

Lower Makefield Township  
Electric Reliability Committee  
September 2, 2014  
Meeting Minutes

Present: William Bogdan  
James Kirlin  
James Lytle  
John Kingham

The September 2, 2014 meeting of the Lower Makefield Township Electric Reliability Committee was called to order at 1:00PM in the home of William Bogdan.

**Approval of past minutes:** It was agreed that past meetings establishing the committee and its Mission Statement had been preliminary and that this meeting would serve as the inaugural formally documented meeting.

**Agenda:** The meeting was held to review the PECO quarterly reliability report to the Public Utilities Commission (PUC) dated June 30, 2014 and other recent and relevant reports and activities that have come to the notice of the committee.

**PECO Quarterly Report:** (Attached) Mr. Bogdan gave a synopsis of the report as follows:

- Reliability indices: PECO is required to report on 5% of its circuits which are, according to nationally recognized reliability indices, the worst circuits within the PECO service area. Two circuits (Morgan and Big Oak) were recognized as being crucial to LMT.
- In its report PECO states that 40% of the outages are due to equipment failure (presumed to be due to an aging infrastructure) and 20% were due to vegetation. All other causes were minimal by comparison.
- The report allows the committee to intelligently and objectively interpret the PECO performance.

**Other Reports:** Other reports have come to the notice of the committee including:

- The PECO **Summer Readiness Report 2014:** go to: [http://www.puc.pa.gov/Electric/pdf/Reliability/Summer\\_Reliability\\_2014-PECO.pdf](http://www.puc.pa.gov/Electric/pdf/Reliability/Summer_Reliability_2014-PECO.pdf). A review of the report was carried out by Mr. Kingham (attached).
- The PUC **Summary Report of Outage Information following Winter Storm Nika:** go to: [http://www.puc.state.pa.us/electric/pdf/Winter\\_Storm\\_Nika\\_Report2014.pdf](http://www.puc.state.pa.us/electric/pdf/Winter_Storm_Nika_Report2014.pdf).

**Report conclusions for ongoing committee action and upcoming PECO meetings:** From the reports to date it was agreed that, in support of the actions being undertaken by the area representatives (Senator McIlhinney and Representative Santarsiero), the committee will focus its attention on the following main questions or activities:

- **Weather-hardening:** in its Summer Readiness report PECO highlighted actions that will weather-harden its system. Notably, these included:
  - Tree trimming.
  - Installing Hendrix lines (special weather-hardened insulated and bundled overhead conductors).
  - **Open Question:** What is being done by PECO regarding weather-hardening in LMT?
- **Public information:** It was noted that the PUC report of the performance by the electric power distribution companies during the Winter Storm was generally supportive of PECO's efforts (PECO was, by far, the hardest hit). However, it noted that the PUC did fault PECO's public information channels stating that they are in need of improvement.
- **PECO plan:** It was agreed that the committee is looking forward to reviewing the PECO plan to be presented to municipal leaders in early September 2014.

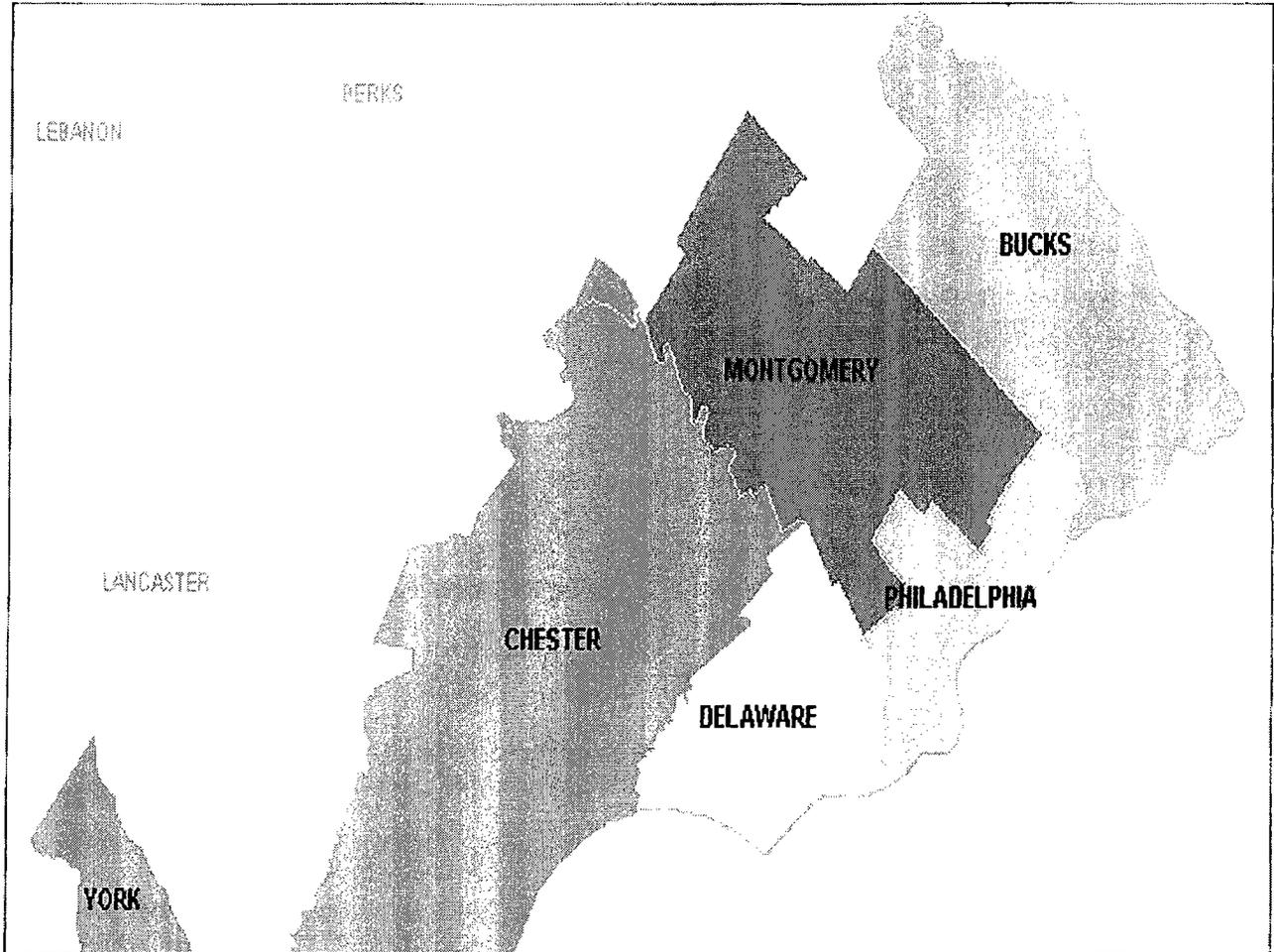
**Pocket-Outages:** From the PECO reports the committee agreed that, while PECO's reported approach to the restoration of power is based on sound principles (restore power to as many consumers as soon as possible), it does nothing to improve the reliability of the service provided to customers in "pocket areas" that suffer outages for days at a time. On this point it was agreed that PECO should be encouraged to weather-harden the pocket areas as soon as possible so that the affected residents can enjoy the benefits of expedited power restoration to the area at large.

