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February 1, 2016

#### **VIA UNITED PARCEL SERVICE**

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

# RECEIVED

FEB 0 1 2016

PA PUBLIC UTILITY COMMISSION SECRETARY'S BUREAU

Re: Joint 4<sup>th</sup> Quarter 2015 Reliability Report – Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company – Public Version

Dear Secretary Chiavetta:

Pursuant to 52 Pa. Code § 57.195(d) and (e), enclosed for filing on behalf of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company (collectively, the "Companies") are two copies of the Joint 4<sup>th</sup> Quarter 2015 Reliability Report – Public Version ("Joint Report"). Please note that this report contains an addendum seeking modifications to the Companies' currently-effective Inspection and Maintenance Plans. Please date stamp the additional copy and return it in the postage-prepaid envelope provided.

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

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

Sincerely,

Join L. Giesler Jam

#### Enclosures

- c: As Per Certificate of Service
  - D. Gill Bureau of Technical Utility Services (via email and first class mail)
  - 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)

#### BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Joint 4th Quarter 2015 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

Johnnie E. Simms Bureau of Investigation & Enforcement Pennsylvania Public Utility Commission P.O. Box 3265 Harrisburg, PA 17105-3265

Service by electronic mail, as follows:

David Dulick, General Counsel

David Dulick@ccsenergy.com

Dated: February 1, 2016

Tanya McCloskey Office of Consumer Advocate

555 Walnut Street - 5th Floor Harrisburg, PA 17101-1923

Scott Rubin

Utility Workers Union of America

333 Oak Lane

Bloomsburg, PA 17815-2036

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Pennsylvania Electric Company, Pennsylvania Power Company and

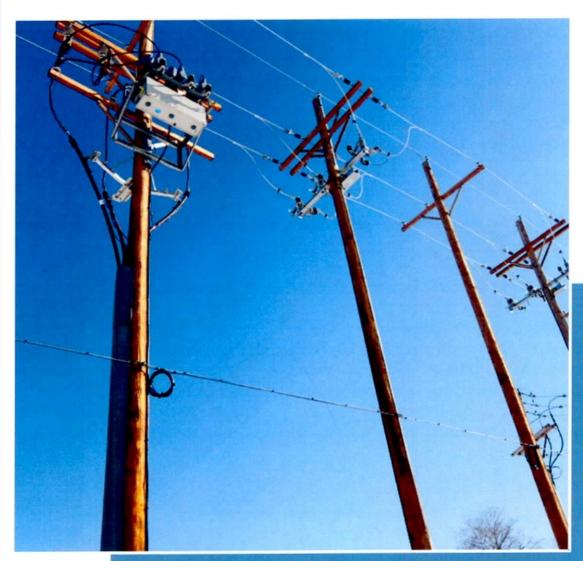
West Penn Power Company











Joint 2015 4th Quarter Reliability Report

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

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

## Joint 4<sup>th</sup> Quarter 2015 Reliability Report – Pennsylvania Power Company, Pennsylvania Electric Company, Metropolitan Edison Company, and West Penn Power Company

<u>Section 57.195(e)(1):</u> 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.

### Major Events

None of the Companies experienced a major event during the reporting period ending December 31, 2015.

<sup>&</sup>lt;sup>1</sup> 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.

<u>Section 57.195(e)(2):</u> 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

4Q 2015	Per	nn Power	BEB		Penelec			Met-Ed	E 17 x 38 3	West Penn Power				
(12-Mo Rolling)	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	1.12	1.34	1.14	1.26	1.52	1.36	1.15	1.38	1.19	1.05	1.26	1.17		
CAIDI	101	121	100 <sup>2</sup>	117	141	140	117	140	113 <sup>3</sup>	170	204	1544		
SAIDI	113	162	114	148	213	191	135	194	136	179	257	1794		
MAIFI <sup>5</sup>			0.64			2.61			1.18					
Customers Served <sup>6</sup>		159,612			581,832			554,476		709,782				
Number of Sustained Interruptions		2,940			11,487			8,814			11,268			
Customers Affected		181,479			792,673			662,492		827,613				
Customer Minutes	1	8,211,842		11	11,191,315		75,171,284			127,282,345				
Number of Customer Momentary Interruptions		102,231			1,521,440			655,993						

<sup>&</sup>lt;sup>2</sup> Penn Power achieved better than benchmark performance.

<sup>3</sup> Met-Ed achieved better than benchmark performance.

<sup>4</sup> West Penn Power achieved benchmark performance or better.

<sup>5</sup> MAIFI values are not available for West Penn Power.

<sup>6</sup> Represents the average number of customers served during the reporting period.

<u>Section 57.195(e)(3):</u> 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.
- Select 5% of the circuits based on the highest customer minutes. These circuits are then identified as the worst performing circuits.

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

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

Worst Performing Circuits - Remedial Actions

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

<u>Section 57.195(e)(5):</u> 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 - Penn Power

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4 <sup>th</sup> Quarter 2015 12-Month Rolling		Pe	enn Power	
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages
Trees off ROW - tree	5,136,802	463	39,046	15.75%
Equipment failure	4,842,420	405	46,004	13.78%
Animal	646,878	377	7,347	12.82%
Lightning	1,852,006	308	16,767	10.48%
Line failure	1,918,499	296	13,282	10.07%
Bird	231,782	284	2,813	9.66%
Trees off ROW - limb	852,379	229	6,149	7.79%
Unknown	678,138	151	14,376	5.14%
Trees - sec/service	66,608	83	319	2.82%
Vehicle	747,461	73	5,910	2.48%
Overload	133,051	63	1,996	2.14%
Previous lightning	21,858	46	205	1.56%
Forced outage	142,846	43	6,073	1.46%
Customer equipment	313,461	23	13,900	0.78%
Human error - non-company	50,473	22	394	0.75%
UG dig-up	22,007	18	209	0.61%
Trees on ROW	42,793	14	495	0.48%
Human error - company	41,673	13	4,484	0.44%
Ice	20,032	10	116	0.34%
Object contact with line	359,712	10	1,246	0.34%
Vandalism	6,358	5	44	0.17%
Fire	79,945	2	240	0.07%
Contamination	61	1	1	0.03%
Other electric utility	4,599	1	63	0.03%
Total	18,211,842	2,940	181,479	100.00%

#### Proposed Solutions - Penn Power

Penn Power analyzed its reliability performance in order to determine the primary reasons for long duration outages. The following identifies the top outage causes and actions to address these outage causes experienced by Penn Power for the reporting period.

#### Trees off ROW - tree

Penn Power plans to target approximately 400 miles in 2016. In addition, the enhanced tree removal program focuses on the large number of tree outages that occur primarily as a result of healthy trees falling from outside the ROW. Vegetation management continues to have the most immediate impact on reliability and therefore, Forestry Services reviews the trees off right-of-way ("ROW") outages over 10,000 customer minutes of interruption ("CMI") to see if there has been a high frequency of occurrences on the circuit. A patrol of the circuit is conducted to identify trees that need to be trimmed or removed to avoid future outages during the normal maintenance trim. In addition, line and forestry personnel patrol for danger/priority trees as part of their daily work routine. The danger/priority tree program identifies off right-of-way trees that present a hazard to power lines. Under this program all circuits that have had trees off ROW caused outages are prioritized based on customer outage minutes. A patrol of the three-phase backbone of each circuit is performed and foresters work with private property owners to remove any potentially dangerous tree conditions. Enhanced tree trimming takes place in addition to its cycle based vegetation management.

#### Equipment failure

To reduce the likelihood of equipment failures, Penn Power follows inspection and maintenance practices, such as circuit inspections, pole inspections, selective infrared scanning and others. These inspections are an important source of information in determining the need for, and prioritizing, repairs. In addition, the Engineering Department periodically conducts a multi-operation device review to identify causes and trends of equipment failures and other outage causes. Engineering then plans accordingly to repair or replace facilities.

