

Tori L. Giesler
(610) 921-6658
tgiesler@firstenergycorp.com

July 20, 2018

VIA UNITED PARCEL SERVICERosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor
Harrisburg, PA 17120**RECEIVED**

JUL 20 2018

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

M-2016-2522508

**Re: Joint 1st Quarter 2018 Reliability Report – Metropolitan Edison Company,
Pennsylvania Electric Company, Pennsylvania Power Company and West Penn
Power Company – Public Version – Updated Report**

Dear Secretary Chiavetta:

Pursuant to 52 Pa. Code § 57.195(d) and (e), enclosed for filing on behalf of Metropolitan Edison Company (“Met-Ed”), Pennsylvania Electric Company (“Penelec”), Pennsylvania Power Company (“Penn Power”) and West Penn Power Company (“West Penn”) (collectively, the “Companies”) are two copies of the **updated** Joint 1st Quarter 2018 Reliability Report – Public Version (“Joint Report”) which now reflects the approval of the Companies’ 1st Quarter major events. Worst Performing Circuit rankings and remedial actions for Met-Ed and Penelec are now included in the report. The major events did not impact the Worst Performing Circuits ranking for Penn Power or West Penn Power. Below is a list of pages which have been updated:

- Page 2 – Major Event Table
- Page 3 – Reliability Index Values table
- Pages 7-16 – Outage by Cause tables
- Pages 36-37 – Met-Ed WPC reliability indices
- Pages 38-40 – Penelec WPC reliability indices
- Pages 45-47 – Met-Ed remedial actions, unranked circuits appearing in 2 of 4 quarters and unranked circuits with remedial actions.
- Pages 58-73 – Penelec remedial actions, unranked circuits appearing in 2 of 4 quarters and unranked circuits with remedial actions.

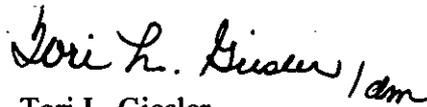
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July 20, 2018

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 date stamp the additional copy and return it in the postage-prepaid envelope provided.

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)

Met-Ed
A FirstEnergy Company

Penelec
A FirstEnergy Company

PennPower
A FirstEnergy Company

**WestPenn
Power**
A FirstEnergy Company



Joint 2018 1st 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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JUL 20 2018

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Joint 1st 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
Penelec	187	Duration	24 hours 57 minutes	Flooding	Approved April 10, 2018
		Start Date/Time	January 12, 2018 1201		
		End Date/Time	January 13, 2018 1258		
Met-Ed	408	Duration	28 hours 11 minutes	Flooding	Approved April 6, 2018
		Start Date/Time	January 23, 2018 1503		
		End Date/Time	January 24, 2018 1914		
Penn Power	2,456	Duration	20 hours 35 minutes	Ingomar Substation	Approved May 17, 2018
		Start Date/Time	January 18, 2018 2243		
		End Date/Time	January 19, 2018 1918		
West Penn	194	Duration	18 hours 39 minutes	Tornado	Approved (in part) May 16, 2018
		Start Date/Time	February 15, 2018 1847		
		End Date/Time	February 16, 2018 1326		
Penelec	76,703	Duration	97 hours 20 minutes	Winter Storm Riley	Approved May 10, 2018
		Start Date/Time	March 1, 2018 1830		
		End Date/Time	March 5, 2018 1950		
Met-Ed	273,398	Duration	230 hours 15 minutes	Winter Storms Riley and Quinn	Approved May 16, 2018
		Start Date/Time	March 2, 2018 0600		
		End Date/Time	March 11, 2018 2015		

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.

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 Values

IQ 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	1.19	1.26	1.52	1.51	1.12	1.34	1.09 ²	1.05	1.26	1.18
CAIDI	117	140	144	117	141	132	101	121	155	170	204	163 ³
SAIDI	135	194	171	148	213	199	113	162	170	179	257	191
MAIFI⁴			1.37			3.56			0.84			
Customers Served⁵	562,153			580,336			163,367			715,018		
Number of Sustained Interruptions	10,555			11,948			3,151			11,668		
Customers Affected	668,826			873,535			178,698			841,574		
Customer Minutes	96,300,113			115,224,036			27,729,655			136,763,314		
Number of Customer Momentary Interruptions	769,893			2,066,224			137,659					

² Penn Power's SAIFI achieved benchmark or better.

³ West Penn's CAIDI achieved benchmark or better.

⁴ MAIFI values are not available for West Penn.

⁵ Represents the average number of customers served during the reporting period.

Unique Events Occurring in 1Q 2018:

Penn Power

- On March 1-3, 2018, Penn Power experienced outages from a winter snow storm that impacted a total of 8,688 customers (5.32% of Penn Power's total customers). High winds and an excess of six inches of heavy, wet snow caused downed trees and power lines. This storm resulted in approximately 16.67 minutes of SAIDI, 313.24 minutes of CAIDI, and a 0.05 SAIFI impact.

West Penn

- On March 1-4, 2018, West Penn experienced outages from a winter snow storm that impacted a total of 21,196 customers (2.96% of West Penn's total customers). High winds and an excess of six inches of heavy, wet snow caused downed trees and power lines. The entire service territory was affected by the storm; however, the Butler, Washington and McConnellsburg areas sustained the heaviest damage. This storm resulted in approximately 11.0 minutes of SAIDI, 371.2 minutes of CAIDI, and a 0.03 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				
1st Quarter 2018 12-Month Rolling	Met-Ed			
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages
Equipment failure	22,527,344	2,423	173,571	22.96%
Trees off ROW - tree	31,297,701	1,593	160,822	15.09%
Animal	2,048,511	1,471	22,439	13.94%
Unknown	5,483,316	1,299	63,949	12.31%
Line failure	7,828,677	729	48,052	6.91%
Bird	319,995	510	3,272	4.83%
Trees off ROW - limb	4,829,939	444	40,699	4.21%
Trees - sec/service	794,257	418	1,511	3.96%
Forced outage	3,060,229	404	43,048	3.83%
Trees on ROW	5,274,922	390	13,522	3.69%
Vehicle	7,811,998	315	56,822	2.98%
Lightning	2,186,242	286	13,389	2.71%
Human error - non-company	632,742	60	6,753	0.57%
Overload	668,909	43	5,318	0.41%
Object contact with line	750,169	36	6,201	0.34%
Previous lightning	30,591	28	145	0.27%
Human error - company	169,957	28	4,865	0.27%
UG dig-up	62,728	25	369	0.24%
Customer equipment	9,314	14	43	0.13%
Fire	62,697	12	263	0.11%
Wind	247,257	11	1,677	0.10%
Vandalism	1,828	7	13	0.07%
Ice	10,504	4	128	0.04%
Other electric utility	32,866	3	354	0.03%
Other utility - non-electric	157,285	1	1,600	0.01%
Contamination	135	1	1	0.01%
Total	96,300,113	10,555	668,826	100.00%

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 March 31, 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”) programs⁶ 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 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.

Animal guards are installed on equipment where a high frequency of animal-related outages are experienced. 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.

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.
- **Targeted circuit rehabilitation** – Targeted circuit rehabilitation is being performed in zones one and two⁷ focusing on circuits having a high rate of equipment and line failure and animal-

⁶ 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.

⁷ 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.

- 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 (“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.
 - **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 School Lane substation will be replaced with a pad-mounted transformer and line regulators will be installed for voltage control.
 - **Installation of supervisory control and data acquisition (“SCADA”) devices** – Existing gang operated air brakes switches, disconnect switches and oil circuit reclosers are being replaced with supervisory control and data acquisition (“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.

Outages by Cause – Penelec

Outage by Cause				
1st Quarter 2018 12-Month Rolling	Penelec			
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages
Equipment failure	21,302,307	2,745	250,532	22.97%
Unknown	8,228,284	1,750	83,619	14.65%
Animal	2,707,206	1,379	30,749	11.54%
Trees off ROW - tree	39,760,755	1,270	167,217	10.63%
Line failure	11,365,812	1,103	95,340	9.23%
Forced outage	5,900,499	889	61,780	7.44%
Trees - sec/service	407,424	506	1,398	4.24%
Lightning	3,905,668	487	36,443	4.08%
Bird	1,045,411	419	17,692	3.51%
Trees off ROW - limb	2,881,763	323	16,621	2.70%
Vehicle	7,881,055	315	50,536	2.64%
Ice	71,396	131	210	1.10%
Trees on ROW	504,857	125	2,758	1.05%
Human error - non-company	1,277,546	100	12,049	0.84%
Other electric utility	5,951,636	94	17,064	0.79%
Overload	697,383	85	16,417	0.71%
UG dig-up	50,877	55	371	0.46%
Human error - company	294,077	44	8,436	0.37%
Previous lightning	47,929	42	289	0.35%
Object contact with line	877,522	40	3,184	0.33%
Customer equipment	27,214	14	205	0.12%
Vandalism	2,879	12	12	0.10%
Fire	32,627	10	597	0.08%
Contamination	408	5	6	0.04%
Other utility - non-electric	1,501	5	10	0.04%
Total	115,224,036	11,948	873,535	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 March 31, 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. 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				
1st 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	16,020,849	803	52,698	25.48%
Animal	1,172,108	443	12,671	14.06%
Bird	237,462	295	2,751	9.36%
Equipment failure	2,519,948	283	22,159	8.98%
Line failure	2,170,118	281	16,920	8.92%
Lightning	665,041	218	5,822	6.92%
Trees off ROW - limb	1,879,617	164	8,446	5.20%
Trees - sec/service	180,703	150	600	4.76%
Unknown	671,140	149	17,480	4.73%
Forced outage	327,229	90	10,839	2.86%
Vehicle	1,055,595	88	7,662	2.79%
Previous lightning	20,341	38	136	1.21%
Overload	111,721	38	720	1.21%
Human error - company	311,040	27	14,943	0.86%
Human error - non-company	248,086	24	3,651	0.76%
Trees on ROW	41,370	17	333	0.54%
Object contact with line	25,896	14	281	0.44%
UG dig-up	21,367	9	316	0.29%
Customer equipment	14,565	5	36	0.16%
Vandalism	7,532	4	20	0.13%
Ice	13,885	4	110	0.13%
Fire	705	2	2	0.06%
Wind	10,518	2	67	0.06%
Other utility - non-electric	1,384	1	8	0.03%
Other electric utility	1,248	1	24	0.03%
Contamination	187	1	3	0.03%
Total	27,729,655	3,151	178,698	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 March 31, 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 heathy 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 experiences 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 equipment-caused outages, 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				
1st 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	60,030,016	2,749	237,138	23.56%
Equipment failure	22,709,398	2,256	164,933	19.33%
Unknown	9,122,580	1,682	80,698	14.42%
Animal	2,497,736	1,241	26,869	10.64%
Line failure	13,329,071	1,200	85,208	10.28%
Forced outage	4,192,017	621	75,845	5.32%
Trees on ROW	6,803,225	394	34,697	3.38%
Trees - sec/service	343,565	351	1,778	3.01%
Vehicle	9,180,893	350	62,457	3.00%
Bird	400,430	313	7,183	2.68%
Trees off ROW - limb	3,434,221	206	23,683	1.77%
Human error - non-company	804,541	60	7,168	0.51%
Human error - company	189,792	46	8,561	0.39%
UG dig-up	90,929	42	639	0.36%
Lightning	746,783	41	5,268	0.35%
Wind	1,769,721	35	2,931	0.30%
Object contact with line	427,446	29	4,275	0.25%
Overload	243,035	13	5,768	0.11%
Customer equipment	3,354	9	13	0.08%
Other electric utility	205,273	8	1,380	0.07%
Fire	43,365	8	312	0.07%
Switching error	76,181	5	3,043	0.04%
Vandalism	8,380	3	73	0.03%
Other utility - non-electric	105,053	2	1,626	0.02%
Previous Lightning	6,049	2	24	0.02%
Contamination	260	2	4	0.02%
Total	136,763,314	11,668	841,574	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 March 31, 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. 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.
- **CEMI projects** - Improvement projects focusing on clusters of customers experiencing multiple interruptions ("CEMI") 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	1Q	YTD	Annual	1Q	YTD	Annual	1Q	YTD	Annual	1Q	YTD
Forestry	Transmission (Miles)	258.68	81.00	81.00	417.85	34.82	34.82	77.87	4.49	4.49	527.36	106.28	106.28
	Distribution (Miles)	3,160	243	243	3,636	690	690	1,149	332	332	4,584	896	896
Transmission	Aerial Patrols	2	0	0	2	0	0	2	0	0	2	0	0
	Groundline	0	0	0	0	0	0	553	0	0	1,330	0	0
Substation	Substation Inspections Class A	424	212	212	788	394	394	148	74	74	726	363	363
	Substation Inspections Class B	424	0	0	788	0	0	148	0	0	726	0	0
	Substation Inspections Class C	1,696	424	424	3,152	788	788	592	148	148	2,904	726	726
	Transformers	245	68	68	487	306	306	103	0	0	514	123	123
	Breakers	76	14	14	325	68	68	9	0	0	406	27	27
	Relay Schemes	98	22	22	176	58	58	16	16	16	123	6	6
Distribution	Capacitors	4,758	4,758	4,758	8,736	8,736	8,736	994	989	989	1,305	1,305	1,305
	Poles	46,000	0	0	41,591	22,611	22,611	10,600	11,066	11,066	57,822	12,756	12,756
	Reclosers	1,109	776	776	2,572	0	0	815	800	800	3,898	3,598	3,598
	Radio-Controlled Switches	478	0	0	2,612	181	181	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 Expenditures⁸

Met-Ed T&D O&M - 1Q / YTD March 2018, (\$)						
Transmission						
Category	1Q Actuals	1Q Budget	YTD Actuals	YTD Budget	Annual Budget	
560	Operation Supervision and Engineering	0	0	0	0	0
561	Load Dispatching	14,430	169,320	14,430	169,320	680,275
562	Station Expenses	3,819	0	3,819	0	0
563	Overhead Lines Expenses	41,427	14,447	41,427	14,447	33,112
565	Transmission of Electricity by Others	3,214,267	2,258,312	3,214,267	2,258,312	9,193,248
566	Miscellaneous Transmission Expenses	(2,780)	(3,158)	(2,780)	(3,158)	(13,365)
567	Rents	17,088	0	17,088	0	0
568	Maintenance Supervision and Engineering	0	0	0	0	0
569	Maintenance of Structures	47,375	4,970	47,375	4,970	20,225
570	Maintenance of Station Equipment	259,204	1,500	259,204	1,500	6,000
571	Maintenance of Overhead Lines	(14,058)	0	(14,058)	0	0
572	Maintenance of Underground Lines	0	0	0	0	0
573	Maintenance of Miscellaneous Transmission Plant	918	0	918	0	0
575	Market Administration, Monitoring & Compliance Services	0	0	0	0	0
Transmission Total		3,581,693	2,445,391	3,581,693	2,445,391	9,919,496
Distribution						
Category	1Q Actuals	1Q Budget	YTD Actuals	YTD Budget	Annual Budget	
580	Operation Supervision and Engineering	58,658	54,517	58,658	54,517	242,700
581	Load Dispatching	48,206	41,303	48,206	41,303	203,414
582	Station Expenses	157,272	152,992	157,272	152,992	641,671
583	Overhead Line Expenses	33,463	128,185	33,463	128,185	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	184,517	140,338	184,517	140,338	597,543
587	Customer Installations Expenses	0	0	0	0	0
588	Miscellaneous Distribution Expenses	1,687,831	1,849,730	1,687,831	1,849,730	8,070,195
589	Rents	133,334	126,109	133,334	126,109	504,437
590	Maintenance Supervision and Engineering	89,514	46,824	89,514	46,824	193,021
591	Maintenance of Structures	933	1,697	933	1,697	6,817
592	Maintenance of Station Equipment	1,246,302	1,863,560	1,246,302	1,863,560	7,591,843
593	Maintenance of Overhead Lines	36,378,138	7,567,535	36,378,138	7,567,535	28,894,156
594	Maintenance of Underground Lines	(236,484)	300,648	(236,484)	300,648	1,527,965
595	Maintenance Line Transformer	40,658	469,502	40,658	469,502	1,878,008
596	Maintenance of Street Lighting and Signal Systems	170,843	132,167	170,843	132,167	582,543
597	Maintenance of Meters	484,532	510,717	484,532	510,717	2,240,327
598	Maintenance of Miscellaneous Distribution Plant	382,836	636,648	382,836	636,648	2,411,184
Distribution Total		40,860,552	14,022,471	40,860,552	14,022,471	55,783,100
Met-Ed Total		44,442,245	16,467,862	44,442,245	16,467,862	65,702,596

⁸ Budgets are subject to change.