**Other matters:**

- **Township website:** It was agreed that, in common with other LMT committees, the ERC minutes should be posted on the LMT website. To this end, Mr. Kirlin undertook to follow-up his earlier efforts in this regard with Supervisor Benedetto.
- **Committee members:** Mr. Bogdan reported that two new members, Mr. Bernard Griga and Mr. Richard Gorelick, would be joining the committee.

With no further business to discuss the September 2, 2014 meeting of the Electric Reliability Committee was adjourned at 3:00PM.

**PECO Energy Company  
Quarterly Reliability Report  
For Period Ending June 30, 2014**



**August 1, 2014**

**PECO Energy ("PECO")**

**Quarterly Reliability Report for the Period Ending June 30, 2014 filed with the Pennsylvania Public Utility Commission.**

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

**Section 57.195(e)(1)** "A description of each major event that occurred during the preceding quarter, including the time and duration of the event, the number of customers affected, the cause of the event and any modified procedures adopted in order to avoid or minimize the impact of similar events in the future."

No major events occurred during the 2<sup>nd</sup> quarter 2014

**Section 57.195(e)(2)** "Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) for the EDC's service territory for the preceding quarter. The report shall include the data used in calculating the indices, namely the average number of customers served, the number of sustained customer interruptions, the number of customers affected, and the customer minutes of interruption. If MAIFI values are provided, the report shall also include the number of customer momentary interruptions."

PECO Customers	Sustained Customer Interruptions	Sustained Customer Hours	Momentary Customer Interruptions	Sustained Customer Minutes	SAIFI	CAIDI	SAIDI	MAIFI
1,713,056	1,416,809	2,252,835	737,505	135,170,122	0.83	95	79	0.43

Data reflects 12 months ending 06/30/2014.

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

SAIFI, CAIDI and SAIDI are below their respective benchmarks and standards established on May 7, 2004. No benchmark or standard was established for MAIFI.

**Section 57.195(e)(3)** "Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) and other pertinent information such as customers served, number of interruptions, customer minutes interrupted, number of lockouts, and so forth, for the worst performing 5% of the circuits in the system. An explanation of how the EDC defines its worst performing circuits shall be included."

PECO's worst performing 5% circuits for 2014 were selected based on a weighted score combining customer interruptions, customer hours, SAIFI and SAIDI, due to outages on each circuit in a 12 month period. This measure is oriented toward contributions to system SAIFI, SAIDI and CAIDI, and local areas with high outage frequency or duration. In addition, circuits with a history of repeat appearance on worst performing lists were selectively included in the 5% list.

Worst circuits and the rolling 12-month reliability index values requested are shown in Appendix A.

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

Remedial efforts taken or planned to date for PECO's worst performing 5% of circuits are shown in Appendix B.

**Section 57.195(e)(5)** "A Rolling 12-month breakdown and analysis of outage causes during the preceding quarter, including the number and percentage of service outages, the number of customers interrupted, and

customer interruption minutes categorized by outage cause such as equipment failure, animal contact, tree related, and so forth. Proposed solutions to identified service problems shall be included.

12 Months Ending June 30, 2014					
Cause	Service Outages	% of Service Outages	Customer Interruptions	% of Customer Interruptions	Customer Minutes
Animal	1,041	9.10%	33,083	2.30%	2,505,402
Contact/Dig-In	121	1.10%	16,127	1.10%	1,218,597
Equipment Failure	4,507	39.30%	626,065	44.20%	58,701,656
Lightning	320	2.80%	34,915	2.50%	5,102,141
Other	1,399	12.20%	157,896	11.10%	12,266,104
T&S	13	0.10%	68,537	4.80%	3,687,821
Unknown	473	4.10%	52,473	3.70%	4,092,541
Vegetation-Broken/Uprooted	2,285	19.90%	267,665	18.90%	31,301,834
Vegetation-Ingrowth	939	8.20%	68,385	4.80%	8,547,027
Vehicles	362	3.20%	91,975	6.50%	7,772,582

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

The largest contributors to customer interruptions were equipment failure and tree-related interruptions. The leading groups within the equipment failure category were aerial equipment and underground equipment. Most customer interruptions caused by trees came from broken branches and tree trunks or uprooted trees (19% of all outages), as opposed to ingrowth (4.8% of all outages). PECO has continued to supplement its regularly scheduled vegetation management cycle with mid-cycle and 34 kV pruning programs and a hazard tree removal program.

**Section 57.195(e)(6).** “Quarterly and year to date information on progress toward meeting transmission and distribution inspection and maintenance goals /objectives” (For First, Second and Third Quarter reports only).”