#### Animal

Animal guards are installed on equipment where a high frequency of animal related outages is experienced. When possible, animal guards are installed at the time service is restored for the outages caused by animals.

In addition to the items identified above, has developed a plan which contains several initiatives to improve reliability that will occur during the period of 2016-2018. This plan is a combination of existing and accelerated or enhanced projects aimed to enhance reliability, as well as additional new projects to drive further reliability benefits.

<sup>&</sup>lt;sup>7</sup> Pursuant to § 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.

#### 1. Installation of circuit ties (loops and sources)

Penn Power will build or upgrade 25 miles of distribution lines to create the circuit ties and loops in 2016. The plan also includes building three new substations. These new substations will provide a new source to feed customers as well as provide additional capacity.

#### 2. Rehabilitation of transmission lines

Rehabilitation of selected transmission lines will help to reduce CAIDI and SAIDI. This rehabilitation will include inspecting approximately 24 miles of transmission lines in 2016 and replacing equipment as necessary. Poles, switches, crossarms, insulators, and braces are examples of equipment that is typically replaced during this type of effort. This project will strengthen Penn Power's 69kV system, therefore decreasing the risk of extended outages affecting a high volume of customers.

#### 3. Installation of SCADA line switches

The plan contains the installation of 30 supervisory control and data acquisition ("SCADA") controlled line switches in 2016. These switches will allow the Distribution Control Center ("DCC") and the Akron Control Center ("ACC") to remotely operate the line switches versus dispatching crews to manually operate them, thereby reducing restoration time, or CAIDI.

### Outages by Cause - Penelec

	Ou	tage by Cause		
4 <sup>th</sup> Quarter 2015 12-Month Rolling		Pe	enelec	
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages
Equipment failure	25,261,911	3,124	229,909	27.20%
Unknown	7,481,221	1,584	67,459	13.79%
Trees off ROW - tree	33,683,440	1,205	142,277	10.49%
Animal	3,901,225	1,193	31,294	10.39%
Line failure	13,502,094	942	106,566	8.20%
Forced outage	5,570,413	740	53,276	6.44%
Lightning	5,269,822	604	43,131	5.26%
Trees - sec/service	504,911	378	1,912	3.29%
Trees off ROW - limb	3,912,132	373	26,605	3.25%
Bird	821,963	358	8,992	3.12%
Vehicle	4,041,100	219	28,617	1.91%
Human error - company	2,417,568	134	10,985	1.17%
Trees on ROW	682,932	125	5,837	1.09%
Human error - non-company	856,287	106	10,002	0.92%
Previous lightning	95,423	79	372	0.69%
Overload	582,682	70	11,368	0.61%
UG dig-up	55,395	52	231	0.45%
Other electric utility	196,979	47	1,192	0.41%
Object contact with line	1,141,745	40	3,471	0.35%
Ice	10,704	30	62	0.26%
Customer equipment	89,951	26	3,452	0.23%
Wind	745,247	20	2,362	0.17%
Vandalism	268,676	16	1,236	0.14%
Fire	15,431	9	243	0.08%
Contamination	2,463	6	11	0.05%
Other utility - non electric	27,396	6	127	0.05%
Switching error	52,204	1	1,684	0.01%
Total	111,191,315	11,487	792,673	100.00%

#### Proposed Solutions - Penelec

Penelec has developed a plan that is designed to target these top outage causes. The plan contains system upgrades as well as a targeted vegetation management component in an attempt to reduce the number of customer interruptions. The following identifies the top outage causes and actions to address these outage causes experienced by Penelec for the reporting period.

#### Equipment failure

When it comes to equipment failure, cutout failures have been identified as the highest contributor to this outage category. To address this cause, Penelec continues to replace porcelain cutouts with polymer cutouts on the main feed three-phase backbone of circuits. The porcelain cutout replacement component of Penelec's plan is specifically geared towards its 34.5kV system. Installing new cutouts is expected to greatly enhance the reliability of the Company's 34.5kV system and reduce the number of equipment failures that Penelec experiences. Penelec plans to complete 68 circuits in 2016.

To reduce the likelihood of equipment failures, Penelec follows inspection and maintenance practices, such as circuit inspections, pole inspections, selective infrared scanning and others.<sup>8</sup> Penelec inspects each circuit in its entirety (from substation to meter), including the main three-phase backbone system, on a five-year cycle. Off-cycle inspections are performed based on circuit performance and may include infrared scanning to assist in identification of potential equipment problems.

#### Unknown

Outage-by-cause analysis is one of the tools used to analyze and develop circuit and system reliability improvement plans. If the troubleshooter cannot accurately identify the cause of an outage, that outage is coded with an unknown cause. To limit the number of unknown outages, and to identify the outage cause, troubleshooters are directed to continue to patrol a circuit, even after service has been restored, as long as those patrols will not interfere with restoration of other customers. Significant unknown outages are reviewed by Reliability Engineering, with post outage circuit inspections being completed as needed by reliability inspectors.

#### Trees off ROW - tree

One of the largest contributors to SAIFI, SAIDI and CAIDI are off ROW tree outages attributed to, in particular, healthy trees. In addition to the other vegetation management work that the Company performs, Forestry Services reviews the trees off ROW outages to see if there has been a high frequency of occurrences on the circuit. A patrol of the circuit is conducted to identify dead or diseased trees that need to be trimmed or removed to avoid future outages. In addition, line and forestry personnel patrol for danger/priority trees as part of their daily work routine. The danger/priority tree inspections identify off right-of-way trees that present a hazard to power lines.

<sup>&</sup>lt;sup>8</sup> Pursuant to § 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.

Circuits are then prioritized by customer minutes due to trees off ROW outages. A patrol of the entire circuit is performed and Forestry Services works with private property owners to remove any potentially dangerous tree conditions. This practice has been adopted as part of the Company's normal tree trimming maintenance program. Penelec will accelerate the removal of trees outside the ROW in zones 1 and 2 on nearly 400 miles of its distribution and 34.5kV system in 2016 that typically experience high tree-related SAIFI.<sup>9</sup>

In addition to the items identified above, has developed a plan which contains several initiatives to improve reliability that will occur during the period of 2016-2018. This plan is a combination of existing and accelerated or enhanced projects aimed to enhance reliability, as well as additional new projects to drive further reliability benefits.

#### 1. Targeted circuit rehabilitation

Penelec will target the zone 1 section of two circuits in 2016, primarily on its 34.5kV system, for circuit rehabilitation. When performing circuit rehabilitation, the Company will first conduct an inspection to identify and then replace equipment. Equipment may include poles, switches, crossarms, insulators, braces and cutouts.

#### 2. Sectionalizing and remote SCADA switching control

Remote SCADA controlled switches allow the DCC to remotely operate switches to restore service to customers when an outage occurs. This eliminates the need to dispatch crews to manually operate them and reduces the number of customers affected by an outage, as well as reduces outage durations. Penelec plans to install thirteen SCADA controlled switches in 2016.

<sup>&</sup>lt;sup>9</sup> Zone 2 is defined as the three phase conductor and devices after the first protective device.

<sup>&</sup>lt;sup>10</sup> Zone 1 is defined as the portion of the circuit from the substation breaker to the first protective device.

