

Tori L. Giesler, Esq.
(610) 921-6658
(330) 315-9263 (Fax)

November 1, 2018

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

VIA UNITED PARCEL SERVICE

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor
Harrisburg, PA 17120

M-2016-2522508

Re: Joint 3rd Quarter 2018 Reliability Report – Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company – Public Version

Dear Secretary Chiavetta:

Pursuant to 52 Pa. Code § 57.195(d) and (e), enclosed for filing on behalf of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company (collectively, the “Companies”) are two copies of the Joint 3rd Quarter 2018 Reliability Report – Public Version (“Joint Report”). Please date stamp the additional copy and return it in the postage-prepaid envelope provided.

On December 22, 2004, the Companies filed an Application for Protective Order at Docket No. L-00030161. The Application was granted, allowing the Companies to file proprietary versions of the quarterly reliability reports. The Proprietary Version of this Joint Report is being filed under separate cover.

Please feel free to contact me if you have any questions or need additional information regarding this matter.

Sincerely,



Tori L. Giesler

Enclosures

- c: As Per Certificate of Service
- D. Searfoorce - Bureau of Technical Utility Services (via email and first-class mail)
- D. Washko – Bureau of Technical Utility Services (via email and first-class mail)
- J. Van Zant – Bureau of Technical Utility Services (via email and first-class mail)



Joint 2018 3rd Quarter Reliability Report

Metropolitan Edison Company,
Pennsylvania Electric Company,
Pennsylvania Power Company, and
West Penn Power Company

Pursuant to 52 Pa. Code § 57.195(d) and (e)

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

**Joint 3rd Quarter 2018 Reliability Report –
Metropolitan Edison Company (“Met-Ed”),
Pennsylvania Electric Company (“Penelec”),
Pennsylvania Power Company (“Penn Power”), and
West Penn Power Company (“West Penn”)**

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.¹

Major Event(s)

FirstEnergy Company	Customers Affected	Time and Duration of the Event		Cause of the Event	Commission Approval Status
Met-Ed	62,511	Duration	145 hours 25 minutes	Heavy Rain and Flooding	Pending ²
		Start Date/Time	7/21/18 1530		
		End Date/Time	7/27/18 1655		
Penelec	2,683	Duration	85 hours 3 minutes	Flooding	Approved October 4, 2018
		Start Date/Time	8/13/18 0753		
		End Date/Time	8/16/18 2056		
West Penn	72,408	Duration	116 hours 25 minutes	Tropical Storm Gordon	Pending ³
		Start Date/Time	9/8/18 0340		
		End Date/Time	9/13/18 0005		

¹ For purposes of this Joint Report, all reliability reporting is based upon the Pennsylvania Public Utility Commission’s definitions for momentary outages and major events pursuant to 52 Pa. Code § 57.192.

² Met-Ed filed a major event exclusion request on September 5, 2018 which was denied by the Pennsylvania Public Utility Commission in a Secretarial Letter dated September 25, 2018. Met-Ed filed a Petition for Appeal on October 5, 2018 and is currently awaiting a decision.

³ West Penn filed a major event exclusion request on October 8, 2018 which was denied by the Pennsylvania Public Utility Commission in a Secretarial Letter dated October 26, 2018. West Penn has until November 5, 2018 to file a Petition for Appeal and is currently evaluating this filing.

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.

Reliability Index Values⁴

3Q 2018 (12-Mo Rolling)	Met-Ed			Penelec			Penn Power			West Penn		
	Benchmark	12-Month Standard	12-Month Actual	Benchmark	12-Month Standard	12-Month Actual	Benchmark	12-Month Standard	12-Month Actual	Benchmark	12-Month Standard	12-Month Actual
SAIFI	1.15	1.38	1.25	1.26	1.52	1.67	1.12	1.34	1.17	1.05	1.26	1.26
CAIDI	117	140	138.5	117	141	116	101	121	131	170	204	175
SAIDI	135	194	173	148	213	194	113	162	153.5	179	257	219
MAIFI ⁵			1.827			2.731			0.581			
Customers Served ⁶	564,430			580,117			163,330			716,263		
Number of Sustained Interruptions	11,528			13,741			3,366			13,891		
Customers Affected	705,501			967,510			190,762			899,280		
Customer Minutes	97,699,180			112,553,423			25,062,824			157,012,331		
Number of Customer Momentary Interruptions	1,032,300			1,585,113			94,983					

⁴ Pending major events are included in the reliability information.

⁵ MAIFI values are not available for West Penn.

⁶ Represents the average number of customers served during the reporting period.

Unique Events Occurring in 3Q 2018:

Met-Ed

- On August 1, 2018, thunderstorms, lightning and wind gusts up to 55 miles per hour resulted in outages impacting 12,418 customers (2.2% of Met-Ed's customers). Preliminary data indicates that this storm resulted in approximately 4.6 minutes of SAIDI, 209 minutes of CAIDI, and a 0.02 SAIFI impact.
- On August 17, 2018, severe thunderstorms producing heavy rain, lightning and wind gusts in excess of forty miles per hour resulted in outages impacting 18,766 customers (3.3% of Met-Ed's customers). The saturated ground and localized winds caused a significant number of tree-related outages. Preliminary data indicates that this storm resulted in approximately 7.6 minutes of SAIDI, 228 minutes of CAIDI, and a 0.03 SAIFI impact.

Penn Power

- On July 9, 2018, a tractor-trailer struck a seventy-foot pole in the city of Koppel causing damage to a 69 kV line as well as the distribution underbuild. A total of 1,594 customers were impacted. Switching was utilized for 506 customers which were restored after approximately five hours. The remaining 1,088 customers were restored the following morning. Preliminary data indicates that this event resulted in approximately 8.8 minutes of SAIDI, 899.2 minutes of CAIDI, and a 0.01 SAIFI impact.

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.

Worst Performing Circuits – Reliability Indices

The methodology used to identify worst performing circuits is based on both System Average Interruption Frequency Index (“SAIFI”) and System Average Interruption Duration Index (“SAIDI”). The methodology consists of the following steps:

1. For each circuit calculate a circuit SAIFI using only distribution-caused outages.
2. Select the worst 20% of circuits based on the highest circuit SAIFI.
3. Rank the selected circuits based on SAIDI using only distribution-caused customer minutes.
4. Select 5% of the circuits based on the highest customer minutes. These circuits are then identified as the worst performing circuits.

Met-Ed, Penelec, Penn Power, and West Penn’s rankings of the 5% Worst Performing Circuits are provided in Attachment A to this report.

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

Worst Performing Circuits – Remedial Actions

Met-Ed, Penelec, Penn Power, and West Penn's Remedial Actions for Worst Performing Circuits are provided in Attachment B to this report.

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 reported.

Outages by Cause

Outages by Cause – Met-Ed

Outage by Cause				
3rd Quarter 2018 12-Month Rolling	Met-Ed			
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages
Equipment failure	23,096,804	2,787	167,350	24.19%
Animal	3,266,535	1,799	33,817	15.60%
Trees off ROW - tree	30,345,486	1,778	132,132	15.42%
Unknown	7,122,861	1,437	76,916	12.46%
Line failure	7,788,972	890	49,655	7.73%
Trees off ROW - limb	3,385,821	454	23,790	3.95%
Trees - sec/service	374,694	418	1,016	3.62%
Forced outage	3,444,150	414	62,968	3.59%
Trees on ROW	3,141,610	335	10,113	2.90%
Bird	397,037	330	4,229	2.86%
Vehicle	9,113,843	327	64,703	2.84%
Lightning	2,840,874	248	25,136	2.15%
Human error - non-company	1,028,126	71	13,437	0.62%
Overload	820,401	54	6,333	0.47%
Object contact with line	329,782	36	6,621	0.31%
Human error - company	564,818	36	13,650	0.31%
UG dig-up	76,686	29	427	0.25%
Customer equipment	61,273	22	3,443	0.19%
Previous lightning	155,377	19	1,163	0.16%
Other electric utility	66,988	12	6,174	0.10%
Wind	92,299	9	160	0.08%
Ice	11,015	6	130	0.05%
Fire	15,486	6	82	0.05%
Vandalism	1,132	5	6	0.04%
Other utility - non-electric	155,420	3	2,044	0.03%
Contamination	346	2	2	0.02%
Switching error	1,344	1	4	0.01%
Total	97,699,180	11,528	705,501	100%

Proposed Solutions – Met-Ed

Met-Ed analyzes its outage data to develop solutions for improving reliability. The following paragraphs identify the top outage causes for the rolling twelve-month period ending September 30, 2018, and associated actions designed to address these outage causes.

To reduce the likelihood of equipment-caused outages, Met-Ed follows Inspection and Maintenance (“I&M”) programs⁷ that set forth schedules for regular inspections of distribution and substation facilities. These programs are geared towards specific components such as capacitors, poles, circuits, transformers, radio-controlled switches, substations, and reclosers. Equipment identified is repaired or replaced as appropriate.

To address animal-caused outages, Met-Ed installs animal guards on equipment that experience a high frequency of animal related outages. When possible, animal guards are installed at the time service is restored for outages caused by animals. In addition, Met-Ed requires animal guards to be installed on all new overhead and underground riser installations.

To address outages caused by trees, Met-Ed performs cycle-based tree trimming and enhanced tree trimming in select locations. Enhanced tree trimming removes healthy limbs overhanging primary conductors. Trees identified as a potential cause of a future outage are removed to prevent an interruption of electrical service to Met-Ed’s customers.

Generally speaking, there are a number of other reliability projects that have been identified to help reduce the number of, and limit the duration and impact of, interruptions to customers. These include:

- **Circuit ties and loops** – Circuit ties and loops continue to be built between radial sections of circuits. When ties and loops are available, circuits can be switched during outages to enable faster service restoration.

⁷ Pursuant to 52 Pa. Code § 57.198, every two years an electric distribution company shall file, and receive approval from the Commission of, a biennial plan for the periodic inspection, maintenance, repair and replacement of its facilities. On December 30, 2013, Paul Diskin, Director, Technical Utility Services, issued a letter approving the Company’s biennial inspection, maintenance, repair, and replacement plan effective January 1, 2015 through December 31, 2016. Further, on March 4, 2016 an additional letter was issued approving the plans effective January 1, 2017 – December 31, 2018.

- **Targeted circuit rehabilitation** – Targeted circuit rehabilitation is being performed in zones one and two⁸ focusing on circuits having a high rate of equipment and line failure and animal-caused outages. Equipment that may be replaced includes crossarms, capacitors, insulators, lightning arresters and connectors.
- **Wood Pole Reinforcement/Replacement** – Wood poles identified by a qualified inspector as having degraded beyond restorable condition are being replaced, while poles that are restorable are being reinforced.
- **Underground Residential Distribution (“URD”) Cable Replacement** – Bare concentric neutral cable is being replaced as part of Met-Ed’s underground distribution residential cable replacement program. This type of cable was manufactured without an insulating jacket, thereby causing the concentric neutral wire to corrode and fail prematurely.
- **Fuse Replacement** – To reduce the scope of outages, fuses and other protective devices are being installed on circuits selected based on overall performance as well as protection needs.
- **Porcelain cutout replacement** – Porcelain cutouts are being replaced with more robust polymer to reduce the number of recloser and circuit breaker lockouts and other equipment damage.
- **Substation Transformer Replacement** – The transformer at the Swamp substation was replaced in July 2018 with a pad mounted transformer and line regulators for voltage control. The transformer at the School Lane substation will be replaced with a pad mounted transformer and line regulators by year-end.
- **Installation of supervisory control and data acquisition (“SCADA”) devices** – Existing gang-operated air brake switches, disconnect switches and oil circuit reclosers are being replaced with SCADA-controlled switches that will allow for remote operation to restore service to customers when an outage occurs. Remote switching eliminates the need to dispatch crews to manually operate the switches. The result is fewer customers affected and reduced outage durations.

⁸ Zone one is defined as the portion of the circuit from the substation breaker to the first protective device. Zone two is defined as the three-phase conductor and devices after the first protective device.

Outages by Cause – Penelec

Outage by Cause				
3rd Quarter 2018 12-Month Rolling	Penelec			
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages
Equipment failure	24,024,658	3,148	301,428	22.91%
Unknown	9,269,013	2,090	101,948	15.23%
Animal	3,348,008	1,656	36,492	12.03%
Trees off ROW - tree	39,737,166	1,483	184,013	10.80%
Line failure	12,059,205	1,336	114,186	9.73%
Forced outage	6,477,239	1,007	65,380	7.33%
Lightning	3,413,486	707	32,419	5.14%
Trees - sec/service	456,216	597	1,572	4.35%
Bird	1,051,541	361	17,604	2.62%
Vehicle	6,211,275	320	45,685	2.33%
Trees off ROW - limb	1,800,288	294	14,089	2.15%
Ice	71,396	131	210	0.95%
Trees on ROW	329,181	118	2,726	0.86%
Overload	1,148,008	102	24,322	0.74%
Other electric utility	367,426	87	5,090	0.63%
Human error - non-company	834,282	85	6,166	0.62%
UG dig-up	135,650	50	517	0.36%
Human error - company	539,085	43	9,052	0.31%
Object contact with line	683,971	41	2,023	0.30%
Previous lightning	68,761	32	754	0.23%
Vandalism	3,762	19	19	0.14%
Fire	41,897	12	606	0.09%
Customer equipment	30,077	11	167	0.08%
Contamination	968	4	7	0.03%
Other utility - non-electric	511	3	3	0.02%
Wind	430,408	2	705	0.01%
Switching Error	19,945	2	327	0.01%
Total	112,553,423	13,741	967,510	100%

Proposed Solutions – Penelec

Penelec analyzes its outage data to develop solutions for improving reliability. The following paragraphs identify the top outage causes for the rolling twelve-month period ending September 30, 2018, and the associated actions designed to address these outage causes.

To reduce the likelihood of equipment-caused outages, Penelec follows I&M programs that set forth schedules for regular inspections of distribution and substation facilities. These programs are geared towards specific components such as capacitors, poles, circuits, transformers, radio-controlled switches, substations, and reclosers. Equipment identified is repaired or replaced as appropriate.

Outages caused by unknown factors are patrolled by a troubleman and recorded as having an unknown cause. During the 3Q 2018, 18% of unknown outages occurred during minor storm weather days and accounted for 2% of the total customers affected. For certain unknown outages, engineering may conduct a post-outage circuit inspection as needed to determine if additional actions are necessary.

To address animal-caused outages, Penelec installs animal guards on equipment that experience a high frequency of animal related outages. When possible, animal guards are installed at the time service is restored to prevent future animal-related outages.

Generally speaking, there are a number of other reliability projects that have been identified to help reduce the number of, and limit the duration and impact of, interruptions to customers. These include:

- **Circuit rehabilitation** – Targeted circuit rehabilitation is being performed in zones one and two, focusing on circuits having a high rate of equipment and line failure and animal-caused outages. Equipment that may be replaced includes crossarms, capacitors, insulators, lightning arresters and connectors.
- **Porcelain cutout replacement** – Porcelain cutouts are being replaced with a more robust version constructed from polymer which is likely to reduce the number of recloser and circuit breaker lockouts and other equipment damage.

- **Circuit ties and loops** – Circuit ties and loops continue to be built between radial sections of circuits. When ties and loops are available, circuits can be switched during outages to enable faster service restoration.
- **Customer Service Improvement program** – Reliability improvements are being performed on clusters of customers that experience frequent or repeated outages. The Customer Service Improvement program is designed to reduce the frequency of outages at the customer level and is often initiated from customer complaints. In addition to enhancing system performance, the program is a means to reduce the frequency of outages at the customer level that might not otherwise be addressed when targeting overall system metrics.
- **Advanced protective devices** - Advanced protective devices such as electronically controlled reclosers and switches with modernized communication are being installed to allow for additional protection coordination.
- **Fuse protection** – To reduce the scope of outages, fuse protection and coordination recommendations on the 34.5 kV system will be constructed and implemented based on full circuit coordination studies.
- **Cap and Pin Insulator Replacement program** – Brown porcelain cap and pin style insulators that are prone to failure, as well as switch insulators and arresters, are being replaced.
- **Substation Breakers** – Penelec has identified a brand of circuit breaker that fails to operate properly causing unreliable breaker operations during line outages. As a result, these select circuit breakers at 34.5 kV substations are being replaced.
- **Installation of SCADA devices** – Additional SCADA controlled devices are being installed at locations on both the distribution and 34.5 kV systems that will allow for remote operation to restore service to customers when an outage occurs. Remote switching eliminates the need to dispatch crews to manually operate the switches. The result is fewer customers affected and reduced outage durations.

Outages by Cause – Penn Power

Outage by Cause				
3rd Quarter 2018 12-Month Rolling	Penn Power			
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages
Trees off ROW - tree	9,743,569	741	38,039	22.01%
Animal	1,979,041	514	23,511	15.27%
Equipment failure	2,764,238	336	27,745	9.98%
Line failure	2,193,544	320	15,235	9.51%
Bird	505,965	306	5,666	9.09%
Lightning	735,938	218	9,572	6.48%
Unknown	1,060,629	198	14,922	5.88%
Trees off ROW - limb	1,499,156	174	9,013	5.17%
Trees - sec/service	136,417	157	426	4.66%
Vehicle	2,641,458	102	11,646	3.03%
Forced outage	354,990	88	11,780	2.61%
Overload	625,717	71	7,980	2.11%
Previous lightning	198,604	28	7,119	0.83%
Human error - non-company	387,583	28	4,726	0.83%
Human error - company	114,647	20	2,241	0.59%
Trees on ROW	32,260	16	247	0.48%
UG dig-up	33,591	16	382	0.48%
Object contact with line	23,611	12	253	0.36%
Ice	15,564	7	140	0.21%
Customer equipment	3,289	7	29	0.21%
Vandalism	7,547	3	19	0.09%
Fire	65	1	1	0.03%
Wind	3,966	1	43	0.03%
Other electric utility	1,248	1	24	0.03%
Contamination	187	1	3	0.03%
Total	25,062,824	3,366	190,762	100%

Proposed Solutions – Penn Power

Penn Power analyzes its outage data to develop solutions for improving reliability. The following paragraphs identify the top outage causes for the rolling twelve-month period ending September 30, 2018, and the associated actions designed to address these outage causes.

To address outages caused by trees, Penn Power performs cycle based tree trimming which removes selected incompatible trees within the clearing zone corridor, removes certain defective limbs that are overhanging primary conductors, controls selected incompatible brush, and removes off right-of-way priority trees. In addition, Penn Power performs enhanced trimming, which removes healthy limbs overhanging primary conductors, and is increasing priority tree removal on selected circuits.

