47-03

Performance Analysis

On July 7, 2012, a recloser protecting 110 customers operated to lockout due to trees falling on conductors during a severe thunder and lightning storm. Customers were out of service for over 18 hours. On July 26, 2012, a recloser protecting 899 of the customers on this circuit operated to lockout when trees outside of the right of way fell on conductors during a thunder and lightning storm. On April 20, 2013, the Muncy 47-03 circuit breaker operated to lockout when trees outside of the right of way fell on conductors. These three outages accounted for approximately 65% of the total CMI over the past 12 months.

In total, the Muncy 47-03 line had 35 outages between July 2012 and June 2013. The causes of these outages include: tree related (20), equipment failures (8), nothing found (4), and animal contacts (3).

Remedial Actions

- A load break air switch was upgraded to a ROCS device on February 21, 2013.

- A new ROCS device will be added to improve sectionalizing in December, 2013.
- In 2015 an underground dip under route 220 will be eliminated.
- An additional three phase recloser will be installed during 2015.
- A 0.8 mile section of the main feeder that currently runs through an area prone to flooding will be relocated. The proposed relocation circumvents the flood prone area, eliminates two underground dips, and provides a more direct feed to the Muncy Hospital and 1700 customers in Muncy Borough.

49 Circuit ID: 21206, EAST CARBONDALE 12-06

On October 28, 2012, a vehicle came in contact with an overhead primary conductor pole causing the East Carbondale circuit breaker to trip to lockout. The outage affected 2,708 customers for up to 268 minutes, resulting in 118,229 CMI.

On January 28, 2013, a downstream equipment failure caused an OCR to trip to lockout. The outage affected 1,969 customers for up to 646 minutes, resulting in 639,855 CMI.

There have been 22 outages on the 12-06 circuit during the last twelve months. The causes have been equipment failures (10), animal contact (4), nothing found (3), tree related (2), vehicle hit (2), and contact/dig-in (1).

Remedial Actions:

- Full circuit trimming is scheduled for 2015.
- Additional remediation will be discussed at WPC meeting in August, 2013.

50 Circuit ID: 11406, FARMERSVILLE 14-06

Performance Analysis

During the past twelve months there have been two circuit breaker lockouts that interrupted all 1,028 customers on this line. In July of 2012, there were two circuit breaker lockouts, both caused by a trees falling on the line from outside the right-of-way during inclement weather. Sectionalizing and restoration was delayed during the second outage due to an adjacent tie circuit also being out of service due to the weather.

In addition to these large outages, there have been nine small outages involving distribution transformers or single phase tap fuses outages can be attributed to equipment failures and trees falling onto overhead lines.

In summary, there have been 24 outages on the 14-06 feeder during the last 12 months. The causes have been equipment failures (13), tree related (6), animal contact (3), and other (2).

Remedial Actions

- Full circuit trimming is scheduled for 2014.
- Four new single phase tap fuses will be installed during 2013.
- Two new reclosers will be installed on the line to isolate problem pockets from interrupting the entire line. The first is scheduled to be completed in June of 2013, and the other in December 2013.
- Two existing manually controlled switches will have automation installed on them in December of 2013.
- Three-phase load break disconnects will be installed on a tap near the end of the line in December, 2013.

51 Circuit ID: 22905, HARWOOD 29-05

Performance Analysis

This circuit experienced one significant outage that adversely impacted its reliability over the past four quarters. On June 9, 2012, vandals threw a tree branch onto the primary conductor, interrupting 4,157 customers for up to 170 minutes, resulting in 704,071 CMI. This interruption took the entire substation out of service due to an equipment issue at the substation, ultimately interrupting 10,114 customers.

In total, the Harwood 29-05 experienced 23 outages between June 2012 and July 2013. The causes include equipment failures (14), other (3), tree related (3), directed by non-PPL authority (1), improper design (1).

Remedial Actions

- Harwood 29-05 will be sectionalized in 2015 under the Smart Grid program.
- Distribution Planning will study the Harwood 29-05 line to determine where additional sectionalizing is needed.
- A line inspection is scheduled for the line in 2014.