### Outages by Cause - Met-Ed

	Ou	tage by Cause		
4 <sup>th</sup> Quarter 2015 12-Month Rolling			et-Ed	
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages
Equipment failure	20,121,093	2,656	186,658	30.13%
Animal	2,736,568	1,241	34,247	14.08%
Unknown	4,482,265	996	67,852	11.30%
Trees off ROW - tree	15,305,051	673	72,045	7.64%
Line failure	6,786,224	542	45,856	6.15%
Trees on ROW	4,239,012	416	21,695	4.72%
Trees off ROW - limb	4,091,501	413	29,990	4.69%
Forced outage	4,615,025	404	83,950	4.58%
Lightning	2,374,493	401	18,298	4.55%
Bird	505,677	325	7,052	3.69%
Vehicle	7,404,078	292	61,485	3.31%
Trees - sec/service	226,561	161	680	1.83%
Human error - non-company	608,256	67	4,851	0.76%
Overload	418,404	49	7,304	0.56%
Previous lightning	236,255	32	1,526	0.36%
Human error - company	155,630	30	7,847	0.34%
Object contact with line	247,068	27	6,395	0.31%
Customer equipment	74,793	23	822	0.26%
UG dig-up	29,657	20	114	0.23%
Fire	61,902	9	610	0.10%
Other electric utility	6,285	8	31	0.09%
Ice	63,775	6	259	0.07%
Switching error	14,892	5	1,241	0.06%
Wind	323,686	5	1,592	0.06%
Contamination	3,310	4	33	0.05%
Other utility - non electric	38,256	4	49	0.05%
Vandalism	637	4	4	0.05%
Call error	930	1	6	0.01%
Total	75,171,284	8,814	662,492	100.00%

#### Proposed Solutions - Met-Ed

Met-Ed has undertaken several initiatives to improve reliability. These initiatives include the development of an enhanced vegetation management program; installation of fuses, reclosers, SCADA controlled devices, and faulted circuit indicators; and the refinement of partial restoration procedures. The following identifies the top outage causes and actions to address these outage causes experienced by Met-Ed for the reporting period.

#### Equipment failure

Porcelain cutout failures represent approximately one-third of the equipment failure outages in Met-Ed's territory. To address this cause, Met-Ed continues to replace porcelain cutouts with polymer cutouts as part of the Porcelain Cutout Replacement Program. Met-Ed plans to replace porcelain cutouts in zones 1 and 2 on six circuits in 2016.

To reduce the likelihood of equipment failures, Met-Ed follows inspection and maintenance practices, such as circuit inspections, pole inspections, selective infrared scanning and others. <sup>11</sup> Further, distribution circuit protection coordination reviews and the enhanced circuit protection schemes that result will provide isolation of equipment failures and reduce the impact of outages to a smaller number of customers. In addition, the Engineering Department periodically conducts a multi-operation device review to identify causes and trends of equipment failures and other outage causes. Engineering then plans accordingly to repair or replace facilities.

#### Unknown

An outage-by-cause analysis is one of the tools used to analyze and develop circuit and system reliability improvement plans. During the investigation of an outage, if the troubleshooter cannot accurately identify the cause of an outage, that outage is coded with an unknown cause. To limit the number of unknown outages and to identify the outage cause, troubleshooters are directed to continue to patrol a circuit even after service has been restored, as long as those patrols will not interfere with restoration of other customers. Significant unknown outages are reviewed by reliability engineering, with post outage circuit inspections being completed as needed.

#### Animal

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

<sup>&</sup>lt;sup>11</sup> Pursuant to § 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.

In addition to the items identified above, Met-Ed has developed a plan which contains several initiatives to improve reliability on sixteen worst performing circuits that will occur during the period of 2016-2018. This plan is a combination of existing and accelerated or enhanced projects aimed to enhance reliability, as well as additional new projects to drive further reliability benefits.

#### Accelerated and enhanced vegetation management

Met-Ed's enhanced vegetation management program will remove overhang and danger trees in zones 1 and 2, and will also clear cross country rights of way with mowing in zones 1 and 2. This forestry work is in addition to the other vegetation management work that the Company implements, including its routine vegetation management program.

#### 2. Targeted circuit rehabilitation

Targeted circuit rehabilitation will include replacement and installation of crossarms, poles, insulators, switches, and animal guards.

#### 3. SCADA device installations

SCADA devices, designed to limit the number of customers interrupted if a failure occurs, will be installed at intervals along the circuit. These switches will allow the DCC to remotely operate the line switches versus dispatching crews to manually operate them, thereby reducing restoration time. Met-Ed plans to install SCADA devices on eleven circuits in 2016.

#### 4. Circuit ties

Circuit ties will provide an alternate path from which power is provided to customers affected by an outage, thus, reducing long duration outages.

### Outages by Cause - West Penn Power

	Outa	ge by Cause		
4 <sup>th</sup> Quarter 2015 12-Month Rolling		West Per	in Power	
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages
Equipment failure	24,123,882	2,478	163,485	21.99%
Unknown	12,745,233	1,826	102,928	16.21%
Trees off ROW - tree	37,958,947	1,595	145,026	14.16%
Forced outage	10,192,104	1,269	162,065	11.26%
Animal	2,088,177	1,127	21,386	10.00%
Line failure	17,752,042	1,086	81,711	9.64%
Trees off ROW - limb	5,278,315	443	29,382	3.93%
Trees on ROW	5,992,474	416	24,549	3.69%
Vehicle	7,373,652	308	52,532	2.73%
Bird	238,630	220	2,642	1.95%
Trees - sec/service	235,634	197	487	1.75%
Lightning	1,469,376	86	12,209	0.76%
Human error - non-company	760,631	73	10,166	0.65%
Human error - company	174,473	39	11,738	0.35%
UG dig-up	111,995	34	586	0.30%
Object contact with line	163,654	21	1,418	0.19%
Overload	243,977	17	2,561	0.15%
Customer equipment	7,880	10	32	0.09%
Vandalism	170,621	8	1,751	0.07%
Wind	14,565	4	30	0.04%
Fire	2,112	3	8	0.03%
Other electric utility	131,064	2	711	0.02%
Previous lightning	367	2	2	0.02%
Switching error	34,290	2	159	0.02%
Other utility - non electric	18,250	2	49	0.02%
Total	127,282,345	11,268	827,613	100.00%

#### Proposed Solutions - West Penn Power

West Penn Power has implemented several programs to improve overall reliability. These programs include introduction of a new vegetation management program which adopted a more aggressive five-year cycle, establishment of a danger tree program which also includes Emerald Ash Borer mitigation, zone one circuit patrols, subtransmission aerial flyovers and subsequent hardware repairs, and large outage (over 250 customers interrupted) reviews. The following identifies the top outage causes and actions to address these outage causes experienced by West Penn Power for the reporting period.

#### Equipment failure

Equipment failure outages are addressed by remediating hardware on distribution circuit mainlines, subtransmission hardware items discovered through aerial patrol inspections, installation of subtransmission auto air switches, and substation carbide arrestor replacements. West Penn Power addresses equipment failures using a three-prong approach. The first step is to conduct pole by pole reviews of main line hardware and correct any deficiencies found. The second step is a review of the entire overhead circuit, visiting all locations on a six-year cycle. The third step is conducting an engineering review and root cause analysis of all distribution circuit lockouts. Equipment failures are mitigated through these programs and the resulting follow up corrective actions. In addition, the Engineering Department periodically conducts a multi-operation device review to identify causes and trends of equipment failures and other outage causes. This information is used to determine the need to repair or replace facilities.

Equipment failure-caused outages in West Penn Power are comprised primarily of transformers (approximately one-third) and porcelain cutouts (approximately one-fourth). West Penn Power continues to address these failures by replacing single bushing self-protected transformers with externally-protected transformers and by installing polymer cutouts in all new or replacement locations.

#### Unknown

There are numerous events, which are typically transient in nature, that result in outages with an unknown cause. Procedures are in place for field personnel to investigate recurring outages on a specific sectionalizing device. Experience has shown that very few of the outage events classified as unknown are recurrent in nature. West Penn Power also employs a root cause analysis process for all circuit lockouts that includes field patrols of all unknown outage causes.