To address outages caused by animals, Penn Power installs animal guards on equipment that experience a high frequency of animal-related outages. When possible, animal guards are installed at the time service is restored to prevent future outages caused by animals and birds.

To reduce the likelihood of outages caused by equipment failure, Penn Power follows I&M programs that set forth schedules for regular inspections of distribution facilities. These programs are geared towards specific components such as capacitors, poles, circuits, transformers, and reclosers. Equipment identified is repaired or replaced as appropriate.

Generally speaking, there are several other reliability projects that have been identified to help reduce the number of, and limit the duration and impact of, interruptions to customers. These include:

- **Line Sectionalizing** – Switches and fuses are being installed on unprotected overhead circuits for improved line sectionalizing capability, reducing the scope of an outage and allowing for quicker isolation and restoration. In addition, poles, reclosers, cutouts, arresters, fault indicators and animal guards may be replaced or installed to ensure proper line sectionalizing.
- **Circuit ties, loops and sources** – Circuit ties and loops continue to be built between radial sections of circuits. When ties and loops are available, circuits can be switched during outages to enable faster restoration. In addition, Penn Power continues to add new substations which provide a new source to serve customers and additional capacity.
- **Overhead Conductor Replacement** – Smaller, aging overhead conductors are being replaced to improve energy efficiency, increase capacity and improve operational flexibility.

- **URD Cable Replacement** – Bare concentric neutral cable is being replaced as part of Penn Power’s URD cable replacement program. This type of cable was manufactured without an insulating jacket, thereby causing the concentric neutral wire to corrode and fail prematurely.
- **Wood Pole Reinforcement/Replacement** – Wood poles identified by a qualified inspector as having degraded beyond restorable condition are being replaced, while poles that are restorable are being reinforced.
- **Substation Equipment Replacement** – Circuit breakers, station transformers and other substation equipment, such as insulators, switches, buses, arresters and conductors that are obsolete or in poor condition are being replaced with new equipment. Proactively replacing older equipment increases substation reliability and reduces the occurrence of equipment failure.
- **Installation of SCADA devices** – Additional SCADA devices are being installed where circuit conditions and system performance warrant. Remote SCADA controlled devices allow for remote operation to restore service to customers when an outage occurs. Remote switching eliminates the need to dispatch crews to manually operate the switches. The result is fewer customers affected and reduced outage durations.

Outages by Cause – West Penn

Outage by Cause				
3rd Quarter 2018 12-Month Rolling	West Penn			
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages
Trees off ROW - tree	66,163,670	3,316	257,507	23.87%
Equipment failure	22,024,327	2,826	159,302	20.34%
Unknown	8,973,341	1,838	80,436	13.23%
Line failure	17,375,371	1,453	116,274	10.46%
Animal	1,943,192	1,386	23,399	9.98%
Forced outage	4,917,254	747	80,897	5.38%
Trees on ROW	4,872,246	477	24,365	3.43%
Trees - sec/service	412,599	436	934	3.14%
Vehicle	8,784,300	352	57,159	2.53%
Bird	759,207	313	8,946	2.25%
Trees off ROW - limb	3,519,326	239	24,835	1.72%
Wind	12,283,853	136	18,215	0.98%
Lightning	1,776,589	100	13,482	0.73%
Human error - non-company	687,365	60	6,959	0.43%
Human error - company	489,773	53	6,830	0.38%
UG dig-up	178,208	44	1,010	0.32%
Object contact with line	176,304	36	1,527	0.26%
Overload	339,175	23	5,826	0.17%
Customer equipment	138,961	17	769	0.12%
Other electric utility	347,568	15	2,058	0.11%
Contamination	155,165	9	3,361	0.06%
Fire	10,603	6	65	0.04%
Vandalism	167,780	5	2,634	0.04%
Other utility - non-electric	511,195	2	2,045	0.01%
Switching error	4,959	2	445	0.01%
Total	157,012,331	13,891	899,280	100%

Proposed Solutions – West Penn

West Penn analyzes its outage data to develop solutions for improving reliability. The following paragraphs identify the top outage causes for the rolling twelve-month period ending September 30, 2018, and the associated actions designed to address these outage causes.

To reduce outages caused by trees, West Penn performs cycle based tree trimming which removes selected incompatible trees within the clearing zone corridor, removes certain defective limbs that are overhanging primary conductors, controls selected incompatible brush, and removes off right-of-way priority trees. West Penn continues its program to accelerate the mitigation of trees subject to damage from the Emerald Ash Borer.

To reduce the likelihood of equipment-caused outages, West Penn follows I&M programs that set forth schedules for regular inspections of distribution and substation facilities. These programs are geared towards specific components such as capacitors, poles, circuits, transformers, substations, and reclosers. Equipment identified is repaired or replaced as appropriate.

Outages caused by unknown factors are patrolled by a troubleman and recorded as having an unknown cause. During the 3Q 2018, 35% of unknown outages occurred during minor storm weather days and accounted for less than 4% of the total customers affected. For certain unknown outages, engineering may conduct a post-outage circuit inspection as needed to determine if additional actions are necessary.

Generally speaking, there are a number of other reliability projects that have been identified to help reduce the number of, and limit the duration and impact of, interruptions to customers. These include:

- **Fuse Installation** – New fused cutouts are being installed to improve circuit protection based on a coordination review. Circuits are selected based on customer count, past reliability and average customers per fuse.
- **Targeted circuit rehabilitation** - Targeted circuit rehabilitation is being performed in zones one and two, focusing on circuits having a high rate of equipment and line failure and animal-caused outages. Equipment that may be replaced includes crossarms, capacitors, insulators, lightning arresters and cutouts.

- **Worst Performing Circuit rehabilitation** - Select Worst Performing Circuits have been targeted for enhanced circuit rehabilitation in zones one and two, which can include hardware rehabilitation, coordination review, installation of additional protective devices as well as reclosers.
- **URD Cable Replacement** - Bare concentric neutral cable is being replaced as part of West Penn's URD cable replacement program. This type of cable was manufactured without an insulating jacket, thereby causing the concentric neutral wire to corrode and fail prematurely.
- **Customers Experiencing Multiple Interruptions projects** - Improvement projects focusing on clusters of customers experiencing multiple interruptions of line protection devices are being implemented to enhance system performance as well as reduce frequency of outages at the customer level that might not be addressed when targeting overall system metrics.
- **Wood pole reinforcement/replacement** - Wood poles identified by a qualified inspector as having degraded beyond restorable condition are being replaced, while poles that are restorable are being reinforced.
- **Substation batteries, reclosers and transformer arresters** – Substation batteries and reclosers reaching the end of their useful lives are being replaced. If the batteries are not replaced, the potential exists for the mis-operation of substation equipment which could cause a possible outage. Replacement of reclosers will ensure proper operation to clear line faults and work properly with upstream and downstream line equipment to prevent an unnecessary outage. Arresters on transformer banks made from silicon carbide are being replaced with polymer metal oxide varistor (“MOV”) arresters. MOV arresters provide better protection to the transformer making it less likely to have a catastrophic failure.
- **Underground substation exit cables** - Exit cables that were manufactured without an insulating jacket, thereby causing the concentric neutral wire to corrode and fail prematurely, are being replaced. By replacing these exit cables, West Penn will reduce the interruptions to a circuit associated with the cable as well as the long interruption times associated with the replacement.
- **Enhanced overcurrent protection and SCADA control** – New electronic reclosers with SCADA control are being installed at targeted substations as part of the enhanced overcurrent protection program. Adding SCADA control to electronic reclosers in select substations with existing SCADA capabilities limits the number of customers affected, provides additional

monitoring and allows for remote switching to restore customers at the circuit level more quickly.

- **Sub-transmission modernization and automation** – Aging electro-mechanical relay controls and switches and automated sub-transmission switching locations are being replaced with newer technology. The installation of SCADA controlled reclosers and switches and automatic switch modernization will provide enhanced sectionalizing for larger blocks of customers at the substation level. The SCADA controlled switches are designed to allow for remote switching to restore large blocks of customers more quickly.

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).

Inspection and Maintenance 2018		Met-Ed			Penelec			Penn Power			West Penn		
		Planned	Completed		Planned	Completed		Planned	Completed		Planned	Completed	
		Annual	3Q	YTD	Annual	3Q	YTD	Annual	3Q	YTD	Annual	3Q	YTD
Forestry	Transmission (Miles)	258.67	20.71	145.38	417.85	55.25	132.26	77.87	20.41	53.88	527.36	58.92	264.62
	Distribution (Miles)	3,160	705	1,448	3,636	1,168	2,838	1,149	336	931	4,584	1,074	2,782
Transmission	Aerial Patrols	2	0	1	2	0	1	2	1	2	2	0	1
	Groundline	0	0	0	0	0	0	553	0	698	1,330	1,515	1,877
Substation	Substation Inspections Class A	424	212	424	788	394	788	148	74	148	726	362	726
	Substation Inspections Class B	424	1	213	788	0	394	148	0	74	726	0	364
	Substation Inspections Class C	1,696	426	1,274	3,152	788	2,364	592	148	444	2,904	724	2,180
	Transformers	245	65	186	487	53	480	103	13	103	514	132	477
	Breakers	76	18	47	325	64	278	9	6	9	406	144	284
	Relay Schemes	98	38	97	176	30	166	16	0	16	123	49	87
Distribution	Capacitors	4,758	0	4,758	8,736	0	8,736	994	0	991	1,305	0	1,305
	Poles	46,000	8,409	18,299	41,591	4,297	36,365	10,600	0	11,066	57,822	10,921	33,012
	Reclosers	1,109	151	1,038	2,572	2,566	2,566	815	0	812	3,898	0	3,898
	Radio-Controlled Switches	478	37	296	2,612	374	1,725	Penn Power has no radio-controlled switches			West Penn has no radio-controlled switches		

General Note: Unless specified otherwise, all inspections are reported on a unit basis rather than on a location basis.

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 as available. (For first, second and third quarter reports only).

Budgeted vs. Actual T&D Operation & Maintenance Expenditures⁹

Met-Ed T&D O&M – 3Q / YTD September 2018 (\$)						
Transmission						
Category	3Q Actuals	3Q Budget	YTD Actuals	YTD Budget	Annual Budget	
560	Operation Supervision and Engineering	0	0	0	0	0
561	Load Dispatching	(19,525)	169,324	3,386	509,460	680,275
562	Station Expenses	2,534	0	10,442	0	0
563	Overhead Lines Expenses	1,518	2,750	45,360	33,112	33,112
565	Transmission of Electricity by Others	(7,036,217) ¹⁰	2,323,312	(21,906,351)	6,869,936	9,193,248
566	Miscellaneous Transmission Expenses	(178,405)	(3,471)	(181,280)	(9,730)	(13,365)
567	Rents	16,063	0	49,214	0	0
568	Maintenance Supervision and Engineering	193	0	2,655	0	0
569	Maintenance of Structures	46,438	4,755	143,980	14,235	20,225
570	Maintenance of Station Equipment	114,163	1,500	621,127	4,500	6,000
571	Maintenance of Overhead Lines	21,701	0	43,163	0	0
572	Maintenance of Underground Lines	0	0	0	0	0
573	Maintenance of Miscellaneous Transmission Plant	540	0	(200)	0	0
575	Market Administration, Monitoring & Compliance Services	0	0	0	0	0
Transmission Total		(7,030,998)	2,498,171	(21,168,505)	7,421,513	9,919,496
Distribution						
Category	3Q Actuals	3Q Budget	YTD Actuals	YTD Budget	Annual Budget	
580	Operation Supervision and Engineering	79,780	56,638	220,493	175,801	242,700
581	Load Dispatching	60,743	46,092	170,417	141,453	203,414
582	Station Expenses	985,702	152,888	1,510,408	488,818	641,671
583	Overhead Line Expenses	45,929	26,067	159,134	179,502	197,277
584	Underground Line Expenses	0	0	0	0	0
585	Distribution-Street Lighting & Signal System Expenses	0	0	0	0	0
586	Meter Expenses	141,987	155,909	467,878	438,696	597,543
587	Customer Installations Expenses	0	0	0	0	0
588	Miscellaneous Distribution Expenses	2,085,772	2,000,519	5,733,827	5,832,467	8,070,195
589	Rents	93,818	126,109	352,905	378,328	504,437
590	Maintenance Supervision and Engineering	109,864	44,131	319,183	143,094	193,021
591	Maintenance of Structures	1,194	1,644	2,619	5,008	6,817
592	Maintenance of Station Equipment	1,541,073	1,895,890	4,588,302	5,716,161	7,591,843
593	Maintenance of Overhead Lines	13,155,491	6,633,212	76,089,551	21,898,936	28,894,156
594	Maintenance of Underground Lines	584,996	385,028	959,529	1,132,385	1,527,965
595	Maintenance Line Transformer	39,292	469,502	114,588	1,408,506	1,878,008
596	Maintenance of Street Lighting and Signal Systems	135,520	143,521	452,483	412,621	582,543
597	Maintenance of Meters	527,438	562,026	1,615,945	1,675,096	2,240,327
598	Maintenance of Miscellaneous Distribution Plant	366,820	595,245	1,214,049	1,831,382	2,411,184
Distribution Total		19,955,420	13,294,420	93,971,311	41,858,253	55,783,100
Met-Ed Total		12,924,422	15,792,591	72,802,806	49,279,767	65,702,596

⁹ Budgets are subject to change.

¹⁰ A settlement between Met-Ed and PJM and approved by FERC on May 31, 2018 resulted in a refund of Regional Transmission Expansion Plan costs to Met-Ed.

Penelec T&D O&M – 3Q / YTD September 2018 (\$)						
Transmission						
Category	3Q Actuals	3Q Budget	YTD Actuals	YTD Budget	Annual Budget	
560	Operation Supervision and Engineering	0	0	0	0	0
561	Load Dispatching	(17,693)	168,870	(23,429)	509,978	682,278
562	Station Expenses	44,024	30,190	170,391	97,535	135,607
563	Overhead Lines Expenses	48,014	40,604	398,298	387,212	491,576
565	Transmission of Electricity by Others	(5,471,316) ¹¹	8,443,709	(5,351,066)	25,035,232	33,478,941
566	Miscellaneous Transmission Expenses	(168,817)	0	(166,870)	0	0
567	Rents	43,991	32,571	253,982	150,817	275,000
568	Maintenance Supervision and Engineering	30,745	(0)	82,555	(0)	(0)
569	Maintenance of Structures	70,454	5,523	209,982	16,533	23,493
570	Maintenance of Station Equipment	117,005	70,849	(29,717)	212,548	283,400
571	Maintenance of Overhead Lines	45,080	41,395	124,477	14,784	0
572	Maintenance of Underground Lines	0	0	0	0	0
573	Maintenance of Miscellaneous Transmission Plant	8,941	0	6,960	0	0
575	Market Administration, Monitoring & Compliance Services	0	0	0	0	0
Transmission Total		(5,249,574)	8,833,713	(4,324,439)	26,424,638	35,370,294
Distribution						
Category	3Q Actuals	3Q Budget	YTD Actuals	YTD Budget	Annual Budget	
580	Operation Supervision and Engineering	183,486	85,746	434,274	255,543	340,011
581	Load Dispatching	103,275	58,545	311,605	180,955	246,339
582	Station Expenses	160,565	0	440,056	0	0
583	Overhead Line Expenses	21,767	15,790	90,410	42,115	52,827
584	Underground Line Expenses	306,350	262,826	796,970	695,918	879,170
585	Distribution-Street Lighting & Signal System Expenses	0	0	0	0	0
586	Meter Expenses	171,264	151,594	496,131	442,431	610,579
587	Customer Installations Expenses	0	0	0	0	0
588	Miscellaneous Distribution Expenses	3,040,851	2,950,269	8,607,585	8,633,943	11,971,998
589	Rents	410,654	282,929	1,309,641	848,788	1,131,717
590	Maintenance Supervision and Engineering	110,456	50,259	333,699	162,964	219,824
591	Maintenance of Structures	0	0	0	0	0
592	Maintenance of Station Equipment	1,701,099	1,449,211	4,879,720	4,404,329	6,015,575
593	Maintenance of Overhead Lines	17,195,518	8,007,791	38,915,005	22,664,535	30,918,994
594	Maintenance of Underground Lines	352,639	56,124	1,468,249	121,861	146,143
595	Maintenance Line Transformer	34,330	60,724	100,117	182,173	242,897
596	Maintenance of Street Lighting and Signal Systems	269,076	718,174	757,314	2,270,324	3,120,417
597	Maintenance of Meters	710,438	950,004	2,113,020	2,890,993	3,822,304
598	Maintenance of Miscellaneous Distribution Plant	403,039	20,893	1,042,986	60,446	122,860
Distribution Total		25,174,808	15,120,880	62,096,781	43,857,317	59,841,657
Penelec Total		19,925,234	23,954,593	57,772,343	70,281,956	95,211,950

¹¹ A settlement between Penelec and PJM and approved by FERC on May 31, 2018 resulted in a refund of Regional Transmission Expansion Plan costs to Penelec.

Penn Power						
T&D O&M – 3Q / YTD September 2018 (\$)						
Transmission						
Category	3Q Actuals	3Q Budget	YTD Actuals	YTD Budget	Annual Budget	
560	Operation Supervision and Engineering	354	521	1,137	1,565	2,131
561	Load Dispatching	(20,607)	32,323	2,308	96,975	129,499
562	Station Expenses	0	(46)	0	(126)	(187)
563	Overhead Lines Expenses	0	(79)	12	(218)	(325)
565	Transmission of Electricity by Others	(3,093,950) ¹²	1,257,415	(6,997,444)	3,717,245	4,974,660
566	Miscellaneous Transmission Expenses	2,079	996	4,140	3,019	3,870
567	Rents	0	0	0	0	0
568	Maintenance Supervision and Engineering	3,076	3,881	9,557	11,872	16,147
569	Maintenance of Structures	5,708	7,085	17,306	23,127	33,199
570	Maintenance of Station Equipment	2,199	762	(19,211)	2,286	3,047
571	Maintenance of Overhead Lines	8,698	(37,194)	43,899	(55,931)	(80,573)
572	Maintenance of Underground Lines	0	0	0	0	0
573	Maintenance of Miscellaneous Transmission Plant	(122)	0	(1,461)	0	0
575	Market Administration, Monitoring & Compliance Services	0	0	0	0	0
Transmission Total		(3,092,566)	1,265,663	(6,939,756)	3,799,812	5,081,468
Distribution						
Category	3Q Actuals	3Q Budget	YTD Actuals	YTD Budget	Annual Budget	
580	Operation Supervision and Engineering	0	0	0	0	0
581	Load Dispatching	0	0	0	0	0
582	Station Expenses	16,632	0	48,002	0	0
583	Overhead Line Expenses	6,679	0	112,949	0	0
584	Underground Line Expenses	48,843	131,195	152,354	393,569	524,466
585	Distribution-Street Lighting & Signal System Expenses	0	0	0	0	0
586	Meter Expenses	16,749	18,244	47,388	55,654	74,938
587	Customer Installations Expenses	0	0	0	0	0
588	Miscellaneous Distribution Expenses	113,290	280,886	283,212	794,037	1,079,663
589	Rents	76,396	79,747	253,182	239,240	318,986
590	Maintenance Supervision and Engineering	30,022	12,570	81,106	40,739	54,953
591	Maintenance of Structures	0	0	0	0	0
592	Maintenance of Station Equipment	195,416	100,635	626,465	276,081	376,718
593	Maintenance of Overhead Lines	2,860,773	3,199,221	9,856,953	9,202,733	12,374,767
594	Maintenance of Underground Lines	83,285	12,006	211,254	30,971	39,187
595	Maintenance Line Transformer	6,780	12,872	20,880	38,617	51,489
596	Maintenance of Street Lighting and Signal Systems	13,643	0	39,642	0	0
597	Maintenance of Meters	140,361	151,353	386,606	446,028	598,980
598	Maintenance of Miscellaneous Distribution Plant	74,630	100,265	208,139	330,178	472,985
Distribution Total		3,683,498	4,098,994	12,328,130	11,847,847	15,967,133
Penn Power Total		590,932	5,364,657	5,388,374	15,647,659	21,048,601

¹² A settlement agreement between Penn Power and PJM and approved by FERC on May 31, 2018 resulted in a refund of Regional Transmission Expansion Plan costs to Penn Power.