Predictive and Preventive Maintenance Program – status as of 6/30/2014					
	2nd Quarter Tasks		YTD Tasks		2014 Total Planned
	Planned	Complete	Planned	Complete	
Recloser Inspections (Number of reclosers inspected)	39	138	78	201	152
Circuit Patrol & Thermography (Number of circuits patrolled)	342	1,129	942	1,884	942
Pole Inspections (Number of poles visually inspected)	12,839	16,836	32,099	39,248	32,099
Padmount Transformers (Number of transformers visually inspected)	2,550	3,591	4,250	4,769	8,667
Below Ground Transformers (Number of transformers visually inspected)	600	1,078	1,050	1,903	1,601
Substations (Number of substations inspections performed.(e.g. visual inspection, reading of currents, voltages, temperature etc) for a variety of substation components)	330	351	660	683	1,320
Unit Substations ( Number of unit substations inspections performed .(e.g. visual inspection, reading of currents, voltages, temperature etc) for a variety of substation components)	770	797	1,539	1,617	3,090

Vegetation Management Preventive Maintenance Program – status as of 6/30/14					
	2 <sup>nd</sup> Quarter Miles		YTD Miles		2014 Total Planned
	Planned	Complete	Planned	Complete	
Distribution Lift and Manual Trimming	552	726	1,252	1,425	2,128
Transmission Trimming and Removals	49	66	99	110	200

**Section 57.195(e)(7).** “Quarterly and year-to-date information on budgeted versus actual transmission and distribution operation and maintenance expenditures in total and detailed by the EDC’S own functional account code or FERC account code as available.” (For first, second and third quarter reports only.)

\$Millions	Budgeted 2 <sup>nd</sup> Quarter	Actual 2 <sup>nd</sup> Quarter	Budgeted Year-to-Date	Actual Year-to-Date
New Business Connections	\$0.4	\$0.4	\$0.7	\$0.6
Capacity Expansion	\$0.4	\$0.2	\$0.8	\$0.4
System Performance	\$10.8	\$7.5	\$21.8	\$15.4
Facility Relocation	\$0.4	\$0.5	\$0.5	\$0.8
Maintenance	\$41.5	\$53.9	\$86.8	\$104.9
Total	\$53.5	\$62.5	\$110.6	\$122.1

**Section 57.195(e)(8).** *“Quarterly and year-to-date information on budgeted versus actual transmission and distribution capital expenditures in total and detailed by the EDC’S own functional account code or FERC account code as available.” (For first, second and third quarter reports only.)*

\$Millions	Budgeted 2 <sup>nd</sup> Quarter	Actual 2 <sup>nd</sup> Quarter	Budgeted Year-to-Date	Actual Year-to-Date
New Business Connections	\$10.4	\$10.3	\$20.2	\$19.4
Capacity Expansion	\$21.2	\$15.1	\$36.0	\$27.5
System Performance	\$22.0	\$22.0	\$38.3	\$33.5
Facility Relocation	\$4.8	\$2.2	\$6.9	\$2.9
Maintenance	\$21.7	\$25.7	\$43.5	\$51.1
Total	\$80.1	\$75.3	\$144.9	\$134.4

**Section 57.195(e)(9).** *“Dedicated staffing levels for transmission and distribution operation and maintenance at the end of the quarter, in total and by specific category (e.g., lineman, technician and electrician).”*

PECO’s full-time trade staff as of June 30, 2014 was as follows:

Aerial Lineman	355
Underground Lineman (Include UTS)	48
Transmission / Substation Mechanics, Operators	100
Energy Technicians	96
Aerial Foreman	62
Underground Foreman	18
Transmission / Substation Foreman	29
ET Foreman	5
	713

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**Appendix A**  
**Rolling 12- month reliability index values for 5% worst performing circuits**

CIRCUIT	CUSTOMERS ON CIRCUIT	12 Month Rolling Circuit SAIFI	12 Month Rolling Circuit CAIDI	12 Month Rolling Circuit SAIDI	12 Month Rolling Circuit MAIFI	12 Month Rolling Customers Interrupted	12 Month Rolling Customer Hours	12 Month Rolling Momentary Customers Interrupted
AIRY_004	755	4.06	43	176	1.00	3,068	2,217	755
AMBLER_001	563	3.80	154	585	0.00	2,140	5,488	0
AQUE_000	350	0.47	59	28	3.00	164	162	1050
ARDMORE_017	417	4.78	232	1108	0.00	1,994	7,701	0
AVONDALE_002	252	1.99	43	86	1.98	501	359	500
BIG_OAK_002	805	2.58	120	311	1.00	2,080	4,172	805
BLUE GRASS_140	1,677	2.46	51	126	0.00	4,131	3,518	1
BLUE GRASS_136	1,218	4.43	53	236	0.67	5,398	4,789	810
BRISTOL_012	882	0.05	48	2	1.00	41	33	882
BRYAN_001	485	2.70	317	856	0.00	1,311	6,916	0
BRYAN_002	398	4.56	278	1266	0.00	1,816	8,400	0
BRYN_MAWR_012	197	3.18	106	338	0.98	626	1,109	194
BUCKNELL_000	477	0.32	51	16	0.00	151	128	0
BURHOLME_135	934	2.03	34	70	0.00	1,898	1,089	0
BYBERRY_132	737	2.46	88	217	0.00	1,816	2,671	2
BYBERRY_142	771	3.52	76	268	0.55	2,713	3,441	421
BYBERRY_146	528	1.07	77	83	0.01	567	727	3
CARVER_000	371	2.32	127	294	0.26	860	1,817	97
CLAY_343	1,452	2.24	169	380	1.11	3,254	9,192	1605
CLAY_352	1,409	1.23	123	151	0.05	1,727	3,538	69
CONCORD_348	1,498	0.01	94	1	0.00	14	22	3
DALEVILLE_342	696	1.04	125	130	0.91	724	1,513	632
DAVISVILLE_008	211	0.12	52	6	2.01	26	22	424
DELTA_001	370	4.05	163	660	1.00	1,500	4,069	370
DELTA_002	341	2.98	118	353	1.11	1,016	2,005	379
DOWNINGTOWN_003	986	0.73	96	70	1.02	724	1,155	1002
EAGLE_352	1,625	1.03	82	85	1.31	1,677	2,306	2126
EDGELY_003	465	4.44	84	372	1.00	2,065	2,884	465
EMILIE_131	474	1.75	18	32	0.00	828	254	0
FALLS_011	327	2.35	192	453	0.00	770	2,467	0
FLINT_147	166	2.45	114	279	0.01	407	771	1
FOX_CHASE_136	844	0.11	326	37	0.00	96	521	0
HAGYS_001	277	3.04	120	364	0.00	843	1,681	0
HARMONY_004	389	6.41	93	594	2.68	2,492	3,850	1041
HARMONY_005	1,082	4.20	18	75	1.81	4,540	1,348	1963
HARVEY_002	680	0.01	117	2	0.00	9	18	0
HAYES_000	403	1.53	69	106	2.97	616	709	1195
HEARTWOOD_001	588	1.25	159	198	0.00	733	1,939	2
HEATON_160	222	1.34	84	112	0.00	298	416	0
HENDERSON_001	516	0.17	415	72	1.00	89	616	516
ISLAND_ROAD_136	1,601	2.29	205	468	0.00	3,665	12,499	0
JAMISON_000	312	2.01	20	40	0.00	627	209	0
JARRETT_143	735	0.25	145	37	0.00	186	451	0
JENKINTOWN_131	1,247	4.36	53	230	0.83	5,438	4,787	1040
KELLER_000	400	2.03	51	104	2.42	810	692	968
KENNETT_SQUAR_001	414	1.23	142	175	0.98	509	1,205	404