#### Trees off ROW - tree

Since implementing its new, more aggressive vegetation management program in 2011, West Penn has experienced positive improvements in overall reliability. In addition to its normal on-cycle tree trimming, West Penn has introduced a program to mitigate the impact of the emerald ash borer which is now invading western portions of Pennsylvania. The Company will accelerate this emerald ash borer mitigation program for the subtransmission system and the zone 2 portion of its distribution system from its current five years to a new three-year completion timeline. West Penn Power's

danger tree program consists of removing, or significantly reducing in height, dead, diseased or damaged trees located outside the boundary of the right-of-way that pose a threat to service reliability or the integrity of the line under any weather condition. These programs are in addition to the cycle tree trimming program for trimming circuits on a five-year schedule.

In addition to the items identified above, West Penn Power has developed a plan which contains several initiatives to improve reliability that will occur during the period of 2016-2018. This plan is a combination of existing and accelerated or enhanced projects aimed to enhance reliability, as well as additional new projects to drive further reliability benefits.

#### 1. Targeted circuit rehabilitation

West Penn's plan includes a circuit rehabilitation program on approximately 38 circuits in 2016 which will target zones 1 and 2. When performing circuit rehabilitation, the Company will conduct a circuit inspection, identify equipment to replace and then replace the identified equipment. Equipment may include, but is not limited to, poles, switches, crossarms, insulators, braces and cutouts.

#### 2. Enhanced overcurrent protection and SCADA control

West Penn will install new electronic reclosers with SCADA control which will limit the number of customers affected during a lockout and allow remote switching by the DCC to restore customers more quickly. Adding SCADA control to electronic reclosers in select substations with existing SCADA capabilities will provide better monitoring and also allow remote switching by the DCC to restore customers at the circuit level more quickly.

#### 3. Underground getaway replacement

This program will replace approximately ten underground substation exits in 2016 which is cable that leads out of the substation to the overhead lines. These exits are also referred to as underground getaways. Specifically, this program will target underground getaways that were installed prior to 1988 and are known to be prone to failure. By replacing these getaways, West Penn will reduce the interruptions to a circuit associated with the cable as well as the long interruption times associated with the replacement.

#### 4. Subtransmission modernization and automation

The installation of SCADA controlled reclosers and switches and automatic air switch modernization will provide enhanced sectionalizing for larger blocks of customers at the substation source level. The SCADA controlled switches will also allow remote switching by the DCC to sectionalize and restore large blocks of customers more quickly, leading to reduced outage durations.

<u>Section 57.195(e)(6):</u> 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).

Information is not required for the 4th Quarter report.

<u>Section 57.195(e)(7):</u> 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).

Information is not required for the 4th Quarter report.

<u>Section 57.195(e)(8):</u> 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).

Information is not required for the 4th Quarter report.

<u>Section 57.195(e)(9):</u> 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). <sup>12</sup>

### Staffing Levels

					P	enn Power 2	015					
	Staffing Level					Staff A	dded in Quart	er	Staff	Lost in Quarte	er	Plan to
Department	Position	1Q	2Q	3Q	4Q	New Hire – Experienced	New Hire – PSI Student	Other <sup>13</sup>	Retirement	Voluntary Separation	Other <sup>14</sup>	Hire in 2016 <sup>15</sup>
	Line Leader	26	25	25	25							
Distribution	Line Troubleshooter	13	11	11	11							
	Lineman	40	42	42	42							
0.1.1.1	Substation Leader	5	5	5	5							
Substation	Substation Employee	17	17	16	15	2					3	
	Line Leader	1	1	1	1							
Transmission	Lineman	3	3	2	5	3						
	Total	105	104	102	104	5					3	

<sup>&</sup>lt;sup>12</sup>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.

<sup>&</sup>lt;sup>13</sup> Includes transfers, promotions, and promotions within a position.

<sup>&</sup>lt;sup>14</sup> Includes transfers, involuntary separations, promotions, and promotions within a position.

<sup>&</sup>lt;sup>15</sup> Although Penn Power may hire externally in 2016, there are no plans to hire externally at this time.

						Penelec 201	5					
			Staffir	ng Leve		Staff A	dded in Quart	er	Staff	Lost in Quarte	er	Plan to
Department	Position	1Q	2Q	3Q	4Q	New Hire – Experienced	New Hire – PSI Student	Other <sup>16</sup>	Retirement	Voluntary Separation	Other <sup>17</sup>	Hire in 2016 <sup>18</sup>
	Line Leader	92	88	86	85			1		1	1	
Distribution	Line Troubleshooter	59	62	61	61							
	Lineman	109	109	104	109	6					1	
Cb-4-4i	Substation Leader	3	3	3	3							
Substation	Substation Employee	67	66	66	64			4	1		5	
•	Line Leader	1	1	1	2			1				
Transmission	Lineman	5	5	5	4						1	
	Total	336	334	326	328	6		6	1	1	8	

 <sup>&</sup>lt;sup>16</sup> Includes transfers, promotions, and promotions within a position.
 <sup>17</sup> Includes transfers, involuntary separations, promotions, and promotions within a position.
 <sup>18</sup> Although Penelec may hire externally in 2016, there are no plans to hire externally at this time.

				1988	4.44	Met-Ed 201	5				Age.	
			Staffin	ng Leve		Staff A	Added in Quart	er	Staff	Lost in Quarte	er	Plan to
Department	Position	1Q	2Q	3Q	4Q	New Hire – Experienced	New Hire – PSI Student	Other <sup>19</sup>	Retirement	Voluntary Separation	Other <sup>20</sup>	Hire in 2016 <sup>21</sup>
	Line Leader	55	55	54	54			1			1	
Distribution	Line Troubleshooter	32	33	33	32						1	
	Lineman	125	124	124	124							
0.1.1.1.	Substation Leader	9	9	9	9							
Substation	Substation Employee	64	62	60	58			1	1		2	
	Line Leader	1	1	1	1							
Transmission	Lineman	3	3	3	3							
	Total	289	287	284	281			2	1		4	

 <sup>&</sup>lt;sup>19</sup> Includes transfers, promotions, and promotions within a position.
 <sup>20</sup> Includes transfers, involuntary separations, promotions, and promotions within a position.
 <sup>21</sup> Although Met-Ed may hire externally in 2016, there are no plans to hire externally at this time.

	TO BE THE STATE OF				Wes	t Penn Powe	r 2015			No. of Concession, Name of Street, or other Persons, Name of Street, or ot		TO BE
			Staffir	ng Leve		Staff A	dded in Quart	er	Staff	Voluntary		Plan to
Department	Position	1Q	2Q	3Q	4Q	New Hire – Experienced	New Hire – PSI Student	Other <sup>22</sup>	Retirement		Other <sup>23</sup>	Hire in 2016
	Line Leader	70	66	65	60			2	2		5	
Distribution	Line Troubleshooter <sup>24</sup>	N/A	N/A	67	64				1		2	
	Lineman	146	159	84	77	1		4	2	1	9	15
Cubatatian	Substation Leader	14	14	14	14							
Substation	Substation Employee	52	53	53	51			4	2		4	7
Turnamalaria	Line Leader	1	1		1			1				
Transmission	Lineman	2	2	1	2			1				
	Total	285	295	284	269	1		12	7	1	20	22

Includes transfers, promotions, and promotions within a position.
 Includes transfers, involuntary separations, promotions, and promotions within a position.
 New position created in 3Q 2015.

<u>Section 57.195(e)(10):</u> 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.

<u>Section 57.195(e)(11):</u> 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

This portion of the report is confidential.

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

Call-out Response

This portion of the report is confidential.