Penelec						
T&D O&M – 1Q / YTD March 2018 (\$)						
Transmission						
Category	1Q Actuals	1Q Budget	YTD Actuals	YTD Budget	Annual Budget	
560	Operation Supervision and Engineering	0	0	0	0	0
561	Load Dispatching	(11,552)	168,808	(11,552)	168,808	682,278
562	Station Expenses	60,058	29,272	60,058	29,272	135,607
563	Overhead Lines Expenses	283,279	305,708	283,279	305,708	491,576
565	Transmission of Electricity by Others	8,407,001	8,246,449	8,407,001	8,246,449	33,478,941
566	Miscellaneous Transmission Expenses	619	0	619	0	0
567	Rents	157,558	46,947	157,558	46,947	275,000
568	Maintenance Supervision and Engineering	10,080	(0)	10,080	(0)	(0)
569	Maintenance of Structures	70,806	5,772	70,806	5,772	23,493
570	Maintenance of Station Equipment	76,427	70,849	76,427	70,849	283,400
571	Maintenance of Overhead Lines	68,804	(23,654)	68,804	(23,654)	0
572	Maintenance of Underground Lines	0	0	0	0	0
573	Maintenance of Miscellaneous Transmission Plant	(1,213)	0	(1,213)	0	0
575	Market Administration, Monitoring & Compliance Services	0	0	0	0	0
Transmission Total		9,121,867	8,850,152	9,121,867	8,850,152	35,370,294
Distribution						
Category	1Q Actuals	1Q Budget	YTD Actuals	YTD Budget	Annual Budget	
580	Operation Supervision and Engineering	83,867	83,887	83,867	83,887	340,011
581	Load Dispatching	94,680	55,149	94,680	55,149	246,339
582	Station Expenses	127,456	0	127,456	0	0
583	Overhead Line Expenses	55,778	15,163	55,778	15,163	52,827
584	Underground Line Expenses	199,634	161,372	199,634	161,372	879,170
585	Distribution-Street Lighting & Signal System Expenses	0	0	0	0	0
586	Meter Expenses	157,879	149,615	157,879	149,615	610,579
587	Customer Installations Expenses	0	0	0	0	0
588	Miscellaneous Distribution Expenses	2,649,561	2,664,725	2,649,561	2,664,725	11,971,998
589	Rents	464,785	282,929	464,785	282,929	1,131,717
590	Maintenance Supervision and Engineering	91,803	53,326	91,803	53,326	219,824
591	Maintenance of Structures	0	0	0	0	0
592	Maintenance of Station Equipment	1,697,596	1,440,113	1,697,596	1,440,113	6,015,575
593	Maintenance of Overhead Lines	9,771,460	6,861,210	9,771,460	6,861,210	30,918,994
594	Maintenance of Underground Lines	528,469	9,991	528,469	9,991	146,143
595	Maintenance Line Transformer	35,523	60,724	35,523	60,724	242,897
596	Maintenance of Street Lighting and Signal Systems	271,750	782,644	271,750	782,644	3,120,417
597	Maintenance of Meters	646,897	924,150	646,897	924,150	3,822,304
598	Maintenance of Miscellaneous Distribution Plant	335,602	20,290	335,602	20,290	122,860
Distribution Total		17,212,741	13,565,288	17,212,741	13,565,288	59,841,657
Penelec Total		26,334,608	22,415,440	26,334,608	22,415,440	95,211,950

Penn Power						
T&D O&M – 1Q / YTD March 2018 (S)						
Transmission						
Category	1Q Actuals	1Q Budget	YTD Actuals	YTD Budget	Annual Budget	
560	Operation Supervision and Engineering	346	477	346	477	2,131
561	Load Dispatching	4,995	32,127	4,995	32,127	129,499
562	Station Expenses	0	(36)	0	(36)	(187)
563	Overhead Lines Expenses	0	(63)	0	(63)	(325)
565	Transmission of Electricity by Others	1,477,678	1,222,415	1,477,678	1,222,415	4,974,660
566	Miscellaneous Transmission Expenses	889	992	889	992	3,870
567	Rents	0	0	0	0	0
568	Maintenance Supervision and Engineering	2,942	3,699	2,942	3,699	16,147
569	Maintenance of Structures	5,255	7,704	5,255	7,704	33,199
570	Maintenance of Station Equipment	1,115	762	1,115	762	3,047
571	Maintenance of Overhead Lines	(58,076)	971	(58,076)	971	(80,573)
572	Maintenance of Underground Lines	0	0	0	0	0
573	Maintenance of Miscellaneous Transmission Plant	(226)	0	(226)	0	0
575	Market Administration, Monitoring & Compliance Services	0	0	0	0	0
Transmission Total		1,434,916	1,269,047	1,434,916	1,269,047	5,081,468
Distribution						
Category	1Q Actuals	1Q 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	17,291	0	17,291	0	0
583	Overhead Line Expenses	88,835	0	88,835	0	0
584	Underground Line Expenses	44,636	131,365	44,636	131,365	524,466
585	Distribution-Street Lighting & Signal System Expenses	0	0	0	0	0
586	Meter Expenses	14,894	18,522	14,894	18,522	74,938
587	Customer Installations Expenses	0	0	0	0	0
588	Miscellaneous Distribution Expenses	98,340	247,642	98,340	247,642	1,079,663
589	Rents	86,918	79,747	86,918	79,747	318,986
590	Maintenance Supervision and Engineering	24,770	13,332	24,770	13,332	54,953
591	Maintenance of Structures	0	0	0	0	0
592	Maintenance of Station Equipment	199,051	89,558	199,051	89,558	376,718
593	Maintenance of Overhead Lines	3,374,196	2,998,684	3,374,196	2,998,684	12,374,767
594	Maintenance of Underground Lines	67,759	9,220	67,759	9,220	39,187
595	Maintenance Line Transformer	7,108	12,872	7,108	12,872	51,489
596	Maintenance of Street Lighting and Signal Systems	13,959	0	13,959	0	0
597	Maintenance of Meters	110,981	146,189	110,981	146,189	598,980
598	Maintenance of Miscellaneous Distribution Plant	64,518	109,305	64,518	109,305	472,985
Distribution Total		4,213,254	3,856,435	4,213,254	3,856,435	15,967,133
Penn Power Total		5,648,170	5,125,482	5,648,170	5,125,482	21,048,601

West Penn						
T&D O&M – 1Q / YTD March 2018 (S)						
Transmission						
Category	1Q Actuals	1Q Budget	YTD Actuals	YTD Budget	Annual Budget	
560	Operation Supervision and Engineering	8,103	12,863	8,103	12,863	56,519
561	Load Dispatching	202,056	473,220	202,056	473,220	1,983,587
562	Station Expenses	39,406	5,694	39,406	5,694	24,140
563	Overhead Lines Expenses	90,410	0	90,410	0	0
565	Transmission of Electricity by Others	14,194,134	15,092,587	14,194,134	15,092,587	60,377,974
566	Miscellaneous Transmission Expenses	62,337	67,633	62,337	67,633	352,998
567	Rents	6,195	6,297	6,195	6,297	25,187
568	Maintenance Supervision and Engineering	174,950	135,168	174,950	135,168	558,238
569	Maintenance of Structures	6,991	4,174	6,991	4,174	17,275
570	Maintenance of Station Equipment	476,431	477,779	476,431	477,779	2,032,207
571	Maintenance of Overhead Lines	2,669,618	1,780,532	2,669,618	1,780,532	13,267,007
572	Maintenance of Underground Lines	0	0	0	0	0
573	Maintenance of Miscellaneous Transmission Plant	0	0	0	0	0
575	Market Administration, Monitoring & Compliance Services	20	0	20	0	0
Transmission Total		17,930,651	18,055,948	17,930,651	18,055,948	78,695,132
Distribution						
Category	1Q Actuals	1Q Budget	YTD Actuals	YTD Budget	Annual Budget	
580	Operation Supervision and Engineering	54,865	28,754	54,865	28,754	105,573
581	Load Dispatching	419,520	402,320	419,520	402,320	1,823,718
582	Station Expenses	144,569	326,477	144,569	326,477	1,209,878
583	Overhead Line Expenses	546,350	546,316	546,350	546,316	1,429,962
584	Underground Line Expenses	257,053	195,000	257,053	195,000	1,210,000
585	Distribution-Street Lighting & Signal System Expenses	0	0	0	0	0
586	Meter Expenses	283,564	443,179	283,564	443,179	1,909,499
587	Customer Installations Expenses	0	0	0	0	0
588	Miscellaneous Distribution Expenses	3,697,942	3,514,375	3,697,942	3,514,375	14,994,284
589	Rents	0	0	0	0	0
590	Maintenance Supervision and Engineering	135,236	94,627	135,236	94,627	403,051
591	Maintenance of Structures	0	0	0	0	0
592	Maintenance of Station Equipment	1,403,441	1,762,607	1,403,441	1,762,607	7,456,908
593	Maintenance of Overhead Lines	9,290,998	6,836,482	9,290,998	6,836,482	30,632,377
594	Maintenance of Underground Lines	348,241	230,203	348,241	230,203	753,257
595	Maintenance Line Transformer	15,714	72,269	15,714	72,269	289,074
596	Maintenance of Street Lighting and Signal Systems	251,701	188,325	251,701	188,325	795,037
597	Maintenance of Meters	302,083	250,506	302,083	250,506	1,070,584
598	Maintenance of Miscellaneous Distribution Plant	48,139	57,768	48,139	57,768	238,242
Distribution Total		17,199,417	14,949,208	17,199,417	14,949,208	64,321,443
West Penn Total		35,130,067	33,005,156	35,130,067	33,005,156	143,016,574

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^{9, 10}

Met-Ed					
T&D Capital – 1Q/YTD March 2018 (\$)					
Category	1Q Actuals	1Q Budget	YTD Actuals	YTD Budget	Annual Budget
Capacity	2,167,968	3,650,956	2,167,968	3,650,956	12,046,796
Condition	3,303,152	3,458,245	3,303,152	3,458,245	15,210,656
Facilities	(431,068)	258,352	(431,068)	258,352	4,029,172
Forced	29,471,248	9,026,961	29,471,248	9,026,961	36,042,546
Meter Related	480,219	695,795	480,219	695,795	2,657,061
New Business	3,299,857	3,535,027	3,299,857	3,535,027	14,256,019
Other	4,461,110	8,024,016	4,461,110	8,024,016	39,834,720
Reliability	3,047,033	5,550,897	3,047,033	5,550,897	24,345,555
Street Light	496,616	981,887	496,616	981,887	2,048,961
Tools & Equipment	140,346	264,621	140,346	264,621	1,165,919
Vegetation Management	2,199,867	4,037,259	2,199,867	4,037,259	16,163,160
Met-Ed Total	48,636,348	39,484,014	48,636,348	39,484,014	167,800,564

Penelec					
T&D Capital – 1Q/YTD March 2018 (\$)					
Category	1Q Actuals	1Q Budget	YTD Actuals	YTD Budget	Annual Budget
Capacity	502,433	1,553,984	502,433	1,553,984	6,993,475
Condition	1,771,737	2,321,726	1,771,737	2,321,726	9,625,735
Facilities	1,566,608	299,957	1,566,608	299,957	2,558,659
Forced	9,487,051	9,487,960	9,487,051	9,487,960	43,150,174
Meter Related	435,585	548,321	435,585	548,321	2,468,478
New Business	2,050,229	2,905,265	2,050,229	2,905,265	11,979,604
Other	10,053,909	6,850,864	10,053,909	6,850,864	18,159,603
Reliability	6,492,410	9,140,821	6,492,410	9,140,821	47,667,106
Street Light	376,962	503,504	376,962	503,504	2,090,990
Tools & Equipment	195,585	334,202	195,585	334,202	1,438,392
Vegetation Management	4,695,709	7,483,053	4,695,709	7,483,053	28,719,489
Penelec Total	37,628,218	41,429,657	37,628,218	41,429,657	174,851,705

⁹ Budgets are subject to change.

¹⁰ General note: Capital reported on Generally Accepted Accounting Principles (GAAP) basis.