West Penn T&D O&M – 3Q / YTD September 2018 (\$)						
Transmission						
Category	3Q Actuals	3Q Budget	YTD Actuals	YTD Budget	Annual Budget	
560	Operation Supervision and Engineering	9,908	13,120	30,908	41,250	56,519
561	Load Dispatching	164,562	476,342	596,124	1,466,630	1,983,587
562	Station Expenses	65,384	5,571	164,897	17,674	24,140
563	Overhead Lines Expenses	18,886	0	120,708	0	0
565	Transmission of Electricity by Others	39,561,535 ¹³	15,095,637	101,508,294	45,282,337	60,377,974
566	Miscellaneous Transmission Expenses	98,010	91,602	287,054	250,555	352,998
567	Rents	5,990	6,297	18,174	18,890	25,187
568	Maintenance Supervision and Engineering	160,787	133,837	530,936	418,168	558,238
569	Maintenance of Structures	6,546	3,932	21,240	11,783	17,275
570	Maintenance of Station Equipment	933,011	467,431	2,336,175	1,481,303	2,032,207
571	Maintenance of Overhead Lines	5,749,881	3,990,330	12,041,282	10,161,056	13,267,007
572	Maintenance of Underground Lines	(5,626)	0	(4,686)	0	0
573	Maintenance of Miscellaneous Transmission Plant	0	0	0	0	0
575	Market Administration, Monitoring & Compliance Services	19	0	142	0	0
Transmission Total		46,768,894	20,284,099	117,651,248	59,149,647	78,695,132
Distribution						
Category	3Q Actuals	3Q Budget	YTD Actuals	YTD Budget	Annual Budget	
580	Operation Supervision and Engineering	70,620	21,959	205,006	76,026	105,573
581	Load Dispatching	446,447	433,475	1,342,805	1,344,071	1,823,718
582	Station Expenses	210,447	321,482	511,564	923,805	1,209,878
583	Overhead Line Expenses	132,135	298,458	788,607	1,316,137	1,429,962
584	Underground Line Expenses	289,439	360,000	956,545	935,000	1,210,000
585	Distribution-Street Lighting & Signal System Expenses	0	0	0	0	0
586	Meter Expenses	274,503	450,918	860,484	1,399,728	1,909,499
587	Customer Installations Expenses	0	0	0	0	0
588	Miscellaneous Distribution Expenses	3,897,557	3,834,257	11,402,826	10,915,591	14,994,284
589	Rents	0	0	0	0	0
590	Maintenance Supervision and Engineering	157,966	93,344	420,954	296,660	403,051
591	Maintenance of Structures	0	0	0	0	0
592	Maintenance of Station Equipment	3,120,608	1,805,902	6,071,530	5,444,376	7,456,908
593	Maintenance of Overhead Lines	8,487,131	8,407,756	29,829,493	23,442,731	30,632,377
594	Maintenance of Underground Lines	228,541	131,042	862,770	610,487	753,257
595	Maintenance Line Transformer	3,075	72,269	30,909	216,806	289,074
596	Maintenance of Street Lighting and Signal Systems	196,166	184,232	637,783	582,838	795,037
597	Maintenance of Meters	403,745	243,838	1,193,643	780,902	1,070,584
598	Maintenance of Miscellaneous Distribution Plant	48,502	58,730	147,772	172,873	238,242
Distribution Total		17,966,883	16,717,662	55,262,692	48,458,031	64,321,443
West Penn Power Total		64,735,777	37,001,761	172,913,940	107,607,679	143,016,574

¹³ A settlement agreement between West Penn and PJM and approved by FERC on May 31, 2018 resulted in additional Regional Transmission Expansion Plan costs to West Penn.

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).

Budgeted vs. Actual T&D Capital Expenditures^{14, 15}

Met-Ed					
T&D Capital – 3Q/YTD September 2018 (\$)					
Category	3Q Actuals	3Q Budget	YTD Actuals	YTD Budget	Annual Budget
Capacity	824,381	2,726,208	5,096,403	9,149,548	12,046,796
Condition	2,293,546	4,207,582	11,243,202	11,984,087	15,210,656
Facilities	1,052,444	1,746,324	1,072,354	3,785,493	4,029,172
Forced	7,243,030	9,222,890	44,911,122	28,121,034	36,042,546
Meter Related	487,289	656,865	1,425,532	2,043,843	2,657,061
New Business	1,495,234	3,510,670	10,092,305	10,631,857	14,256,019
Other	16,056,746	11,221,443	34,420,014	26,156,497	39,834,720
Reliability	4,479,132	4,905,194	11,781,571	20,896,451	24,345,555
Street Light	7,109	317,345	825,168	1,776,839	2,048,961
Tools & Equipment	117,076	266,034	389,605	796,062	1,165,919
Vegetation Management	3,787,026	4,030,748	8,875,870	12,121,955	16,163,160
Met-Ed Total	37,843,013	42,811,303	130,133,146	127,463,667	167,800,564

Penelec					
T&D Capital – 3Q/YTD September 2018 (\$)					
Category	3Q Actuals	3Q Budget	YTD Actuals	YTD Budget	Annual Budget
Capacity	434,046	1,671,948	2,488,016	5,178,694	6,993,475
Condition	788,720	2,334,023	5,474,129	7,282,319	9,625,735
Facilities	738,491	772,598	2,507,848	2,150,870	2,558,659
Forced	9,355,485	11,291,201	31,033,102	32,322,134	43,150,174
Meter Related	420,460	648,321	1,186,161	1,821,440	2,468,478
New Business	(478,116)	3,087,462	4,730,174	9,092,104	11,979,604
Other	18,161,212	2,480,541	39,689,347	12,804,127	18,159,603
Reliability	12,620,937	14,902,102	28,845,126	38,957,744	47,667,106
Street Light	321,672	511,369	1,073,223	1,561,658	2,090,990
Tools & Equipment	529,324	337,495	964,020	1,009,247	1,438,392
Vegetation Management	6,648,565	6,512,708	17,855,834	21,540,258	28,719,489
Penelec Total	49,540,795	44,549,768	135,846,981	133,720,596	174,851,705

¹⁴ Budgets are subject to change.

¹⁵ General note: Capital reported on Generally Accepted Accounting Principles (GAAP) basis.

Penn Power					
T&D Capital – 3Q/YTD September 2018 (\$)					
Category	3Q Actuals	3Q Budget	YTD Actuals	YTD Budget	Annual Budget
Capacity	656,606	25,001	1,476,925	75,358	100,359
Condition	234,294	333,364	564,240	1,015,316	1,412,444
Facilities	330,138	0	333,907	122	122
Forced	2,780,572	4,283,973	8,863,351	12,755,688	17,722,956
Meter Related	218,573	135,428	532,427	402,114	540,010
New Business	1,525,858	1,448,916	4,678,007	4,556,040	5,666,730
Other	260,855	(589,294)	2,981,873	(562,691)	222,601
Reliability	7,004,300	4,357,274	13,693,221	12,147,699	14,271,585
Street Light	41,617	140,302	332,974	419,612	561,281
Tools & Equipment	337,586	6,561	512,518	19,358	37,747
Vegetation Management	547,484	1,329,840	1,571,398	3,991,243	5,326,085
Penn Power Total	13,937,883	11,471,366	35,540,841	34,819,859	45,861,921

West Penn					
T&D Capital – 3Q/YTD September 2018 (\$)					
Category	3Q Actuals	3Q Budget	YTD Actuals	YTD Budget	Annual Budget
Capacity	1,574,581	160,012	5,562,287	2,112,330	2,597,013
Condition	2,637,704	2,522,292	8,688,852	16,165,533	18,476,672
Facilities	2,335,473	286,482	5,429,717	3,025,203	3,635,875
Forced	10,617,796	9,926,558	33,403,096	27,930,517	37,132,224
Meter Related	533,629	592,943	1,420,424	1,811,718	2,436,480
New Business	(1,133,172)	5,863,587	10,750,173	16,933,103	22,623,356
Other	24,129,446	14,749,166	57,992,009	50,711,496	71,890,920
Reliability	22,167,485	12,846,632	41,231,066	35,458,299	40,754,399
Street Light	781,428	1,995,424	3,601,253	5,919,246	6,245,554
Tools & Equipment	263,764	998,920	1,246,104	2,633,980	3,244,253
Vegetation Management	6,739,826	9,282,741	25,900,947	32,235,752	41,088,498
West Penn Total	70,647,959	59,224,757	195,225,928	194,937,177	250,125,244

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 (for example, linemen, technician, and electrician).¹⁶

Staffing Levels

Met-Ed 2018												
Department	Position	Staffing Level				Staff Added in Quarter			Staff Lost in Quarter			Plan to Hire in 2019 ¹⁹
		1Q	2Q	3Q	4Q	New Hire – Experienced	New Hire – PSI Student	Other ¹⁷	Retirement	Voluntary Separation	Other ¹⁸	
Distribution	Line Leader	51	50	52	0			3	1			
	Line Troubleshooter	38	38	36	0						2	
	Lineman	115	130	128	0			30			32	
Substation	Substation Leader	15	15	15	0			2	1		1	
	Substation Employee	56	65	63	0			12			13	
Transmission	Line Leader	2	1	1	0							
	Lineman	9	8	8	0			5			5	
Total		286	307	303	0			52	2		53	

¹⁶ As ordered on March 30, 2015 at Docket Nos. D-2014-2365991, D-2014-2365992, D-2014-2365993, and D-2014-2365994, *Implementation Plan of the Focused Management Audit of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company* (Appendix A) (5): FirstEnergy is directed to provide additional detail as described below in the staff reporting section in the Quarterly Reliability Reports. For each staff member added, provide information on whether they were a new hire, if they are already at the journeyman, or other experienced level of training. For each staff member lost, provide the reason for the loss (retirement, voluntary separation, etc.). The number of staff in each category that the Company is planning to hire in the next calendar year.

¹⁷ Includes transfers and promotions

¹⁸ Includes transfers, involuntary separations, and promotions

¹⁹ Hiring plan to be provided annually in the 4Q report

Penelec 2018												
Department	Position	Staffing Level				Staff Added in Quarter			Staff Lost in Quarter			Plan to Hire in 2019 ²²
		1Q	2Q	3Q	4Q	New Hire – Experienced	New Hire – PSI Student	Other ²⁰	Retirement	Voluntary Separation	Other ²¹	
Distribution	Line Leader	70	67	70	0			4			1	
	Line Troubleshooter	69	66	64	0						2	
	Lineman	103	130	124	0			19			25	
Substation	Substation Leader	33	32	32	0			2			2	
	Substation Employee	34	37	30	0						7	
Transmission	Line Leader	3	5	5	0							
	Lineman	25	23	22	0						1	
Total		337	360	347	0			25			38	

²⁰ Includes transfers and promotions

²¹ Includes transfers, involuntary separations, and promotions

²² Hiring plan to be provided annually in the 4Q report

Penn Power 2018												
Department	Position	Staffing Level				Staff Added in Quarter			Staff Lost in Quarter			Plan to Hire in 2019 ²⁵
		1Q	2Q	3Q	4Q	New Hire – Experienced	New Hire – PSI Student	Other ²³	Retirement	Voluntary Separation	Other ²⁴	
Distribution	Line Leader	24	23	24	0			3	2			
	Line Troubleshooter	8	8	9	0			2			1	
	Lineman	43	48	44	0			2			6	
Substation	Substation Leader	5	5	5	0							
	Substation Employee	15	19	18	0						1	
Transmission	Line Leader	1	1	1	0							
	Lineman	5	3	3	0							
Total		101	107	104	0			7	2		8	

²³ Includes transfers and promotions

²⁴ Includes transfers, involuntary separations, and promotions

²⁵ Hiring plan to be provided annually in the 4Q report

West Penn 2018												
Department	Position	Staffing Level				Staff Added in Quarter			Staff Lost in Quarter			Plan to Hire in 2019 ²⁸
		1Q	2Q	3Q	4Q	New Hire – Experienced	New Hire – PSI Student	Other ²⁶	Retirement	Voluntary Separation	Other ²⁷	
Distribution	Line Leader	67	57	57	0							
	Line Troubleshooter	67	71	69	0			3			5	
	Lineman	90	112	108	0			1			5	
Substation	Substation Leader	16	16	17	0			1				
	Substation Employee	65	72	72	0	1		1			2	
Transmission	Line Leader	2	0	0	0							
	Lineman	2	2	1	0						1	
Total		309	330	324	0	1		6			13	

²⁶ Includes transfers and promotions

²⁷ Includes transfers, involuntary separations, and promotions

²⁸ Hiring plan to be provided annually in the 4Q report

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

Contractor Expenditures

Contractor expenses are billed on a lump sum basis and as such, hourly information is not available.

This portion of the report is confidential.

Section 57.195(e)(11): Monthly call-out acceptance rate for transmission and distribution maintenance workers presented in terms of both the percentage of accepted calls-out and the amount of time it takes the EDC to obtain the necessary personnel. A brief description of the EDC's call-out procedure should be included when appropriate.

Call-out Acceptance Rate

Call-out percentage is defined as the number of workers accepting to total call outs.

This portion of the report is confidential.

Call-out Response

This portion of the report is confidential.

Call-Out Procedure:

When an event occurs, Met-Ed, Penelec, Penn Power and West Penn²⁹ dispatch a troubleman to find and assess the cause of the outage. If the troubleman is unable to repair the damage and a crew is required, the troubleman will inform the Distribution Control Center (“DCC”). The DCC and/or the Customer Operations Center’s (“COC”) person on duty will then initiate the call-out process until desired staffing levels required to complete the restoration have been achieved.

The number of unique workers called for an outage event is recorded and represents the total calls, or opportunities, for an outage event. The number of unique workers who accept the opportunity is recorded and represents the workers accepting. The elapsed time is calculated by taking the date and time of the first employee called for an event minus the date and time of the last accepting employee for that event. The call-out results from all outages experienced during a particular month are added together to derive a total value for each field.

²⁹ West Penn utilizes its automated calling system to complete its call out process. Penelec and Penn Power began utilizing its automated calling systems at the end of 2Q 2018.

ATTACHMENT A

Worst Performing Circuits - Reliability Indices

Met-Ed													
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
1	Lickdale	00625-2	Lebanon	1,000	33	0	2,126,335	4,459	3.77	2,126	4.46	477	0.00
2	S Nazareth	00809-3	Easton	3,178	10	1	1,358,601	7,452	2.41	428	2.34	182	1.99
3	Myerstown	00750-2	Lebanon	1,495	15	0	1,302,687	2,826	2.31	871	1.89	461	0.00
4	Lickdale	00626-2	Lebanon	2,067	49	0	1,292,666	6,246	2.29	625	3.02	207	4.99
5	Bern Church	00789-1	Reading	1,407	1	1	1,060,933	3,470	1.88	754	2.47	306	0.42
6	Mountain	00744-4	Dillsburg	1,673	11	0	1,023,771	4,516	1.81	612	2.70	227	0.00
7	Shawnee	00822-3	Stroudsburg	3,705	5	0	1,004,346	8,761	1.78	271	2.36	115	0.00
8	Moselem	00782-1	Reading	2,391	8	0	998,612	6,565	1.77	418	2.75	152	0.00
9	Shawnee	00899-3	Stroudsburg	1,701	5	0	980,099	9,563	1.74	576	5.62	102	0.00
10	Carsonia	00764-1	Reading	2,822	7	0	856,455	4,077	1.52	303	1.44	210	1.00
11	Swatara Hill	00765-2	Lebanon	608	6	0	836,806	3,044	1.48	1,376	5.01	275	0.00
12	Bernville	00786-1	Hamburg	1,843	2	0	743,387	4,812	1.32	403	2.61	154	0.00
13	Straban	00676-4	Gettysburg	1,080	2	2	740,247	1,938	1.31	685	1.79	382	0.00
14	Frystown	00701-2	Lebanon	1,125	9	0	740,192	6,796	1.31	658	6.04	109	0.00
15	Birchwood	00624-3	Stroudsburg	2,146	1	0	738,096	5,942	1.31	344	2.77	124	0.00
16	Myerstown	00751-2	Lebanon	530	26	0	707,992	3,375	1.25	1,336	6.37	210	12.85
17	Turf Club	00724-2	Lebanon	630	18	1	676,764	1,936	1.20	1,074	3.07	350	0.00
18	Allen	00502-4	Dillsburg	1,135	21	0	669,602	6,198	1.19	590	5.46	108	0.35
19	No Bangor	00813-3	Easton	1,343	22	0	644,191	3,444	1.14	480	2.56	187	1.95
20	Hill	00737-4	York	2,271	0	0	643,147	5,148	1.14	283	2.27	125	0.00
21	Newberry	00577-4	York	1,730	0	0	624,040	4,310	1.11	361	2.49	145	0.00
22	North Lebanon	00715-2	Lebanon	1,590	33	0	623,948	5,697	1.11	392	3.58	110	1.00
23	Orrtanna	00764-4	Gettysburg	1,780	74	0	573,640	2,437	1.02	322	1.37	235	0.28
24	Birdsboro	00756-1	Reading	1,566	4	0	570,205	6,964	1.01	364	4.45	82	0.00
25	Friedensburg	00769-1	Reading	2,072	13	0	546,651	4,798	0.97	264	2.32	114	2.01
26	Smith Street	00219-4	York	356	0	0	541,480	1,074	0.96	1,521	3.02	504	0.00
27	S Hamburg	00741-1	Hamburg	1,590	6	1	521,632	3,582	0.92	328	2.25	146	0.00
28	Swatara Hill	00763-2	Lebanon	1,514	18	0	511,378	3,581	0.91	338	2.37	143	2.00