52 Circuit ID: 46302, ROHRSBURG 63-02

Performance Analysis

On July 7, 2012, three different cases of trouble caused 294 customers to be out of service for up to 47 hours. During a severe thunder and lightning storm trees from outside the right of way fell on conductors. These three cases of trouble accounted for more than 70% of the total customer minutes interrupted over the past 12 months.

In total, the Rohrsburg 63-02 12 kV line had 52 outages between July 2012 and June 2013. The causes of these outages include: tree related (21), equipment failures (11), nothing found (10), animal contacts (3), other (3), vehicles (3), and contact/dig-in (1).

Remedial Actions

- SCADA was installed at the Rohrsburg substation in June 2013.
- Trimming is scheduled for later in 2013.
- In June 2013 three vintage 3.5 MVA transformers at the Rohrsburg substation were replaced with a new 20 MVA transformer.

53 Circuit ID: 12102, SOUTH ALLENTOWN 21-02

Performance Analysis

During the past twelve months there has been one circuit breaker lockout that interrupted all 1,600 customers on this line. In July, 2012, trees fell on the primary and neutral conductors from outside the right-of-way during inclement weather causing the circuit breaker to open.

In addition to this large outage, there have been several other outages involving distribution transformers and single phase tap fuses. Tree related outages have been the largest contributor to CMI on this circuit.

There have been 26 outages on the 32-02 during the last 12 months. The causes have been tree related (11), equipment failures (5), animal contact (4), nothing found (2), vehicle hits (2), and other (2).

Next tree trimming cycle will occur in 2013.

Remedial Actions

- The circuit will be fully trimmed in 2013.
- Automated sectionalizing devices will be added midline to help minimize the number of customers affected by an outage. Specific locations will be determined during a walk-down in early August 2013.
- All single-phase taps will be fused to isolate single-phase outages to that specific tap. Specific locations will be determined during a walk-down in early August 2013.
- The benefits of performing a thermography inspection are being assessed.

54 Circuit ID: 20403, ASHFIELD 04-03

Performance Analysis

This circuit experienced three significant tree related outages that adversely impacted its reliability over the past four quarters. On July 7, 2012, a tree from outside the right of way contacted the circuit, causing a recloser to trip to lockout. This interrupted 1,494 customers for up to 1550 minutes, resulting in 220,514 CMI.

On July 20, 2012, trees from outside PPL's right of way contacted the circuit, causing a recloser to trip to lockout. This interrupted 1,947 customers for up to 234 minutes, resulting in 139,303 CMI.

On September 18, 2012 the circuit breaker was intentionally interrupted to remove a tree that had fallen onto the wire. This interrupted 2,426 customers for 7 minutes. At the time of this outage, the Ashfield 04-03 was carrying a portion of an adjacent circuit, resulting in additional customers experiencing the interruption. In total, the Ashfield 04-03 experienced 48 outages between June 2012 and July 2013. The causes include tree related (21), equipment failures (12), animal contact (5), other (4), no cause found (3), vehicle contact (2), public contact (1)

Remedial Actions

- An analysis of the sectionalizing capability of this circuit was completed in February, 2013. It was determined that the sectionalizing capability on the main three phase portion of the line is adequate, including remote controlled switches and no action is necessary. In addition, the single phase taps were also analyzed and found to be adequate.
- Hot spot tree trimming was completed in March, 2013.
- The entire line will be tree trimmed by the end of 2013.
- A line inspection of the Ashfield 04-03 was completed in 2012.
- An expanded operational review is scheduled for 2014.
- A tie project will be evaluated between Ashfield 04-03 and Orwigsburg 83-02.

55 Circuit ID: 64202, KINZER 42-02

Performance Analysis

The Kinzer 42-02 line has 1,019 customers across 87 circuit miles. On October 19, 2012, this circuit was interrupted for almost 9 hours due to a transmission outage as a result of a tornado that touched down in the Lancaster region with wind gusts of over 110 MPH. This one outage had a CMI of 558,164, or about 71% of the rolling 12 month CMI of the circuit. The next highest CMI outage was tree related, with a CMI of 110,217, or about 14% of the rolling 12 month CMI of the circuit.