Penn Power					
T&D Capital – 1Q/YTD March 2018 (\$)					
Category	1Q Actuals	1Q Budget	YTD Actuals	YTD Budget	Annual Budget
Capacity	359,647	25,187	359,647	25,187	100,359
Condition	105,992	391,794	105,992	391,794	1,412,444
Facilities	0	73	0	73	122
Forced	2,814,896	4,138,297	2,814,896	4,138,297	17,722,956
Meter Related	183,790	131,875	183,790	131,875	540,010
New Business	1,467,899	1,416,743	1,467,899	1,416,743	5,666,730
Other	1,688,639	324,948	1,688,639	324,948	222,601
Reliability	2,074,360	2,717,118	2,074,360	2,717,118	14,271,585
Street Light	245,980	139,310	245,980	139,310	561,281
Tools & Equipment	59,720	6,344	59,720	6,344	37,747
Vegetation Management	520,826	1,326,593	520,826	1,326,593	5,326,085
Penn Power Total	9,521,749	10,618,282	9,521,749	10,618,282	45,861,921

West Penn					
T&D Capital – 1Q/YTD March 2018 (\$)					
Category	1Q Actuals	1Q Budget	YTD Actuals	YTD Budget	Annual Budget
Capacity	2,003,931	1,247,250	2,003,931	1,247,250	2,597,013
Condition	2,912,479	7,311,979	2,912,479	7,311,979	18,476,672
Facilities	1,029,453	1,148,956	1,029,453	1,148,956	3,635,875
Forced	9,877,670	7,940,529	9,877,670	7,940,529	37,132,224
Meter Related	437,906	595,523	437,906	595,523	2,436,480
New Business	4,916,291	5,129,434	4,916,291	5,129,434	22,623,356
Other	17,045,279	18,977,521	17,045,279	18,977,521	71,890,920
Reliability	8,303,538	9,774,968	8,303,538	9,774,968	40,754,399
Street Light	767,153	1,921,456	767,153	1,921,456	6,245,554
Tools & Equipment	339,507	801,519	339,507	801,519	3,244,253
Vegetation Management	9,058,721	12,161,762	9,058,721	12,161,762	41,088,498
West Penn Total	56,691,926	67,010,897	56,691,926	67,010,897	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).*¹¹

Staffing Levels

Met-Ed 2018												
Department	Position	Staffing Level				Staff Added in Quarter			Staff Lost in Quarter			Plan to Hire in 2019 ¹⁴
		1Q	2Q	3Q	4Q	New Hire – Experienced	New Hire – PSI Student	Other ¹²	Retirement	Voluntary Separation	Other ¹³	
Distribution	Line Leader	51						3			2	
	Line Troubleshooter	38						2			1	
	Lineman	115									5	
Substation	Substation Leader	15						1			1	
	Substation Employee	56 ¹⁵									2	
Transmission	Line Leader	2										
	Lineman	9						1				
	Total	286						7			11	

¹¹ 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.

¹² Includes transfers and promotions.

¹³ Includes transfers, voluntary separations, and promotions.

¹⁴ Hiring plan to be provided annually in the 4Q report.

¹⁵ The substation employee staffing level number increased by one employee due to the timing of a staffing change that occurred in 4Q 2017 but was not processed until 1Q 2018.

Penelec 2018												
Department	Position	Staffing Level				Staff Added in Quarter			Staff Lost in Quarter			Plan to Hire in 2019 ¹⁸
		1Q	2Q	3Q	4Q	New Hire – Experienced	New Hire – PSI Student	Other ¹⁶	Retirement	Voluntary Separation	Other ¹⁷	
Distribution	Line Leader	70									2	
	Line Troubleshooter	69				2		3		1	1	
	Lineman	103 ¹⁹				4		2		2	2	
Substation	Substation Leader	33						1		1		
	Substation Employee	34										
Transmission	Line Leader	3										
	Lineman	25 ²⁰										
	Total	337				6		6		4	5	

¹⁶ Includes transfers and promotions.

¹⁷ Includes transfers, involuntary separations, and promotions.

¹⁸ Hiring plan to be provided annually in the 4Q report.

¹⁹ The distribution lineman staffing level numbers increased by 13 employees that were incorrectly included in the transmission lineman counts.

²⁰ The transmission lineman staffing level numbers decreased by 13 employees that should be been included in the distribution lineman counts.

Penn Power 2018												
Department	Position	Staffing Level				Staff Added in Quarter			Staff Lost in Quarter			Plan to Hire in 2019 ²³
		1Q	2Q	3Q	4Q	New Hire – Experienced	New Hire – PSI Student	Other ²¹	Retirement	Voluntary Separation	Other ²²	
Distribution	Line Leader	24										
	Line Troubleshooter	8								1	1	
	Lineman	43										
Substation	Substation Leader	5										
	Substation Employee	15										
Transmission	Line Leader	1										
	Lineman	5				1					1	
	Total	101				1				1	2	

²¹ Includes transfers, promotions, and promotions within a position.

²² Includes transfers, involuntary separations, promotions and promotions within a position.

²³ 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 ²⁶
		1Q	2Q	3Q	4Q	New Hire – Experienced	New Hire – PSI Student	Other ²⁴	Retirement	Voluntary Separation	Other ²⁵	
Distribution	Line Leader	67						1				
	Line Troubleshooter	67						1				
	Lineman	90								3	2	
Substation	Substation Leader	18										
	Substation Employee	65				4					1	
Transmission	Line Leader	0										
	Lineman	2				1					1	
	Total	309				5		2		3	4	

²⁴ Includes transfers, promotions, and promotions within a position.

²⁵ Includes transfers, involuntary separations, promotions and promotions within a position.

²⁶ 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 Penn²⁸ 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.

²⁸ West Penn utilizes its automated calling system to complete its call out process.

ATTACHMENT A

Worst Performing Circuits - Reliability Indices

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SECRETARY'S BUREAU

Met-Ed													
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
1	Myerstown	00750-2	Lebanon	1,546	26	2	1,573,119	4,787	2.80	1,018	3.10	329	0.00
2	Bath	00873-3	Easton	2,120	56	2	1,571,382	7,802	2.80	741	3.68	201	1.00
3	Lickdale	00625-2	Lebanon	1,001	88	1	1,562,692	2,895	2.78	1,561	2.89	540	1.00
4	Orrtanna	00764-4	Gettysburg	1,752	59	1	1,525,209	3,670	2.71	871	2.10	416	10.60
5	Mountain	00744-4	Dillsburg	1,826	68	0	1,256,332	3,366	2.23	688	1.84	373	0.00
6	Dillsburg	00748-4	Dillsburg	1,788	77	0	1,139,659	6,045	2.03	637	3.38	189	0.00
7	Birchwood	00623-3	Stroudsburg	1,341	44	3	1,089,027	6,362	1.94	812	4.74	171	2.00
8	Birchwood	00624-3	Stroudsburg	2,027	37	1	742,207	3,739	1.32	366	1.85	199	10.00
9	East Prospect	00765-4	York	1,888	46	3	918,927	5,196	1.63	487	2.75	177	0.70
10	Flying Hills	00776-1	Reading	1,482	26	1	867,952	2,492	1.54	586	1.68	348	0.00
11	S Nazareth	00809-3	Easton	3,170	50	1	864,230	4,515	1.54	273	1.42	191	6.00
12	Bernville	00786-1	Hamburg	1,839	77	0	838,373	5,665	1.49	456	3.08	148	0.00
13	Lynnville	00735-1	Hamburg	1,356	50	2	816,282	3,466	1.45	602	2.56	236	6.00
14	Glendon	00819-3	Easton	1,315	14	4	781,622	5,867	1.39	594	4.46	133	5.80
15	Shawnee	00822-3	Stroudsburg	3,404	65	2	772,750	10,716	1.37	227	3.15	72	3.00
16	Frystown	00701-2	Lebanon	1,208	56	1	749,502	7,836	1.33	620	6.49	96	6.20
17	Hill	00737-4	York	2,266	27	0	720,907	7,014	1.28	318	3.10	103	1.00
18	Dillsburg	00749-4	Dillsburg	1,817	69	1	694,640	3,738	1.24	382	2.06	186	2.00
19	Lynnville	00748-1	Hamburg	1,209	33	1	683,216	2,034	1.22	565	1.68	336	0.00
20	Turf Club	00724-2	Lebanon	634	30	1	665,106	2,712	1.18	1,049	4.28	245	1.00
21	Windsor	00795-4	York	1,023	88	1	659,435	3,104	1.17	645	3.03	212	1.60
22	Hokes	00587-4	York	889	21	2	656,597	1,935	1.17	739	2.18	339	0.00
23	Birdsboro	00756-1	Reading	1,525	77	1	655,293	8,230	1.17	430	5.40	80	11.40
24	Mt Rose	00562-4	York	1,945	21	0	583,999	2,818	1.04	300	1.45	207	1.10
25	Fox Hill st	00850-3	Stroudsburg	784	21	3	583,983	4,926	1.04	745	6.28	119	2.50
26	Swatara Hill	00765-2	Lebanon	607	30	2	564,165	2,053	1.00	929	3.38	275	9.00

Met-Ed													
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
27	Newberry	00586-4	York	1,622	37	1	572,288	3,681	1.02	353	2.27	156	0.00
28	Violet Hill	00325-4	York	650	17	2	560,820	2,169	1.00	863	3.34	259	0.00
29	Leesport	00811-1	Hamburg	1,508	33	1	559,063	2,423	0.99	371	1.61	231	1.50
30	Belfast	00849-3	Easton	2,083	15	1	553,722	8,990	0.99	266	4.32	62	1.00
31	North Cornwall	00610-2	Lebanon	2,091	62	0	541,949	3,665	0.96	259	1.75	148	2.80
32	Windsor	00316-4	York	586	22	1	528,930	1,334	0.94	903	2.28	397	3.00
33	Clearfield st	00632-3	Easton	1,256	46	2	516,070	4,735	0.92	411	3.77	109	0.00
34	Shawnee	00899-3	Stroudsburg	1,657	59	4	514,785	8,046	0.92	311	4.86	64	1.80
35	Lickdale	00626-2	Lebanon	2,065	44	1	509,113	2,977	0.91	247	1.44	171	0.00
36	Allen	00501-4	Dillsburg	1,985	54	2	504,254	5,391	0.90	254	2.72	94	2.00
37	Allen	00502-4	Dillsburg	1,123	22	1	495,264	2,883	0.88	441	2.57	172	0.00
38	Walker	00865-3	Stroudsburg	2,122	50	0	489,483	3,928	0.87	231	1.85	125	0.00
39	Shawnee	00895-3	Stroudsburg	3,801	69	1	473,184	5,819	0.84	124	1.53	81	6.30

Penelec													
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
1	Madera	00166-22	Philipsburg	2,140	75	0	1,486,656	7,284	2.56	695	3.40	204	5.76
2	Warren South	00220-41	Warren	2,885	89	0	1,342,195	8,666	2.31	465	3.00	155	7.30
3	Springboro	00237-52	Meadville	2,793	90	0	1,298,828	8,959	2.24	465	3.21	145	3.46
4	Logan	00700-81	Lewistown	1,056	38	0	1,271,138	4,223	2.19	1,204	4.00	301	10.50
5	Union City	00207-43	Erie	610	32	4	1,258,903	3,870	2.17	2,064	6.34	325	4.88
6	Union City	00206-43	Erie	2,620	69	1	1,232,229	8,244	2.12	470	3.15	149	7.55
7	Hooversville	00019-12	Somerset	1,481	37	0	1,039,592	5,029	1.79	702	3.40	207	4.71
8	Thompson	00436-65	Montrose	1,076	56	0	1,027,167	3,732	1.77	955	3.47	275	9.20
9	Pittsburgh Avenue	00524-31	Erie	1,611	35	2	1,026,237	4,493	1.77	637	2.79	228	0.00
10	DuBois	00137-23	DuBois	2,971	87	0	980,009	8,199	1.69	330	2.76	120	3.11
11	East Hickory	00201-41	Warren	329	24	5	971,580	2,311	1.67	2,953	7.02	420	31.88
12	Philipsburg	00162-22	Philipsburg	3,405	58	0	938,869	9,706	1.62	276	2.85	97	7.55
13	Tyrone North	00643-22	Philipsburg	1,478	17	0	874,203	2,271	1.51	591	1.54	385	18.89
14	Green Garden	00536-31	Erie	944	34	1	842,715	2,252	1.45	893	2.39	374	4.56
15	Mansfield	00699-63	Mansfield	761	35	1	842,694	2,497	1.45	1,107	3.28	337	2.01
16	National Forge Sw Sta	00577-41	Warren	1,207	42	0	776,853	3,467	1.34	644	2.87	224	3.19
17	Lawrenceville	00326-63	Mansfield	43	4	1	758,020	428	1.31	17,628	9.95	1,771	0.00
18	Two Mile	00127-42	Bradford	1,330	44	0	742,481	4,133	1.28	558	3.11	180	11.85
19	Timblin	00103-23	DuBois	716	32	0	728,685	3,112	1.26	1,018	4.35	234	19.88
20	Erie East	00234-31	Erie	1,259	68	0	710,391	3,906	1.22	564	3.10	182	3.03
21	Logan	00701-81	Lewistown	1,423	26	0	686,412	2,888	1.18	482	2.03	238	4.81
22	Lake Como	00787-65	Montrose	879	32	1	668,141	3,097	1.15	760	3.52	216	6.41
23	Grover	00527-63	Mansfield	1,067	71	0	665,492	2,825	1.15	624	2.65	236	22.80
24	Brookville West	00121-23	DuBois	768	41	1	664,887	1,787	1.15	866	2.33	372	12.28
25	Brooklyn	00749-65	Montrose	502	11	1	581,066	1,006	1.00	1,158	2.00	578	2.98

Penelec													
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
26	Tunkhannock	00533-65	Montrose	1,229	50	0	496,942	3,003	0.86	404	2.44	166	10.40
27	Athens	00514-61	Towanda	716	36	0	495,853	3,363	0.85	693	4.70	147	9.40
28	Tionesta Jct Sw Sta	00498-51	Oil City	385	34	0	487,060	1,357	0.84	1,265	3.53	359	8.30
29	Birmingham	00168-22	Philipsburg	1,076	61	0	486,703	2,442	0.84	452	2.27	199	2.40
30	Brookville	00125-23	DuBois	620	22	0	474,737	1,589	0.82	766	2.56	299	3.60
31	Lewis Run	00408-42	Bradford	1,176	30	1	473,557	2,487	0.82	403	2.12	190	6.20
32	Lake Como	00788-65	Montrose	630	21	0	473,385	1,571	0.82	751	2.49	301	34.20
33	Walnut Street	00520-31	Erie	1,805	25	1	470,681	3,760	0.81	261	2.08	125	7.20
34	Utica Junction	00318-51	Oil City	842	39	1	467,184	1,460	0.81	555	1.73	320	1.90
35	Youngsville	00256-41	Warren	375	23	3	460,217	1,530	0.79	1,227	4.08	301	7.90
36	Mansfield	00558-63	Mansfield	596	33	2	415,041	2,045	0.72	696	3.43	203	13.00
37	Saxton	00631-73	Altoona	1,844	30	1	414,619	2,718	0.71	225	1.47	153	5.50
38	Mansfield	00559-63	Mansfield	511	26	2	407,755	2,041	0.70	798	3.99	200	23.20
39	Hilltop	00040-11	Johnstown	1,345	23	1	406,712	2,913	0.70	302	2.17	140	12.40
40	DuBois Central	00119-23	DuBois	1,358	39	0	403,640	2,286	0.70	297	1.68	177	0.10
41	Susquehanna	00280-65	Montrose	525	14	0	399,289	1,341	0.69	761	2.55	298	12.00
42	Greenwood	00041-71	Altoona	1,131	25	0	385,882	2,277	0.66	341	2.01	170	3.30
43	Athens	00511-61	Towanda	768	28	1	383,651	3,150	0.66	500	4.10	122	11.30
44	Church	00426-34	Erie	673	45	1	363,946	1,761	0.63	541	2.62	207	0.40
45	Emlenton	00121-51	Oil City	540	14	1	359,990	1,598	0.62	667	2.96	225	5.40
46	Wyalusing	00532-62	Towanda	723	40	0	356,698	3,630	0.61	493	5.02	98	9.30
47	Brockway	00127-23	DuBois	1,355	25	0	352,929	1,827	0.61	260	1.35	193	1.70
48	Emlenton	00322-51	Oil City	452	25	1	323,442	1,110	0.56	716	2.46	291	3.00
49	Brookville	00155-23	DuBois	365	7	0	319,965	1,625	0.55	877	4.45	197	0.10
50	East Sayre	00518-61	Towanda	1,280	58	0	313,642	3,046	0.54	245	2.38	103	4.20
51	Russell Hill	00765-65	Montrose	370	24	0	310,046	1,193	0.53	838	3.22	260	5.70