Met-Ed													
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
29	Walker	00865-3	Stroudsburg	2,123	2	0	503,031	3,045	0.89	237	1.43	165	0.00
30	19Th And Cotton	00156-1	Reading	800	5	0	496,571	2,636	0.88	621	3.30	188	0.00
31	Windsor	00316-4	York	587	2	0	489,402	1,299	0.87	834	2.21	377	0.00
32	Newberry	00576-4	York	1,779	0	0	488,231	5,250	0.86	274	2.95	93	0.00
33	Gardners	00752-4	Gettysburg	1,495	46	0	484,615	4,773	0.86	324	3.19	102	4.99
34	Bushkill Falls	00698-3	Stroudsburg	1,818	1	0	482,280	4,946	0.85	265	2.72	98	0.00
35	Shawnee	00837-3	Stroudsburg	1,062	4	0	480,416	4,008	0.85	452	3.77	120	1.17
36	Belfast	00812-3	Easton	1,354	12	0	479,365	7,464	0.85	354	5.51	64	0.03
37	Northwood	00821-3	Easton	1,421	44	0	472,187	3,457	0.84	332	2.43	137	0.00
38	Shawnee	00860-3	Stroudsburg	3,167	3	0	465,419	7,192	0.82	147	2.27	65	0.00
39	Nisky	00176-3	Easton	389	29	2	465,269	582	0.82	1,196	1.50	799	0.00

Penelec													
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
1	Grover	00527-63	Mansfield	1,063	91	0	2,359,414	5,502	4.07	2,220	5.18	429	12.85
2	Springboro	00237-52	Meadville	2,794	100	0	1,402,971	9,534	2.42	502	3.41	147	10.46
3	Union City	00206-43	Erie	2,660	84	1	1,369,198	10,021	2.36	515	3.77	137	7.42
4	East Pike	00095-13	Indiana	3,430	35	1	1,356,749	10,070	2.34	396	2.94	135	5.55
5	Warren South	00220-41	Warren	2,758	90	1	1,355,511	12,181	2.34	491	4.42	111	5.28
6	Union City	00207-43	Erie	988	44	4	1,187,546	3,726	2.05	1,202	3.77	319	54.82
7	Lenox	00755-65	Montrose	688	32	1	1,154,519	3,038	1.99	1,678	4.42	380	2.60
8	Erie South	00259-31	Erie	3,228	73	1	1,103,983	5,050	1.90	342	1.56	219	7.41
9	Blairsville East	00080-13	Indiana	1,030	21	0	1,072,251	3,565	1.85	1,041	3.46	301	1.70
10	Seward	00079-11	Johnstown	753	18	1	1,065,794	1,658	1.84	1,415	2.20	643	8.20
11	Madera	00166-22	Philipsburg	2,139	88	0	893,870	7,815	1.54	418	3.65	114	1.53
12	Pittsburgh Avenue	00524-31	Erie	1,606	37	1	800,958	2,555	1.38	499	1.59	313	0.00
13	Hooversville	00019-12	Somerset	1,614	40	0	764,365	3,449	1.32	474	2.14	222	1.64
14	East Hickory	00201-41	Warren	327	28	4	758,724	2,466	1.31	2,320	7.54	308	43.06
15	Green Garden	00536-31	Erie	900	44	1	747,371	1,401	1.29	830	1.56	533	8.58
16	Piney	00523-51	Oil City	1,491	50	1	743,228	6,143	1.28	498	4.12	121	25.39
17	Thompson	00436-65	Montrose	1,227	71	0	692,473	3,397	1.19	564	2.77	204	10.98
18	Pennmar	00002-12	Somerset	878	30	0	655,153	3,341	1.13	746	3.81	196	13.60
19	Marienville	00328-51	Oil City	1,198	50	0	619,230	3,658	1.07	517	3.05	169	24.06
20	Madera	00165-22	Philipsburg	1,083	45	0	602,668	3,681	1.04	556	3.40	164	12.99
21	North Warren	00596-41	Warren	1,121	54	1	585,155	1,894	1.01	522	1.69	309	3.06
22	Lake Como	00787-65	Montrose	883	29	2	572,363	2,323	0.99	648	2.63	246	8.78
23	Youngsville	00256-41	Warren	375	21	4	566,882	1,942	0.98	1,512	5.18	292	8.97
24	Springboro	00217-52	Meadville	473	24	1	556,611	963	0.96	1,177	2.04	578	1.98
25	Tunkhannock	00533-65	Montrose	1,226	48	0	544,433	2,940	0.94	444	2.40	185	12.37
26	Grandview	00354-51	Oil City	534	25	2	511,028	1,840	0.88	957	3.45	278	4.76
27	Glory	00105-13	Indiana	414	16	0	481,636	1,831	0.83	1,163	4.42	263	0.36
28	Utica Junction	00318-51	Oil City	841	48	1	479,756	1,510	0.83	570	1.80	318	1.90
29	Powell Avenue	00513-31	Erie	1,684	27	0	465,143	3,349	0.80	276	1.99	139	3.08
30	Timblin	00103-23	DuBois	714	35	0	459,308	1,870	0.79	643	2.62	246	15.36
31	Lake Como	00788-65	Montrose	631	31	2	447,962	3,092	0.77	710	4.90	145	29.76
32	Logan	00700-81	Lewistown	1,011	36	0	432,767	3,084	0.75	428	3.05	140	14.21
33	French Road	00219-31	Erie	429	12	0	427,645	3,211	0.74	997	7.48	133	3.32

Penelec													
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
34	Page Road	00445-43	Erie	655	31	1	423,369	2,763	0.73	646	4.22	153	2.61
35	Milroy	00128-81	Lewistown	1,722	35	2	423,063	4,324	0.73	246	2.51	98	3.82
36	Northeast	00591-31	Erie	612	18	1	407,762	1,997	0.70	666	3.26	204	2.28
37	Buffalo Road	00265-31	Erie	1,591	24	1	383,538	6,873	0.66	241	4.32	56	0.84
38	Birmingham	00168-22	Philipsburg	1,081	54	0	377,462	2,083	0.65	349	1.93	181	0.24
39	Brookville West	00121-23	DuBois	704	37	0	373,636	1,104	0.64	531	1.57	338	11.10
40	Philipsburg	00162-22	Philipsburg	3,351	75	0	372,768	7,479	0.64	111	2.23	50	11.93
41	Tionesta Junction Sw Sta	00498-51	Oil City	386	29	1	370,939	2,667	0.64	961	6.91	139	4.44
42	Mildred	00771-62	Towanda	518	14	2	370,202	1,133	0.64	715	2.19	327	1.00
43	Brooklyn	00749-65	Montrose	503	27	0	354,785	752	0.61	705	1.50	472	1.97
44	Reed Street	00549-31	Erie	835	22	1	354,013	2,159	0.61	424	2.59	164	1.82
45	Utica Junction	00331-51	Oil City	653	41	0	349,184	1,027	0.60	535	1.57	340	9.47
46	Fairview East	00218-34	Erie	980	16	0	346,135	2,700	0.60	353	2.76	128	6.30
47	Philipsburg	00161-22	Philipsburg	768	30	0	343,655	1,459	0.59	447	1.90	236	0.82
48	Shade Gap 115	00622-82	Lewistown	666	16	2	343,174	1,527	0.59	515	2.29	225	7.31
49	Brookville	00123-23	DuBois	542	29	0	341,289	2,009	0.59	630	3.71	170	5.56
50	Brookville	00125-23	DuBois	616	39	0	334,367	1,392	0.58	543	2.26	240	3.88
51	Cooper	00069-11	Johnstown	674	26	0	330,133	1,624	0.57	490	2.41	203	2.41
52	Madera	00167-22	Philipsburg	1,627	44	0	324,780	2,825	0.56	200	1.74	115	6.13
53	Strodes Mill	00113-81	Lewistown	455	30	0	317,108	1,267	0.55	697	2.78	250	3.06
54	Wyalusing	00532-62	Towanda	738	48	1	316,935	3,199	0.55	429	4.33	99	3.77
55	Walnut Street	00520-31	Erie	1,826	24	0	313,032	3,789	0.54	171	2.08	83	9.05
56	Kearsarge	00528-31	Erie	1,527	13	0	309,992	3,750	0.53	203	2.46	83	7.05
57	East Towanda	00525-62	Towanda	660	46	1	307,298	1,595	0.53	466	2.42	193	0.59
58	Logan	00701-81	Lewistown	1,428	30	0	303,640	2,601	0.52	213	1.82	117	4.79
59	Hooversville	00018-12	Somerset	754	41	1	301,235	1,885	0.52	400	2.50	160	9.16
60	Warren South	00254-41	Warren	206	9	0	295,580	727	0.51	1,435	3.53	407	7.97
61	Starrucca	00744-65	Montrose	849	40	0	292,548	1,576	0.50	345	1.86	186	18.34
62	North Meshoppen	00534-65	Montrose	873	53	0	287,868	2,483	0.50	330	2.84	116	1.19

Penn Power													
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
1	Jamestown	W-162	Clark	1,040	37	0	1,179,929	3,523	7.22	1,135	3.39	335	0.0
2	Adams Ridge	W780	Zelienople	2,015	23	0	550,078	2,556	3.37	273	1.27	215	0.0
3	Hickory	W-243	Clark	1,525	19	1	491,789	2,531	3.01	322	1.66	194	0.0
4	Thompson Run	D550	Zelienople	978	32	0	490,600	1,697	3.00	502	1.74	289	0.0
5	Ingomar	D620	Zelienople	1,259	6	0	479,580	2,144	2.94	381	1.70	224	0.0
6	Seneca	W701	Zelienople	2,044	38	4	421,420	8,880	2.58	206	4.34	47	0.0
7	Canal	W-101	Clark	1,483	45	1	409,194	4,223	2.51	276	2.85	97	0.0
8	Ellwood Sw Str	D590	Zelienople	1,234	50	1	391,668	2,715	2.40	317	2.20	144	0.0
9	McDowell	W-121	Clark	699	43	1	373,166	1,253	2.28	534	1.79	298	0.0

West Penn Power ³⁰												
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI
1	Emporium	Emporium Jct	St Marys	599	29	0	1,597,004	2,576	2.23	2,666	4.30	620
2	North Union	Gallatin	Uniontown	2,465	55	1	1,560,448	4,218	2.18	633	1.71	370
3	Shaffers Corner	Seventh St Rd	Arnold	2,025	31	1	1,530,723	7,969	2.14	756	3.94	192
4	Rutan	Bristoria	Jefferson	1,175	74	1	1,526,945	5,987	2.13	1,300	5.10	255
5	Smith	Florence	Washington Pa	766	78	0	1,297,484	4,299	1.81	1,694	5.61	302
6	Flintstone	Chaneyville	Hyndman	565	53	1	1,252,643	2,606	1.75	2,217	4.61	481
7	Dutch Fork	Claysville	Washington Pa	1,600	84	1	1,140,804	5,613	1.59	713	3.51	203
8	Driftwood	Driftwood	St Marys	978	46	0	1,107,672	1,559	1.55	1,133	1.59	711
9	Smith	Francis Mine	Washington Pa	1,437	57	3	1,094,812	5,928	1.53	762	4.13	185
10	St. Clair	Lesnett	Boyce	1,643	18	4	996,997	7,697	1.39	607	4.68	130
11	Kersey	Shelvey	St Marys	940	23	1	989,152	1,806	1.38	1,052	1.92	548
12	Emporium	West Creek	St Marys	1,038	39	1	940,243	1,923	1.31	906	1.85	489
13	Franklin	West Waynesburg	Jefferson	1,959	25	3	938,738	6,729	1.31	479	3.43	140
14	Peters	Library	Boyce	2,040	13	1	919,041	4,804	1.28	451	2.35	191
15	Waterville	Waterville	State College	360	24	2	898,796	3,486	1.25	2,497	9.68	258
16	Bethlen	Darlington	Latrobe	1,238	58	2	891,574	5,314	1.24	720	4.29	168
17	Dutch Fork	W Alexander	Washington Pa	1,175	66	2	888,446	5,302	1.24	756	4.51	168
18	Frazier	Star Junction	Pleasant Valley	1,750	21	1	868,166	2,801	1.21	496	1.60	310
19	Peters	McMurray	Boyce	1,420	27	1	830,891	2,912	1.16	585	2.05	285
20	Kane	Russell City	St Marys	705	19	0	799,188	2,500	1.12	1,134	3.55	320
21	Thompson Farm	Toftrees	State College	1,131	14	3	787,371	4,663	1.10	696	4.12	169
22	Vanceville	Vanceville	Charleroi	1,401	60	0	782,965	3,494	1.09	559	2.49	224
23	Millheim	Rebersburg	State College	807	31	0	747,049	1,363	1.04	926	1.69	548
24	Ridgway	Montmorenci	St Marys	683	18	2	726,641	1,564	1.01	1,064	2.29	465
25	White Valley	Export	Jeannette	2,116	37	1	715,887	7,775	1.00	338	3.67	92
26	Bedford Road	Rt 220 North	Hyndman	790	31	1	713,382	3,511	1.00	903	4.44	203
27	Cooperstown	Twin Willows	Butler	1,506	42	1	697,582	3,720	0.97	463	2.47	188
28	Rutan	Windridge	Jefferson	408	33	0	689,819	1,775	0.96	1,691	4.35	389
29	Westraver	Fellsburg	Charleroi	1,852	44	1	671,796	7,730	0.94	363	4.17	87
30	St. Clair	Valley	Boyce	2,595	31	1	627,135	5,664	0.88	242	2.18	111
31	New Bethlehem	Hawthorn	Clarion	1,154	18	2	616,785	2,489	0.86	534	2.16	248

³⁰ MAIFI values not available for West Penn

West Penn Power ³⁰												
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI
32	Sewickley	Wendel	Jeannette	964	27	1	601,613	2,837	0.84	624	2.94	212
33	Saltsburg	Salina	Arnold	886	31	2	600,304	2,668	0.84	678	3.01	225
34	Harwick	Harmar	Arnold	945	25	0	596,339	2,801	0.83	631	2.96	213
35	St. Clair	Fort Couch	Boyce	1,130	44	2	596,185	5,351	0.83	528	4.74	111
36	Amity	Amity	Washington Pa	527	36	1	594,710	1,589	0.83	1,128	3.02	374
37	Kiski Valley Distrib	Kittanning Rd	Arnold	1,779	60	0	593,510	3,071	0.83	334	1.73	193
38	Karns City	Kaylor	Butler	1,148	31	1	590,969	2,809	0.82	515	2.45	210
39	St. Clair	Skyridge	Boyce	894	13	1	577,133	3,787	0.81	646	4.24	152
40	Fort Palmer	West Fairfield	Latrobe	971	58	0	565,570	2,428	0.80	582	2.50	233

ATTACHMENT B

Worst Performing Circuits – Remedial Actions

As ordered on March 30, 2015 at Docket Nos. D-2014-2365991, D-2014-2365992, D-2014-2365993, and D-2014-2365994, *Implementation Plan of the Focused Management Audit of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company* (Appendix A)(1): FirstEnergy is directed to provide additional detail in its reporting of the 5% of worst performing circuits in its Commission Quarterly Reliability Reports to highlight those circuits that appear multiple times on Quarterly Reliability Reports, but not necessarily in four quarters in a calendar year. For each Quarterly Reliability Report filed pursuant to 52 Pa. Code § 57.195, this additional detail shall include highlighting those worst performing circuits that have appeared in two or more Quarterly Reliability Reports in the past four quarters.