There have been 25 outages on this circuit during the last 12 months. The causes have been: tree related (10), equipment failures (9), vehicle hits (3), contact/dig-in (1), and nothing found (2).

Remedial Actions

- Full circuit tree trimming is scheduled for Q4, 2013.
- An Expanded Operational Review on the circuit will be completed by December 2013.
- Existing sectionalizing and tie devices will be automated in 2015 as part of the Smart Grid program.
- The need for a new reliability substation in the area is currently being investigated.

56 Circuit ID: 10904, COOPERSBURG 09-04

Performance Analysis

During the past twelve months there has been one circuit breaker lockout that interrupted all 1,550 customers on this line. In September, 2012, a vehicle hit a pole and caused the main breaker to operate. In July, 2012, a tree fell from outside the right of way causing an outage of 1,200 customers.

In addition to these large outages, there have been several other outages involving, trees, distribution transformers and single phase tap fuses. Trees have been the largest contributor to outages on this circuit.

There have been 79 outages on the 09-04 during the last 12 months. The causes have been tree related (53), equipment failures (14), nothing found (5), animal contact (3), other (3), and vehicle hit (1).

Remedial Actions

- The circuit will be fully trimmed in 2013.
- Automated sectionalizing devices will be added midline to help minimize the number of customers affected by an outage. Specific locations will be determined during a walk-down in early August 2013.
- All single-phase taps will be fused to isolate single-phase outages to that specific tap. Specific locations will be determined during a walk-down in early August 2013.
- The benefits of moving some single-phase currently not located near a road, to the road are being considered. This would reduce the number of tree related outages as well as improve restoration times if the lines are more accessible.
- This circuit is part of the Buck and Montgomery County (Buxmont) Smart Grid project. The placement and automation of devices incorporated in the project scope during 2014 will improve sectionalizing capability and reduce customer outage durations.

57 Circuit ID: 8602, BLYTHEBURN 86-01

Performance Analysis

This circuit experienced two significant outages that adversely impacted its reliability over the past four quarters. On July 7, 2012, an equipment issue caused the breaker to trip to lockout interrupting 2,275 customers for up to 153 minutes, resulting in a total of 346,301 CMI.

On July 26, 2012 a tree from outside the right of way contacted the circuit, causing a recloser to trip to lockout. This interrupted 1,216 customers for up to 2,954 minutes resulting in a total of 335,569 CMI.

In total, the Blytheburn 86-01 experienced 52 outages between June 2012 and July 2013. The causes include tree related (15), equipment failures (15), animals (15), nothing found (6), vehicle contact (1).

Remedial Actions

- A project is scheduled to go in service in November, 2013 which will reduce the exposure of this circuit by approximately half.
- This circuit is new to the WPC list this quarter and will be evaluated for remedial actions in August, 2013.

58 Circuit ID: 67402, WAKEFIELD 74-02

Performance Analysis

The Wakefield 74-02 circuit has 1,330 customers across 86 circuit miles. On October 19, 2012, this circuit was interrupted for almost 5 hours due to a transmission outage as a result of a severe wind storm. This one outage had a CMI of 411,400, or about 53% of the rolling 12 month CMI of the circuit. The next highest CMI outage was tree related, with a CMI of 112,226, or about 15% of the rolling 12 month CMI of the circuit.

There have been 35 outages on this circuit during the last 12 months. The causes have been: equipment failures (20), tree related (8), vehicle hits (3), animal contacts (2) and non-controllable (2).

Remedial Actions

- Full circuit tree trimming is scheduled for 2015.
- A line inspection on the overhead two and three phase sections of the circuit was completed on April 20, 2011. A few minor problems were detected and remediated.
- The underground primary cable in the Brittany Common residential development was cable cured in December 2012. This should greatly reduce the chances of having underground cable failures in the development.
- An Expended Operational Review on the circuit will be completed by December 2013.
- Existing sectionalizing and tie devices will be automated in 2015 as part of PPL's Smart Grid program.