Penelec													
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
52	Fallen Timbers	00693-22	Philipsburg	265	10	1	308,172	341	0.53	1,163	1.29	904	5.20
53	DuBois	00131-23	DuBois	586	21	1	302,935	916	0.52	517	1.56	331	1.50
54	Meshoppen	00283-65	Montrose	362	18	0	302,561	962	0.52	836	2.66	315	1.00
55	Patton	00060-72	Altoona	847	17	1	302,165	2,880	0.52	357	3.40	105	9.20
56	Maitland	00149-81	Lewistown	1,305	50	0	299,115	2,245	0.52	229	1.72	133	5.50
57	Blairsville East	00081-13	Indiana	1,473	15	1	299,058	2,568	0.52	203	1.74	117	12.80
58	North Meshoppen	00534-65	Montrose	925	36	0	296,896	2,977	0.51	321	3.22	100	2.40
59	French Road	00219-31	Erie	795	9	0	294,020	1,574	0.51	370	1.98	187	1.80
60	Tiffany	00440-65	Montrose	1,552	33	1	290,881	4,889	0.50	187	3.15	60	22.00
61	Brookville	00120-23	DuBois	229	5	1	289,821	471	0.50	1,266	2.06	615	7.00
62	Powell Avenue	00237-31	Erie	1,135	24	0	276,126	1,887	0.48	243	1.66	146	5.00
63	Kearsarge	00527-31	Erie	1,510	16	1	272,773	2,434	0.47	181	1.61	112	1.00

Penn Power													
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
1	Camp Reynolds	W-134	Clark	1,738	91	1	1,457,843	4,121	8.92	839	2.37	354	0.00
2	Canal	W-101	Clark	1,486	50	0	1,213,774	3,650	7.43	817	2.46	333	0.00
3	Hadley	W-195	Clark	895	50	0	1,004,196	1,317	6.15	1,122	1.47	763	0.00
4	Leesburg	D-452	Clark	701	28	1	959,702	864	5.87	1,369	1.23	1,111	0.00
5	Hickory	W-243	Clark	1,527	21	1	846,443	2,432	5.18	554	1.59	348	0.00
6	McDowell	W-121	Clark	700	35	2	787,698	2,412	4.82	1,125	3.45	327	0.00
7	Stoneboro	W-132	Clark	851	37	0	584,493	1,763	3.58	687	2.07	332	0.00
8	Perry	W-156	Clark	1,058	57	0	558,203	1,988	3.42	528	1.88	281	0.00
9	Silver Street	W-268	Clark	2,079	24	1	549,520	3,909	3.36	264	1.88	141	0.00

West Penn ²⁸												
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI
1	Rutan	Bristoria	Jefferson	1,181	85	2	2,159,885	7,523	3.00	1,829	6.37	287
2	White Valley	Congruity	Jeannette	1,731	30	0	1,676,863	6,319	2.30	969	3.65	265
3	White Valley	Export	Jeannette	2,106	27	2	1,331,894	6,994	1.90	632	3.32	190
4	Cooperstown	Twin Willows	Butler	1,485	31	2	1,277,057	5,936	1.80	860	4.00	215
5	Smith	Florence	McDonald	790	51	2	1,219,415	4,864	1.70	1,544	6.16	251
6	Bethel Park	Dashwood	Boyce	2,152	26	3	1,166,038	7,496	1.60	542	3.48	156
7	Dutch Fork	W Alexander	Washington	1,173	68	0	964,434	2,994	1.30	822	2.55	322
8	Vanceville	Vanceville	Charleroi	1,406	70	0	956,480	3,734	1.30	680	2.66	256
9	Avella	W Middletown	Washington	1,145	65	0	951,562	3,658	1.30	831	3.19	260
10	Dutch Fork	Claysville	Washington	1,580	65	0	835,977	2,413	1.20	529	1.53	346
11	North Fayette	Beechcliff	McDonald	2,157	27	0	832,741	4,669	1.20	386	2.16	178
12	Bethlen	Darlington	Latrobe	1,242	63	3	821,760	5,910	1.10	662	4.76	139
13	Harwick	Harmar	Arnold	954	20	1	794,850	4,554	1.10	833	4.77	175
14	Fayetteville	Bikle Road	Waynesboro	1,109	48	0	785,205	1,968	1.10	708	1.77	399
15	White Valley	Borlands	Jeannette	1,351	42	1	766,587	2,575	1.10	567	1.91	298
16	Piney Fork	Gillhall	Charleroi	2,140	26	1	762,670	4,911	1.10	356	2.29	155
17	Franklin	West Waynesburg	Jefferson	1,961	26	2	760,706	4,724	1.10	388	2.41	161
18	Saltsburg	Salina	Arnold	887	31	2	756,905	2,940	1.10	853	3.31	257
19	Cecil	Bishop	Boyce	1,594	44	1	737,543	5,614	1.00	463	3.52	131
20	Saltsburg	Saltsburg	Arnold	1,402	51	0	733,786	2,801	1.00	523	2.00	262
21	Hickory	Fort Cherry	McDonald	1,058	43	1	733,571	1,959	1.00	693	1.85	374
22	Westraver	Pittsburgh Coal	Charleroi	1,909	20	1	717,237	4,458	1.00	376	2.34	161
23	White Valley	Cloverleaf	Jeannette	2,086	14	3	676,603	6,592	0.90	324	3.16	103

²⁸ MAIFI values not available for West Penn.

West Penn ²⁸												
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI
24	Smith	Francis Mine	McDonald	1,438	31	0	669,116	3,691	0.90	465	2.57	181
25	Crossgates	Peters Twp	Boyce	1,061	25	1	656,667	2,907	0.90	619	2.74	226
26	Peters	Venetia	Boyce	2,102	17	1	654,702	4,572	0.90	311	2.18	143
27	Sherwin	West Sunbury	Butler	802	15	0	654,586	1,267	0.90	816	1.58	517
28	Houston	McGovern	Washington	1,413	50	0	640,621	3,907	0.90	453	2.77	164
29	Pangburn Hill	Pangburn Hill	Charleroi	748	30	0	640,470	2,273	0.90	856	3.04	282
30	Emporium	Town Emporium	St Marys	1,859	19	2	640,054	4,990	0.90	344	2.68	128
31	Murrycrest	Sardis Road	Jeannette	1,544	26	3	635,648	5,758	0.90	412	3.73	110
32	Mateer	Dime Rd	Arnold	1,201	53	0	620,257	1,954	0.90	516	1.63	317
33	Kiski Valley	Kittanning	Arnold	1,782	38	1	619,267	3,286	0.90	348	1.84	188
34	Franklin	Rogersville	Jefferson	839	40	1	610,579	2,303	0.90	728	2.74	265
35	Amity	Banetown	Washington	1,490	51	0	588,983	2,472	0.80	395	1.66	238
36	East Waynesboro	Amsterdam	Waynesboro	1,472	25	3	581,006	4,493	0.80	395	3.05	129
37	Peters	Boxer	Boyce	1,723	18	1	573,601	3,318	0.80	333	1.93	173
38	Waterville	Waterville	State College	360	18	1	568,322	2,501	0.80	1,579	6.95	227
39	Buckeye No.3	Paisley	Jefferson	663	14	0	567,093	1,226	0.80	855	1.85	463
40	Huntingdon	Shawtown	Jeannette	1,762	13	2	549,754	3,736	0.80	312	2.12	147

ATTACHMENT B

Worst Performing Circuits – Remedial Actions

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

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	Myerstown	00750-2	<i>Performance was driven by equipment failure (82%).</i>			4Q 2017 1Q 2018
			Replace porcelain cutouts with polymer cutouts in lockout zone	To be completed 2018	0%	
			Targeted overhead inspection	To be completed 2018	99%	
2	Bath	00873-3	<i>Performance was driven by equipment failure (41%), vehicle accidents (25%) and forced outages (17%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Thermovision inspection	Complete	Jan-18	
			Replace crossarms from inspection	Complete	Oct-17	
			Targeted overhead inspection	Complete	Oct-17	
			Forestry to trim circuit	To be Completed 2018	0%	
3	Lickdale	00625-2	<i>Performance was driven by trees off ROW (46%) and trees on ROW (31%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Enhanced tree trimming	To be completed 2018	0%	
			On cycle tree trimming	To be completed 2018	0%	
4	Orrtanna	00764-4	<i>Performance was driven by trees off ROW (57%) and trees on ROW (32%).</i>			3Q 2017 4Q 2017 1Q 2018
			Perform post-storm backbone and three phase circuit patrol	Complete	Mar-18	
			Perform post-storm backbone and three phase circuit patrol	Complete	99%	
			Enhanced tree trimming	To be completed 2018	0%	
			Post storm circuit patrol	Complete	Jul-17	
			Overhead circuit inspection	To be completed 2018	0%	
			Targeted mainline circuit rehabilitation – repair/replace high priority items	To be completed 2019 ²⁹	0%	

²⁹ 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
5	Mountain	00744-4	<i>Performance was driven by trees off ROW (90%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Remove trees identified during mid-cycle forestry inspection	Complete	Apr-17	
			Remove trees identified during forestry inspection	Complete	Jun-17	
			Replace poles and repair damage caused by trees	Complete	Jul-17	
			Perform targeted three phase circuit assessment	Complete	Mar-18	
			Perform targeted three phase circuit assessment	To be completed 2018	99%	
			Install Supervisory Control and Data Acquisition (SCADA) switch	To be completed 2018	50%	
			On cycle tree trimming	To be completed 2018	0%	
			Enhanced tree trimming	To be completed 2018	0%	
6	Dillsburg	00748-4	<i>Performance was driven by trees off ROW (78%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Perform tree work identified during post-storm forestry inspection	Complete	Jun-17	
			Post-storm three phase forestry inspection	Complete	Jun-17	
			Post-storm circuit patrol	Complete	Sep-17	
			Replace/repair high priority items identified during overhead circuit patrol	Complete	Oct-17	
			Install Supervisory Control and Data Acquisition (SCADA) switch	To be completed 2018	50%	
			On cycle tree trimming	To be completed 2018	0%	
7	Birchwood	00623-3	<i>Performance was driven by line failure (52%), equipment failure (25%) and trees off ROW (17%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Install Supervisory Control and Data Acquisition (SCADA) switch	To be completed 2018	25%	
			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%	
			Forestry to trim circuit	To be completed 2018	0%	

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
8	Birchwood	00624-3	<i>Performance was driven by vehicle accidents (45%), equipment failure (37%) and trees off ROW (16%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Install additional Supervisory Control and Data Acquisition (SCADA) switches	Complete	Sep-17	
			Install additional Supervisory Control and Data Acquisition (SCADA) switches	Complete	Oct-17	
			Thermovision inspection	Complete	Feb-18	
			Install Supervisory Control and Data Acquisition (SCADA) recloser	To be completed 2018	50%	
			Forestry to trim circuit	To be completed 2018	0%	
9	East Prospect	00765-4	<i>Performance was driven by trees Off Row (55%), equipment failures (20%) and wind (13%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Post-storm patrol	Complete	Jun-17	
			Overhead circuit inspection	Complete	Jul-17	
			Post-storm patrol	Complete	Sep-17	
			On cycle tree trimming	Complete	Dec-17	
Replace/repair high priority items identified during overhead circuit patrol	To be completed 2018	35%				
10	Flying Hills	00776-1	<i>Performance was driven by an outage caused by trees off ROW (65%) and a vehicle accident (16%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair/replace pole from inspection	Complete	Jun-17	
			Engineering Supervisory Control and Data Acquisition (SCADA) review	Complete	Sep-17	
			Targeted forestry inspection	Complete	Nov-17	
			Repair/replace poles from inspection	Complete	Nov-17	
			Install Supervisory Control and Data Acquisition (SCADA) switches	Complete	Dec-17	
			Construct circuit tie	Complete	Dec-17	
			Relocate mainline recloser	Complete	Dec-17	
Enhanced 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
11	S.Nazareth	00809-3	<i>Performance was driven by trees off ROW (75%) and equipment failure (11%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Replace switch	Complete	Apr-17	
			Replace/repair high priority items identified during circuit assessment	Complete	Apr-17	
			Overhead circuit inspection	Complete	Jul-17	
			Replace/repair high priority items identified during circuit assessment	Complete	Oct-17	
			Replace polymer insulators identified on circuit	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	25%	
12	Bernville	00786-1	<i>Performance was driven by outages caused by line & equipment failures (33%) trees off ROW (32%) and vehicle accidents (25%)</i>			3Q 2017 4Q 2017 1Q 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	
			Enhanced overhead circuit inspection	Complete	Mar-18	
			Post-storm forestry inspection	Complete	Mar-18	
			Replace arrester on mainline switch from inspection	To be completed 2018	50%	
			Replace crossarms from inspection	To be completed 2018	25%	
			Replace cutout from inspection	To be completed 2018	25%	
			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%				

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
13	Lynnville	00735-1	<i>Performance was driven by three outages during storms caused by a broken ridge pin, a broken insulator and a broken pole (78%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Overhead circuit inspection	Complete	Jun-17	
			Replace crossarms from inspection	Complete	Jun-17	
			Engineering Supervisory Control and Data Acquisition (SCADA) review	Complete	Sep-17	
			Replace crossarm from inspection	Complete	Nov-17	
			Replace poles from inspection	To be completed 2018	50%	
			Enhanced overhead circuit inspection	Complete	Feb-18	
On cycle tree trimming	To be completed 2018	90%				
14	Glendon	00819-3	<i>Performance was driven by equipment failure (85%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Forestry Zone 1 aerial patrol	Complete	Jul-17	
			On cycle tree trimming	Complete	Dec-17	
			Replace crossarms	Complete	Oct-17	
			Forestry to trim circuit	Complete	Dec-17	
			Thermovision inspection	Complete	Jan-18	
Repair items identified during Thermovision inspection	To be completed 2018	99%				
15	Shawnee	00822-3	<i>Performance was driven by equipment failure (44%) and trees off ROW (28%).</i>			4Q 2017 1Q 2018
			Enhanced three phase tree trimming	Complete	Jul-17	
			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	To be completed 2018	0%				