CIRCUIT	CUSTOMERS ON CIRCUIT	12 Month Rolling Circuit SAIFI	12 Month Rolling Circuit CAIDI	12 Month Rolling Circuit SAIDI	12 Month Rolling Circuit MAIFI	12 Month Rolling Customers Interrupted	12 Month Rolling Customer Hours	12 Month Rolling Momentary Customers Interrupted
KING_003	218	3.52	161	566	0.00	767	2,056	0
KING_004	212	2.54	68	173	1.00	539	612	212
KNOWLTON_004	633	2.02	124	250	0.00	1,278	2,633	0
LENAPE_000	476	1.03	210	216	0.05	489	1,710	23
LENAPE_344	1,866	0.20	153	31	0.58	382	976	1081
LENAPE_351	1,646	1.08	145	155	1.77	1,770	4,264	2918
LEOPARD_001	467	1.77	72	128	1.00	828	996	467
LINE_1098	703	1.25	49	61	0.00	876	714	0
LINE_162_00	1,164	0.89	198	176	0.00	1,039	3,423	0
LINE_175_00CO	338	0.62	179	112	0.00	211	630	0
LINE_2235	2,121	3.01	61	185	1.95	6,375	6,528	4128
LINE_2284	338	3.26	60	195	0.10	1,102	1,097	34
LINE_2295	246	2.00	272	542	0.00	491	2,223	0
LINE_2445	525	2.93	164	481	0.06	1,539	4,209	30
LINE_2471	1,131	2.29	69	158	0.00	2,586	2,970	0
LINE_3307NT	1,787	2.36	195	461	4.16	4,219	13,735	7428
LINE_3308NT	961	5.00	131	657	0.12	4,809	10,525	115
LINE_3341	43	1.21	39	48	0.00	52	34	0
LINE_5800	417	2.06	65	134	2.00	858	929	834
LLANERCH_161	1,299	4.13	62	258	0.61	5,360	5,581	790
MACDADE_141	1,178	0.83	81	67	0.11	979	1,319	133
MACDADE_143	1,808	1.01	64	65	1.27	1,823	1,956	2302
MAIN_000	71	3.38	157	531	0.00	240	628	0
MARPLE_002	284	1.00	205	205	1.00	284	973	284
MATSON_131	798	7.38	51	377	0.59	5,887	5,019	472
MIDDLETOWN_349	2,042	3.01	74	224	1.97	6,150	7,631	4021
MORGAN_001	247	1.02	75	77	4.05	253	317	1001
MORGAN_004	321	3.38	53	179	4.93	1,086	957	1583
MORTON_133	785	3.16	46	146	1.00	2,478	1,904	782
MOSER_341	981	3.93	47	184	0.06	3,853	3,013	60
NEWLINVILLE_353	2,512	0.71	57	40	1.30	1,771	1,689	3270
NEWTOWN_SQUAR_143	1,056	1.30	123	160	1.09	1,369	2,816	1154
NEWTOWN_SQUAR_144	1,549	2.50	37	93	0.90	3,865	2,408	1395
NEWTOWN_SQUAR_146	1,143	1.61	65	105	1.29	1,843	1,996	1479
OAKMONT_002	631	2.01	94	189	1.00	1,270	1,993	631
OVERBROOK_029	163	2.24	27	60	0.00	365	162	0
OVERBROOK_037	1,912	2.04	38	77	0.00	3,892	2,445	0
PHOENIXVILLE_005	990	3.20	77	247	0.60	3,168	4,071	592
PLUMSTEAD_001	337	1.37	84	116	1.00	462	650	337
PLYMOUTH_136	707	5.58	67	376	0.00	3,945	4,431	0
PLYMOUTH_138	986	3.57	58	206	0.40	3,523	3,385	391
PLYMOUTH_139	709	1.90	95	180	1.15	1,349	2,127	813
PLYMOUTH_145	741	3.16	49	153	0.42	2,338	1,891	313
PLYMOUTH_146	1,384	2.69	38	102	0.48	3,723	2,348	667
PLYMOUTH_164	1,369	2.41	25	60	0.32	3,299	1,370	440
RADNOR_131	39	6.18	63	388	0.00	241	252	0
SAVILLE_136	2,585	1.39	89	124	0.40	3,592	5,330	1037
SECANE_003	1,020	1.00	120	120	0.00	1,018	2,036	0
SHEEDER_000	435	2.71	147	399	0.53	1,177	2,893	230
SILES_004	516	0.13	181	23	0.00	66	199	0