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. 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	2,636	16.33%	59,785	3.95%	6,262,256	2.75%
Contact/Dig-In	145	0.90%	18,638	1.23%	1,806,574	0.79%
Directed by Non-PPL Authority	249	1.54%	8,798	0.58%	968,136	0.42%
Equipment Failures	5,277	32.70%	502,052	33.15%	60,203,548	26.41%
Improper Design	8	0.05%	11,498	0.76%	2,001,380	0.88%
Improper Installation	2	0.00%	137	0.00%	28,383	0.00%
Improper Operation	4	0.02%	2,718	0.18%	138,116	0.06%
Nothing Found	1,337	8.28%	102,698	6.78%	7,917,334	3.47%
Other-Controllable	110	0.68%	44,710	2.95%	2,503,639	1.10%
Other-Non Control	388	2.40%	70,318	4.64%	3,803,890	1.67%
Other-Public	53	0.33%	4,636	0.31%	399,456	0.18%
Tree Related	5,104	31.63%	483,919	31.96%	118,081,623	51.79%
Vehicles	825	5.11%	204,387	13.50%	23,868,894	10.47%
Total	16,138	100.00%	1,514,294	100.00%	227,983,231	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 implementing a more aggressive trimming strategy.

Animals: Animals accounted for about 16.3% 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 79% 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. All substations are scheduled to be animal guarded by 2017.

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 41% of the cases of trouble, 40% 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	Annual Budget	2nd Quarter		Year-to-date	
		Budget	Actual	Budget	Actual
Transmission					
Transmission C-tag poles (# of poles)	307	75	72	121	115
Transmission arm replacements (# of sets)	104	22	12	22	12
Transmission air break switch inspections (# of switches)	51	5	2	8	4
Transmission lightning arrester installations (# of sets)	0	0	0	0	0
Transmission pole inspections (# of poles)	1600	298	443	298	443
Transmission tree side trim-Bulk Power (linear feet)	N/A				
Transmission herbicide-Bulk Power (# of acres)	N/A				
Transmission reclearing (# of miles) BES Only	400.09	180.07	87.33	277.82	299.60
Transmission reclearing (# of miles) 69 kV	857.67	190.76	242.63	335.60	459.22
Transmission reclearing (# of miles) 138 kV	0	0	0	0	0
Transmission danger tree removals-Bulk Power (# of trees)	N/A				
Substation					
Substation batteries (# of activities)	623	64	71	486	493
Circuit breakers (# of activities)	935	292	257	520	528
Substation inspections (# of activities)	4396	1052	1055	2377	2374
Transformer maintenance (# of activities)	1393	346	341	722	721
Distribution					
Distribution C-tag poles replaced (# of poles)	1,344	452	389	652	620
C-truss distribution poles (# of poles)	3,851	1,326	1,326	2,042	1,562
Capacitor (MVAR added)	20	15	16	15	19
OCR replacements (# of)	750	240	232	433	423
Distribution pole inspections (# of poles)	90,000	31,500	22,079	45,000	35,600
Distribution line inspections (hours)	4,205	1,894	1,896	2,766	3,755
Group re-lamping (# of lamps)	18,379	5,001	4,621	5,001	4,621
Test sections of underground distribution cable	800	200	317	400	517
Distribution tree trimming (# of miles)	6306.38	1512.23	1464.82	3043.40	2811.86
Distribution herbicide (# of acres)	N/A				
Distribution >18" removals within R/W (# of trees)	N/A				
Distribution hazard tree removals outside R/W (# of trees)	N/A				
LTN manhole inspections (# of)	731	233	172	370	323
LTN vault inspections (# of)	717	184	164	357	353
LTN network protector overhauls (# of)	66	15	10	39	34
LTN reverse power trip testing (# of)	140	39	32	70	63

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

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

Activity	2nd Quarter		Year-to-date	
	Budget (\$000)	Actual (\$000)	Budget (\$000)	Actual (\$000)
Provide Electric Service	2,599	2,200	4,865	4,303
Vegetation Management	10,100	10,365	18,060	19,681
Customer Response	17,920	14,512	32,633	28,720
Reliability & Maintenance	13,821	17,697	36,487	33,955
System Upgrade	205	212	364	382
Customer Services/Accounts	28,270	29,447	56,640	57,028
Others	18,322	14,216	36,087	29,272
Total O&M Expenses	91,237	88,649	185,136	173,341

- 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.