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
16	Frystown	00701-2	<i>Performance was driven by line failure (41%) and equipment failure (20%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Replace a misoperating sectionalizer by a recloser	Complete	Jun-17	
			Install additional fuses	To be completed 2018	0%	
			Circuit reconfiguration due to new substation	To be completed 2018	0%	
			On cycle tree trimming	To be completed 2018	0%	
			Overhead circuit inspection	To be completed 2018	0%	
17	Hill	00737-4	<i>Performance was driven by trees off ROW (49%) and vehicle (29%).</i>			4Q 2017 1Q 2018
			Post-storm sweep	Complete	Mar-18	
			Mid-cycle targeted three phase forestry inspection	To be completed 2018	99%	
			Protection review	To be completed 2018	20%	
			Overhead circuit inspection	To be completed 2018	0%	
18	Dillsburg	00749-4	<i>Performance driven by equipment failures (51%) and off ROW trees (39%).</i>			3Q 2017 4Q 2017 1Q 2018
			Post-storm circuit patrol	Complete	Jun-17	
			Replace/repair high priority items identified during overhead circuit patrol	Complete	Aug-17	
			On cycle tree trimming	To be completed 2018	0%	
			Enhanced tree trimming	To be completed 2018	0%	
19	Lynnville	00748-1	<i>Performance was driven by trees off ROW (77%).</i>			3Q 2017 4Q 2017 1Q 2018
			Overhead circuit inspection	Complete	Oct-17	
			Enhanced overhead circuit inspection	Complete	Feb-18	
			Replace arrester on mainline switch from inspection	To be completed 2018	25%	
			Replace crossarms from inspection	To be completed 2018	25%	
			On cycle tree trimming	To be completed 2018	45%	
20	Turf Club	00724-2	<i>Performance was driven by trees off ROW (61%) and trees on ROW (12%).</i>			4Q 2017 1Q 2018
			Targeted Forestry Inspection	Complete	Mar-18	
			Spot tree trimming	To be completed 2018	0%	

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	
21	Windsor	00795-4	<i>Performance was driven by human error-non company/tree (33%), trees off ROW (26%) and equipment failure (28%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage due to human error (customer brought down tree)	Complete	Jun-17		
			On cycle tree trimming	Complete	Dec-17		
			Install additional Supervisory Control and Data Acquisition (SCADA) switch #1	Complete	Oct-17		
			Replace hydraulic recloser	Complete	Oct-17		
			Patrol backbone of circuit	Complete	Nov-17		
			Overhead circuit inspection	To be completed 2018	84%		
			Install additional Supervisory Control and Data Acquisition (SCADA) switch #2	To be completed 2018	10%		
			Install additional Supervisory Control and Data Acquisition (SCADA) switch #3	To be completed 2018	10%		
			Upgrade main line recloser with SCADA	To be completed 2018	10%		
			Post-storm patrol	Complete	Mar-18		
Repair Items from backbone inspection (2 arresters)	To be completed 2018	0%					
22	Hokes	00587-4	<i>Performance was driven by trees off ROW (94%).</i>				3Q 2017 4Q 2017 1Q 2018
			Post-storm tree patrol	Complete	Sep-17		
			On cycle tree trimming	To be completed 2018	0%		
23	Birdsboro	00756-1	<i>Performance was driven by trees off ROW (45%) and a broken crossarm (24%).</i>				3Q 2017 4Q 2017 1Q 2018
			Enhanced three phase tree trimming	Complete	Oct-17		
			Install additional Supervisory Control and Data Acquisition (SCADA) switches	Complete	Dec-17		
			Construct circuit tie	Complete	Dec-17		
			Targeted mainline circuit rehabilitation	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		
			On cycle tree trimming	To be completed 2018	0%		
Install new mainline switch	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
24	Mt Rose	00562-4	<i>Performance was driven by trees on ROW (52%) and line failures (28%).</i>			
			Repair damage caused by trees during storm	Complete	Sep-17	
			On cycle tree trimming	To be Completed 2018	0%	
25	Fox Hill	00850-3	<i>Performance was driven by trees off ROW (71%) and vehicle accidents (15%).</i>			
			Thermovision inspection	Complete	Nov-17	
			Repair items identified during Thermovision inspection	Complete	Jan-18	
			Install Supervisory Control and Data Acquisition (SCADA) switch	To be Completed 2018	50%	
26	Swatara Hill	00765-2	<i>Performance was driven by tree off ROW (50%) and tree on ROW (21%).</i>			
			On cycle tree trimming	To be completed 2018	0%	
27	Newberry	00586-4	<i>Performance was driven by equipment failures (50%) and trees off ROW (33%).</i>			4Q 2017 1Q 2018
			Replace failed equipment	Complete	Nov-17	
			On cycle tree trimming	To be completed 2018	53%	
			Post-storm tree patrol	Complete	Mar-18	
28	Violet Hill	00325-4	<i>Performance was driven by equipment failures (58%) and trees off ROW (32%).</i>			
			On cycle tree trimming	Complete	Feb-17	
			Replace pole and repair equipment	Complete	Jan-18	
			Overhead circuit inspection	To be Completed 2018	0%	

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
29	Leesport	00811-1	<i>Performance driven by two outages during extreme cold caused by overload (48%), and outages caused by trees on ROW (20%) and trees off ROW (14%).</i>			
			Targeted mainline circuit rehabilitation	Complete	Apr-17	
			Replace porcelain cutouts on circuit three phase with polymer cutouts	Complete	Nov-17	
			Enhanced three phase tree trimming	Complete	Aug-17	
			Mainline cutout replacements	Complete	Nov-17	
			Enhanced overhead circuit inspection	Complete	Nov-17	
			Upgrade main line step transformers	Complete	Jan-18	
			Targeted mainline circuit rehabilitation	Complete	Mar-18	
			Overhead circuit inspection	Complete	Mar-18	
		Install additional Supervisory Control and Data Acquisition (SCADA) switch	To be completed 2018	50%		
30	Belfast	00849-3	<i>Performance was driven by vehicle accidents (56%) and line failure (39%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Thermovision inspection	Complete	Jan-18	
			Repair items identified during Thermovision inspection	Complete	Jan-18	
			Install Supervisory Control and Data Acquisition (SCADA) recloser	To be completed 2018	70%	
			Install Supervisory Control and Data Acquisition (SCADA) switch #1	To be completed 2018	70%	
			Install Supervisory Control and Data Acquisition (SCADA) switch #2	To be completed 2018	70%	
			Install Supervisory Control and Data Acquisition (SCADA) switch #3	To be completed 2018	70%	
			Install Supervisory Control and Data Acquisition (SCADA) switch #4	To be completed 2018	70%	
31	North Cornwall	00610-2	<i>Performance was driven by tree off ROW (23%), equipment failures (18%) and animal (11%).</i>			
			Spot tree trimming	Complete	Nov-17	
			Install fuses	Complete	Dec-17	
			Repair equipment failure	Complete	Dec-17	
			Enhanced tree trimming	To be completed 2018	0%	
			Protection review	To be completed 2018	0%	
			Install SCADA devices	To be completed 2018	25%	

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
32	Windsor	00316-4	<i>Performance was driven by equipment failure (72%), trees off ROW (20%).</i>			
			Install new padmount transformer and regulators	To be completed 2018	30%	
			Overhead circuit inspection	Complete	Feb-18	
33	Clearfield	00632-3	<i>Performance was driven by equipment failure (47%) and vehicle accidents (32%).</i>			
			Install Supervisory Control and Data Acquisition (SCADA) recloser	To be completed 2018	50%	
			Construct circuit tie	To be completed 2018	0%	
34	Shawnee	00899-3	<i>Performance was driven by trees off ROW (55%) and equipment failure (24%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Overhead circuit inspection	Complete	Apr-17	
			Forestry to trim circuit	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%				
35	Lickdale	00626-2	<i>Performance was driven by vehicle accidents (73%).</i>			4Q 2017 1Q 2018
			On cycle tree trimming	To be completed 2018	0%	
			Targeted mainline rehabilitation	To be completed 2018	0%	
36	Allen	00501-4	<i>Performance was driven by equipment failures (46%) and trees off ROW (35%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Replace/repair high priority items identified during overhead circuit patrol	Complete	Oct-17	
			Perform post-storm backbone circuit patrol	Complete	Mar-18	
			Perform post-storm backbone and three phase circuit patrol	To be completed 2018	99%	
			Replace porcelain cutouts with polymer cutouts in lockout zone	To be completed 2018	90%	
Enhanced tree trimming	To be completed 2018	0%				
37	Allen	00502-4	<i>Performance was driven by trees off ROW (57%) and equipment failures (29%).</i>			
			Replace/repair high priority items identified during overhead circuit patrol	Complete	Oct-17	
			Perform post-storm backbone and three phase circuit patrol	To be completed 2018	99%	

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
38	Walker	00865-3	<i>Performance was driven by equipment failure (56%) and trees off ROW (33%).</i>			
			Thermovision inspection	Complete	Nov-17	
			Repair items identified during Thermovision inspection	Complete	Feb-18	
			Overhead circuit inspection	To be Completed 2018	0%	
39	Shawnee	00895-3	<i>Performance was driven by trees off ROW (75%) and forced outages (12%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Overhead circuit inspection	Complete	May-17	
			Enhanced three phase tree trimming	Complete	Jul-17	
			Replace porcelain cutouts on circuit three phase with polymer cutouts	Complete	Nov-17	
			Targeted mainline circuit rehabilitation	Complete	Dec-17	
			Install additional Supervisory Control and Data Acquisition (SCADA) switches	Complete	Dec-17	
			Thermovision inspection	Complete	Dec-17	
			Repair items identified during Thermovision inspection	Complete	Jan-18	
Construct circuit tie	Complete	Dec-17				

Met-Ed					
Unranked circuits appearing 2 or more quarters in the last 4 quarters					
Substation	Circuit	2Q 2017	3Q 2017	4Q 2017	1Q 2018
Birchwood	00622-3	X	X		
Birdsboro	00757-1	X	X	X	
Clearfield	00631-3	X	X		
East Prospect	00766-4		X	X	
Friedensburg	00769-1	X	X	X	
Germantown	00757-4	X	X		
Glenside	00535-1	X	X	X	
Lynnville	00737-1	X	X		
Moselem	00779-1	X	X	X	
South Hamburg	00801-1	X	X		
Shawnee	00860-3	X	X		
Swatara Hill	00764-2	X	X	X	
Taxville	00575-4	X	X	X	
Wind Gap	00600-3	X	X	X	
Yorkana	00715-4		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
Bairs	00571-4	Replace SCADA switch batteries	Complete	Jan-18
		Circuit patrol	Complete	Nov-17
Birdsboro	00757-1	Targeted mainline circuit rehabilitation – replace/repair high priority items	To be Completed 2018	95%
		Install Additional Supervisory Control and Data Acquisition (SCADA) switches	To be Completed 2018	50%
		On cycle tree trimming	To be Completed 2018	0%
East Prospect	00766-4	Replace/repair high priority items identified during overhead circuit patrol	To be Completed 2018	14%
Friedensburg	00769-1	Install Supervisory Control and Data Acquisition (SCADA) switch #1	To be Completed 2018	33%
		Install Supervisory Control and Data Acquisition (SCADA) switch #2	To be Completed 2018	33%
		Install Supervisory Control and Data Acquisition (SCADA) switch #3	To be Completed 2018	33%
		Install Supervisory Control and Data Acquisition (SCADA) reclosers #1	To be Completed 2018	33%
		Install Supervisory Control and Data Acquisition (SCADA) reclosers #2	To be Completed 2018	33%
		On cycle tree trimming	To be Completed 2018	0%
Moselem	00779-1	Install additional mainline tap fusing	To be Completed 2018	50%
Swatara Hill	00764-2	Overhead circuit inspection repairs	To be Completed 2018	50%
		Cycle tree trimming	To be Completed 2018	0%
Taxville	00575-4	On cycle tree trimming	To be Completed 2018	37%
		Mainline rehabilitation improvements	To be Completed 2018	15%
		Install Supervisory Control and Data Acquisition (SCADA) switch #1	To be Completed 2018	10%
		Install Supervisory Control and Data Acquisition (SCADA) switch #2	To be Completed 2018	10%
		Install Supervisory Control and Data Acquisition (SCADA) switch #3	To be Completed 2018	10%
		Install Supervisory Control and Data Acquisition (SCADA) switch #4	To be Completed 2018	10%
Yorkana	00715-4	Replace/repair high priority items identified during overhead circuit patrol	To be Completed 2018	6%

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	Madera	00166-22	<i>Performance was driven by trees off ROW (55%), vehicle (14%) and equipment failure (13%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair line failure	Complete	Apr-17		
			Repair damage caused by lightning	Complete	Jun-17		
			Repair damage caused by trees during a storm	Complete	Jun-17		
			Repair damage caused by trees during a storm	Complete	Aug-17		
			Porcelain cutout replacement	Complete	Feb-18		
2	Warren South	00220-41	<i>Performance was driven by trees off ROW (58%) and equipment failure (31%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees	Complete	Apr-17		
			Repair equipment failure	Complete	Jun-17		
			Repair damage caused by trees	Complete	Feb-18		
			Install advanced distribution protective devices	To be completed 2018	50%		
			Porcelain cutout replacement	To be completed 2018	50%		
3	Springboro	00237-52	<i>Performance was driven by trees off ROW (81%) and line failure (11%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Targeted circuit rehabilitation	Complete	Apr-17		
			Repair damage caused by trees during a storm	Complete	Jun-17		
			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		
4	Logan	00700-81	<i>Performance was driven by trees off ROW (88%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Jul-17		
			Repair damage caused by trees during a storm	Complete	Aug-17		
			Repair damage caused by trees	Complete	Sep-17		
			Porcelain cutout replacement	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
5	Union City	00207-43	<i>Performance was driven by vehicle accident (57%), line failure (22%) and breaker operation of unknown cause (12%).</i>			4Q 2017 1Q 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	
6	Union City	00206-43	<i>Performance was driven by trees off ROW (80%) and equipment failure (11%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair equipment failure	Complete	Jun-17	
			Repair damage caused by trees during a storm	Complete	Nov-17	
			Repair equipment failure	Complete	Feb-18	
			Replace substation breaker	To be completed 2018	50%	
7	Hooversville	00019-12	<i>Performance was driven by trees off ROW (60%) and equipment failure (38%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Jul-17	
			Repair damage caused by trees during a storm	Complete	Aug-17	
			Repair equipment failure	Complete	Oct-17	
			Repair damage caused by trees	Complete	Oct-17	
			Repair equipment failure	Complete	Feb-18	
8	Thompson	00436-65	<i>Performance was driven by trees off ROW (66%) and equipment failure (29%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees	Complete	Aug-17	
			Repair damage caused by trees during a storm	Complete	Nov-17	
			Repair equipment failure	Complete	Nov-17	
9	Pittsburgh Avenue	00524-31	<i>Performance was driven by trees off ROW (70%) and lightning (16%).</i>			4Q 2017 1Q 2018
			Repair damage caused by lightning	Complete	Aug-17	
			Repair damage caused by trees during a storm	Complete	Nov-17	
			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
10	DuBois	00137-23	<i>Performance was driven by vehicle accident (46%), trees off ROW (21%) and equipment failure (16%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Restore recloser operation of unknown cause	Complete	Jun-17	
			Repair damage caused by trees	Complete	Jun-17	
			Repair damage caused by vehicle accident	Complete	Jul-17	
			Repair damage caused by trees	Complete	Aug-17	
			Repair equipment failure	Complete	Aug-17	
			Targeted circuit rehabilitation	To be completed 2018	50%	
11	East Hickory	00201-41	<i>Performance was driven by trees off ROW (97%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees	Complete	May-17	
			Repair damage caused by trees during a storm	Complete	Jun-17	
			Repair damage caused by trees during a storm	Complete	Oct-17	
			Repair damage caused by trees during a storm	Complete	Nov-17	
			Replace substation recloser	To be completed 2018	0%	
12	Philipsburg	00162-22	<i>Performance was driven by trees off ROW (64%), equipment failure (15%) and vehicle accident (10%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair equipment failure	Complete	Aug-17	
			Repair damage caused by trees during a storm	Complete	Aug-17	
			Repair damage caused by vehicle accident	Complete	Sep-17	
			Upgrade recloser controls	Complete	Sep-17	
			On cycle tree clearing	Complete	Dec-17	
			Repair equipment failure	Complete	Jan-18	
			Targeted circuit rehabilitation	To be completed 2018	50%	
Install advanced distribution protective devices	To be completed 2018	0%				
13	Tyrone North Sub	00643-22	<i>Performance was driven by trees off ROW (98%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Aug-17	
			Repair damage caused by trees during a storm	Complete	Aug-17	