CIRCUIT	CUSTOMERS ON CIRCUIT	12 Month Rolling Circuit SAIFI	12 Month Rolling Circuit CAIDI	12 Month Rolling Circuit SAIDI	12 Month Rolling Circuit MAIFI	12 Month Rolling Customers Interrupted	12 Month Rolling Customer Hours	12 Month Rolling Momentary Customers Interrupted
SMITHBRIDGE_000	481	2.32	62	145	0.00	1,118	1,160	0
SPROUL_003	591	1.31	132	173	1.00	776	1,704	590
STONY_001	413	2.35	159	373	3.35	969	2,566	1382
TAYLOR_002	576	4.01	53	212	0.00	2,310	2,037	0
TREDYFFRIN_132	636	3.06	120	367	1.98	1,947	3,894	1259
TULIP_000	457	2.00	30	60	0.00	913	458	0
TUNA_143	760	1.09	80	87	0.00	825	1,104	0
UNIVERSITY_011	371	0.07	197	14	0.00	26	85	0
UPPER_MERION_132	1,458	0.53	146	77	0.00	774	1,881	0
UPPER_MERION_133	1,152	0.26	315	82	0.00	298	1,566	0
WARMINSTER_132	1,001	1.22	158	193	0.31	1,217	3,215	310
WARMINSTER_161	1,539	1.68	55	92	0.59	2,590	2,357	910
WAYNE_134	684	4.19	80	336	1.79	2,867	3,830	1221
WAYNE_136	881	2.90	69	199	2.95	2,556	2,920	2600
WAYNE_146	588	7.67	88	678	2.22	4,511	6,649	1307
WHITAKER_000	245	3.91	88	343	0.00	957	1,401	0
WICKER_001	381	1.01	118	119	1.00	385	757	380
WYNCOTE_003	210	3.18	148	471	0.02	668	1,648	4

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

## Appendix B

Remedial efforts taken and planned for 5% worst performing circuits as of 06/30/14

### **AIRY\_004**

Montgomery County

#### **Completed:**

Inspected circuit visually and with thermographic camera

Completed reliability corrective workorders

#### **Planned:**

Remedial efforts completed

### **AMBLER\_001**

Montgomery County

#### **Completed:**

Inspected circuit visually and with thermographic camera

Completed reliability corrective workorders

Inspected selected areas of circuit for vegetation issues and corrected as needed

Upgraded wire

#### **Planned:**

Install sectionalizer

Complete reliability corrective workorders

Inspect selected areas of circuit for vegetation issues and corrected as needed

### **AQUE\_000**

Bucks County

#### **Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Upgraded transformer

#### **Planned:**

Remedial efforts completed

### **ARDMORE\_017**

Delaware County

#### **Completed:**

Completed reliability corrective workorders

Inspected/ repaired switch

#### **Planned**

Remedial efforts completed

### **AVONDALE\_002**

Chester County

#### **Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Installed additional fuses

Upgraded transformer

#### **Planned:**

Remedial efforts completed

**BIG OAK\_002**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera  
Completed reliability corrective workorders  
Inspect selected areas of circuit for vegetation issues and corrected as needed  
Upgraded transformer

**Planned:**

Install additional fuses  
Install faulted circuit indicators  
Complete reliability corrective workorders

**BLUE GRASS\_136**

Philadelphia County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Replaced//Upgraded cable  
Installed additional fuses

**Planned:**

Complete reliability corrective workorders  
Inspect selected areas of circuit for vegetation issues and corrected as needed  
Install three phase recloser

**BLUE GRASS\_140**

Philadelphia County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Installed / upgraded fuses

**Planned:**

Remedial efforts completed

**BRISTOL\_012**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed regularly scheduled tree trimming  
Completed reliability corrective workorders  
Upgraded wires

**Planned:**

Remedial efforts completed

**BRYAN\_001**

York County

**Completed:**

Inspected circuit visually and with thermographic camera  
Completed reliability corrective workorders  
Installed additional fuses  
Installed Faulted circuit indicators

**Planned:**

Remedial efforts completed

**BRYAN\_002**

York County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Installed additional fuses

**Planned:**

Remedial efforts completed

**BRYN MAWR\_012**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Completed reliability corrective workorders  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed regularly scheduled tree trimming

**Planned:**

Remedial efforts completed

**BUCKNELL\_000**

Philadelphia County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspect selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Replace aerial cable

**Planned:**

Remedial efforts completed

**BURHOLME\_135**

Philadelphia County

**Completed:**

Inspected circuit visually and with thermographic camera  
Completed reliability corrective workorders  
Inspect selected areas of circuit for vegetation issues and corrected as needed  
Install additional fuses

**Planned:**

Upgrade cable  
Install 3 phase recloser

**BYBERRY\_132**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Installed (2) three phase reclosers

**Planned:**

Remedial efforts completed

**BYBERRY\_142**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Installed additional fuses  
Repaired cable

**Planned:**

Install 3 phase recloser

**BYBERRY\_146**

Philadelphia County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Replaced switch  
Upgraded lightning protection  
Installed cable

**Planned:**

Remedial efforts completed

**CARVER\_000**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Upgraded fuses

**Planned:**

Remedial efforts completed

**CLAY\_343**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Completed regularly scheduled tree trimming

**Planned:**

Inspected selected areas of circuit for vegetation issues and corrected as needed

**CLAY\_352**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Completed regularly scheduled tree trimming

**Planned:**

Remedial efforts completed

**CONCORD\_348**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Completed regularly scheduled tree trimming

**Planned:**

Remedial efforts completed

**DALEVILLE\_342**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Upgraded lightning protection  
Installed additional fuses  
Completed regularly scheduled tree trimming

**Planned:**

Remedial efforts completed

**DAVISVILLE\_008**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Installed breakdown  
Completed reliability corrective workorders

**Planned:**

Remedial efforts completed

**DELTA\_001**

York County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders

**Planned:**

Remedial efforts completed

**DELTA\_002**

York County

**Completed:**

Inspected circuit visually and with thermographic camera  
Completed reliability corrective workorders  
Inspected selected areas of circuit for vegetation issues and corrected as needed

**Planned:**

Inspect selected areas of circuit for vegetation issues and corrected as needed

**· DOWNINGTOWN\_003**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Install additional fuses

**Planned:**

Remedial efforts completed

**EAGLE\_352**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed regularly scheduled tree clearance  
Completed reliability corrective workorders  
Installed additional fuses

**Planned:**

Remedial efforts completed

**EDGELY\_003**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Completed regularly scheduled tree clearance

**Planned:**

Remedial efforts completed

**EMILIE\_131**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Complete regularly scheduled tree trimming  
Upgrade transformer

**Planned:**

Remedial efforts completed

**FALLS\_011**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Installed additional fuses  
Upgraded transformer

**Planned:**

Inspected selected areas of circuit for vegetation issues and corrected as needed  
Install 2 – 3 phase reclosers