# ATTACHMENT A

Worst Performing Circuits - Reliability Indices

Penn P	Penn Power													
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI	
1	Hermitage	W-260	Clark	2,395	59	1	419,414	6,080	2.63	175	2.54	69	0.27	
2	Mercer	W-167	Clark	848	45	0	391,520	1,533	2.45	462	1.81	255	0.59	
3	Wheatland	W-150	Clark	1,516	6	1	362,606	1,563	2.27	239	1.03	232	0.28	
4	Hillcrest	D-322	New Castle	1,127	3	1	351,785	1,147	2.20	312	1.02	307	0.00	
5	Hadley	W-195	Clark	906	50	0	304,653	1,537	1.91	336	1.70	198	0.08	
6	Seneca	W700	Zelienople	1,063	39	0	292,859	1,855	1.83	276	1.75	158	1.01	
7	Knox	D509	Zelienople	975	17	1	285,450	1,361	1.79	293	1.40	210	0.53	
8	Stoneboro	W-131	Clark	1,414	51	0	277,812	1,848	1.74	196	1.31	150	0.63	
9	McDowell	W-120	Clark	1,035	23	0	276,591	1,863	1.73	267	1.80	148	1.09	

Peneleo Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
1	Warren South	00220-41	Warren	2,917	108	0	2,894,673	12,055	4.98	992	4.13	240	3.11
2	Union City	00206-43	Erie	3,744	132	0	1,948,734	14,847	3.35	520	3.97	131	5.33
3	French Road	00223-31	Erie	2,132	26	1	1,067,120	5,302	1.83	501	2.49	201	4.54
4	DuBois	00137-23	DuBois	3,097	73	0	1,013,708	8,896	1.74	327	2.87	114	0.64
5	Madera	00166-22	Philipsburg	2,155	68	1	985,454	4,142	1.69	457	1.92	238	6.16
6	Powell Avenue	00237-31	Erie	1,824	33	1	937,414	3,097	1.61	514	1.70	303	4.17
7	Erie East	00234-31	Erie	1,008	54	0	929,794	1,666	1.60	922	1.65	558	5.92
8	Hilltop	00048-11	Johnstown	2,286	16	2	920,344	7,583	1.58	403	3.32	121	2.16
9	Tionesta Jct Sw Sta	00498-51	Oil City	1,077	48	2	909,566	8,203	1.56	845	7.62	111	12.28
10	Grandview	00354-51	Oil City	551	31	3	907,806	2,872	1.56	1,648	5.21	316	2.97
11	N Meshoppen Tran	00534-65	Montrose	964	34	0	903,348	3,216	1.55	937	3.34	281	3.31
12	Buffalo Road	00580-31	Erie	1,407	19	2	823,631	4,043	1.42	585	2.87	204	1.17
13	Crown	00319-51	Oil City	1,304	48	1	809,777	3,471	1.39	621	2.66	233	2.00
14	Falls	00297-65	Montrose	795	26	0	727,828	2,286	1.25	916	2.88	318	0.32
15	Titusville	00387-51	Oil City	622	16	0	688,003	764	1.18	1,106	1.23	901	3.00
16	Tower 51	00051-11	Johnstown	576	22	0	677,751	1,968	1.16	1,177	3.42	344	6.44
17	Boyer	00584-31	Erie	1,624	26	2	664,880	5,495	1.14	409	3.38	121	1.94
18	McKean	00411-34	Erie	1,030	45	1	617,161	2,443	1.06	599	2.37	253	7.56
19	French Road	00550-31	Erie	1,526	26	1	586,976	5,679	1.01	385	3.72	103	3.05
20	DuBois Central	00119-23	DuBois	1,336	28	0	582,614	3,549	1.00	436	2.66	164	1.24
21	East Pike	00096-13	Indiana	2,613	20	2	574,398	5,342	0.99	220	2.04	104	0.00
22	Birmingham	00168-22	Philipsburg	1,071	44	0	570,860	4,003	0.98	533	3.74	143	2.98
23	East Pike	00095-13	Indiana	3,261	25	2	567,330	11,038	0.98	174	3.38	51	2.98
24	Piney	00523-51	Oil City	1,190	41	0	566,223	3,754	0.97	476	3.15	151	0.00
25	Blairsville East	00081-13	Indiana	1,645	32	2	560,300	5,422	0.96	341	3.30	103	11.43
26	Grover	00527-63	Mansfield	1,101	49	1	544,273	2,697	0.94	494	2.45	202	6.12
27	Timblin	00103-23	DuBois	739	31	0	532,362	3,410	0.91	720	4.61	156	
28	Corry Central	00432-43	Erie	574	5	1	526,781	801	0.91	918	1.40	658	5.56
29	Boyer	00583-31	Erie	1,686	33	1	519,275	6,158	0.89	308	3.65		0.99
30	Philipsburg	00162-22	Philipsburg	3,364	91	0	506,587	5,442	0.89	151	1.62	93	2.00
31	Millcreek	00052-11	Johnstown	1,045	17	2	495,788	2,845	0.85	474	2.72	174	4.75
32	Cooper	00069-11	Johnstown	680	24	1	493,671	1,710	0.85	726	2.72	289	11.02
33	Meyersdale North	00022-12	Somerset	1,467	28	0	490,359	2,334	0.83	334			20.87
34	Lucerne	00091-13	Indiana	1,775	22	0	457,519	2,729	0.84	258	1.59	210	3.17
35	North Warren	00207-41	Warren	1,378	49	0	454,514	2,766	0.79	330	1.54 2.01	168 164	0.61

Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
36	Dixonville East	00098-13	Indiana	764	25	1	453,269	2,036	0.78	593	2.66	223	7.01
37	Green Garden	00224-31	Erie	1,157	23	1	451,576	4,723	0.78	390	4.08	96	0.00
38	Corry East	00247-43	Warren	280	17	2	448,185	1,172	0.77	1,601	4.19	382	0.45
39	Bradford South	00106-42	Bradford	1,087	26	0	430,762	2,388	0.74	396	2.20	180	0.46
40	Brockway	00127-23	DuBois	1,191	18	0	423,184	2,670	0.73	355	2.24	158	1.49
41	East Sayre	00518-61	Towanda	936	24	1	421,794	2,517	0.72	451	2.69	168	2.62
42	Emlenton	00121-51	Oil City	584	29	1	409,626	1,266	0.70	701	2.17	324	1.00
43	Tiffany	00435-65	Montrose	1,597	27	0	393,383	2,171	0.68	246	1.36	181	12.87
44	Brookville	00125-23	DuBois	626	31	0	387,004	2,863	0.67	618	4.57	135	0.86
45	Page Road	00445-43	Erie	652	33	0	384,258	1,687	0.66	589	2.59	228	4.00
46	Knox	00323-51	Oil City	1,321	40	0	380,185	2,558	0.65	288	1.94	149	2.00
47	East Hickory	00200-41	Warren	465	20	0	376,226	646	0.65	809	1.39	582	24.94
48	Buffalo Road	00265-31	Erie	865	13	0	374,476	1,027	0.64	433	1.19	365	1.03
49	McConnellstown	00099-82	Altoona	776	14	3	367,372	2,863	0.63	473	3.69	128	3.37
50	Bay	00200-11	Johnstown	932	8	1	364,494	2,004	0.63	391	2.15	182	0.16
51	Portage	00081-72	Altoona	562	12	1	353,837	1,005	0.61	630	1.79	352	0.00
52	Lake Como	00788-65	Montrose	622	29	1	350,552	1,638	0.60	564	2.63	214	22.61
53	Greenwood	00041-71	Altoona	1,230	43	0	348,392	1,992	0.60	283	1.62	175	1.00
54	Marienville	00328-51	Oil City	1,201	33	0	348,316	2,243	0.60	290	1.87	155	6.00
55	Utica Junction	00331-51	Oil City	655	30	0	340,582	1,264	0.59	520	1.93	269	1.00
56	Mercer Pike	00473-52	Meadville	540	16	1	340,113	1,121	0.58	630	2.08	303	6.09
57	Belleville	00124-81	Lewistown	544	21	2	334,138	1,159	0.57	614	2.13	288	9.86
58	Edgewood	00089-13	Indiana	881	25	2	333,243	2,455	0.57	378	2.79	136	2.02
59	French Road	00551-31	Erie	868	18	2	331,171	3,435	0.57	382	3.96	96	2.02
60	Ralphton	00014-12	Somerset	1.778	45	1	327,315	3,524	0.56	184	1.98	93	12.31
61	South Mansfield	00617-63	Mansfield	476	16	5	324,419	2,992	0.56	682	6.29	108	2.33
62	Salix	00070-11	Johnstown	2,209	35	0	321,686	3,003	0.55	146	1.36	108	1.31
63	Buffalo Road	00201-31	Erie	815	37	0	321,358	1,280	0.55	394	1.57	251	3.62

Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
1	Birdsboro	00756-1	Reading	1,412	62	2	1,012,355	5,264	1.83	717	3.73	192	23.52
2	Flying Hills	00776-1	Reading	1,494	33	2	931,380	7,260	1.68	623	4.86	128	3.57
3	Northwood	00821-3	Easton	1,565	16	1	925,566	5,083	1.67	591	3.25	182	1.51
4	Shawnee	00895-3	Stroudsburg	3,735	81	0	878,987	5,803	1.59	235	1.55	151	0.23
5	Lickdale	00626-2	Lebanon	2,068	46	2	819,033	6,435	1.48	396	3.11	127	0.00
6	Fox Hill	00816-3	Stroudsburg	3,818	54	1	817,687	6,642	1.47	214	1.74	123	2.24
7	Swatara Hill	00763-2	Lebanon	1,404	36	1	741,276	2,915	1.34	528	2.08	254	14.67
8	Lynnville	00737-1	Hamburg	1,053	56	1	730,024	3,942	1.32	693	3.74	185	2.01
9	Painted Sky	00650-1	Reading	1,770	13	1	720,319	3,672	1.30	407	2.07	196	1.99
10	Bern Church	00789-1	Reading	1,412	62	0	696,529	2,716	1.26	493	1.92	256	1.00
11	Straban	00676-4	Gettysburg	1,088	36	1	686,648	3,374	1.24	631	3.10	204	2.00
12	Mountain	00744-4	Dillsburg	1,775	54	0	658,480	2,916	1.19	371	1.64	226	0.00
13	Annville	00741-2	Lebanon	936	32	3	592,760	3,064	1.07	633	3.27	193	15.32
14	Bernville	00786-1	Hamburg	1,821	45	0	592,353	2,740	1.07	325	1.50	216	0.00
15	Birdsboro	00757-1	Reading	2,036	49	1	585,296	4,658	1.06	287	2.29	126	2.96
16	Shawnee	00860-3	Stroudsburg	3,081	54	0	580,643	6,876	1.05	188	2.23	84	3.80
17	Barto	00705-1	Boyertown	2,088	81	0	575,455	3,397	1.04	276	1.63	169	0.00
18	Shawnee	00899-3	Stroudsburg	1,765	57	0	541,953	4.542	0.98	307	2.57	119	0.00
19	Birchwood	00622-3	Stroudsburg	1,832	32	1	539,748	3,772	0.97	295	2.06	143	0.11
20	State Street	00620-1	Hamburg	878	9	2	505,769	2,686	0.91	576	3.06	188	1.00
21	Flying Hills	00777-1	Reading	1,758	52	1	498,688	4,534	0.90	284	2.58	110	11.11
22	Swatara Hill	00764-2	Lebanon	1,424	37	2	473,510	3,985	0.85	333	2.80	119	6.97
23	Fairview	00519-4	Hanover	2,529	21	1	469,459	3,893	0.85	186	1.54	121	3.00
24	Schuylkill Ave	00157-1	Reading	1,431	9	2	453,284	3,984	0.82	317	2.78	114	0.00
25	North Bangor	00813-3	Easton	1,329	28	1	425,680	1,701	0.77	320	1.28	250	0.00
26	Annville	00743-2	Lebanon	1,162	31	1	425,145	3,159	0.77	366	2.72	135	1.00
27	Windsor	00797-4	York	1,533	52	0	424,294	3,646	0.77	277	2.38	116	7.00
28	South Hamb	00741-1	Hamburg	1,583	35	1	423,998	2,248	0.76	268	1.42	189	0.00
29	Taxville	00575-4	York	2,152	47	2	422,191	8,206	0.76	196	3.81	51	10.97
30	North Hanover	00509-4	Hanover	1,173	13	2	417,537	3,927	0.75	356	3.35	106	
31	North Bangor	00826-3	Easton	3,177	72	0	417,143	4,233	0.75	131	1.33	99	6.00 1.02
32	Ringing Rocks	00708-1	Boyertown	2,262	42	1	412,478	3,313	0.74	182	1.46	125	3.01
33	Newberry	00576-4	York	1,785	68	0	409,494	2,922	0.74	229	1.64	140	5.27
34	Violet Hill	00527-4	York	1,117	12	3	394,434	3,533	0.74	353	3.16	112	7.95
35	Orrtanna	00764-4	Gettysburg	1,671	42	1	380,609	3,283	0.71	228	1.96	116	0.00

Met-Ed	Met-Ed												
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI	MAIFI
36	Dillsburg	00749-4	Dillsburg	1,799	56	2	376,355	4,305	0.68	209	2.39	87	4.01
37	Angelica	00129-1	Reading	691	23	1	372,181	1,429	0.67	539	2.07	260	0.00
38	Allen	00501-4	Dillsburg	1,910	60	0	352,684	2,533	0.64	185	1.33	139	2.07

Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI
1	Kiski Valley Distrib	Kittanning Rd	Arnold	1,801	31	1	1,634,340	5,363	2.30	907	2.98	305
2	Cecil	Bishop	Boyce	1,592	37	0	1,586,490	5,313	2.24	997	3.34	299
3	Vandergrift	Grifflo Park	Arnold	2,723	47	3	1,253,087	9,028	1.77	460	3.32	139
4	Dutch Fork	Claysville	Washington Pa	1,596	65	2	1,252,530	6,655	1.76	785	4.17	188
5	Lagonda	Lagonda	Washington Pa	1,415	36	1	1,170,319	2,173	1.65	827	1.54	539
6	Donegal	Champion	Pleasant Valley	1,166	28	2	1,019,986	4,351	1.44	875	3.73	234
7	Kane	Russell City	St Marys	702	22	0	989,691	1,982	1.39	1,410	2.82	499
8	Westraver	Pittsburgh Coal	Charleroi	2,247	28	1	988,030	7,510	1.39	440	3.34	132
9	Gordon	Wolfdale	Washington Pa	2,061	36	1	954,702	3,706	1.35	463	1.80	258
10	Shaffers Corner	Braeburn	Arnold	1,291	30	1	952,572	4,019	1.34	738	3.11	237
11	Shaffers Corner	Seventh St Rd	Arnold	2,065	25	3	948,627	8,701	1.34	459	4.21	109
12	Piney Fork	Stoltz	Charleroi	2,094	25	2	894,276	4,928	1.26	427	2.35	181
13	Amity	Banetown	Washington Pa	1,491	47	0	851,782	3,117	1.20	571	2.09	273
14	Driftwood	Driftwood	St Marys	969	28	1	818,502	3,089	1.15	845	3.19	265
15	South Union	Fairchance	Uniontown	2,118	46	2	805,162	7,595	1.13	380	3.59	106
16	Midway	Midway	Mcdonald	951	30	0	802,437	1,743	1.13	844	1.83	460
17	Finleyville	Gastonville	Charleroi	1,585	18	0	794,816	6,063	1.13	501	3.83	
18	Murrycrest	Sardis Road	Jeannette	1,484	41	3	768,672	5,707	1.08	518	3.85	131
19	Cecil	Southpointe	Boyce	512	8	1	749,214	2,760	1.06	1,463	5.39	271
20	Gordon	Tyler	Washington Pa	1,876	30	3	732,211	7,197	1.03	390	3.84	102
21	Westraver	West Newton	Charleroi	1,728	33	0	690,265	4,354	0.97	399	2.52	
22	South Fayette 138	Abele	Boyce	928	24	2	687,718	3,872	0.97	741	4.17	159
23	North Union	Phillips	Uniontown	1,456	36	2	686,961	5,983	0.97	472	4.17	178
24	Superior	Culmerville	Arnold	1,174	17	2	684,652	2,535	0.96	583	2.16	115
25	Franklin	Rogersville	Jefferson	846	39	1	656,525	2,329	0.92	776	2.75	270 282
26	Westraver	Fellsburg	Charleroi	1,106	18	1	638,588	2,604	0.92	577	2.75	
27	Cecil	Muse	Boyce	876	11	1	623,498	1,427	0.88	712		245
28	Rutan	Bristoria	Jefferson	1,171	49	0	598,933	1,711	0.84	511	1.63	437
29	Vanceville	Vanceville	Charleroi	1,376	51	0	594,537	2,115	0.84	432	1.46	350
30	Rutan	Windridge	Jefferson	519	22	0	584,344	1,759	0.82		1.54 3.39	281
31	Houston	Murdock	Washington Pa	2,075	29	2	582,982	4,943	0.82	1,126		332
32	Houston	Canonsburg	Washington Pa	1,297	7	1	563,268	2,025	0.82	281	2.38	118
33	Lake Lynn-Union	Fancy Hill	Uniontown	941	40	0	560,089	2,023	0.79	434	1.56	278
34	Hickory	Fort Cherry	McDonald	1,014	27	1	552,560	2,305		595	2.35	254
35	Smithton	Yukon	Charleroi	1,294	36	1	526,846	3,190	0.78	545 407	2.27	240 165