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	
14	Green Garden	00536-31	<i>Performance was driven by trees off ROW (80%) and line failure (11%).</i>				4Q 2017 1Q 2018
			Repair line failure	Complete	Jun-17		
			Repair damage caused by trees during a storm	Complete	Nov-17		
			Circuit inspection	To be completed 2018	0%		
			Replace cap and pin insulators	To be completed 2018	0%		
15	Mansfield	00699-63	<i>Performance was driven by trees off ROW (54%) and line failure (30%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair line failure	Complete	Apr-17		
			Repair line failure	Complete	Jul-17		
			Repair damage caused by trees during a storm	Complete	Jul-17		
			Circuit inspection	To be completed 2018	0%		
16	Natl Forge Sw Sta	00577-41	<i>Performance was driven by trees off ROW (81%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Jun-17		
			Repair damage caused by trees during a storm	Complete	Jun-17		
			Repair damage caused by trees	Complete	Jul-17		
17	Lawrenceville	00326-63	<i>Performance was driven by trees off ROW (99%).</i>				3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Jul-17		
18	Two Mile	00127-42	<i>Performance was driven by lightning (43%), line failure (23%), equipment failure (18%) and trees off ROW (10%).</i>				3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by lightning	Complete	Apr-17		
			Repair line failure	Complete	Jul-17		
			Repair equipment failure	Complete	Jul-17		
			Repair damage caused by trees during a storm	Complete	Aug-17		

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	
19	Timblin	00103-23	<i>Performance was driven by trees off ROW (62%) and equipment failure (29%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair equipment failure	Complete	Jun-17		
			Repair damage caused by trees during a storm	Complete	Nov-17		
			Targeted circuit rehabilitation	Complete	Dec-17		
			Repair equipment failure	Complete	Feb-18		
			Circuit inspection	To be completed 2018	0%		
20	Erie East	00234-31	<i>Performance was driven by trees off ROW (82%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Jun-17		
			Circuit inspection	Complete	Sep-17		
			On cycle tree clearing	Complete	Sep-17		
			Repair damage caused by trees	Complete	Dec-17		
			Repair damage caused by trees	Complete	Jan-18		
			Replace substation breaker	To be completed 2018	0%		
21	Logan	00701-81	<i>Performance was driven by trees off ROW (86%).</i>				3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Jul-17		
			Repair damage caused by trees during a storm	Complete	Aug-17		
			Repair damage caused by trees	Complete	Sep-17		
22	Lake Como	00787-65	<i>Performance was driven by line failure (72%) and trees off ROW (21%).</i>				3Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Jun-17		
			Repair line failure	Complete	Aug-17		
			Repair damage caused by trees	Complete	Sep-17		
			Porcelain cutout replacement	Complete	Apr-17		
			Install new radio controlled switch	Complete	Nov-17		
			Repair line failure	Complete	Feb-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
23	Grover	00527-63	<i>Performance was driven by trees off ROW (47%), animal contact (25%) and vehicle accident (11%).</i>			4Q 2017 1Q 2018
			Repair damage caused by animal contact	Complete	May-17	
			Repair damage caused by trees during a storm	Complete	Oct-17	
			Repair damage caused by vehicle accident	Complete	Dec-17	
24	Brookville West	00121-23	<i>Performance was driven by equipment failure (77%) and trees off ROW (21%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair equipment failure	Complete	Aug-17	
			Repair damage caused by trees	Complete	Aug-17	
			Repair equipment failure during a storm	Complete	Nov-17	
			On cycle tree clearing	To be completed 2018	0%	
25	Brooklyn	00749-65	<i>Performance was driven by line failure (55%) and vehicle accident (43%).</i>			4Q 2017 1Q 2018
			Circuit inspection	Complete	May-17	
			Repair line failure during a storm	Complete	Aug-17	
			Repair damage caused by vehicle accident	Complete	Oct-17	
26	Tunkhannock	00533-65	<i>Performance was driven by recloser operation of unknown cause (24%) equipment failure (24%), lightning (21%) and line failure (16%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Install new radio controlled recloser	Complete	Apr-17	
			Circuit inspection	Complete	May-17	
			Targeted circuit rehabilitation	Complete	Jun-17	
			Repair line failure	Complete	Aug-17	
			Repair damage caused by lightning	Complete	Aug-17	
			Repair equipment failure	Complete	Sep-17	
			Restore recloser operation of unknown cause	Complete	Oct-17	

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	
27	Athens	00514-61	<i>Performance was driven by line failure (37%), vehicle accident (37%) and trees off ROW (11%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair line failure	Complete	Jun-17		
			Restore fuse operation of unknown cause	Complete	Jun-17		
			Repair damage caused by vehicle accident	Complete	Jul-17		
			Repair damage caused by trees during a storm	Complete	Aug-17		
			Targeted circuit rehabilitation	Complete	Sep-17		
			Replace substation breaker	To be completed 2018	50%		
Replace cap and pin insulators	To be completed 2018	50%					
28	Tionesta Jct Sw. Sta	00498-51	<i>Performance was driven by trees off ROW (67%) and equipment failure (19%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Jun-17		
			Repair damage caused by trees during a storm	Complete	Jun-17		
			Repair damage caused by trees	Complete	Sep-17		
			Repair equipment failure	Complete	Oct-17		
			Circuit inspection	Complete	Oct-17		
			Targeted circuit rehabilitation	Complete	Nov-17		
			Repair line failure	Complete	Dec-17		
29	Birmingham	00168-22	<i>Performance was driven by vehicle accident (64%), trees off ROW (21%) and fuse operation of unknown cause (10%).</i>				2Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees	Complete	Apr-17		
			Restore fuse operation of unknown cause	Complete	Aug-17		
			Repair damage caused by vehicle accident	Complete	Nov-17		
			Repair damage caused by vehicle accident	Complete	Mar-18		
30	Brookville	00125-23	<i>Performance was driven by trees off ROW (82%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Aug-17		
			Circuit inspection	To be completed 2018	0%		
			Replace cap and pin insulators	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	Lewis Run	00408-42	<i>Performance was driven by trees off ROW (91%).</i>			4Q 2017 1Q 2018
			Repair damage caused by trees	Complete	Jun-17	
			Repair damage caused by trees during a storm	Complete	Jun-17	
			Repair damage caused by trees during a storm	Complete	Sep-17	
			Replace substation breaker	To be completed 2018	0%	
32	Lake Como	00788-65	<i>Performance was driven by vehicle accident (36%), trees off ROW (26%), line failure (20%) and recloser operation of unknown cause (15%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Jun-17	
			Repair damage caused by trees during a storm	Complete	Jul-17	
			Repair line failure	Complete	Aug-17	
			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	
			Replace substation recloser	To be completed 2018	0%	
33	Walnut Street	00520-31	<i>Performance was driven by line failure (55%) and vehicle accident (40%).</i>			
			Repair line failure	Complete	Jul-17	
			Repair damage caused by vehicle accident	Complete	Feb-18	
34	Utica Junction	00318-51	<i>Performance was driven by trees off ROW (92%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees	Complete	Jun-17	
			Repair damage caused by trees during a storm	Complete	Nov-17	
			Repair damage caused by trees during a storm	Complete	Jan-18	
			Replace cap and pin insulators	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
35	Youngsville	00256-41	<i>Performance was driven by trees off ROW (84%).</i>			4Q 2017 1Q 2018
			Repair damage caused by trees	Complete	Oct-17	
			Repair damage caused by trees during a storm	Complete	Oct-17	
36	Mansfield	00558-63	<i>Performance was driven by line failure (59%) and trees off ROW (25%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair line failure	Complete	Apr-17	
			Circuit inspection	Complete	Jun-17	
			Repair line failure	Complete	Jul-17	
			Repair damage caused by trees during a storm	Complete	Aug-17	
37	Saxton Sub	00631-73	<i>Performance was driven by trees off ROW (71%) and object in contact with line (24%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees	Complete	Aug-17	
			Repair damage caused by trees	Complete	Aug-17	
			Repair damage caused by object in contact with line	Complete	Aug-17	
			Repair damage caused by trees	Complete	Nov-17	
			Circuit inspection	To be completed 2018	0%	
38	Mansfield	00559-63	<i>Performance was driven by equipment failure (71%) and breaker operation of an unknown cause (16%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair equipment failure	Complete	May-17	
			Repair damage caused by trees during a storm	Complete	Jul-17	
			Restore breaker operation of unknown cause	Complete	Aug-17	
			Repair equipment failure	Complete	Aug-17	
			On cycle tree clearing	To be completed 2018	0%	
			Targeted circuit rehabilitation	To be completed 2018	50%	
39	Hilltop	00040-11	<i>Performance was driven by trees off ROW (80%) and vehicle accident (14%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees	Complete	Aug-17	
			Repair damage caused by vehicle accident	Complete	Oct-17	

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
40	Dubois Central	00119-23	<i>Performance was driven by vehicle accident (46%), equipment failure (37%) and fuse operation of unknown cause (7%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair equipment failure	Complete	Jun-17	
			Repair equipment failure	Complete	Jul-17	
			Repair damage caused by vehicle accident	Complete	Aug-17	
			Restore fuse operation of unknown cause	Complete	Sep-17	
			Repair equipment failure	Complete	Feb-18	
41	Susquehanna	00280-65	<i>Performance was driven by line failure (64%) and fuse operation of unknown cause (25%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair line failure	Complete	Jun-17	
			Restore fuse operation of unknown cause	Complete	Aug-17	
			Repair line failure	Complete	Aug-17	
42	Greenwood	00041-71	<i>Performance was driven by non-company human error (49%) and trees off ROW (43%).</i>			2Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees	Complete	Apr-17	
			Repair damage caused by non-company human error	Complete	May-17	
			On cycle tree trimming	Complete	Aug-17	
			Repair damage caused by trees during a storm	Complete	Oct-17	
43	Athens	00511-61	<i>Performance was driven by trees off ROW (39%), breaker operation of unknown cause (25%), line failure (13%) and equipment failure (13%).</i>			
			Repair equipment failure	Complete	Jul-17	
			Repair line failure	Complete	Aug-17	
			Repair damage caused by trees during a storm	Complete	Jun-17	
			Restore breaker operation of unknown cause	Complete	Jan-18	
44	Church	00426-34	<i>Performance was driven by equipment failure (65%) and trees off ROW (18%).</i>			4Q 2017 1Q 2018
			Repair equipment failure	Complete	Jul-17	
			Repair damage caused by trees	Complete	Oct-17	
			Repair equipment failure	Complete	Mar-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
45	Emlenton	00121-51	<i>Performance was driven by trees off ROW (84%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Jun-17	
			Repair damage caused by trees during a storm	Complete	Nov-17	
			Circuit inspection	To be completed 2018	0%	
46	Wyalusing	00532-62	<i>Performance was driven by trees off ROW (62%) and equipment failure (15%).</i>			2Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Jun-17	
			Targeted circuit rehabilitation	Complete	Jul-17	
			Circuit inspection	Complete	Jul-17	
			Repair damage caused by trees during a storm	Complete	Oct-17	
			Repair equipment failure	Complete	Feb-18	
47	Brockway	00127-23	<i>Performance was driven by trees off ROW (63%) and line failure (26%).</i>			3Q 2017 1Q 2018
			Repair line failure	Complete	Apr-17	
			Repair line failure	Complete	Jul-17	
			Repair damage caused by trees during a storm	Complete	Jul-17	
			Repair line failure	Complete	Jan-18	
48	Emlenton	00322-51	<i>Performance was driven by trees off ROW (71%) and animal contact (19%).</i>			3Q 2017 1Q 2018
			Repair damage caused by animal contact	Complete	Jun-17	
			Repair damage caused by trees during a storm	Complete	Jun-17	
			Repair damage caused by trees during a storm	Complete	Aug-17	
49	Brookville	00155-23	<i>Performance was driven by trees off ROW (87%).</i>			3Q 2017 1Q 2018
			Repair damage caused by trees	Complete	Apr-17	
			Repair damage caused by trees during a storm	Complete	Aug-17	