**FLINT\_147**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

**Planned:**

Install tree wire

**FOX\_CHASE\_136**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Upgraded transformer

Upgraded lightning protection

**Planned:**

Install 3 phase recloser

**HAGYS\_001**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Install faulted circuit indicators

Modify fuse coordination

**Planned:**

Remedial efforts completed

**HARMONY\_004**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

**Planned:**

Inspect Breaker Operation

**HARMONY\_005**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Installed additional fuses

Upgraded transformer

**Planned**

Remedial efforts completed

**HARVEY\_002**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Install additional fuses

**Planned:**

Remedial efforts completed

**HAYES\_000**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders

**Planned:**

Remedial efforts completed

**HEARTWOOD\_001**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders

**Planned:**

Remedial efforts completed

**HEATON\_160**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders

**Planned:**

Install additional fuses

**HENDERSON\_001**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Installed additional fuses  
Installed faulted circuit indicators

**Planned:**

Remedial efforts completed

**ISLAND\_ROAD\_136**

Philadelphia County

**Completed:**

Inspected circuit visually and with thermographic camera

Completed reliability corrective workorders

Installed additional fusing

Replaced cable

**Planned:**

Complete reliability corrective workorders

**JAMISON\_000**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Upgraded fuses

Upgraded transformer

**Planned:**

Remedial efforts completed

**JARRETT\_143**

Montgomery County

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Replaced cable

Completed reliability corrective workorders

**Planned:**

Remedial efforts completed

**JENKINTOWN\_131**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Upgraded transformer

**Planned:**

Install 2- 3 phase reclosers

Inspect selected areas of circuit for vegetation issues and corrected as needed

Install additional fuses

Complete reliability corrective workorders

**KELLER\_000**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

**Planned:**

Install 3 phase recloser on supply circuit

**KENNETT\_SQUARE\_001**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

**Planned:**

Remedial efforts completed

**KING\_003**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Test recloser operation

**Planned:**

Remedial efforts complete

**KING\_004**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Coordinated fusing

Upgraded fuses

Upgraded transformer

**Planned:**

Remedial efforts complete

**KNOWLTON\_004**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Upgraded transformer

**Planned:**

Remedial efforts complete

**LENAPE\_000**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Install faulted circuit indicators

Upgraded transformer

Replaced cable

**Planned:**

Remedial efforts complete

**LENAPE\_344**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

**Planned:**

Install 2 – 3 Phase reclosers

**LENAPE\_351**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Upgraded transformer

Installed 3 phase recloser

**Planned:**

Remedial efforts completed

**LEOPARD\_001**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Completed regularly scheduled tree clearance

Upgraded transformer

**Planned:**

Install tree wire

Complete reliability corrective workorders

**LINE\_1098**

Philadelphia County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

**Planned:**

Replace cable section

Test / Inspect breaker

**LINE\_162\_00**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Test / Inspect recloser operation

Replaced cable

Installed lightning protection

**Planned:**

Remedial efforts completed

**LINE\_175\_00CO**

Chester County

**Completed:**

Completed regularly scheduled tree trimming

Inspected circuit visually and with thermographic camera

Installed 3 phase recloser

Upgraded fuses

**Planned:**

Completed reliability corrective workorders

**LINE\_2235**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Repaired station leg cable

**Planned:**

Extend circuit

Upgrade mains and services

Install additional fuses

**LINE\_2284**

Philadelphia County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

**Planned:**

Replace cable

**LINE\_2295**

Philadelphia County

**Completed:**

Completed reliability corrective workorders

Replaced cable

**Planned:**

Complete reliability corrective workorders

**LINE\_2445**

Philadelphia County

**Completed:**

Completed reliability corrective workorders

Replaced cable

Replaced switches

**Planned:**

Complete reliability corrective workorders

**LINE\_2471**

Philadelphia County

**Completed:**

Completed reliability corrective workorders

Replaced cable section

**Planned:**

Remedial efforts completed

**LINE\_3307NT**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera

Complete reliability corrective workorders

**Planned:**

Upgrade transformer

Complete reliability corrective workorders

Inspect selected areas of circuit for vegetation issues and corrected as needed

**LINE\_3308NT**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Repaired switch

**Planned:**

Remedial efforts completed

**LINE\_3341**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Installed recloser

Replaced switch

**Planned:**

Remedial efforts completed

**LINE\_5800**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Inspected/ tested recloser operation

**Planned:**

Remedial efforts completed

**LLANERCH\_161**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Completed regularly scheduled tree trimming

Installed additional fuses

Tested / Inspected recloser operation

Upgraded lightning protection

Upgraded secondary wires

Installed 3 single phase reclosers

**Planned:**

Remedial efforts complete

**MACDADE\_141**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Upgraded lightning protection  
Installed additional fuses  
Installed wildlife protection

**Planned:**

Install 3 phase recloser

**MACDADE\_143**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Completed reliability corrective workorders  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Upgraded wildlife protection  
Installed additional fuses

**Planned:**

Remedial efforts completed

**MAIN\_000**

Philadelphia County

**Completed:**

Inspected circuit visually and with thermographic camera  
Completed reliability corrective workorders

**Planned:**

Install additional fuses  
Complete reliability corrective workorders  
Inspect selected areas of circuit for vegetation issues and corrected as needed

**MARPLE\_002**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Completed regularly scheduled tree trimming  
Installed additional fuses  
Installed 3 phase recloser  
Upgraded transformer  
Installed lightning protection

**Planned:**

Install tree wire

**MATSON\_131**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Installed tree wire  
Completed regularly scheduled tree trimming

**Planned:**

Upgrade wildlife protection

**MIDDLETOWN\_349**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Upgraded fuse coordination  
Replaced switch  
Installed additional fuses  
Upgraded lightning protection  
Upgraded transformer  
Inspect recloser operation

**Planned:**

Complete reliability corrective workorders

**MORGAN\_001**

Bucks County

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Installed trip saver  
Installed additional fuses

**Planned:**

Remedial efforts completed

**MORGAN\_004**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera  
Completed reliability corrective workorders  
Installed additional fuses  
Coordinate fuses  
Upgraded transformer

**Planned:**

Install 3 phase recloser

**MORTON\_133**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Installed additional animal protection  
Installed additional fuses  
Completed regularly scheduled tree trimming