	2nd Quarter		Year-to-date	
	Budget (\$1,000s)	Actual (\$1,000s)	Budget (\$1,000s)	Actual (\$1,000s)
New Service/Revenue	18,557	20,122	40,515	42,129
System Upgrade	134,381	143,041	261,768	224,927
Reliability & Maintenance	68,310	80,801	136,517	152,143
Customer Response	3,307	2,073	6,623	4,914
Other	3,423	5,355	9,253	9,929
Total	227,978	251,392	454,676	454,043

- 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 B.

Transmission and Distribution (T&D)	
Lineman Leader	70
Journeyman Lineman	208
Journeyman Lineman-Trainee	101
Helper	3
Groundhand	4
Troubleman	50
T&D Total	436
Electrical	
Elect Leaders-UG	6
Elect Leaders-Net	8
Elect Leaders-Sub	26
Journeyman Elect-UG	24
Journeyman Elect-Net	15
Journeyman Elect-Sub	55
Journeyman Elect Trainee-UG	2
Journeyman Elect Trainee-Net	17
Journeyman Elect Trainee	26
Helper	11
Laborer-Network	0
Laborer-Substation	0
Electrical Total	190
Overall Total	626

PPL Electric Utilities Corporation
Worst Performing Circuit Definition

PPL Electric uses total Customer Minutes Interrupted during the previous four quarters to define the worst performing circuits on its system. Major Events and pre-arranged outages are excluded. This ranking system was put in place as of the second quarter of 2013, for the following reasons:

- It focuses remediation efforts where they will have the greatest customer impact. Small pockets of customers with multiple interruptions are addressed under the CEMI (Customers Experiencing Multiple Interruptions) program, which is adequately funded to remediate these smaller customer groups.
- It identifies the circuits contributing the most to System SAIDI.
- It is simpler and more transparent, therefore allowing WPCs to be identified and remediated on a shorter timetable.

The following table illustrates the 5% worst performing circuits for Q2 2013 under the previous CPI system, their rank under the new system, and the reason for the change. A majority of the circuits remain WPCs under the change to CMI.

The circuits that dropped off which had a high CEMI contribution have CEMI projects identified.

The circuits that had high *Circuit* SAIDI had on average of less than 500 customers on the line. Solutions to these circuits are eligible for funding under the Circuit SAIDI program as well as Reliability Preservation.

Appendix A

Feeder S	Rank by Previous CPI	Rank by New CPI	Explanation of Variance
43501	1	509	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high Circuit SAIFI contribution. This circuit has 15 customers.
25101	2	212	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high Circuit SAIDI contribution. This circuit has 26 customers.
12303	3	231	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high Circuit SAIDI contribution. This circuit has 91 customers.
28701	4	2	Remains on List
25502	5	198	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 8 and qualifies for review under the CEMI program.
25601	6	1	Remains on List
65203	7	78	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 7 and qualifies for review under the CEMI program.
53601	8	44	Remains on List
10205	9	8	Remains on List
59401	10	11	Remains on List
47704	11	21	Remains on List
65603	12	3	Remains on List
16802	13	123	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 10 and qualifies for review under the CEMI program.
64203	14	39	Remains on List
53302	15	371	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 7 and qualifies for review under the CEMI program.
24401	16	5	Remains on List
24103	17	131	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 7 and qualifies for review under the CEMI program.
28302	18	4	Remains on List
28001	19	45	Remains on List
67802	20	514	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 6 and qualifies for review under the CEMI program.
10503	21	439	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 6 and qualifies for review under the CEMI program.
51401	22	403	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 7 and qualifies for review under the CEMI program.
67803	23	7	Remains on List
22601	24	103	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 8 and qualifies for review under the CEMI program.
18501	25	24	Remains on List
26402	26	74	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 8 and qualifies for review under the CEMI program.