Met-Ed						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
1	Lickdale	00625-2	<i>Performance was driven by trees off ROW (56%) and trees on ROW (25%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Thermovision and overhead inspection	Complete	Apr-18	
			Enhanced tree trimming	Complete	Jun-18	
			Post storm circuit patrol	Complete	Aug-18	
			On cycle tree trimming	To be Completed 2018	99%	
2	S.Nazareth	00809-3	<i>Performance was driven by trees off ROW (49%) and equipment failure (40%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Replace polymer insulators identified on circuit	Complete	Oct-17	
			Replace/repair high priority items identified during circuit assessment	Complete	Oct-17	
			Thermovision inspection	Complete	Jan-18	
			Repair items identified during Thermovision inspection	Complete	Mar-18	
			Install Supervisory Control and Data Acquisition (SCADA) switch	To be Completed 2018	50%	
3	Myerstown	00750-2	<i>Performance was driven by equipment failure (93%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Targeted overhead inspection	Complete	Apr-18	
			Replace porcelain cutouts with polymer cutouts in lockout zone	Complete	Aug-18	
4	Lickdale	00626-2	<i>Performance was driven by equipment failure (51%) and vehicle accidents (29%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Thermovision and overhead inspection	Complete	Apr-18	
			Targeted mainline rehabilitation	Complete	Sep-18	
			On cycle tree trimming	To be Completed 2018	39%	

Met-Ed						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
5	Bern Church	00789-1	<i>Performance was driven by an outage during a storm caused by trees off ROW and lightning (48%) and outages caused by trees off ROW (34%).</i>			
			Targeted mainline circuit rehabilitation	Complete	Dec-17	
			Install additional circuit tap protection	Complete	Dec-17	
			Install additional fault indicators	Complete	Aug-18	
			On cycle tree trimming	To be Completed 2018	0%	
6	Mountain	00744-4	<i>Performance was driven by trees off ROW (84%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Perform targeted three phase circuit assessment	Complete	Mar-18	
			Perform targeted three phase circuit assessment	Complete	Apr-18	
			Install Supervisory Control and Data Acquisition (SCADA) switch	Complete	Apr-18	
			On cycle tree trimming	Complete	Jun-18	
Enhanced tree trimming	Complete	Jun-18				
7	Shawnee	00822-3	<i>Performance was driven by line failure (41%) and vehicle accidents (27%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Targeted mainline circuit rehabilitation	Complete	Nov-17	
			Enhanced three phase tree trimming	Complete	Dec-17	
			Thermovision inspection	Complete	Dec-17	
			Repair items identified during Thermovision inspection	Complete	Feb-18	
			Porcelain cutout replacement #1	To be Completed 2018	50%	
			Porcelain cutout replacement #2	To be Completed 2018	50%	
Porcelain cutout replacement #3	To be Completed 2018	50%				
8	Moselem	00782-1	<i>Performance was driven by an outage caused by a vehicle accident (51%) and an outage related to a vehicle accident (19%).</i>			
			Replace mainline pole	Complete	Sept-18	
			Overhead mainline circuit inspection	To be Completed 2018	0%	
9	Shawnee	00899-3	<i>Performance was driven by equipment failure (30%), trees off ROW (30%) and unknown outages (25%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			On cycle tree trimming	Complete	Nov-17	
			Thermovision inspection	Complete	Dec-17	
			Repair items identified during Thermovision inspection	Complete	Feb-18	
			Install Supervisory Control and Data Acquisition (SCADA) switch #1	To be Completed 2018	50%	
			Install Supervisory Control and Data Acquisition (SCADA) switch #2	To be Completed 2018	50%	
			Install Supervisory Control and Data Acquisition (SCADA) switch #3	To be Completed 2018	50%	

Met-Ed						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
10	Carsonia	00764-1	<i>Performance was driven by an outage caused by equipment failure (79%).</i>			
			Install Supervisory Control and Data Acquisition (SCADA) switch	Complete	Feb-18	
			Thermovision and overhead inspection	Complete	Mar-18	
			Targeted mainline circuit rehabilitation	Complete	May-18	
			Install additional Supervisory Control and Data Acquisition (SCADA) switch	Complete	Jul-18	
			On cycle tree trimming	To be Completed 2018	79%	
11	Swatara Hill	00765-2	<i>Performance was driven by trees off ROW (82%).</i>			1Q 2018 3Q 2018
			On cycle tree trimming	To be Completed 2018	0%	
12	Bernville	00786-1	<i>Performance was driven by outages caused by trees off ROW (48%) and equipment failure (23%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Engineering Supervisory Control and Data Acquisition (SCADA) review	Complete	Oct-17	
			Overhead circuit inspection	Complete	Oct-17	
			On cycle tree trimming	Complete	Dec-17	
			Thermovision and overhead inspection	Complete	Mar-18	
			Enhanced overhead circuit inspection	Complete	Mar-18	
			Post-storm forestry inspection	Complete	Mar-18	
			Replace arrester on mainline switch from inspection	Complete	Oct-18	
			Replace porcelain cutout with polymer cutout from inspection	Complete	Oct-18	
			Replace crossarms from inspection #1	To be Completed 2018	50%	
			Replace crossarms from inspection #2	To be Completed 2018	50%	
			Replace crossarms from inspection #3	To be Completed 2018	25%	
			Replace pole from inspection #1	To be Completed 2018	50%	
			Replace pole from inspection #2	To be Completed 2018	50%	
			Replace pole from inspection #3	To be Completed 2018	50%	
Replace pole from inspection #4	To be Completed 2018	50%				
Install Supervisory Control and Data Acquisition (SCADA) switch #1	To be Completed 2018	50%				
Install Supervisory Control and Data Acquisition (SCADA) switch #2	To be Completed 2018	50%				
13	Straban	00676-4	<i>Performance was driven by trees off ROW (68%) and lightning (11%).</i>			2Q 2018 3Q 2018
			On cycle tree trimming	Complete	Dec-17	
			Enhanced tree trimming	Complete	Feb-18	
			Install fault indicators	Complete	Jun-18	
			Replace poles identified during wood pole inspection	Complete	Jun-18	

Met-Ed						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
14	Frystown	00701-2	<i>Performance was driven by line failure (33%), equipment failure (23%), vehicle accidents (17%) and trees off ROW (16%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Overhead circuit inspection	Complete	May-18	
			Circuit reconfiguration due to new substation	Complete	Aug-18	
			Install additional fuses	To be Completed 2018	25%	
			On cycle tree trimming	To be Completed 2018	36%	
15	Birchwood	00624-3	<i>Performance was driven by equipment failure (51%) and vehicle accidents (48%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Install additional Supervisory Control and Data Acquisition (SCADA) switch	Complete	Oct-17	
			Thermovision and overhead inspection	Complete	Feb-18	
			Enhanced tree trimming	Complete	Aug-18	
			Install Supervisory Control and Data Acquisition (SCADA) recloser	To be Completed 2018	50%	
16	Myerstown	00751-2	<i>Performance was driven by line failure (47%) and unknown cause (44%).</i>			
			Post-storm circuit patrol	Complete	Aug-18	
			Review backfeed coordination	Complete	Aug-18	
17	Turf Club	00724-2	<i>Performance was driven by trees off ROW (54%), equipment failure (24%) and trees on ROW (10%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Targeted forestry inspection	Complete	Mar-18	
			Targeted overhead inspection	Complete	May-18	
			Spot tree trimming	To be completed 2018	0%	
18	Allen	00502-4	<i>Performance was driven by line failure (42%), trees off ROW (23%) and equipment failure (22%).</i>			1Q 2018 3Q 2018
			Replace/repair high priority items identified during overhead circuit patrol	Complete	Oct-17	
			Perform post-storm backbone and three phase circuit patrol	Complete	Apr-18	
			Targeted mainline circuit rehabilitation	To be completed 2018	50%	
19	North Bangor	00813-3	<i>Performance was driven by trees off ROW (47%) and equipment failure (46%).</i>			2Q 2018 3Q 2018
			Enhanced three phase tree trimming	Complete	Dec-17	
			Thermovision inspection	Complete	Dec-17	
			Repair items identified during Thermovision inspection	Complete	Mar-18	

Met-Ed						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
20	Hill	00737-4	<i>Performance was driven by trees off ROW (47%), vehicle accident (32%) and line failure (15%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Post-storm sweep	Complete	Mar-18	
			Mid-cycle targeted three phase forestry inspection	Complete	Apr-18	
			Overhead circuit inspection	Complete	Jun-18	
			Protection review	Complete	Sep-18	
21	Newberry	00577-4	<i>Performance was driven by trees off ROW (87%).</i>			2Q 2018 3Q 2018
			Replace items from 2018 capacitor inspection	Complete	Feb-18	
			On cycle tree trimming	Complete	Jun-18	
			Repair/replace high priority items identified during overhead inspection	To be completed 2018	90%	
			Replace pole from inspection #1	To be completed 2018	50%	
			Replace pole from inspection #2	To be completed 2018	50%	
			Replace pole from inspection #3	To be completed 2018	50%	
Thermovision and overhead inspection	To be completed 2018	0%				
22	North Lebanon	00715-2	<i>Performance was driven by animal contact (38%) and vehicle accidents (35%).</i>			2Q 2018 3Q 2018
			Targeted overhead inspection	To be completed 2018	0%	
			On cycle tree trimming	To be completed 2018	0%	
23	Orrtanna	00764-4	<i>Performance was driven by trees off ROW (45%) and trees on ROW (42%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Perform post-storm backbone and three phase circuit patrol	Complete	Mar-18	
			Perform post-storm backbone and three phase circuit patrol	Complete	Apr-18	
			Enhanced tree trimming	Complete	Jun-18	
			Overhead circuit inspection	Complete	Sep-18	
			Targeted mainline circuit rehabilitation	To be completed 2019 ³¹	0%	

³¹ The targeted mainline circuit rehabilitation project will carry into 2019. Met-Ed completed a review of the circuit and determined that the action will carry into 2019.

Met-Ed						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
24	Birdsboro	00756-1	<i>Performance was driven by trees off ROW (59%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Enhanced three phase tree trimming	Complete	Oct-17	
			Install additional Supervisory Control and Data Acquisition (SCADA) switches	Complete	Dec-17	
			Targeted mainline circuit rehabilitation	Complete	Dec-17	
			Construct circuit tie	Complete	Dec-17	
			Replace crossarms from engineering inspection	Complete	Feb-18	
			Targeted mainline circuit rehabilitation	Complete	Mar-18	
			Post-storm forestry inspection	Complete	Mar-18	
			Overhead circuit inspection	Complete	Sep-18	
			Install new mainline switch	Complete	Sep-18	
			On cycle tree trimming	To be completed 2018	14%	
25	Friedensburg	00769-1	<i>Performance was driven by trees off ROW (52%) and vehicle accidents (26%).</i>			4Q 2017 3Q 2018
			Enhanced tree trimming	To be completed 2018	0%	
			Install Supervisory Control and Data Acquisition (SCADA) switch #1	To be completed 2018	50%	
			Install Supervisory Control and Data Acquisition (SCADA) switch #2	To be completed 2018	50%	
			Install Supervisory Control and Data Acquisition (SCADA) switch #3	To be completed 2018	50%	
			Install Supervisory Control and Data Acquisition (SCADA) switch #4	To be completed 2018	50%	
			Install Supervisory Control and Data Acquisition (SCADA) recloser #1	To be completed 2018	50%	
			Install Supervisory Control and Data Acquisition (SCADA) recloser #2	To be completed 2018	50%	
On cycle tree trimming	To be completed 2018	0%				
26	Smith Street	00219-4	<i>Performance was driven by equipment failure (99.9%).</i>			
			Overhead circuit inspection	Complete	Jul-18	
			Pole was replaced and equipment was repaired	Complete	Jul-18	
			On cycle tree trimming	Complete	Aug-18	
			Pole was replaced and equipment was repaired	Complete	Aug-18	
27	South Hamburg	00741-1	<i>Performance was driven by outages caused by equipment failure (53%) and trees off ROW (25%).</i>			2Q 2018 3Q 2018
			Upgrade mainline regulators	Complete	Jan-18	
			Enhanced tree trimming	Complete	Aug-18	
			Thermovision and overhead inspection	Complete	Sep-18	

Met-Ed						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
28	Swatara Hill	00763-2	<i>Performance was driven by trees off ROW - limb (30%), trees off ROW (29%) and line failure (29%).</i>			
			Create circuit tie	Complete	Dec-17	
			Post-storm circuit patrol	Complete	Aug-18	
			On cycle tree trimming	To be completed 2018	0%	
			Repair items found during inspection	To be completed 2018	50%	
29	Walker	00865-3	<i>Performance was driven by trees off ROW (56%) and equipment failure (28%).</i>			1Q 2018 2Q 2018 3Q 2018
			Thermovision inspection	Complete	Nov-17	
			Repair items identified during Thermovision inspection	Complete	Feb-18	
			Overhead circuit inspection	To be completed 2018	99%	
30	Cotton Street	00156-1	<i>Performance was driven by outages caused by trees off ROW (53%) and line and equipment failures (33%).</i>			
			Thermovision and overhead inspection	Complete	Apr-18	
			Replace crossarm braces from inspection	Complete	Apr-18	
			Upgrade mainline recloser	Complete	May-18	
			Upgrade additional mainline recloser	To be completed 2018	50%	
31	Windsor	00316-4	<i>Performance was driven by equipment failure (78%) and trees off ROW (20%).</i>			1Q 2018 2Q 2018 3Q 2018
			On cycle tree trimming	Complete	Dec-17	
			Overhead circuit inspection	Complete	Feb-18	
			Install new padmount transformer and regulators	Complete	Jul-18	
			Replace pole from inspection #1	To be completed in 2018	50%	
			Replace pole from inspection #2	To be completed in 2018	50%	
			Replace pole from inspection #3	To be completed in 2018	50%	
			Replace pole from inspection #4	To be completed in 2018	50%	
32	Newberry	00576-4	<i>Performance was driven by trees off ROW (62%).</i>			
			Enhanced three phase tree trimming	Complete	Oct-17	
			Targeted mainline circuit rehabilitation	Complete	Nov-17	
			Install additional Supervisory Control and Data Acquisition (SCADA) switch	Complete	May-18	
			On cycle tree trimming	To be completed 2018	98%	

Met-Ed						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
33	Gardners	00752-4	<i>Performance was driven by trees off ROW (73%).</i>			
			Replace poles identified during wood pole inspection	Complete	Jun-18	
			Repair damage caused by tree	Complete	Jun-18	
			Install fault indicators	Complete	Jun-18	
34	Bushkill Falls	00698-3	<i>Performance was driven by human error non-company (44%) and equipment failure (19%).</i>			
			On cycle tree trimming	To be completed 2018	0%	
35	Shawnee	00837-3	<i>Performance was driven by equipment failure (42%) and trees off ROW (38%).</i>			2Q 2018 3Q 2018
			Thermovision inspection	Complete	Dec-17	
			Repair items identified during Thermovision inspection	Complete	Feb-18	
36	Belfast	00812-3	<i>Performance was driven by unknown outages (64%) and trees off ROW (21%).</i>			
			Thermovision inspection	Complete	Jan-18	
			Repair items identified during Thermovision inspection	Complete	Feb-18	
37	Northwood	00821-3	<i>Performance was driven by lightning (92%).</i>			2Q 2018 3Q 2018
			Replace four crossarms	Complete	Oct-17	
			Thermovision inspection	Complete	Jan-18	
			Repair items identified during Thermovision inspection	Complete	Jun-18	
38	Shawnee	00860-3	<i>Performance was driven by trees off ROW (50%) and unknown outages (29%).</i>			
			Porcelain cutout replacement	To be completed 2018	25%	
			Replace porcelain cutouts on circuit three phase with polymer cutouts	To be completed 2018	25%	
			Replace porcelain cutouts on circuit three phase with polymer cutouts	To be completed 2018	25%	
			Targeted mainline circuit rehabilitation	To be completed 2018	50%	
39	Nisky	00176-3	<i>Performance was driven by a vehicle accident (95%).</i>			
			Replace priority one poles	Complete	Dec-17	
			Wood pole inspection	Complete	Jan-18	
			Overhead circuit inspection	Complete	Jan-18	

Met-Ed					
Unranked circuits appearing 2 or more quarters in the last 4 quarters					
Substation	Circuit	4Q 2017	1Q 2018	2Q 2018	3Q 2018
Allen	00501-4	X	X		
Bath	00873-3	X	X	X	
Belfast	00849-3	X	X		
Birchwood	00623-3	X	X		
Clearfield	00632-3		X	X	
Dillsburg	00748-4	X	X	X	
Dillsburg	00749-4	X	X	X	
East Prospect	00765-4	X	X	X	
Flying Hills	00776-1	X	X	X	
Fox Hills	00850-3		X	X	
Glendon	00819-3	X	X		
Glenside	00535-1	X		X	
Hokes	00587-4	X	X		
Lynnville	00735-1	X	X	X	
Lynnville	00748-1	X	X	X	
Mt Rose	00562-4		X	X	
Newberry	00586-4	X	X	X	
North Cornwall	00610-2		X	X	
Shawnee	00895-3	X	X	X	
Violet Hill	00325-4		X	X	
Windsor	00795-4	X	X		

Met-Ed				
Unranked circuits with remedial actions scheduled to be or recently completed				
Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed
Bath	00873-3	On cycle tree trimming	To be Completed 2018	60%
Belfast	00849-3	Install Supervisory Control and Data Acquisition (SCADA) switch #1	Complete	Aug-18
		Install Supervisory Control and Data Acquisition (SCADA) switch #2	Complete	Aug-18
		Install Supervisory Control and Data Acquisition (SCADA) switch #3	Complete	Aug-18
		Install Supervisory Control and Data Acquisition (SCADA) switch #4	Complete	Aug-18
Birchwood	00622-3	Install Supervisory Control and Data Acquisition (SCADA) switch #1	To be Completed 2018	50%
		Install Supervisory Control and Data Acquisition (SCADA) switch #2	To be Completed 2018	50%
Birchwood	00623-3	On cycle tree trimming	Complete	Jul-18
		Install Supervisory Control and Data Acquisition (SCADA) recloser #1	To be Completed 2018	25%
		Install Supervisory Control and Data Acquisition (SCADA) recloser #2	To be Completed 2018	25%
		Install Supervisory Control and Data Acquisition (SCADA) recloser #3	To be Completed 2018	25%
		Install Supervisory Control and Data Acquisition (SCADA) switch	To be Completed 2018	25%
Birdsboro	00757-1	Install Additional Supervisory Control and Data Acquisition (SCADA) switches	To be Completed 2018	50%
		On cycle tree trimming	To be Completed 2018	98%
Clearfield	00631-3	Construct circuit tie	To be Completed 2018	25%
Clearfield	00632-3	Construct circuit tie	To be Completed 2018	50%
		Construct circuit tie	To be Completed 2018	25%
		Install Supervisory Control and Data Acquisition (SCADA) recloser	To be Completed 2018	50%
Dillsburg	00748-4	On cycle tree trimming	To be Completed 2018	0%
Dillsburg	00749-4	On cycle tree trimming	Complete	Sep-18
		Enhanced tree trimming	To be Completed 2018	0%
East Prospect	00765-4	Replace/repair high priority items identified during overhead circuit patrol	To be Completed 2018	50%
East Prospect	00766-4	Replace/repair high priority items identified during overhead circuit patrol	To be Completed 2018	50%
Fox Hill	00850-3	Enhanced three phase tree trimming	To be Completed 2018	70%
		Install Supervisory Control and Data Acquisition (SCADA) switch	To be Completed 2018	50%
		Replace recloser	To be Completed 2018	50%

Met-Ed				
Unranked circuits with remedial actions scheduled to be or recently completed				
Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed
Glenside	00535-1	Replace pole from inspection	Complete	Aug-18
		Upgrade circuit exit cables	Complete	Sep-18
		Thermovision and overhead inspection	To be Completed 2018	0%
Hokes	00587-4	On cycle tree trimming	To be Completed 2018	30%
Leesport	00811-1	Install additional Supervisory Control and Data Acquisition (SCADA) switch	To be Completed 2018	50%
Lorane	00560-1	Overhead circuit inspection	Complete	Jul-18
		Spot forester inspection #2	To be Completed 2018	0%
Lynnville	00735-1	Enhanced tree trimming	Complete	Sep-18
		On cycle tree trimming	To be Completed 2018	98%
		Replace pole from inspection #1	To be Completed 2018	50%
		Replace pole from inspection #2	To be Completed 2018	50%
		Replace pole from inspection #3	To be Completed 2018	50%
		Replace pole from inspection #4	To be Completed 2018	50%
		Replace pole from inspection #5	To be Completed 2018	50%
		Replace pole from inspection #6	To be Completed 2018	50%
Lynnville	00748-1	Enhanced tree trimming	To be Completed 2018	69%
		On cycle tree trimming	To be Completed 2018	98%
		Replace arrester on mainline switch from inspection	To be Completed 2018	50%
		Replace arrester on mainline switch from inspection	To be Completed 2018	50%
		Replace crossarms from inspection	To be Completed 2018	25%
		Replace crossarms from inspection	To be Completed 2018	25%
		Replace pole from inspection #4	To be Completed 2018	50%
		Replace pole from inspection #5	To be Completed 2018	50%
		Replace pole from inspection #6	To be Completed 2018	50%
		Replace pole from inspection #7	To be Completed 2018	50%
		Replace pole from inspection #8	To be Completed 2018	50%
Mt Rose	00562-4	On cycle tree trimming	Complete	Aug-18