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
50	East Sayre	00518-61	<i>Performance was driven by line failure (61%), equipment failure (19%) and trees off ROW (10%).</i>			4Q 2017 1Q 2018
			Repair equipment failure	Complete	Apr-17	
			Repair line failure	Complete	May-17	
			Repair line failure	Complete	Dec-17	
			Targeted circuit rehabilitation	To be completed 2018	50%	
			Replace substation breaker	To be completed 2018	50%	
51	Russell Hill	00765-65	<i>Performance was driven by non-company human error (53%), pole fire (24%) and line failure (15%).</i>			
			Repair line failure	Complete	May-17	
			Repair damage caused by non-company human error	Complete	Apr-17	
			Repair damage caused by pole fire	Complete	Jan-18	
			Circuit inspection	To be completed 2018	0%	
52	Fallen Timbers	00693-22	<i>Performance was driven by trees off ROW (98%).</i>			
			Repair damage caused by trees during a storm	Complete	Aug-17	
53	Dubois	00131-23	<i>Performance was driven by trees off ROW (97%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Jul-17	
			Porcelain cutout replacement	Complete	Oct-17	
54	Meshoppen	00283-65	<i>Performance was driven by trees off ROW (72%) and breaker operation of unknown cause (11%).</i>			2Q 2017 1Q 2018
			Repair damage caused by trees	Complete	May-17	
			Repair damage caused by trees during a storm	Complete	Aug-17	
			Restore breaker operation of unknown cause	Complete	Sep-17	
			On cycle tree trimming	To be completed 2018	0%	
55	Patton	00060-72	<i>Performance was driven by trees off ROW (52%), equipment failure (20%) and pole fire (18%).</i>			
			Repair damage caused by pole fire	Complete	Aug-17	
			Repair damage caused by trees during a storm	Complete	Aug-17	
			Repair equipment failure	Complete	Mar-18	
			On cycle tree trimming	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	
56	Maitland	00149-81	<i>Performance was driven by trees off ROW (70%) and equipment failure (16%).</i>				
			Repair equipment failure	Complete	May-17		
			Repair equipment failure	Complete	Aug-17		
			Repair damage caused by trees during a storm	Complete	Aug-17		
			Repair damage caused by trees during a storm	Complete	Dec-17		
57	Blairsville East	00081-13	<i>Performance was driven by trees off ROW (79%) and equipment failure (18%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Circuit inspection	Complete	May-17		
			Repair damage caused by trees	Complete	May-17		
			Repair damage caused by trees	Complete	Jul-17		
			Repair equipment failure	Complete	Jul-17		
58	N Meshoppen Tran	00534-65	<i>Performance was driven by equipment failure (42%) and trees off ROW (38%).</i>				
			Repair damage caused by trees during a storm	Complete	Apr-17		
			Repair damage caused by trees	Complete	Jul-17		
			Repair equipment failure	Complete	Oct-17		
			Repair equipment failure	Complete	Feb-18		
			Install radio fault indicators	Complete	Jan-18		
			Circuit inspection	To be completed 2018	0%		
59	French Road	00219-31	<i>Performance was driven by line failure (97%).</i>				4Q 2017 1Q 2018
			Repair line failure during a storm	Complete	Nov-17		
			Replace substation breaker	To be completed 2018	50%		
60	Tiffany	00440-65	<i>Performance was driven by equipment failure (49%) and line failure (29%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair line failure	Complete	Apr-17		
			Repair equipment failure	Complete	Jan-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
61	Brookville	00120-23	<i>Performance was driven by non-company object contacting line (83%).</i>			
			Repair damage caused by roof contacting line	Complete	Aug-17	
			Circuit inspection	To be completed 2018	0%	
62	Powell Ave Sub	00237-31	<i>Performance was driven by vehicle accident (74%) and fuse operation of unknown cause (14%).</i>			
			Repair damage caused by vehicle accident	Complete	Apr-17	
			Repair damage caused by vehicle accident	Complete	Jun-17	
			Restore fuse operation of unknown cause	Complete	Nov-17	
63	Kearsarge	00527-31	<i>Performance was driven by line failure (86%) and fuse operation of unknown cause (14%).</i>			
			Repair line failure	Complete	Jul-17	
			Repair line failure	Complete	Nov-17	

Penelec					
Unranked circuits appearing 2 or more quarters in the last 4 quarters					
Substation	Circuit	2Q 2017	3Q 2017	4Q 2017	1Q 2018
Boyer	00583-31	X	X		
Bradford South	00106-42	X	X	X	
Cochranton	00496-52	X	X		
Crown	00320-51	X	X		
Curryville	00644-71	X	X		
East Pike	00096-13	X	X		
Edgewood	00089-13	X	X	X	
Erie South	00259-31	X	X	X	
Fairview East	00242-34	X		X	
Knox	00323-51	X	X		
Lawrenceville	00632-63		X	X	
Marienville	00328-51	X	X	X	
Mount Union	00154-82	X	X		
N Meshoppen Tran	00437-65	X	X	X	
North Warren	00207-41	X	X	X	
Osceola	00318-63	X	X		
Pemberton	00096-82	X	X	X	
Philipsburg	00164-22	X	X	X	
Punxsutawney	00118-23	X	X		
Shawville	00153-21	X		X	
Somerset	00017-12		X	X	
Somerset	00030-12	X	X	X	
Summit Hall	00500-31	X	X	X	
Sykesville	00726-23	X	X		
Union City	00208-43	X	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
Bradford South	00106-42	Porcelain cutout replacement	To be Completed 2018	50%
Erie South	00259-31	On cycle tree trimming	To be Completed 2018	0%
		Install advanced distribution protective devices	To be Completed 2018	50%
Fairviews East	00242-34	On cycle tree clearing	To be Completed 2018	0%
Lawrenceville	00632-63	Replace substation recloser	To be Completed 2018	0%
Marienville	00328-51	Porcelain cutout replacement	To be Completed 2018	50%
North Warren	00207-41	Replace substation recloser	To be Completed 2018	50%
Philipsburg	00164-22	On cycle tree trimming	To be Completed 2018	0%
Somerset	00030-12	Porcelain cutout replacement	To be Completed 2018	50%
Somerset	00017-12	Install advanced distribution protective devices	To be Completed 2018	50%
Union City	00208-43	On cycle tree trimming	To be Completed 2018	0%
		Targeted circuit rehabilitation	To be Completed 2018	0%
		Install advanced distribution protective devices	To be Completed 2018	50%

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	Camp Reynolds	W-134	<i>Performance was driven by trees on/off ROW (94%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	May-17	
			Patrol entire circuit for Off ROW hazard trees. (Mid-cycle addition to 2018 tree trimming cycle).	To be Completed 2018	26%	
			Repair damage caused by tree	Complete	Feb-18	
			Porcelain cutout replacement	Complete	Feb-18	
2	Canal	W-101	<i>Performance was driven by trees on/off ROW (90%) and equipment failure (7%).</i>			3Q 2017 4Q 2017 1Q 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	
3	Hadley	W-195	<i>Performance was driven by trees on/off ROW (93%) and line failure (3%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	May-17	
			Patrol entire circuit for Off ROW hazard trees. (Mid-cycle addition to 2018 tree trimming cycle).	To be Completed 2018	50%	
			Repair damage caused by a vehicle	Complete	Jan-18	
			Repair line failure	Complete	Jan-18	
4	Leesburg	D-452	<i>Performance was driven by trees on/off ROW (98%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	May-17	
			Repair damage caused by trees during a storm	Complete	Mar-18	
			Cutout replacement	Complete	Mar-18	
5	Hickory	W-243	<i>Performance was driven by trees on/off ROW (92%) and animal (3%).</i>			
			Restore breaker operation caused by line fault/trees during storm	Complete	Mar-18	
6	McDowell	W-121	<i>Performance was driven by trees on/off ROW (83%), vehicle (7%) and human error (6%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 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 2018	50%	
			Pole was replaced and equipment repaired following tree damage during storm	Complete	Mar-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
7	Stoneboro	W-132	<i>Performance was driven by trees on/off ROW (82%) and line failure (14%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	May-17	
			Patrol entire circuit for Off ROW hazard trees. (Mid-cycle addition to 2018 tree trimming cycle).	To be Completed 2018	60%	
			Repair line failure	Complete	Jan-17	
8	Perry	W-156	<i>Performance was driven by trees on/off ROW (67%), line failure (10%), animal (9%) and lightning (6%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by animal contact	Complete	Apr-17	
			Repair damage caused by trees during a storm	Complete	May-17	
			Repair line failure	Complete	Jun-17	
			Repair damage caused by tree	Complete	Jul-17	
			Patrol entire circuit for Off ROW hazard trees. (Mid-cycle addition to 2018 tree trimming cycle).	To be Completed 2018	52%	
Porcelain cutout replacement	Complete	Feb-18				
9	Silver Street	W-268	<i>Performance was driven by trees off ROW-tree (64%), line failure (28%)</i>			3Q 2017 1Q 2018
			Repair damage caused by trees during a storm	Complete	Jun-17	
			Repair damage caused by line failure	Complete	Aug-17	
			Repair damage caused by trees during a storm	Complete	Mar-18	

Penn Power					
Unranked circuits appearing 2 or more quarters in the last 4 quarters					
Substation	Circuit	2Q 2017	3Q 2017	4Q 2017	1Q 2018
McDowell	W-120	X		X	
Seneca	W-701	X	X	X	

Penn Power				
Unranked circuits with remedial actions scheduled to be or recently completed				
Substation	Circuit	Remedial Action Planned	Status of Remedial Work	Progress of Remedial Work
Penn Power has no unranked circuits with remedial actions scheduled to be or recently completed.				

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	Rutan	Bristoria	<i>Performance driven by trees off ROW (77%) and equipment failure (12%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by a tree during a storm	Complete	May-17		
			Repair equipment failure during a storm	Complete	Jun-17		
			Repair equipment failure during a storm	Complete	Jun-17		
			Repair damage caused by a tree during a storm	Complete	Jul-17		
			Repair damage caused by a tree during a storm	Complete	Aug-17		
			Repair damage caused by a tree	Complete	Oct-17		
			Repair damage caused by vehicle accident	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		
2	White Valley	Congruity	<i>Performance driven by trees off ROW (76%) and line failure (17%).</i>				3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by a tree during a storm	Complete	Aug-17		
			Repair damage caused by a tree during a storm	Complete	Aug-17		
			Repair line failure	Complete	Sep-17		
			Reliability job to install fuses	Complete	Oct-17		
			Repair damage caused by a tree	Complete	Oct-17		
			Repair line failure	Complete	Dec-17		
			Repair line failure	Complete	Dec-17		
Repair damage caused by a tree during a storm	Complete	Mar-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
3	White Valley	Export	<i>Performance driven by trees on ROW (67%) and trees off ROW (13%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair line failure	Complete	Aug-17	
			Repair damage caused by a tree during a storm	Complete	Aug-17	
			Repair damage caused by a tree during a storm	Complete	Aug-17	
			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 vehicle accident during a storm	Complete	Feb-18	
			Repair damage caused by a tree during a storm	Complete	Mar-18	
On cycle tree trimming	To be Completed 2018	26%				
4	Cooperstown	Twin Willows	<i>Performance driven by trees off ROW (81%) and line failure (17%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by a tree	Complete	Apr-17	
			Repair damage caused by a tree during a storm	Complete	May-17	
			Repair damage caused by a tree during a storm	Complete	Jul-17	
			Repair damage caused by a tree	Complete	Sep-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	
			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				

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
5	Smith	Florence	<i>Performance driven by trees off ROW (40%), unknown (26%) and trees on ROW (20%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by a tree	Complete	May-17	
			Repair damage caused by a tree	Complete	May-17	
			Repair line failure	Complete	Jun-17	
			Repair damage caused by a tree during a storm	Complete	Jul-17	
			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 vehicle accident	Complete	Jan-18	
			Repair damage caused by a tree	Complete	Feb-18	
			Restore unknown outage	Complete	Feb-18	
6	Bethel Park	Dashwood	<i>Performance driven by trees off ROW (66%) and line failure (22%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by a tree	Complete	May-17	
			Repair line failure	Complete	Jun-17	
			Repair line failure	Complete	Jul-17	
			Repair damage caused by a tree during a storm	Complete	Jul-17	
			Repair line failure	Complete	Oct-17	
			Repair line failure during a storm	Complete	Nov-17	
			Repair equipment failure during a storm	Complete	Feb-18	
Repair line failure	Complete	Mar-18				
7	Dutch Fork	W Alexander	<i>Performance driven by trees off ROW (62%) and unknown (15%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by a tree during a storm	Complete	Jul-17	
			Restore unknown outage during a storm	Complete	Jul-17	
			Repair damage caused by a tree	Complete	Aug-17	
			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				

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	
8	Vanceville	Vanceville	<i>Performance driven by trees off ROW (34%), vehicle (29%) and line failure (14%).</i>				3Q 2017 4Q 2017 1Q 2018
			On cycle tree trimming	To be Completed 2018	0%		
			Repair damage caused by a tree	Complete	Aug-17		
			Repair line failure during a storm	Complete	Aug-17		
			Repair damage caused by a tree during a storm	Complete	Aug-17		
			Repair damage caused by vehicle accident	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		
9	Avella	W Middletown	<i>Performance driven by trees off ROW (65%) and trees on ROW (12%).</i>				2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Forced outage to replace a crossarm	Complete	Apr-17		
			Repair damage caused by a tree	Complete	Jun-17		
			Repair damage caused by a tree during a storm	Complete	Jun-17		
			Repair damage caused by a tree	Complete	Jul-17		
			Repair damage caused by a tree	Complete	Oct-17		
			Repair equipment failure	Complete	Dec-17		
			Repair damage caused by a tree during a storm	Complete	Jan-18		
			Repair damage caused by a tree	Complete	Feb-18		
Line rehabilitation	To be Completed 2018	0%					
10	Dutch Fork	Claysville	<i>Performance driven by trees off ROW (79%).</i>				
			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		
			Enhanced WPC remediation	To be Completed 2018	0%		

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
11	North Fayette	Beechcliff	<i>Performance driven by equipment failure (29%), line failure (22%) and trees off ROW (14%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair equipment failure	Complete	Apr-17	
			Line rehabilitation	Complete	May-17	
			Repair damage caused by a tree during a storm	Complete	Jul-17	
			Repair damage caused by a tree during a storm	Complete	Jul-17	
			Repair line failure	Complete	Aug-17	
			Repair equipment failure	Complete	Dec-17	
			Repair damage caused by a tree during a storm	Complete	Jan-18	
		Repair line failure	Complete	Mar-18		
12	Bethlen	Darlington	<i>Performance driven by trees off ROW (75%) and vehicle (17%).</i>			2Q 2017 4Q 2017 1Q 2018
			Repair damage caused by a tree	Complete	May-17	
			Repair damage caused by a tree	Complete	Jun-17	
			Reliability job to install fuses	Complete	Jun-17	
			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 vehicle accident	Complete	Jan-18	
			Restore unknown outage	Complete	Mar-18	
			Repair damage caused by a tree during a storm	Complete	Mar-18	
		Overhead circuit inspection	To be Completed 2018	4%		
13	Harwick	Harmar	<i>Performance driven by trees off ROW (51%), equipment failure (15%) and vehicle (13%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Overhead circuit inspection	Complete	Apr-17	
			Repair damage caused by a tree	Complete	Jul-17	
			Repair equipment failure during a storm	Complete	Jul-17	
			Repair damage caused by a tree during a storm	Complete	Aug-17	
			Repair damage caused by a tree during a storm	Complete	Nov-17	
			Repair damage caused by vehicle accident	Complete	Dec-17	
			Repair line failure	Complete	Jan-18	
		Repair damage caused by a tree	Complete	Mar-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
14	Fayetteville	Bikle Road	<i>Performance driven by trees off ROW (89%).</i>			
			Repair line failure	Complete	Feb-18	
			Repair damage caused by a tree during a storm	Complete	Mar-18	
			Repair damage caused by a tree during a storm	Complete	Mar-18	
15	White Valley	Borlands Rd	<i>Performance driven by trees off ROW (84%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by a tree during a storm	Complete	Jul-17	
			Repair damage caused by a tree during a storm	Complete	Aug-17	
			Repair damage caused by a tree	Complete	Oct-17	
			Forced outage to repair damage	Complete	Mar-18	
			Repair damage caused by a tree during a storm	Complete	Mar-18	
			Overhead circuit inspection	To be Completed 2018	0%	
16	Piney Fork	Gillhall	<i>Performance driven by trees off ROW (69%) and equipment failure (18%).</i>			4Q 2017 1Q 2018
			Repair damage caused by a tree during a storm	Complete	Nov-17	
			Repair equipment failure	Complete	Feb-18	
			Repair line failure	Complete	Mar-18	
			Line rehabilitation	To be Completed 2018	0%	
17	Franklin	West Waynesburg	<i>Performance driven by vehicle (56%) and trees off ROW (20%).</i>			
			Forced outage to repair damage	Complete	Jan-18	
			Repair damage caused by vehicle accident	Complete	Jan-18	
18	Saltsburg	Salina	<i>Performance driven by trees off ROW (44%) and equipment failure (41%).</i>			4Q 2017 1Q 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	
			On cycle tree trimming	To be Completed 2018	0%	