General Note: MAIFI values are not available for West Penn Power

Joint 2015 Quarterly Reliability Report for period ending December 31, 2015

West Penn Power												
Circuit Rank	Substation	Circuit	District	Average Customers	Outages	Lockouts	Customer Minutes	Customers Affected	SAIDI Impact	SAIDI	SAIFI	CAIDI
36	Hickory	Hickory	McDonald	910	63	0	520,516	2,037	0.73	572	2.24	256
37	Stahlstown	Kreager	Latrobe	282	16	0	519,414	906	0.73	1,842	3.21	573
38	Wilcox	Wilcox	St Marys	945	39	0	510,452	1,444	0.72	540	1.53	354
39	Waterville	Waterville	State College	356	14	1	473,032	2,098	0.67	1,329	5.89	225
40	Fort Palmer	West Fairfield	Latrobe	961	45	0	466,948	1,678	0.66	486	1.75	278

General Note: MAIFI values are not available for West Penn Power

# ATTACHMENT B

Worst Performing Circuits - Remedial Actions

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

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
			Performance was driven by trees off ROW	(38%), equipment failure (	37%), and vehicles (7%).	
			The problem tree was removed and associated repairs were made at time of restoration	Complete	Jul-14	2Q 2015
1	Hermitage	W-260	Repair damage caused by a vehicle	Complete	Nov-14	3Q 2015
			Repair equipment failure	Complete	May-15	4Q 2015
			Enhanced tree trimming	Complete	Nov-15	
			Repair equipment failure	Complete	Nov-15	
			Performance was driven by lightning (36% (9%).  The problem tree was removed and			
			associated repairs were made at time of restoration	Complete	Jul-14	2Q 2015
2	Mercer	W-167	Reliability job to install fuses	Complete	Oct-14	3Q 2015
			Repair line failure	Complete	Dec-14	4Q 2015
			Repair line failure	Complete	Jan-15	
			Repair line failure	Complete	Oct-15	
			On cycle tree trimming	Complete	Nov-15	
			Enhanced tree trimming	Complete	Dec-15	
2	W7 -1 -1	W 150	Performance was driven by equipment failure (62%) and lightning (37%). No significant outages occurred on this circuit during the fourth quarter.			3Q 2015
3	Wheatland	and W-150	Repair damage caused by lightning	Complete	Jun-15	4Q 2015
			Repair equipment failure	Complete	Aug-15	

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
			Performance was driven by object contact		ner equipment (3%). No	
			significant outages occurred on this circuit	during the fourth quarter.		3Q 2015 4Q 2015
4	Hillcrest	D-322	The object was removed and associated repairs were made at time of restoration	Complete	Aug-15	
			Repair equipment failure	Complete	Aug-15	
			Performance was driven by line failure (36	%), trees off ROW (27%),	and ice (12%).	
			Repair damage caused by vehicle	Complete	Jul-14	
			Repair damage caused by tree	Complete	Nov-14	
	Hadley		Repair line failure	Complete	Feb-15	
			Conduct thermal scan of circuit	Complete	Mar-15	1Q 2015 2Q 2015 3Q 2015 4Q 2015
5		ndley W-195	The problem tree was removed and associated repairs were made at time of restoration	Complete	May-15	
			Reliability job to install fuses	Complete	May-15	
			Repair line failure	Complete	Aug-15	
			Repair line failure	Complete	Oct-15	
			Enhanced tree trimming	Complete	Nov-15	
			Performance was driven by trees off ROW			
			Repair damage caused by tree	Complete	Feb-15	
6	Seneca	W700	Repair damage caused by tree	Complete	Jun-15	3Q 2015
0	Selleca	W 700	Repair damage caused by lightning	Complete	Jun-15	4Q 2015
			Repair damage caused by a vehicle	Complete	Aug-15	
			Repair damage caused by tree	Complete	Sep-15	
			Performance was driven by trees off ROW outages occurred on this circuit during the			
			Repair equipment failure	Complete	Nov-14	2Q 2015
7	Knox	Knox D509	The problem tree was removed and associated repairs were made at time of restoration	Complete	Jun-15	3Q 2015 4Q 2015
			On cycle tree trimming	Complete	Nov-15	1

Penn Po	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	
		Performance was driven by trees off ROW (38%), equipment failure (26%), and line failure (20%).					
			Repair damage caused by tree	Complete	Sep-14		
			Reliability job to install fuses	Complete	Nov-14		
			Repair equipment failure	Complete	Jan-15	1Q 2015	
8	Stoneboro	W-131	The problem tree was removed and associated repairs were made at time of restoration	Complete	Jun-15	2Q 2015 3Q 2015 4Q 2015	
			Reliability job to install fuses	Complete	Jun-15		
			Repair line failure	Complete	Aug-15		
			Enhanced tree trimming	Complete	Nov-15		
			Repair equipment failure	Complete	Dec-15		
		Dowell W-120	Performance was driven by trees off ROW				
	McDowell		The problem tree was removed and associated repairs were made at time of restoration	Complete	Jun-15		
9			The problem tree was removed and associated repairs were made at time of restoration	Complete	Jul-15		
			The problem tree was removed and associated repairs were made at time of restoration	Complete	Sep-15		
			The problem tree was removed and associated repairs were made at time of restoration	Complete	Nov-15		
			Performance was driven by equipment fail		OW (21%). No significant		
			outages occurred on this circuit during the	Say A			
			Repair equipment failure	Complete	Jul-14	1Q 2015	
	Canal	W-101	Repair damage caused by tree	Complete	Sep-14	2Q 2015	
			Forestry to trim circuit	Complete	Apr-15	2013	
			Conduct thermal scan of circuit	Complete	Sep-15		
			Enhanced tree trimming	Complete	Nov-15		