**Planned:**

Install 3 phase recloser

**MOSER\_341**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Completed regularly scheduled tree trimming

**Planned:**

Upgrade secondary wires

**NEWLINVILLE-353**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Installed trip saver  
Upgraded fuse

**Planned:**

Complete reliability corrective workorders  
Inspect selected areas of circuit for vegetation issues and corrected as needed  
Upgrade wildlife protection

**NEWTOWN\_SQUARE\_143**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Installed additional fuses  
Installed wildlife protection  
Upgraded transformer  
Completed regularly schedule tree trimming

**Planned:**

Remedial efforts completed

**NEWTOWN\_SQUARE\_144**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Test / Inspect recloser operation  
Completed regularly schedule tree trimming  
Upgrade animal protection

**Planned:**

Remedial efforts completed

**NEWTOWN\_SQUARE\_146**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Completed regularly schedule tree trimming  
Installed additional fuses  
Replaced cable section

**Planned:**

Remedial efforts completed

**OAKMONT\_002**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Installed switch  
Completed reliability corrective work orders  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed regularly schedule tree trimming  
Upgraded lightning protection on supply line

**Planned:**

Remedial efforts completed

**OVERBROOK\_029**

Philadelphia County

**Completed:**

Inspected circuit visually and with thermographic camera  
Completed reliability corrective work orders

**Planned:**

Inspect selected areas of circuit for vegetation issues and corrected as needed  
Complete reliability corrective work orders

**OVERBROOK\_037**

Philadelphia County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Installed additional fuses  
Completed reliability corrective work orders

**Planned:**

Complete reliability corrective work orders  
Installed additional fuses

**PHOENIXVILLE\_005**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective work orders  
Upgraded transformer

**Planned:**

Complete reliability corrective work orders  
Inspect selected areas of circuit for vegetation issues and corrected as needed

**PLUMSTEAD\_001**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera  
Completed reliability corrective work orders  
Inspect selected areas of circuit for vegetation issues and corrected as needed  
Install lightning protection

**Planned:**

Remedial efforts completed

**PLYMOUTH\_136**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective work orders  
Upgraded lightning protection  
Installed additional fuses  
Upgraded transformers

**Planned:**

Remedial efforts completed

**PLYMOUTH\_138**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective work orders  
Repaired station leg cable  
Replaced secondary mains  
Installed additional fuses

**Planned:**

Remedial efforts completed

**PLYMOUTH\_139**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective work orders  
Upgraded lightning protection

**Planned:**

Remedial efforts completed

**PLYMOUTH\_145**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective work orders

Installed additional fuses

Upgraded transformer

**Planned:**

Remedial efforts completed

**PLYMOUTH\_146**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective work orders

Installed additional fuses

Upgraded secondary main

**Planned:**

Remedial efforts completed

**PLYMOUTH\_164**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective work orders

Installed additional fuses

**Planned:**

Remedial efforts completed

**RADNOR\_131**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

**Planned:**

Inspect selected areas of circuit for vegetation issues and corrected as needed

Complete reliability corrective workorders

Check recloser coordination

**SAVILLE\_136**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective work orders

Repaired station leg cable

Test / Inspect recloser

**Planned:**

Install three phase recloser

**SECANE\_003**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective work orders  
Repaired station leg cable

**Planned:**

Remedial efforts completed

**SHEEDER\_000**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective work orders  
Coordinate fusing  
Upgrade lightning protection  
Completed regularly schedule tree trimming

**Planned:**

Complete reliability corrective work orders

**SILES\_004**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective work orders  
Installed additional fuses  
Upgraded transformer

**Planned:**

Remedial efforts completed

**SMITHBRIDGE\_000**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective work orders  
Installed additional lightning protection  
Installed additional transformer

**Planned:**

Remedial efforts completed

**SPROUL\_003**

Delaware County

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Completed regularly schedule tree trimming

**Planned:**

Reconfigure circuit

**STONY\_001**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective work orders

Replaced cable

Installed additional fuses

**Planned:**

Remedial efforts completed

**TAYLOR\_002**

Philadelphia County

**Completed:**

Completed reliability corrective work orders

Tested / Inspected switch

**Planned:**

Completed reliability corrective work orders

**TREDYFFRIN\_132**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective work orders

Installed additional fuses

**Planned:**

Install tree wire

**TULIP\_000**

Philadelphia County

**Completed:**

Completed reliability corrective work orders

Installed Faulted Circuit Interrupters

Replaced cable

Installed breakdown

**Planned:**

Remedial efforts completed

**TUNA\_143**

Philadelphia County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

**Planned:**

Install breakdown

Install Circuit Indicators

Replace switch

**UNIVERSITY\_011**

Philadelphia County

**Completed:**

Installed Faulted Circuit Indicators

Completed reliability corrective workorders

Repaired station leg cable

**Planned:**

Remedial efforts complete

**UPPER\_MERION\_132**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

**Planned:**

Inspect selected areas of circuit for vegetation issues and corrected as needed

Complete reliability corrective workorders

**UPPER\_MERION\_133**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Upgrade mains and services

Installed wildlife protection

**Planned:**

Remedial efforts complete

**WARMINSTER\_132**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

**Planned:**

Install additional fuses

Upgrade secondary wires

Complete reliability corrective workorders

**WARMINSTER\_161**

Bucks County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

**Planned:**

Complete reliability corrective workorders

Upgrade secondary wires

Inspect selected areas of circuit for vegetation issues and corrected as needed

**WAYNE\_134**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Installed transformer  
Replaced tree wire

**Planned:**

Remedial efforts complete

**WAYNE\_136**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders  
Upgraded lightning protection  
Installed additional animal protection

**Planned:**

Remedial efforts complete

**WAYNE\_146**

Delaware County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders

**Planned:**

Remedial efforts complete

**WHITAKER\_000**

Philadelphia County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders

**Planned:**

Remedial efforts complete

**WICKER\_001**

Chester County

**Completed:**

Inspected circuit visually and with thermographic camera  
Inspected selected areas of circuit for vegetation issues and corrected as needed  
Completed reliability corrective workorders

**Planned:**

Remedial efforts complete

**WYNCOTE\_003**

Montgomery County

**Completed:**

Inspected circuit visually and with thermographic camera

Inspected selected areas of circuit for vegetation issues and corrected as needed

Completed reliability corrective workorders

Installed transformer

**Planned:**

Complete reliability corrective workorders

## **Appendix C**

### **New Business Connections**

This work category includes all the facility work required to add a new customer or to increase the load to an existing customer. The facility work will include the facilities required to directly connect the customer to the system and the upgrade/replacement of any existing facility to serve the requested additional load.