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	Cecil	Bishop	<i>Performance driven by trees off ROW (74%) and line failure (17%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair line failure	Complete	May-17	
			Repair damage caused by vehicle accident during a storm	Complete	Jun-17	
			Repair damage caused by a tree during a storm	Complete	Jul-17	
			Repair damage caused by a tree	Complete	Aug-17	
			Repair damage caused by a tree	Complete	Oct-17	
			Repair line failure	Complete	Dec-17	
			Repair damage caused by a tree during a storm	Complete	Jan-18	
			Forced outage to repair damage	Complete	Mar-18	
			Reliability job to install fuses	To be Completed 2018	0%	
20	Saltsburg	Saltsburg	<i>Performance driven by trees off ROW (46%), equipment failure (26%) and line failure (13%).</i>			2Q 2017 4Q 2017 1Q 2018
			Repair equipment failure	Complete	Apr-17	
			On cycle tree trimming	Complete	Oct-17	
			Repair damage caused by a tree during a storm	Complete	Nov-17	
			Repair line failure during a storm	Complete	Jan-18	
			Repair damage caused by a tree	Complete	Feb-18	
21	Hickory	Fort Cherry	<i>Performance driven by trees off ROW (84%).</i>			3Q 2017 4Q 2017 1Q 2018
			Perform CEMI review	Complete	Apr-17	
			Overhead circuit inspection	Complete	Apr-17	
			Repair damage caused by a tree during a storm	Complete	Aug-17	
			Restore unknown outage during a storm	Complete	Aug-17	
			Repair damage caused by a tree during a storm	Complete	Nov-17	
			Repair damage caused by a tree	Complete	Feb-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
22	Westraver	Pittsburgh Coal	<i>Performance driven by trees off ROW (84%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair line failure	Complete	Jun-17	
			Repair line failure	Complete	Jun-17	
			Line rehabilitation	Complete	Jun-17	
			Repair damage caused by a tree during a storm	Complete	Aug-17	
			Repair damage caused by a tree	Complete	Sep-17	
			Repair damage caused by a tree	Complete	Feb-18	
			Repair damage caused by a tree during a storm	Complete	Feb-18	
23	White Valley	Cloverleaf	<i>Performance driven by trees off ROW (50%) and vehicle (44%).</i>			
			Repair damage caused by a tree during a storm	Complete	Mar-18	
			Line rehabilitation	To be Completed 2018	0%	
24	Smith	Francis Mine	<i>Performance driven by trees off ROW (50%), line failure (23%) and vehicle (19%).</i>			4Q 2017 1Q 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	
			Reliability job to install fuses	To be Completed 2018	0%	
25	Crossgates	Peters Twp	<i>Performance driven by unknown (52%) and trees off ROW (30%).</i>			4Q 2017 1Q 2018
			Repair damage caused by a tree	Complete	Oct-17	
			Restore unknown outage during a storm	Complete	Nov-17	
			Restore unknown outage during a storm	Complete	Nov-17	
			Repair damage caused by a tree during a storm	Complete	Jan-18	
			Repair damage caused by a tree during a storm	Complete	Mar-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
26	Peters	Venetia	<i>Performance driven by equipment failure (74%) and trees off ROW (13%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair equipment failure during a storm	Complete	Jul-17	
			Repair equipment failure during a storm	Complete	Jul-17	
			Repair damage caused by a tree during a storm	Complete	Aug-17	
			Overhead circuit inspection	Complete	Sep-17	
			Restore unknown outage	Complete	Dec-17	
			Restore unknown outage during a storm	Complete	Mar-18	
27	Sherwin	West Sunbury	<i>Performance driven by line failure (52%) and trees off ROW (45%).</i>			
			Repair line failure	Complete	Jan-18	
			Repair damage caused by a tree	Complete	Feb-18	
			Repair line failure during a storm	Complete	Mar-18	
28	Houston	McGovern	<i>Performance driven by trees off ROW (59%) and line failure (30%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair line failure	Complete	Jul-17	
			Repair damage caused by a tree	Complete	Jul-17	
			Repair line failure during a storm	Complete	Aug-17	
			Repair damage caused by a tree during a storm	Complete	Aug-17	
			Repair damage caused by a tree during a storm	Complete	Nov-17	
			Repair damage caused by a tree	Complete	Feb-18	
Zone 1 infrared inspection	To be Completed 2018	0%				
29	Pangburn Hill	Pangburn Hill	<i>Performance driven by trees off ROW (87%).</i>			4Q 2017 1Q 2018
			Repair damage caused by a tree	Complete	Oct-17	
			Repair damage caused by a tree during a storm	Complete	Nov-17	
			Repair equipment failure	Complete	Feb-18	
			On cycle tree trimming	To be Completed 2018	0%	

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
30	Emporium	Town Emporium	<i>Performance driven by vehicle (89%).</i>			4Q 2017 1Q 2018
			Repair damage caused by a tree	Complete	Oct-17	
			Repair damage caused by vehicle accident	Complete	Oct-17	
			On cycle tree trimming	Complete	Dec-17	
			Repair equipment failure	Complete	Jan-18	
31	Murrycrest	Sardis Road	<i>Performance driven by trees of ROW (89%).</i>			3Q 2017 4Q 2017 1Q 2018
			On cycle tree trimming	Complete	Apr-17	
			Repair line failure	Complete	Aug-17	
			Repair damage caused by a tree during a storm	Complete	Aug-17	
			Repair damage caused by a tree	Complete	Aug-17	
			Repair damage caused by a tree during a storm	Complete	Nov-17	
			Repair damage caused by a tree during a storm	Complete	Jan-18	
			Repair damage caused by vehicle accident	Complete	Feb-18	
Overhead circuit inspection	To be Completed 2018	0%				
32	Mateer	Dime Rd	<i>Performance driven by trees off ROW (48%) and equipment failure (39%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by a tree	Complete	Apr-17	
			Repair damage caused by a tree during a storm	Complete	Jun-17	
			Repair equipment failure	Complete	Jul-17	
			Repair damage caused by a tree during a storm	Complete	Aug-17	
			Repair equipment failure	Complete	Sep-17	
			Repair damage caused by a tree	Complete	Oct-17	
			Repair damage caused by a tree during a storm	Complete	Nov-17	
			Zone 2 Ash removal	Complete	Dec-17	
Repair damage caused by a tree	Complete	Jan-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
33	Kiski Valley	Kittanning Rd	<i>Performance driven by trees off ROW (81%).</i>			3Q 2017 4Q 2017 1Q 2018
			Repair line failure during a storm	Complete	Jul-17	
			Repair damage caused by a tree during a storm	Complete	Jul-17	
			Repair damage caused by a tree	Complete	Aug-17	
			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	
34	Franklin	Rogersville	<i>Performance driven by trees off ROW (47%) and line failure (25%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Overhead circuit inspection	Complete	Apr-17	
			Repair damage caused by a tree during a storm	Complete	Jun-17	
			Restore unknown outage during a storm	Complete	Jun-17	
			Repair damage caused by a tree during a storm	Complete	Jul-17	
			Repair damage caused by a tree during a storm	Complete	Jul-17	
			Repair line failure	Complete	Aug-17	
			Restore unknown outage during a storm	Complete	Nov-17	
			Repair damage caused by a tree during a storm	Complete	Dec-17	
Repair damage caused by a tree	Complete	Feb-18				
35	Amity	Banetown	<i>Performance driven by trees off ROW (58%), line failure (17%) and trees on ROW (12%).</i>			2Q 2017 4Q 2017 1Q 2018
			Repair damage caused by a tree	Complete	Apr-17	
			Restore unknown outage	Complete	May-17	
			Repair damage caused by a tree	Complete	Jun-17	
			Repair line failure	Complete	Oct-17	
			Repair damage caused by a tree during a storm	Complete	Nov-17	
			On cycle tree trimming	Complete	Dec-17	
			Repair damage caused by a tree during a storm	Complete	Feb-18	
Repair equipment failure	Complete	Mar-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
36	East Waynesboro	Amsterdam	<i>Performance driven by trees off ROW (48%) and vehicle (34%).</i>			
			On cycle tree trimming	Complete	Sep-17	
			Repair damage caused by vehicle accident	Complete	Feb-18	
			Repair equipment failure during a storm	Complete	Feb-18	
37	Peters	Boxer	<i>Performance driven by trees off ROW (70%) and line failure (17%).</i>			
			Repair damage caused by a tree during a storm	Complete	Feb-18	
			Repair line failure during a storm	Complete	Mar-18	
			Overhead circuit inspection	Complete	Mar-18	
38	Waterville	Waterville	<i>Performance driven by trees off ROW (63%) and other electric utility (34%).</i>			4Q 2017 1Q 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	
			Zone 2 fuse installation	To be Completed 2018	0%	
39	Buckeye No. 3	Paisley	<i>Performance driven by trees off ROW (79%) and equipment failure (13%).</i>			
			Repair equipment failure	Complete	Mar-18	
			Zone 2 fuse installation	To be Completed 2018	0%	
40	Huntingdon	Shawtown	<i>Performance driven by trees off ROW (56%) and trees on ROW (39%).</i>			2Q 2017 3Q 2017 4Q 2017 1Q 2018
			Repair damage caused by a tree during a storm	Complete	Apr-17	
			Repair damage caused by a tree during a storm	Complete	Jun-17	
			Repair equipment failure	Complete	Aug-17	
			Repair equipment failure	Complete	Nov-17	
			Repair damage caused by a tree	Complete	Jan-18	
Zone 1 infrared inspection	To be Completed 2018	0%				

West Penn					
Unranked circuits appearing 2 or more quarters in the last 4 quarters					
Substation	Circuit	2Q 2017	3Q 2017	4Q 2017	1Q 2018
Butler	Center Ave	X	X		
Donegal	Buchanan	X	X		
Donegal	Donegal	X	X		
Driftwood	Driftwood	X	X	X	
Emporium	Emporium Jct	X	X		
Fort Palmer	West Fairfield	X	X	X	
Gobain	Pittsburgh Street		X	X	
Hempfield	Cool Valley	X	X		
Henry Clay	Markleysburg	X	X		
Krendale	Unionville	X	X	X	
Normalville	Mill Run		X	X	
Piney Fork	Stoltz	X	X	X	
Smithton	Smithton	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
Krendale	Meridian	Reliability job to install fuses	To be Completed 2018	0%

ATTACHMENT C

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

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**PA PUBLIC UTILITY COMMISSION
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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				
3Q				
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 1st Quarter 2018 12-Month Rolling ³⁰			
Cause of Line Hit	Number of Incidents	Invoice Amount (\$)	Recovery Amount (\$)
Dig In - Other	12	13,650	1,648
Excavated in Tolerance	43	152,395	35,347
Excavation Inconsistent with Ticket Scope	7	22,657	2,817
Excavation Prior to Lawful Start Date	0	0	0
Expired Ticket	2	2,865	0
Hand Digging	0	0	0
Marked Improperly	9	19,824	19,670
No Ticket	26	31,745	23,642
Total	99	243,136	83,124

Penelec – Third Party Line Hit Incidents 1st Quarter 2018 12-Month Rolling ³¹			
Cause of Line Hit	Number of Incidents	Invoice Amount (\$)	Recovery Amount (\$)
Dig In - Other	4	1,511	0
Excavated in Tolerance	55	164,760	146,673
Excavation Inconsistent with Ticket Scope	2	705	0
Excavation Prior to Lawful Start Date	2	1,457	0
Expired Ticket	9	7,355	5,341
Hand Digging	7	6,820	4,497
Marked Improperly	34	48,273	46,821
No Ticket	59	75,025	42,765
Total	172	305,906	246,097

³⁰ Data includes line hits closed during the rolling twelve-month reporting period as well as line hits that are still open as of March 31, 2018.

³¹ Data includes line hits closed during the rolling twelve-month reporting period as well as line hits that are still open as of March 31, 2018.

Penn Power – Third Party Line Hit Incidents 1st Quarter 2018 12-Month Rolling ³²			
Cause of Line Hit	Number of Incidents	Invoice Amount (\$)	Recovery Amount (\$)
Dig In - Other	12	9,149	3,534
Excavated in Tolerance	1	2,352	2,352
Excavation Inconsistent with Ticket Scope	1	2,313	0
Excavation Prior to Lawful Start Date	0	0	0
Expired Ticket	5	7,104	3,117
Hand Digging	0	0	0
Marked Improperly	4	3,624	3,624
No Ticket	10	20,401	5,609
Total	33	44,943	18,236

West Penn – Third Party Line Hit Incidents 1st Quarter 2018 12-Month Rolling ³³			
Cause of Line Hit	Number of Incidents	Invoice Amount (\$)	Recovery Amount (\$)
Dig In - Other	33	32,673	19,825
Excavated in Tolerance	11	27,068	16,119
Excavation Inconsistent with Ticket Scope	10	26,321	12,201
Excavation Prior to Lawful Start Date	1	1,476	1,476
Expired Ticket	4	21,506	20,225
Hand Digging	8	16,088	9,611
Marked Improperly	12	37,649	36,563
No Ticket	31	95,541	78,105
Total	110	258,322	194,125

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

³² Data includes line hits closed during the rolling twelve-month reporting period as well as line hits that are still open as of March 31, 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 March 31, 2018.

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**Joint 1st 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: July 20, 2018

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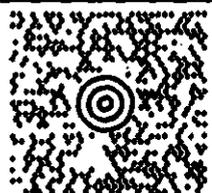

Tori L. Giesler
Attorney No. 207742
FirstEnergy Service Company
2800 Pottsville Pike, P.O. Box 16001
Reading, Pennsylvania 19612-6001
(610) 921-6203
tgiesler@firstenergycorp.com

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

MAIL ROOM
(610) 921-6633
AE-1440
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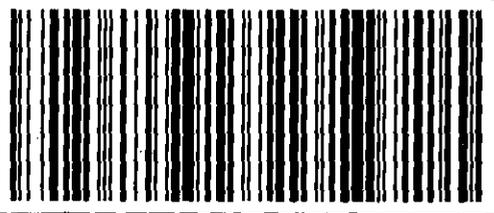


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