Met-Ed				
Unranked circuits with remedial actions scheduled to be or recently completed				
Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed
Newberry	00586-4	On cycle tree trimming	To be Completed 2018	90%
		Replace porcelain cutouts on circuit backbone with polymer cutouts	Complete	Aug-18
		Repair/replace high priority items identified during overhead inspection	To be Completed 2018	75%
		Thermovision and overhead inspection	To be Completed 2018	0%
North Cornwall	00610-2	Protection review	Complete	Sep-18
		Install SCADA devices #1	To be Completed 2018	25%
		Install SCADA devices #2	To be Completed 2018	25%
		Install SCADA devices #3	To be Completed 2018	25%
		Install SCADA devices #4	To be Completed 2018	25%
		Install SCADA devices #5	To be Completed 2018	25%
		Install SCADA devices #6	To be Completed 2018	25%
		Install SCADA devices #7	To be Completed 2018	25%
		Install SCADA devices #8	To be Completed 2018	25%
		Install SCADA devices #9	To be Completed 2018	25%
		Install SCADA devices #10	To be Completed 2018	25%
		Thermovision and overhead inspection	To be Completed 2018	0%
Swatara Hill	00764-2	On cycle tree trimming	To be Completed 2018	38%
		Overhead circuit inspection repairs	To be Completed 2018	90%
Taxville	00575-4	On cycle tree trimming	To be Completed 2018	Jul-18
		Mainline rehabilitation improvements	To be Completed 2018	25%
Windsor	00795-4	Upgrade main line recloser with SCADA	To be Completed 2018	50%

Penelec						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
1	Grover	00527-63	<i>Performance was driven by trees off ROW (84%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	Oct-17	
			Repair damage caused by vehicle accident	Complete	Dec-17	
			Repair line failure	Complete	May-18	
			Repair damage caused by trees during a storm	Complete	May-18	
			Repair damage caused by trees during a storm	Complete	Sep-18	
2	Springboro	00237-52	<i>Performance was driven by trees off ROW (79%) and line failure (10%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	Nov-17	
			Repair line failure during a storm	Complete	Dec-17	
			Repair damage caused by trees	Complete	Mar-18	
			Repair damage caused by trees	Complete	Apr-18	
3	Union City	00206-43	<i>Performance was driven by trees off ROW (72%) and equipment failure (19%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	Nov-17	
			Repair equipment failure	Complete	Feb-18	
			Repair equipment failure	Complete	May-18	
			Replace substation breaker	Complete	Jul-18	
4	East Pike	00095-13	<i>Performance was driven by trees off ROW (50%), line failure (21%) and equipment failure (20%).</i>			2Q 2018 3Q 2018
			Repair line failure	Complete	Apr-18	
			Repair line failure	Complete	Jun-18	
			Repair equipment failure	Complete	Jun-18	
			Repair damage caused by trees during a storm	Complete	Aug-18	

Penelec						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
5	Warren South	00220-41	<i>Performance was driven by trees off ROW (80%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees	Complete	Feb-18	
			Repair equipment failure	Complete	May-18	
			Repair damage caused by trees during a storm	Complete	Jul-18	
			Repair damage caused by trees during a storm	Complete	Sep-18	
			Porcelain cutout replacement	Complete	Jul-18	
			Install advanced distribution protective devices	To be Completed 2018	50%	
6	Union City	00207-43	<i>Performance was driven by vehicle accident (61%), line failure (23%) and breaker operation of unknown cause (12%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by vehicle accident	Complete	Oct-17	
			Restore breaker operation of unknown cause during a storm	Complete	Dec-17	
			Repair line failure	Complete	Jan-18	
			Repair damage caused by vehicle accident	Complete	Mar-18	
7	Lenox	00755-65	<i>Performance was driven by trees off ROW (73%) and line failure (25%).</i>			
			Repair line failure	Complete	Jun-18	
			Repair damage caused by trees during a storm	Complete	Jul-18	
			Repair damage caused by trees during a storm	Complete	Sep-18	
			Repair line failure	Complete	Sep-18	
8	Erie South	00259-31	<i>Performance was driven by equipment failure (92%).</i>			4Q 2017 3Q 2018
			Repair equipment failure	Complete	May-18	
			Repair equipment failure	Complete	Sep-18	
			On cycle tree trimming	To be Completed 2018	99%	
			Install advanced distribution protective devices	To be Completed 2018	50%	
9	Blairsville East	00080-13	<i>Performance was driven by equipment failure (78%) and trees off ROW (21%).</i>			2Q 2018 3Q 2018
			Repair equipment failure	Complete	Jun-18	
			Repair damage caused by trees during a storm	Complete	Jul-18	
			Repair damage caused by trees during a storm	Complete	Sep-18	

Penelec						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
10	Seward	00079-11	<i>Performance was driven by trees off ROW (95%).</i>			
			Repair damage caused by trees during a storm	Complete	Sep-18	
11	Madera	00166-22	<i>Performance was driven by trees off ROW (31%), recloser operation of an unknown cause (29%) and vehicle (23%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Porcelain cutout replacement	Complete	Feb-18	
			Repair damage caused by vehicle accident	Complete	Mar-18	
			Repair damage caused by trees during a storm	Complete	May-18	
			Restore recloser operation of unknown cause	Complete	Sep-18	
			Restore recloser operation of unknown cause	Complete	Sep-18	
12	Pittsburgh Avenue	00524-31	<i>Performance was driven by trees off ROW (89%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	Nov-17	
			Repair damage caused by trees during a storm	Complete	Nov-17	
			Circuit inspection	Complete	Sep-18	
13	Hooversville	00019-12	<i>Performance was driven by equipment failure (51%) and trees off ROW (45%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair equipment failure	Complete	Oct-17	
			Repair damage caused by trees	Complete	Oct-17	
			Repair equipment failure	Complete	Feb-18	
			Repair damage caused by trees during a storm	Complete	Apr-18	
14	East Hickory	00201-41	<i>Performance was driven by trees off ROW (96%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	Oct-17	
			Repair damage caused by trees during a storm	Complete	Nov-17	
			Repair damage caused by trees	Complete	May-18	
			Repair damage caused by trees	Complete	Sep-18	
			Replace substation recloser	To be Completed 2018	0%	

Penelec						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
15	Green Garden	00536-31	<i>Performance was driven by trees off ROW (91%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	Nov-17	
			Repair damage caused by trees during a storm	Complete	Nov-17	
			Circuit inspection	Complete	Aug-18	
			Replace cap & pin insulators	To be Completed 2018	0%	
16	Piney	00523-51	<i>Performance was driven by trees off ROW (84%).</i>			2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	May-18	
			Repair damage caused by trees during a storm	Complete	May-18	
			Repair damage caused by trees	Complete	Jun-18	
			Repair damage caused by trees	Complete	Sep-18	
17	Thompson	00436-65	<i>Performance was driven by trees off ROW (47%) and equipment failure (43%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	Nov-17	
			Repair equipment failure	Complete	Nov-17	
			Repair equipment failure	Complete	Dec-17	
			Repair damage caused by trees during a storm	Complete	Aug-18	
18	Pennmar	00002-12	<i>Performance was driven by wind (68%) and trees off ROW (26%).</i>			
			Repair damage caused by wind	Complete	Jul-18	
			Repair damage caused by trees during a storm	Complete	Sep-18	
19	Marienville	00328-51	<i>Performance was driven by trees off ROW (83%).</i>			4Q 2017 2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	May-18	
			Porcelain cutout replacement	Complete	May-18	
			Repair damage caused by trees during a storm	Complete	May-18	
			Repair damage caused by trees during a storm	Complete	Aug-18	

Penelec						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
20	Madera	00165-22	<i>Performance was driven by trees off ROW (84%).</i>			2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	May-18	
			Repair damage caused by trees during a storm	Complete	Jul-18	
			Circuit inspection	Complete	Jul-18	
21	North Warren	00596-41	<i>Performance was driven by trees off ROW (78%) and equipment failure (6%).</i>			
			Repair damage caused by trees	Complete	Jun-18	
			Repair equipment failure during a storm	Complete	Jul-18	
			Repair damage caused by trees during a storm	Complete	Aug-18	
22	Lake Como	00787-65	<i>Performance was driven by line failure (78%) and trees off ROW (15%).</i>			1Q 2018 2Q 2018 3Q 2018
			Install new radio controlled switch	Complete	Nov-17	
			Repair line failure	Complete	Feb-18	
			Repair damage caused by trees during a storm	Complete	Jun-18	
			Repair line failure	Complete	Jul-18	
23	Youngsville	00256-41	<i>Performance was driven by trees off ROW (84%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees	Complete	Oct-17	
			Repair damage caused by trees during a storm	Complete	Oct-17	
			Repair damage caused by trees	Complete	Jun-18	
			Repair damage caused by non-company human error	Complete	Jun-18	
24	Springboro	00217-52	<i>Performance was driven by trees off ROW (92%).</i>			
			Repair damage caused by trees	Complete	Jun-18	
			Repair damage caused by trees during a storm	Complete	Jul-18	
25	Tunkhannock	00533-65	<i>Performance was driven by trees off ROW (63%), recloser operation of unknown cause (17%) and equipment failure (13%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Restore recloser operation of unknown cause	Complete	Oct-17	
			Repair damage caused by trees during a storm	Complete	May-18	
			Repair equipment failure	Complete	Jul-18	

Penelec							
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters	
26	Grandview	00354-51	<i>Performance was driven by trees off ROW (64%) and line failure (30%).</i>				2Q 2018 3Q 2018
			Repair line failure	Complete	Jan-18		
			Repair damage caused by trees during a storm	Complete	May-18		
			Repair damage caused by trees during a storm	Complete	Jun-18		
			On cycle tree trimming	To be Completed 2018	99%		
27	Glory	00105-13	<i>Performance was driven by trees off ROW (82%).</i>				
			Repair damage caused by trees	Complete	Jul-18		
			Repair damage caused by trees during a storm	Complete	Jul-18		
			Repair damage caused by trees	Complete	Aug-18		
28	Utica Junction	00318-51	<i>Performance was driven by trees off ROW (93%).</i>				4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	Nov-17		
			Repair damage caused by trees during a storm	Complete	Jan-18		
			Repair damage caused by trees during a storm	Complete	Jun-18		
			Replace cap & pin insulators	Complete	Sep-18		
29	Powell Ave Sub	00513-31	<i>Performance was driven by animal contact (57%) and line failure (23%).</i>				
			Repair line failure	Complete	Jan-18		
			Repair damage caused by animal contact	Complete	Sep-18		
30	Timblin	00103-23	<i>Performance was driven by trees off ROW (81%).</i>				4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	Nov-17		
			Targeted circuit rehabilitation	Complete	Dec-17		
			Repair damage caused by trees	Complete	Dec-17		
			Repair equipment failure	Complete	Feb-18		
			Circuit inspection	To be Completed 2018	0%		

Penelec							
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters	
31	Lake Como	00788-65	<i>Performance was driven by vehicle accident (38%), trees off ROW (38%) and recloser operation of unknown cause (17%).</i>				4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Install new radio controlled switch	Complete	Nov-17		
			Repair damage caused by trees during a storm	Complete	Nov-17		
			Restore recloser operation of unknown cause	Complete	Dec-17		
			Repair damage caused by vehicle accident	Complete	Dec-17		
			Repair damage caused by trees during a storm	Complete	Jun-18		
			Replace substation recloser	To be Completed 2018	50%		
32	Logan	00700-81	<i>Performance was driven by trees off ROW (90%).</i>				4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Porcelain cutout replacement	Complete	Apr-18		
			Repair damage caused by trees	Complete	Jun-18		
			Repair damage caused by trees	Complete	Sep-18		
33	French Road	00219-31	<i>Performance was driven by line failure (67%) and equipment failure (32%).</i>				4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair line failure during a storm	Complete	Nov-17		
			Repair equipment failure	Complete	Aug-18		
			Replace substation breaker	Complete	Jul-18		
			Repair equipment failure	Complete	Sep-18		
34	Page Road	00445-43	<i>Performance was driven by line failure (58%), equipment failure (14%) and trees off ROW (12%).</i>				
			Repair equipment failure	Complete	Jun-18		
			Repair line failure	Complete	Jul-18		
			Repair line failure	Complete	Sep-18		
			Repair damage caused by trees during a storm	Complete	Sep-18		
35	Milroy	00128-81	<i>Performance was driven by breaker operation of unknown cause (69%) and trees off ROW (19%).</i>				
			Repair damage caused by trees during a storm	Complete	Oct-17		
			Restore breaker operation of unknown cause	Complete	Aug-18		
			Restore breaker operation of unknown cause	Complete	Sep-18		

Penelec						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
36	Northeast	00591-31	<i>Performance was driven by line failure (68%) and equipment failure (20%).</i>			
			Repair line failure	Complete	Jul-18	
			Repair equipment failure	Complete	Sep-18	
37	Buffalo Road	00265-31	<i>Performance was driven by equipment failure (72%) and fuse operation of unknown cause (8%).</i>			2Q 2018 3Q 2018
			Repair equipment failure	Complete	May-18	
			Repair equipment failure	Complete	Jun-18	
			Restore fuse operation of unknown cause	Complete	Aug-18	
38	Birmingham	00168-22	<i>Performance was driven by vehicle accident (80%) and fuse operation of unknown cause (11%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by vehicle accident	Complete	Nov-17	
			Repair damage caused by vehicle accident	Complete	Mar-18	
			Restore fuse operation of unknown cause	Complete	Jul-18	
39	Brookville West	00121-23	<i>Performance was driven by equipment failure (66%) and vehicle accident (19%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair equipment failure during a storm	Complete	Nov-17	
			Repair equipment failure	Complete	Jun-18	
			Repair damage caused by vehicle accident	Complete	Sep-18	
			On cycle tree trimming	Complete	Apr-18	
40	Philipsburg	00162-22	<i>Performance was driven by equipment failure (45%), vehicle accident (23%) and trees off ROW (14%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			On cycle tree trimming	Complete	Dec-17	
			Repair equipment failure	Complete	Jan-18	
			Repair equipment failure	Complete	May-18	
			Targeted circuit rehabilitation	Complete	May-18	
			Repair damage caused by vehicle accident	Complete	Aug-18	
			Install advanced distribution protective devices	To be Completed 2018	50%	

Penelec							
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters	
41	Tionesta Jct Sw Sta	00498-51	<i>Performance was driven by trees off ROW (50%) and equipment failure (40%).</i>				4Q 2017 1Q 2018 3Q 2018
			Repair equipment failure	Complete	Oct-17		
			Circuit inspection	Complete	Oct-17		
			Targeted circuit rehabilitation	Complete	Nov-17		
			Repair line failure	Complete	Dec-17		
			Repair damage caused by trees during a storm	Complete	Apr-18		
			Repair damage caused by trees during a storm	Complete	Jul-18		
			Repair equipment failure	Complete	Aug-18		
42	Mildred	00771-62	<i>Performance was driven by equipment failure (94%).</i>				
			Repair equipment failure	Complete	Jul-18		
			Repair equipment failure	Complete	Jul-18		
43	Brooklyn	00749-65	<i>Performance was driven by vehicle accident (71%) and trees off ROW (15%).</i>				4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by vehicle accident	Complete	Oct-17		
			Repair damage caused by trees during a storm	Complete	May-18		
44	Reed Street	00549-31	<i>Performance was driven by breaker operation of unknown cause (86%).</i>				
			Restore breaker operation of unknown cause	Complete	Jun-18		
			Restore breaker operation of unknown cause	Complete	Jul-18		
45	Utica Junction	00331-51	<i>Performance was driven by trees off ROW (54%) and vehicle accident (38%).</i>				
			Circuit inspection	Complete	Oct-17		
			Repair damage caused by vehicle accident	Complete	Apr-18		
			Repair damage caused by trees during a storm	Complete	Jun-18		
			Repair damage caused by trees during a storm	Complete	Sep-18		
46	Fairview East	00218-34	<i>Performance was driven by vehicle accident (50%) and equipment failure (45%).</i>				
			Repair damage caused by vehicle accident	Complete	Oct-17		
			Repair equipment failure	Complete	Sep-18		
			Repair equipment failure	Complete	Sep-18		

Penelec						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
47	Philipsburg	00161-22	<i>Performance was driven by line failure (30%), vehicle accident (29%) and lightning (23%).</i>			
			Repair line failure	Complete	Jan-18	
			Repair damage caused by lightning	Complete	Jul-18	
			Repair damage caused by vehicle accident	Complete	Apr-18	
48	Elk Run	00622-23	<i>Performance was driven by equipment failure (54%) and trees off ROW (38%).</i>			
			Repair damage caused by trees	Complete	Aug-18	
			Repair equipment failure	Complete	Sep-18	
49	Brookville	00123-23	<i>Performance was driven by equipment failure (64%) and line failure (25%).</i>			
			Repair equipment failure	Complete	Sep-18	
			Repair equipment failure	Complete	Sep-18	
			Repair line failure	Complete	Sep-18	
50	Brookville	00125-23	<i>Performance was driven by trees off ROW (66%) and vehicle accident (27%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by vehicle accident	Complete	Apr-18	
			Repair damage caused by trees during a storm	Complete	Sep-18	
			Replace cap & pin insulators	Complete	Sep-18	
			Circuit inspection	To be Completed 2018	0%	
51	Cooper	00069-11	<i>Performance was driven by trees off ROW (60%) and line failure (37%).</i>			
			Repair line failure	Complete	May-18	
			Repair damage caused by trees	Complete	Sep-18	
52	Madera	00167-22	<i>Performance was driven by lightning (53%), equipment failure (24%) and recloser operation of an unknown cause (10%).</i>			2Q 2018 3Q 2018
			Repair equipment failure	Complete	Jan-18	
			Repair damage caused by lightning	Complete	Jul-18	