### **Capacity Expansion**

This work category includes only capacity work generated by the system design engineer to prevent system failure and to assure the delivery of voltage as specified in the tariff. The addition of new substations and substation enlargements for future load growth will also be included in this project.

### **System Performance**

This work category includes projects designed to upgrade, modify or improve the performance of the distribution system. Also included in this category are indirect costs in support of all categories and one-time accounting adjustment items.

### **Facility Relocation**

This work category includes all requests for relocation of PECO facilities including municipal as well as customer related relocation requests.

### **Maintenance**

This work category includes work performed to repair and restore equipment to its normal state of operation, along with planned preventive maintenance work such as visual and thermographic inspections and tree trimming around transmission and distribution lines.

### **Storm Funds**

Incremental costs (primarily; overtime, contractors, mutual assistance, and meals) incurred while responding to major storms (storms that meet customer outage and duration criteria).

The following comments and questions are intended to speed the anticipated review of the upcoming PECO reliability enhancement plan. They have been prepared on the assumption that the PECO plan will include the points raised in the PECO Summer Readiness Overview report to the PUC dated May 23, 2014.

The comments here are numbered/lettered following the paragraph identification in the PECO Summer Readiness Overview.

**A. Reliability Enhancement Program**

- a. PECO has a Top Priority Circuits Program that, each year, analyzes 5% of the worst performing circuits. **Q: Are any LMT circuits included in recent analyses?**
- b. Reclosers are being installed to automatically restore the power after short-lived faults (animals, momentary brush with vegetation, lightning surge etc). **Q: How many reclosers are there in the LMT area? Is recloser installation included in any upgrade plan for LMT?**
- c. Weather/vegetation hardened overhead lines (Hendrix lines) have been installed in some PECO areas. **Q: Are any Hendrix lines planned for LMT?**
- d. PECO has invested heavily in automating its supervisory controls including the installation of Smart Meters. **Q: Has PECO accrued any benefit to date from the smart meter investment in the LMT area? If not, why not and when will the benefits be realized?**

**B. Preventative Maintenance Programs**

- a. The preventative maintenance includes tree trimming. **Q: What is the PECO program for the LMT area? Are there any vegetation issues specifically related to LMT that PECO views as an impediment to reliability?**

**C. Capacity Planning**

- a. Capacity refers to the ability of PECO to meet the maximum power demands. **Q: Are there any capacity issues adversely affecting LMT?**

**D. 2013/2014 Storm Update and Lessons Learned**

- a. By any measure PECO was hit hard by the major storms over the past two years. Nonetheless, in its report, PECO prides itself on its response and its ability to call in mutual aid crews from other utilities.
- b. PECO states that it always conducts a post-storm “lessons-learned” review. **Q: What lessons were learned concerning the response to the LMT area?**
- c. One of the lessons learned from storms prior to 2014 was the importance of suspending the “Estimated Time to Repair (ETR)” given to consumers. Nonetheless, in its report of the responses to the winter storm in February 2014, the PUC cited dissatisfaction with PECO’s ETR’s and the efficacy of PECO’s public relations. **Q: How does PECO reconcile its lessons-learned with the PUC report and the general dissatisfaction voiced by LMT residents over the accuracy and availability of PECO outage information?**

**E. PECO’s Summer Readiness:** In its readiness program PECO highlights the following:

- a. **Capacity Additions:** None of the capacity additions listed by PECO appear to impact the delivery of power to the LMT area but it is assumed that the improvements do enhance the grid capacity overall as far as the PECO coverage area is concerned.

- b. **Supplemental Vegetation Management:** PECO maintains additional (backshift) crews to manage the summer tree growth and it surveys the overhead lines for potential problems. **Q: Does this survey extend to the LMT area?**
- c. **Employee Preparations/Training:** As part of the readiness training given to its employees PECO states that it coordinates with county emergency response directors. **Q: Has any of this training been extended to the LMT emergency response management team?**
- d. **Event Preparedness:** As part of its incident response procedures PECO claims that it conducts drills with local fire companies. **Q: Have any drills been carried out with the Yardley-Makefield Fire Company?**
- e. **Transmission and Substation Preparedness:** PECO states that its preparedness plan includes critical substations. **Q: Does this preparedness extend to flood mitigation at the Morgan Avenue sub-station in Yardley?**
- f. **Transmission Planning:** No comment.

#### F. Storm Response

- a. **Storm Preparations:** PECO has an extensive storm preparation program which includes liaison with the county 911 centers. **Q: How does this work in relation to Bucks County and how does it extend to the LMT emergency management organization?**

- b. **Outage Restoration Strategy:** In its description of its strategic response to outages PECO emphasizes safety first and then the commencement of outage restoration in tiers.

Understandably, the first tier response is targeted at restoring the “primary” feeds (the interface between the local distribution or secondary lines and the power grid).

The primary work is followed by critical load restoration and work on a “greatest-good” basis i.e. getting the greatest number of customers back online in the shortest possible time. Even so, as logical as this strategy may appear it does absolutely nothing to help LMT residents living in “outage pockets” that are commonly without power for days.

To address the “outage pocket” issue it seems there are grounds for LMT to argue in favor of giving priority to weather hardening the “outage pockets” before hardening the “greater-good” areas. The logic here is based on the fact that, if the hardening of the “pocket areas” is effective, they will, in effect, fall under the “greater-good” umbrella. **Q: Does this approach make sense to PECO? If not, why not?**

- c. **Communication and Outreach:** In its Readiness Overview PECO states that it believes “that open, transparent customer communications before, during and after a storm is critical”. Even so, as sound as this belief may seem, it is obvious from the experience of LMT consumers and the PUC that PECO has a way to go. In this respect, the most proactive approach by LMT would be to offer the services of volunteer residents to give constructive comment on the PECO communications system as far as the residents are concerned and, at the same time, contrast the PECO system with its sister utilities.