Appendix A

Feeder	Rank by Previous CPI	Rank by New CPI	Explanation of Variance
64202	27	55	Remains on List
60406	28	282	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high Circuit SAIDI contribution. This circuit has 197 customers.
25801	29	6	Remains on List
63403	30	171	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 7 and qualifies for review under the CEMI program.
40101	31	30	Remains on List
22002	32	62	Remains on List
15001	33	77	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 7 and qualifies for review under the CEMI program.
16601	34	410	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high Circuit SAIDI contribution. This circuit has 136 customers.
26101	35	670	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high Circuit SAIDI contribution. This circuit has 37 customers.
67402	36	58	Remains on List
21206	37	49	Remains on List
27501	38	12	Remains on List
22602	39	141	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit has rolling 4Q CEMI 7 and qualifies for review under the CEMI program.
25603	40	187	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 5 and qualifies for review under the CEMI program.
66703	41	20	Remains on List
43001	42	115	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit has rolling 4Q CEMI 7 and qualifies for review under the CEMI program.
60803	43	13	Remains on List
45402	44	16	Remains on List
43202	45	132	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit has rolling 4Q CEMI 7 which contributes to the reason this circuit has a high CEMI.
28501	46	1037	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit has 1 customers which contributes to the reason this circuit has a high CEMI.
46503	47	125	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high Circuit SAIDI contribution. This circuit has 436 customers.
43402	48	36	Remains on List
46501	49	191	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high Circuit SAIFI contribution. This circuit has 783 customers.
26602	50	299	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 6 and qualifies for review under the CEMI program.
46802	51	9	Remains on List
46702	52	37	Remains on List
25501	53	63	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit has rolling 4Q CEMI 8 and qualifies for review under the CEMI program.
59001	54	368	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit has rolling 4Q CEMI 5 which contributes to the reason this circuit has a high CEMI.
16202	55	15	Remains on List
13503	56	83	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit has rolling 4Q CEMI 7 and qualifies for review under the CEMI program.
11406	57	50	Remains on List
52403	58	130	This circuit would have ranked among the worst 5% of circuits by the old CPI, due to a high CEMI contribution. This circuit is considered a rolling 4Q CEMI 6 and qualifies for review under the CEMI program.

PPL Electric Utilities Corporation
Job Descriptions

Transmission and Distribution

Groundhand	<ul style="list-style-type: none">• Performs manual labor and assists employees in higher job classifications.
Helper	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Investigates and resolves trouble calls, voltage abnormalities on transmission and distribution systems associated with, but not limited to, PPL Electric facilities.

Appendix B

Electrical

Electrician Leader - Substation - Network - Underground	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Performs manual labor and assists employees in higher job classifications.
Journeyman Electrician - Substation - Network - Underground	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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.

From: (610) 774-4254
Paul E Russell
PPL Corporation
2 N 9th Street

Origin ID: ABEA



J13111302120326

Allentown, PA 18101

Ship Date: 31JUL13
ActWgt: 4.0 LB
CAD: 104308816/NET3370

Delivery Address Bar Code



Ref # PER 205 734268 005
Invoice #
PO #
Dept #

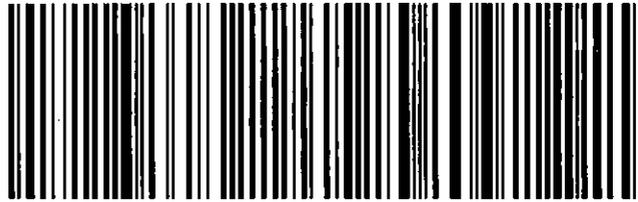
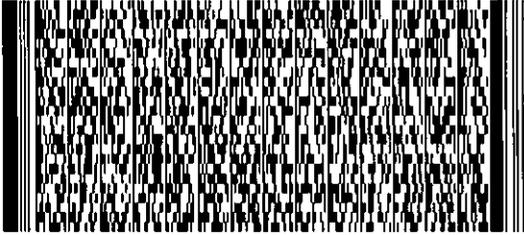
SHIP TO: (717) 772-7777 **BILL SENDER**
ROSEMARY CHIAVETTA, SECRETARY
PA Public Utility Commission
400 NORTH ST
COMMONWEALTH KEYSTONE BUILDING
HARRISBURG, PA 17120

THU - 01 AUG 10:30A
PRIORITY OVERNIGHT

TRK# 7963 6297 0253
0201

EN MDTA

17120
PA-US
MDT



518G1AA0483AB

After printing this label:

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

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

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

RECEIVED

JUL 31 2013

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