Penelec						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
53	Strodes Mill	00113-81	<i>Performance was driven by trees off ROW (95%).</i>			
			Repair damage caused by trees	Complete	Jul-18	
			Repair damage caused by trees	Complete	Aug-18	
			Repair damage caused by trees	Complete	Sep-18	
54	Wyalusing sub	00532-62	<i>Performance was driven by trees off ROW (61%), equipment failure (17%) and fuse operation of unknown cause (11%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	Oct-17	
			Repair equipment failure	Complete	Feb-18	
			Restore fuse operation of unknown cause	Complete	Mar-18	
			Repair damage caused by trees during a storm	Complete	Aug-18	
55	Walnut Street	00520-31	<i>Performance was driven by vehicle accident (61%) and line failure (29%).</i>			1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by vehicle accident	Complete	Feb-18	
			Repair line failure	Complete	Jun-18	
56	Kearsarge	00528-31	<i>Performance was driven by line failure (88%).</i>			
			Repair line failure	Complete	Feb-18	
			Repair line failure	Complete	Aug-18	
57	East Towanda	00525-62	<i>Performance was driven by trees off ROW (70%) and equipment failure (14%).</i>			2Q 2018 3Q 2018
			Repair equipment failure	Complete	Oct-17	
			Repair damage caused by trees during a storm	Complete	May-18	
			Repair damage caused by trees during a storm	Complete	May-18	
			Repair damage caused by trees during a storm	Complete	Aug-18	
58	Logan	00701-81	<i>Performance was driven by lightning (39%), equipment failure (38%) and trees off ROW (10%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair equipment failure	Complete	May-18	
			Repair damage caused by trees during a storm	Complete	May-18	
			Repair damage caused by lightning	Complete	Sep-18	

Penelec						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
59	Hooversville	00018-12	<i>Performance was driven by trees off ROW (88%).</i>			2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	May-18	
			Repair damage caused by trees	Complete	Jun-18	
			Repair damage caused by trees	Complete	Jun-18	
60	Warren South	00254-41	<i>Performance was driven by trees off ROW (87%).</i>			
			Repair damage caused by trees during a storm	Complete	Jul-18	
			Repair damage caused by trees during a storm	Complete	Sep-18	
61	Starrucca	00744-65	<i>Performance was driven by trees off ROW (69%) and line failure (17%).</i>			
			Repair line failure	Complete	Apr-18	
			Repair damage caused by trees during a storm	Complete	Apr-18	
			Repair damage caused by trees	Complete	Jul-18	
62	N Meshoppen Tran	00534-65	<i>Performance was driven by equipment failure (49%) and trees off ROW (32%).</i>			1Q 2018 2Q 2018 3Q 2018
			Repair equipment failure	Complete	Oct-17	
			Install radio fault Indicators	Complete	Jan-18	
			Repair equipment failure	Complete	Feb-18	
			Repair damage caused by trees during a storm	Complete	May-18	
			Repair damage caused by trees	Complete	Jul-18	
			Circuit inspection	Complete	Jul-18	

Penelec					
Unranked circuits appearing 2 or more quarters in the last 4 quarters					
Substation	Circuit	4Q 2017	1Q 2018	2Q 2018	3Q 2018
Athens	00514-61	X	X		
Blairsville East	00081-13	X	X		
Brookville	00120-23		X	X	
Brookville	00155-23		X	X	
Church	00426-34	X	X	X	
Dubois	00131-23	X	X	X	
Dubois	00137-23	X	X	X	
Dubois Central	00119-23	X	X	X	
East Sayre	00518-61	X	X		
Emlenton	00121-51	X	X		
Erie East	00234-31	X	X		
Fallen Timbers	00693-22		X	X	
Greenwood	00041-71	X	X		
Hilltop	00040-11	X	X	X	
Kearsarge	00527-31		X	X	
Lawrenceville	00326-63	X	X	X	
Lawrenceville	00632-63	X		X	
Lewis Run	00408-42	X	X	X	
Mansfield	00558-63	X	X	X	
Mansfield	00559-63	X	X	X	
Mansfield	00699-63	X	X	X	
Natl Forge Sw Sta	00577-41	X	X		
Saxton	00631-73	X	X	X	
Susquehanna	00280-65	X	X	X	
Tiffany	00440-65	X	X		

Penelec					
Unranked circuits appearing 2 or more quarters in the last 4 quarters					
Substation	Circuit	4Q 2017	1Q 2018	2Q 2018	3Q 2018
Two Mile	00127-42	X	X	X	
Tyrone North	00643-22	X	X	X	
Union City	00208-43	X		X	

Penelec				
Unranked circuits with remedial actions scheduled to be or recently completed				
Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed
Athens	00514-61	Replace cap & pin insulators	Complete	Jul-18
Bradford South	00106-42	Porcelain cutout replacement	Complete	Jul-18
Brookville	00120-23	Circuit inspection	To be Completed 2018	0%
Church	00426-34	Replace substation recloser	Complete	Jul-18
DuBois	00137-23	Targeted circuit rehabilitation	To be Completed 2018	50%
East Pike	00094-13	Circuit inspection	Complete	Jul-18
East Sayre	00518-61	Targeted circuit rehab	To be Completed 2018	50%
East Sayre	00518-61	Replace substation breaker	Complete	50%
Emlenton	00121-51	Circuit inspection	Complete	Aug-18
Erie South	00259-31	On cycle tree trimming	To be Completed 2018	0%
Erie South	00259-31	Install advanced distribution protective devices	To be Completed 2018	50%
Fairviews East	00242-34	On cycle tree trimming	To be completed 2018	85%
Farmers Valley	00414-42	Circuit inspection	To be Completed 2018	0%
Farmers Valley	00414-42	On cycle tree trimming	To be Completed 2018	0%
Lawrenceville	00632-63	Replace substation recloser	To be Completed 2018	0%
Lewis Run	00408-42	Replace substation breaker	To be Completed 2018	0%
Mansfield	00699-63	Circuit inspection	To be Completed 2018	0%
Mansfield	00559-63	Targeted circuit rehabilitation	To be Completed 2018	50%
Meshoppen	00283-65	On cycle tree trimming	To be Completed 2018	83%
North Warren	00207-41	Replace substation recloser	To be Completed 2018	50%
Patton	00060-72	On cycle tree trimming	To be Completed 2018	0%
Philipsburg	00164-22	On cycle tree trimming	To be Completed 2018	99%
Russell Hill	00765-65	Circuit inspection	To be Completed 2018	0%
Saxton Sub	00631-73	Circuit inspection	Complete	Aug-18
Somerset	00017-12	Install advanced distribution protective devices	To be Completed 2018	50%

Penelec				
Unranked circuits with remedial actions scheduled to be or recently completed				
Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed
Somerset	00030-12	Porcelain cutout replacement	Complete	Sep-18
Tiffany	00440-65	Circuit inspection	Complete	Aug-18
Union City	00208-43	On cycle tree trimming	To be Completed 2018	43%
Union City	00208-43	Install advanced distribution protective devices	To be Completed 2018	50%
Union City	00208-43	Targeted circuit rehabilitation	Complete	Sep-18

Penn Power						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
1	Jamestown	W-162	<i>Performance was driven by trees off ROW (79%), animal (11%) and line failure (7%).</i>			2Q 2018 3Q 2018
			Repair damage due to human error (contractor installed wrong fuses)	Complete	Dec-17	
			Pole was replaced and equipment repaired following tree damage during storm	Complete	Mar-18	
			Repair damage caused by trees during a storm	Complete	Jun-18	
			Replace switch and repair line failure	Complete	Jun-18	
			Pole was replaced and equipment repaired following tree damage	Complete	Sep-18	
2	Adams Ridge	W780	<i>Performance was driven by trees off ROW (48%), vehicle (31%) and equipment failure (13%).</i>			
			Pole was replaced and equipment repaired following damage by vehicle	Complete	Feb-18	
			Repair damage caused by tree	Complete	Sep-18	
3	Hickory	W-243	<i>Performance was driven by trees off ROW (87%) and animal (6%).</i>			1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by animal contact	Complete	Nov-17	
			Restore breaker operation caused by line fault/trees during storm	Complete	Mar-18	
4	Thompson Run	D550	<i>Performance was driven by trees off ROW (95%).</i>			
			Repair damage caused by tree	Complete	Mar-18	
			Repair damage caused by tree	Complete	Jul-18	
5	Ingomar	D620	<i>Performance was driven by trees off ROW (100%).</i>			
			Repair damage caused by tree	Complete	Feb-18	
			Repair damage caused by tree	Complete	Jul-18	
			Pole was replaced and equipment repaired following tree damage	Complete	Sep-18	
6	Seneca	W701	<i>Performance was driven by unknown (60%), animal (21%) and trees off ROW (14%).</i>			4Q 2017 3Q 2018
			Repair damage cause by tree	Complete	Aug-17	
			Restore breaker operation of unknown cause during storm	Complete	Jun-18	
			Restore recloser operation of unknown cause	Complete	Jul-18	
7	Canal	W-101	<i>Performance was driven by trees off ROW (53%), equipment failure (26%) and unknown (18%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	May-17	
			Repair damage caused by trees during a storm	Complete	Jan-18	
			Repair damage caused by trees during a storm	Complete	Mar-18	
			Replace broken insulators	Complete	Jul-18	

Penn Power						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
8	Ellwood Sw Str	D590	<i>Performance was driven by equipment failure (45%), trees off ROW (40%) and line failure (8%).</i>			
			Replace broken regulators and switch	Complete	Oct-17	
			Repair damage cause by tree	Complete	Sep-18	
9	McDowell	W-121	<i>Performance was driven by trees off ROW (71%) and vehicle (16%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by trees during a storm	Complete	May-17	
			Repair damage due to human error (jumpers were cut)	Complete	Sep-17	
			Repair damage caused by vehicle	Complete	Nov-17	
			Patrol entire circuit for off ROW hazard trees (mid-cycle addition to 2018 tree trimming cycle)	To be Completed	99%	
			Pole was replaced and equipment repaired following tree damage during storm	Complete	Mar-18	

Penn Power					
Unranked circuits appearing 2 or more quarters in the last 4 quarters					
Substation	Circuit	3Q 2017	4Q 2017	1Q 2018	2Q 2018
Camp Reynolds	W-134	X	X	X	
Hadley	W-195	X	X	X	
Leesburg	D-452	X	X	X	
Seneca	W-701	X	X		
Silver Street	W-268	X		X	
Stoneboro	W-132	X	X	X	

Penn Power				
Unranked circuits with remedial actions scheduled to be or recently completed				
Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed
Camp Reynolds	W-134	Patrol entire circuit for off ROW hazard trees (mid-cycle addition to 2018 tree trimming cycle)	To be Completed 2018	50%
Hadley	W-195	Patrol entire circuit for off ROW hazard trees (mid-cycle addition to 2018 tree trimming cycle)	To be Completed 2018	79%
Perry	W-156	Patrol entire circuit for off ROW hazard trees (mid-cycle addition to 2018 tree trimming cycle)	To be Completed 2018	99%
Stoneboro	W-132	Patrol entire circuit for off ROW hazard trees (mid-cycle addition to 2018 tree trimming cycle)	To be Completed 2018	99%

West Penn Power						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
1	Emporium	Emporium Jct	<i>Performance driven by trees off ROW (98%).</i>			2Q 2018 3Q 2018
			On cycle tree trimming	Complete	Dec-17	
			Repair damage caused by a tree	Complete	May-18	
			Repair damage caused by a tree during a storm	Complete	May-18	
			Repair damage caused by wind during a storm	Complete	May-18	
			Repair damage caused by a tree	Complete	Jun-18	
			Repair damage caused by a tree	Complete	Jul-18	
			Repair damage caused by a tree during a storm	Complete	Sep-18	
2	North Union	Gallatin	<i>Performance driven by unknown (40%), equipment failure (24%), and trees off ROW (19%).</i>			
			Repair damage caused by a tree during a storm	Complete	Jul-18	
			Repair line failure	Complete	Jul-18	
			Repair equipment failure during a storm	Complete	Jul-18	
			Repair equipment failure during a storm	Complete	Sep-18	
			Zone 2 infrared inspection	Complete	Sep-18	
3	Shaffers Corner	Seventh St Rd	<i>Performance driven by trees off ROW (79%) and trees on ROW (17%).</i>			2Q 2018 3Q 2018
			Repair damage caused by a tree	Complete	Apr-18	
			Repair damage caused by a tree during a storm	Complete	Apr-18	
			Repair damage caused by a tree during a storm	Complete	Apr-18	
			Repair damage caused by a tree during a storm	Complete	Jul-18	
			Repair damage caused by a tree during a storm	Complete	Sep-18	
			Overhead circuit inspection	To be completed 2018	97%	

West Penn Power							
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters	
4	Rutan	Bristoria	<i>Performance driven by trees off ROW (67%) and equipment failure (14%).</i>				4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by a tree	Complete	Oct-17		
			Repair damage caused by a vehicle	Complete	Nov-17		
			Repair damage caused by a tree	Complete	Dec-17		
			On cycle tree trimming	Complete	Dec-17		
			Repair damage caused by a tree during a storm	Complete	Feb-18		
			Repair damage caused by a tree during a storm	Complete	Feb-18		
			Repair equipment failure during a storm	Complete	Feb-18		
			Repair damage caused by a tree during a storm	Complete	Apr-18		
			Repair damage caused by a tree during a storm	Complete	Apr-18		
			Repair equipment failure during a storm	Complete	Jul-18		
			Repair damage caused by a tree during a storm	Complete	Aug-18		
			5	Smith	Florence	<i>Performance driven by trees of ROW (38%), unknown (25%), and line failure (22%).</i>	
Restore unknown outage	Complete	Oct-17					
Restore unknown outage during a storm	Complete	Nov-17					
Repair damage caused by a tree during a storm	Complete	Dec-17					
Zone 2 Ash removal	Complete	Dec-17					
Repair damage caused by a vehicle	Complete	Jan-18					
Repair damage caused by a tree	Complete	Feb-18					
Restore unknown outage	Complete	Feb-18					
Repair damage caused by a tree during a storm	Complete	Apr-18					
Repair damage caused by a tree during a storm	Complete	Apr-18					
Forced outage to repair damage	Complete	Jun-18					
Repair line failure	Complete	Jul-18					
Repair equipment failure during a storm	Complete	Sep-18					
Repair damage caused by a tree during a storm	Complete	Sep-18					

West Penn Power						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
6	Flintstone	Chaneyville	<i>Performance driven by trees off ROW (85%).</i>			2Q 2018 3Q 2018
			Repair line failure	Complete	Apr-18	
			Repair damage caused by a tree during a storm	Complete	Apr-18	
			Repair damage caused by a tree	Complete	Jun-18	
			Repair damage caused by a tree during a storm	Complete	Jun-18	
			Repair damage caused by a tree	Complete	Aug-18	
			Repair damage caused by a tree during a storm	Complete	Sep-18	
			Zone 2 infrared inspection	Complete	Sep-18	
7	Dutch Fork	Claysville	<i>Performance driven by trees off ROW (64%) and unknown (14%).</i>			1Q 2018 2Q 2018 3Q 2018
			Overhead circuit inspection	Complete	Oct-17	
			Repair damage caused by a tree	Complete	Jan-18	
			Forced outage to repair damage	Complete	Feb-18	
			Repair damage caused by a tree during a storm	Complete	Feb-18	
			Forced outage to repair damage during a storm	Complete	May-18	
			Repair damage caused by a tree during a storm	Complete	May-18	
			Restore unknown outage during a storm	Complete	Jun-18	
			Restore unknown outage	Complete	Aug-18	
			Repair damage caused by a tree during a storm	Complete	Sep-18	
			Enhanced WPC remediation	To be completed 2018	85%	
8	Driftwood	Driftwood	<i>Performance driven by trees off ROW (72%) and equipment failure (12%).</i>			4Q 2017 3Q 2018
			Repair damage caused by human error non-company	Complete	Dec-17	
			Repair equipment failure	Complete	Aug-18	
			Repair damage caused by a tree	Complete	Aug-18	

West Penn Power						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
9	Smith	Francis Mine	<i>Performance driven by trees off ROW (80%) and unknown (15%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by a tree	Complete	Oct-17	
			Repair damage caused by a tree during a storm	Complete	Nov-17	
			Repair damage caused by a tree during a storm	Complete	Dec-17	
			Repair damage caused by a tree during a storm	Complete	Jan-18	
			Repair damage caused by a tree	Complete	May-18	
			Repair damage caused by a tree during a storm	Complete	Jul-18	
			Restore unknown outage during a storm	Complete	Aug-18	
			Reliability job to install fuses	Complete	Aug-18	
			Repair damage caused by a tree	Complete	Sep-18	
10	St. Clair	Lesnett	<i>Performance driven by line failure (69%) and trees off ROW (22%).</i>			
			Repair line failure	Complete	Jul-18	
			Repair line failure during a storm	Complete	Aug-18	
			Repair damage caused by a tree during a storm	Complete	Aug-18	
			Zone 2 infrared inspection	Complete	Aug-18	
11	Kersey	Shelvey	<i>Performance driven by trees on ROW (69%) and trees off ROW (25%).</i>			2Q 2018 3Q 2018
			Repair damage caused by a tree during a storm	Complete	May-18	
			Repair damage caused by wind during a storm	Complete	May-18	
			Repair damage caused by a tree during a storm	Complete	Jun-18	
			Repair damage caused by a tree	Complete	Jul-18	
12	Emporium	West Creek	<i>Performance driven by trees off ROW (63%) and equipment failure (25%).</i>			
			Repair equipment failure during a storm	Complete	Jul-18	
			Repair damage caused by a tree	Complete	Sep-18	
			Restore unknown outage	Complete	Sep-18	

West Penn Power							
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters	
13	Franklin	West Waynesburg	<i>Performance driven by trees off ROW (71%) and forced outage (20%).</i>				1Q 2018 2Q 2018 3Q 2018
			Forced outage to repair damage	Complete	Jan-18		
			Repair damage caused by a vehicle	Complete	Jan-18		
			Repair damage caused by a tree	Complete	May-18		
			Repair damage caused by a tree during a storm	Complete	May-18		
			Repair damage caused by a tree	Complete	Aug-18		
			Forced outage to repair damage	Complete	Sep-18		
			Zone 1 infrared inspection	Complete	Sep-18		
14	Peters	Library	<i>Performance driven by lightning (75%) and equipment failure (13%).</i>				
			Repair equipment failure during a storm	Complete	Aug-18		
			Repair damage caused by lightning during a storm	Complete	Sep-18		
15	Waterville	Waterville	<i>Performance driven by trees off ROW (66%) and other electric utility (30%).</i>				4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Restore outage caused by other electric utility	Complete	Oct-17		
			Restore outage caused by other electric utility	Complete	Dec-17		
			Repair damage caused by a tree during a storm	Complete	Jan-18		
			Restore outage caused by other electric utility	Complete	Apr-18		
			Repair damage caused by a tree during a storm	Complete	Apr-18		
			Repair damage caused by a tree during a storm	Complete	Aug-18		
			Repair damage caused by a tree	Complete	Aug-18		
Zone 2 fuse installation	Complete	May-18					

West Penn Power						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
16	Bethlen	Darlington	<i>Performance driven by trees off ROW (82%) and trees on ROW (10%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by a tree	Complete	Oct-17	
			Repair damage caused by a tree during a storm	Complete	Nov-17	
			Repair damage caused by a vehicle	Complete	Jan-18	
			Repair damage caused by tree during a storm	Complete	Apr-18	
			Repair damage caused by a tree	Complete	Aug-18	
			Repair damage caused by a tree during a storm	Complete	Aug-18	
			Forced outage to repair damage	Complete	Sep-18	
			Overhead circuit inspection	To be completed 2018	89%	
17	Dutch Fork	W Alexander	<i>Performance driven by trees off ROW (63%) and line failure (12%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by a tree	Complete	Oct-17	
			Install Tollgrade monitors	Complete	Nov-17	
			Restore unknown outage during a storm	Complete	Nov-17	
			Repair line failure during a storm	Complete	Jan-18	
			Repair damage caused by a tree during a storm	Complete	Feb-18	
			Repair damage caused by a tree	Complete	Apr-18	
			Restore unknown outage	Complete	May-18	
			Repair damage caused by a tree	Complete	Jun-18	
			Repair damage caused by a tree	Complete	Jul-18	
			Repair line failure during a storm	Complete	Sep-18	
18	Frazier	Star Junction	<i>Performance driven by trees of ROW (99%).</i>			2Q 2018 3Q 2018
			Repair line failure during a storm	Complete	Apr-18	
			Repair damage caused by a tree during a storm	Complete	May-18	
			Repair damage caused by a tree during a storm	Complete	Sep-18	

West Penn Power						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
19	Peters	Mcmurray	<i>Performance driven by trees off ROW (86%) and line failure (11%).</i>			
			Repair damage caused by a tree during a storm	Complete	Jul-18	
			Restore unknown outage	Complete	Aug-18	
			Repair line failure	Complete	Aug-18	
			Overhead circuit inspection (59059109)	In Progress	97%	
20	Kane	Russell City	<i>Performance driven by trees off ROW (80%) and line failure (8%).</i>			2Q 2018 3Q 2018
			Repair damage caused by a tree during a storm	Complete	Apr-18	
			Repair damage caused by a tree during a storm	Complete	May-18	
			Repair line failure during a storm	Complete	Jul-18	
			Repair damage caused by a tree	Complete	Sep-18	
21	Thompson Farm	Toftrees	<i>Performance driven by line failure (65%) and equipment failure (34%).</i>			
			Repair equipment failure during a storm	Complete	Jul-18	
			Repair line failure	Complete	Aug-18	
22	Vanceville	Vanceville	<i>Performance driven by trees off ROW (87%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by a vehicle	Complete	Nov-17	
			Repair line failure	Complete	Dec-17	
			Restore unknown outage during a storm	Complete	Jan-18	
			Repair line failure during a storm	Complete	Jan-18	
			Repair damage caused by a tree during a storm	Complete	Apr-18	
			Repair damage caused by a tree during a storm	Complete	Jul-18	
			Repair damage caused by a tree during a storm	Complete	Aug-18	
On cycle tree trimming	To be completed 2018	97%				
23	Millheim	Rebersburg	<i>Performance driven by trees off ROW (97%).</i>			
			Repair line failure during a storm	Complete	Jul-18	
			Repair damage caused by a tree	Complete	Sep-18	
			Zone 1 infrared inspection	Complete	Sep-18	

West Penn Power						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
24	Ridgway	Montmorenci	<i>Performance driven by trees off ROW (100%).</i>			
			Repair damage caused by a tree during a storm	Complete	Sep-18	
			Zone 2 infrared inspection	Complete	Sep-18	
25	White Valley	Export	<i>Performance driven by trees off ROW (36%), forced outage (26%), and equipment failure (23%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair equipment failure	Complete	Nov-17	
			Repair damage caused by a tree	Complete	Nov-17	
			Repair damage caused by a tree during a storm	Complete	Dec-17	
			Repair damage caused by a vehicle during a storm	Complete	Feb-18	
			Repair damage caused by a tree during a storm	Complete	Mar-18	
			Forced outage to repair damage	Complete	Apr-18	
			Repair damage caused by a tree during a storm	Complete	Apr-18	
			Forced outage to repair damage during a storm	Complete	May-18	
			Repair damage caused by a tree during a storm	Complete	Aug-18	
			Forced outage to repair damage during a storm	Complete	Sep-18	
			On cycle tree trimming	To be completed 2018	77%	
26	Bedford Road	Rt 220 North	<i>Performance driven by trees off ROW (66%) and forced outage (25%).</i>			
			Forced outage to repair damage	Complete	Aug-18	
			Repair damage caused by a tree	Complete	Aug-18	
			Restore outage caused by human error non-company	Complete	Sep-18	
27	Cooperstown	Twin Willows	<i>Performance driven by trees off ROW (58%) and line failure (37%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by a tree during a storm	Complete	Nov-17	
			Repair damage caused by a tree during a storm	Complete	Dec-17	
			On cycle tree trimming	Complete	Dec-17	
			Repair damage caused by a tree during a storm	Complete	Jan-18	
			Forced outage to repair damage	Complete	Mar-18	
			Repair line failure	Complete	Jun-18	
			Repair damage caused by a tree	Complete	Jun-18	
Repair damage caused by a tree	Complete	Jul-18				

West Penn Power						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
28	Rutan	Windridge	<i>Performance driven by trees off ROW (75%).</i>			
			Forced outage to repair damage during a storm	Complete	Jul-18	
			Repair damage caused by a tree	Complete	Sep-18	
			Repair damage caused by a tree during a storm	Complete	Sep-18	
29	Westraver	Fellsburg	<i>Performance driven by forced outage (48%), trees off ROW (23%), and equipment failure (18%).</i>			
			Repair equipment failure	Complete	Aug-18	
			Zone 2 Infrared Inspection	Complete	Aug-18	
			Repair damage caused by a tree during a storm	Complete	Sep-18	
30	St. Clair	Valley	<i>Performance driven by trees off ROW (33%), overload (21%), and tree on ROW (20%).</i>			
			Restore outage due to an overload	Complete	Jul-18	
			Zone 2 infrared inspection	Complete	Aug-18	
			Repair equipment failure	Complete	Sep-18	
31	New Bethlehem	Hawthorn	<i>Performance driven by trees off ROW (81%) and trees on ROW (19%).</i>			
			Repair damage caused by a tree	Complete	Sep-18	
			Repair damage caused by a tree	Complete	Sep-18	
32	Sewickley	Wendel	<i>Performance driven by trees off ROW (66%) and equipment failure (20%).</i>			
			Zone 1 Infrared Inspection	Complete	Jul-18	
			Forced outage to repair damage	Complete	Aug-18	
			Repair equipment failure	Complete	Sep-18	
			Repair damage caused by a tree during a storm	Complete	Sep-18	
33	Saltsburg	Salina	<i>Performance driven by equipment failure (58%) and trees off ROW (24%).</i>			4Q 2017 1Q 2018 3Q 2018
			Restore unknown outage during a storm	Complete	Nov-17	
			Repair damage caused by a tree	Complete	Dec-17	
			Repair equipment failure	Complete	Feb-18	
			Repair damage caused by a tree	Complete	Feb-18	
			Repair damage caused by a tree	Complete	Sep-18	
			On cycle tree trimming	To be completed 2018	71%	

West Penn Power						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
34	Harwick	Harmar	<i>Performance driven by trees off ROW (76%) and line failure (17%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			Repair damage caused by a tree during a storm	Complete	Nov-17	
			Repair damage caused by a vehicle	Complete	Dec-17	
			Repair line failure	Complete	Jan-18	
			Repair damage caused by a tree	Complete	Mar-18	
			Repair equipment failure during a storm	Complete	Apr-18	
			Restore unknown outage	Complete	Jun-18	
			Repair damage caused by a tree during a storm	Complete	Aug-18	
			Zone 1 infrared inspection	Complete	Aug-18	
35	St. Clair	Fort Couch	<i>Performance driven by trees off ROW (82%) and line failure (10%).</i>			
			Repair damage caused by a tree	Complete	Jul-18	
			Zone 2 Infrared Inspection	Complete	Aug-18	
			Repair damage caused by a tree during a storm	Complete	Sep-18	
36	Amity	Amity	<i>Performance driven by trees off ROW (51%) and line failure (37%).</i>			
			Repair damage caused by a tree during a storm	Complete	Aug-18	
			Repair line failure	Complete	Sep-18	
37	Kiski Valley	Kittanning Rd	<i>Performance driven by trees off ROW (62%) and line failure (24%).</i>			4Q 2017 1Q 2018 2Q 2018 3Q 2018
			On cycle tree trimming	Complete	Oct-17	
			Repair damage caused by a tree	Complete	Oct-17	
			Repair line failure during a storm	Complete	Nov-17	
			Repair damage caused by a tree during a storm	Complete	Jan-18	
			Repair line failure	Complete	Mar-18	
			Repair damage caused by a tree during a storm	Complete	Apr-18	
			Forced outage to repair damage	Complete	Jun-18	
			Repair damage caused by a tree during a storm	Complete	Sep-18	

West Penn Power						
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
38	Karns City	Kaylor	<i>Performance driven by trees off ROW (92%).</i>			2Q 2018 3Q 2018
			Repair damage caused by a tree during a storm	Complete	Apr-18	
			Repair damage caused by a tree during a storm	Complete	Apr-18	
			Repair damage caused by a vehicle during a storm	Complete	May-18	
			Repair damage caused by a tree during a storm	Complete	Aug-18	
			Overhead circuit inspection	To be completed 2018	99%	
39	St. Clair	Skyridge	<i>Performance driven by line failure (67%) and forced outages (18%).</i>			
			Repair line failure	Complete	Jul-18	
			Repair damage caused by a tree during a storm	Complete	Aug-18	
			Zone I infrared inspection	Complete	Aug-18	
			Forced outage to repair damage during a storm	Complete	Sep-18	
40	Fort Palmer	West Fairfield	<i>Performance driven by trees off ROW (82%).</i>			4Q 2017 3Q 2018
			On cycle tree trimming	Complete	Nov-17	
			Repair damage caused by a tree during a storm	Complete	Dec-17	
			Repair damage caused by a tree	Complete	Aug-18	
			Repair damage caused by a tree	Complete	Sep-18	

West Penn					
Unranked circuits appearing 2 or more quarters in the last 4 quarters					
Substation	Circuit	4Q 2017	1Q 2018	2Q 2018	3Q 2018
Amity	Banetown	X	X		
Avella	W Middletown	X	X	X	
Bethel Park	Dashwood	X	X		
Cecil	Bishop	X	X	X	
Crossgates	Peters Twp	X	X		
Emporium	Town Emporium	X	X	X	
Fayetteville	Bikle Road		X	X	
Franklin	Rogersville	X	X	X	
Hickory	Fort Cherry	X	X	X	
Houston	McGovern	X	X	X	
Huntingdon	Shawtown	X	X		
Mateer	Dime Rd	X	X	X	
Murrycrest	Sardis Road	X	X	X	
North Fayette	Beechcliff	X	X		
Pangburn Hill	Pangburn Hill	X	X		
Peters	Venetia	X	X	X	
Piney Fork	Gillhall	X	X	X	
Saltsburg	Saltsburg	X	X		
Sherwin	West Sunbury		X	X	
Westraver	Pittsburgh Coal	X	X	X	
White Valley	Borlands Rd	X	X	X	
White Valley	Congruity	X	X	X	

West Penn				
Unranked circuits with remedial actions scheduled to be or recently completed				
Substation	Circuit	Remedial Action Planned	Status of Remedial Work	Progress of Remedial Work
Avella	W Middletown	Line rehabilitation	Complete	Aug-18
Buckeye No. 3	Paisley	Zone 2 fuse installation	To be Completed 2018	0%
Cecil	Bishop	Reliability job to install fuses	Planned	0%
Franklin	Rogersville	Zone 1 infrared inspection	Complete	Sep-18
Hickory	Fort Cherry	Zone 1 infrared inspection	Complete	Sep-18
Houston	McGovern	Zone 1 infrared inspection	Complete	Sep-18
Houston	Weavertown	Zone 1 infrared inspection	Complete	Sep-18
Huntingdon	Shawtown	Zone 1 infrared inspection	Complete	Jul-18
Krendale	Meridian	Reliability job to install fuses	To be Completed 2018	0%
Murrycrest	Sardis Road	Overhead circuit inspection	To be Completed 2018	0%
North Fayette	Tyre	Zone 1 infrared inspection	Complete	Sep-18
Pangburn Hill	Pangburn Hill	On cycle tree trimming	To be Completed 2018	97%
Piney Fork	Gillhall	Line rehabilitation	To be Completed 2018	0%
Sherwin	West Sunbury	Zone 1 infrared inspection	Complete	Sep-18
White Valley	Borlands	Overhead circuit inspection	To be Completed 2018	50%
White Valley	Cloverleaf	Line rehabilitation	Complete	Sep-18

ATTACHMENT C

FirstEnergy's Compliance with Terms of the March 30, 2015 Management Audit Order

Pursuant to Docket Nos. D-2014-2365991 and D-2014-2365992, (Appendix A)(2): Met-Ed and Penelec are directed to provide a quarterly report that shall consist of a chart documenting the Open Priority 3 repairs and the Overdue Priority 3 (P3) Repairs for each company each quarter.

	Met-Ed		Penelec	
	Open P3 Conditions	Overdue P3 Conditions	Open P3 Conditions	Overdue P3 Conditions
1Q	979	930	951	725
2Q	679	634	639	479
3Q	358	318	464	268
4Q				

Pursuant to Docket Nos. D-2014-2365991, D-2014-2365992, D-2014-2365993, and D-2014-2365994, (Appendix A)(3): FirstEnergy is directed to track and measure line hit incidents, causes of line hits, and damage recovery amounts for all third-party line hit incidents for each company.

Met-Ed – Third Party Line Hit Incidents 3rd Quarter 2018 12-Month Rolling³²			
Cause of Line Hit	Number of Incidents	Invoice Amount (\$)	Recovery Amount (\$)
Dig In - Other	14	3,177	0
Excavated in Tolerance	48	85,690	39,260
Excavation Inconsistent with Ticket Scope	13	16,566	8,169
Excavation Prior to Lawful Start Date	0	0	0
Expired Ticket	2	1,947	1,947
Hand Digging	0	0	0
Marked Improperly	12	22,868	20,883
No Ticket	23	32,050	18,573
Total	112	162,298	88,832

Penelec – Third Party Line Hit Incidents 3rd Quarter 2018 12-Month Rolling³³			
Cause of Line Hit	Number of Incidents	Invoice Amount (\$)	Recovery Amount (\$)
Dig In - Other	24	0	0
Excavated in Tolerance	44	99,652	82,777
Excavation Inconsistent with Ticket Scope	3	6,080	0
Excavation Prior to Lawful Start Date	3	1,511	0
Expired Ticket	5	1,483	862
Hand Digging	5	5,021	4,309
Marked Improperly	31	61,348	50,951
No Ticket	59	83,002	35,588
Total	174	258,097	174,487

³² Data includes line hits closed during the rolling twelve-month reporting period as well as line hits that are still open as of September 30, 2018.

³³ Data includes line hits closed during the rolling twelve-month reporting period as well as line hits that are still open as of September 30, 2018.

Penn Power – Third Party Line Hit Incidents 3rd Quarter 2018 12-Month Rolling³⁴			
Cause of Line Hit	Number of Incidents	Invoice Amount (\$)	Recovery Amount (\$)
Dig In - Other	11	11,143	0
Excavated in Tolerance	8	8,313	3,834
Excavation Inconsistent with Ticket Scope	1	0	0
Excavation Prior to Lawful Start Date	2	4,530	0
Expired Ticket	3	6,821	1,991
Hand Digging	0	0	0
Marked Improperly	6	8,436	8,436
No Ticket	13	11,158	5,692
Total	44	50,401	19,953

West Penn – Third Party Line Hit Incidents 3rd Quarter 2018 12-Month Rolling³⁵			
Cause of Line Hit	Number of Incidents	Invoice Amount (\$)	Recovery Amount (\$)
Dig In - Other	41	43,697	14,018
Excavated in Tolerance	10	16,337	16,025
Excavation Inconsistent with Ticket Scope	9	16,901	8,763
Excavation Prior to Lawful Start Date	1	1,476	1,476
Expired Ticket	5	11,851	11,885
Hand Digging	17	40,869	19,177
Marked Improperly	27	110,930	85,708
No Ticket	35	98,862	84,847
Total	145	340,923	241,899

Cause of Line Hit	Definition
Dig In - Other	Still under investigation
Excavated in Tolerance	Excavator didn't use prudent digging techniques within the Tolerance Zone
Excavation Inconsistent with Ticket Scope	Excavation outside dig box and/or scope of ticket
Excavation Prior to Lawful Start Date	Three business days prior to start of excavation from when the ticket was called in to mark
Expired Ticket	After ten business days have passed, the ticket is considered expired
Hand Digging	Excavator was hand digging within the Tolerance Zone, however the facility was still hit
Marked Improperly	Ticket called in, facility and/or equipment was not marked properly
No Ticket	No contact was made to create a dig-request ticket

³⁴ Data includes line hits closed during the rolling twelve-month reporting period as well as line hits that are still open as of September 30, 2018.

³⁵ Data includes line hits closed during the rolling twelve-month reporting period as well as line hits that are still open as of September 30, 2018.

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**Joint 3rd Quarter 2018 Reliability Report – :
Metropolitan Edison Company, :
Pennsylvania Electric Company :
Pennsylvania Power Company and West :
Penn Power Company – Public Version :**

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true and correct copy of the foregoing document upon the individuals listed below, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

Service by first class mail, as follows:

John R. Evans
Office of Small Business Advocate
Suite 1102, Commerce Building
300 North Second Street
Harrisburg, PA 17101

Tanya McCloskey
Office of Consumer Advocate
555 Walnut Street – 5th Floor
Harrisburg, PA 17101-1923

Richard A. Kanaskie
Bureau of Investigation & Enforcement
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

Scott Rubin
Utility Workers Union of America
333 Oak Lane
Bloomsburg, PA 17815-2036

Service by electronic mail, as follows:

David Dulick, General Counsel
David.Dulick@ccsenergy.com

Rich Geosits, Manager, Power Delivery
Rich.Geosits@ccsenergy.com

Dated: November 1, 2018



Tori L. Giesler
Attorney No. 207742
FirstEnergy Service Company
2800 Pottsville Pike
P.O. Box 16001
Reading, Pennsylvania 19612-6001
(610) 921-6658
tgiesler@firstenergycorp.com

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Counsel for Metropolitan Edison Company,
Pennsylvania Electric Company, Pennsylvania
Power Company and West Penn Power Company

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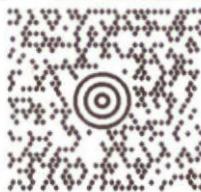
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