Penn Po	ower		hard seather as he was						
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			
			Performance was driven by trees off ROW						
			outages occurred on this circuit during the						
			Repair damage caused by tree	Complete	Jul-14	1Q 2015			
	Hartstown	W-125	Repair damage caused by tree	Complete	Nov-14	2Q 2015			
			Reliability job to install fuse	Complete	Dec-14				
			Conduct thermal scan of circuit	Complete	Feb-15				
			Enhanced tree trimming	Complete	Nov-15				
			Performance was driven by trees off ROW and animals (6%). No significant outages of						
		W-162	Repair line failure	Complete	Jul-14	10.2015			
	Jamestown		Repair damage caused by tree	Complete	Jul-14	1Q 2015			
						Repair equipment failure	Complete	Sep-14	2Q 2015
			Conduct thermal scan of circuit	Complete	Sep-15				
			Enhanced tree trimming	Complete	Nov-15				
SHEETEN	Performance was driven by trees off ROW (68%) and line failure (19%).								
		neboro W-132	Repair damage caused by tree	Complete	Sep-14	1			
			Repair damage caused by tree	Complete	Dec-14				
			Repair line failure	Complete	Feb-15				
	Cr. 1		Conduct thermal scan of circuit	Complete	Feb-15	1Q 2015			
	Stoneboro		The problem tree was removed and associated repairs were made at time of restoration	Complete	Jun-15	2Q 2015			
			On cycle tree trimming	Complete	Nov-15				
			Enhanced tree trimming	Complete	Dec-15				
1000,000			Performance was driven by trees off ROW		Control of the Control				
	Mercer	W-128	Repair line failure	Complete	Jan-15				
	Mercer	11 120	On cycle tree trimming	Complete	Nov-15				
			Performance was driven by lightning (50% equipment failure (7%).						
			Repair equipment failure	Complete	Aug-14				
	Mercer	W-129	Repair damage caused by tree	Complete	Nov-14				
		1000	Conduct thermal scan of circuit	Complete	Feb-15				
			On cycle tree trimming	Complete	Nov-15				
			Enhanced tree trimming	Complete	Dec-15				

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	
			Performance was driven by trees off ROW (63%), lightning (19%), and vehicles (11%).			The Control of the	
	Thompson Run	D-550	Repair damage caused by tree	Complete	Oct-14		
			On cycle tree trimming	Complete	Dec-15		

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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
			Performance was driven by trees off ROW (88%)			
			Repair damage caused by trees during a storm	Complete	Jul-14	
			Repair line failure	Complete	Nov-14	
			Repair damage caused by trees during a storm	Complete	Nov-14	1Q 2015
	Warren South	00220-41	Targeted main line rehab	Complete	Jun-15	2Q 2015
1	warren South	00220-41	Repair damage caused by trees during a storm	Complete	Jun-15	3Q 2015
			Circuit inspection	Complete	Aug-15	4Q 2015
			Repair damage caused by trees	Complete	Sep-15	
			Repair damage caused by trees during a storm	Complete	Dec-15	
			On cycle tree trimming	To be completed 2016	0%	
		00206-43	Performance was driven by equipment failure (29%), lightning (28%), and trees off ROW (26%).			
			Restore recloser operation of unknown cause	Complete	Jul-14	
			Repair equipment failure	Complete	Aug-14	
	Union City		Repair equipment failure	Complete	Jan-15	1Q 2015
2			Repair damage caused by lightning	Complete	May-15	2Q 2015 3Q 2015 4Q 2015
2			Circuit inspection	Complete	Jul-15	
			Repair damage caused by lightning	Complete	Sep-15	
			Porcelain cutout replacement	Complete	Dec-15	
			On cycle tree trimming	To be completed 2016	0%	
			Create circuit tie with Morgan Street substation	To be completed 2016	0%	
			Performance was driven by wind (42%), trees of	ROW (36%), and equipm	ent failure (16%).	
			Repair damage caused by trees	Complete	Jul-14	
			Repair equipment failure	Complete	Aug-14	
			Repair equipment failure during a storm	Complete	Feb-15	10.2015
2	r	00222 21	Porcelain cutout replacement	Complete	Jun-15	1Q 2015
3	French Road	00223-31	Repair damage caused by trees during a storm	Complete	Oct-15	2Q 2015 4Q 2015
			Repair damage caused by wind	Complete	Dec-15	40 2013
			Repair damage caused by trees during a storm	Complete	Dec-15	
			Circuit inspection	To be completed 2016	0%	
			On cycle tree trimming	To be completed 2016	0%	

Penele	c							
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		
			Performance was driven by equipment failure (48 recloser operation of unknown cause (9%).	Performance was driven by equipment failure (48%), trees off ROW (23%), vehicles (9%), and recloser operation of unknown cause (9%).				
			Repair damage caused by a vehicle	Complete	Mar-15			
			Full cycle tree trimming	Complete	May-15			
			Repair equipment failure during a storm	Complete	Jun-15	1Q 2015		
4	DuBois	00137-23	Restore recloser operation of unknown cause	Complete	Jun-15	2Q 2015 3Q 2015		
			Circuit inspection	Complete	Jul-15	4Q 2015		
			Repair equipment failure	Complete	Aug-15	10 2013		
			Porcelain cutout replacement	Complete	Nov-15			
			Repair equipment failure during a storm	Complete	Nov-15			
			Repair damage caused by trees during a storm	Complete	Nov-15			
			Performance was driven by trees off ROW (46%), line failure (28%), and equipment failure (16%).					
			Repair tree damage	Complete	Jul-14			
			Repair line failure during a storm	Complete	Jan-15			
			Repair equipment failure during a storm	Complete	Jan-15	1Q 2015		
_		ra 00166-22	Repair damage caused by trees during a storm	Complete	May-15	2Q 2015 3Q 2015 4Q 2015		
5	Madera		Circuit inspection	Complete	Jun-15			
			Targeted main line rehab	Complete	Jun-15			
			Repair line failure	Complete	Sep-15			
			On cycle tree trimming	Complete	Nov-15			
			Porcelain cutout replacement	Complete	Dec-15			
			Performance was driven by trees off ROW (98%) the same day.	. 93% of the outages occur	rred at two locations on			
			Repair line failure	Complete	Aug-14			
			Repair damage caused by trees during a storm	Complete	May-15			
			Repair damage caused by trees during a storm	Complete	Jun-15			
6	Powell Avenue	00237-31	Repair damage caused by trees during a storm	Complete	Oct-15			
			On cycle tree trimming	Complete	Dec-15			
			Repair damage caused by trees during a storm	Complete	Dec-15			
			Add additional protection per circuit coordination	To be completed 2016	0%			
			Circuit inspection	To be completed 2016	0%			

Penele	c	AND A ST				
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
			Performance was driven by trees off ROW (66%)	, line failure (13%), and w	ind (11%).	
-	Polis Poss	00224.21	Repair damage caused by trees during a storm	Complete	Dec-15	
7	Erie East	00234-31	Repair damage caused by wind	Complete	Dec-15	
			Repair line failure during a storm	Complete	Dec-15	
			Performance was driven by equipment failure (49)	9%) and lightning (39%).		
	77'11	00040 11	Repair damage caused by vehicle accident	Complete	Jul-15	3Q 2015
8	Hilltop	00048-11	Repair damage caused by lightning	Complete	Aug-15	4Q 2015
			Repair equipment failure during a storm	Complete	Oct-15	The second section of the second section of the second section
	Tionesta Jct Sw		Performance was driven by trees off ROW (54%) operation of unknown cause (9%).	, equipment failure (35%),	and a recloser	
			Repair damage caused by trees during a storm	Complete	Jul-14	
		6w 00498-51	Off right-of-way tree trim identified by circuit patrol	Complete	Sep-14	1Q 2015
9			Restore recloser operation of unknown cause	Complete	Jan-15	2Q 2015 3Q 2015 4Q 2015
	Sta		Repair equipment failure	Complete	Mar-15	
			Repair equipment failure	Complete	Mar-15	
			Repair damage caused by trees during a storm	Complete	Jul-15	
			Porcelain cutout replacement	Complete	Sep-15	
			On cycle tree trimming	Complete	Nov-15	1
			Performance was driven by trees off ROW (79%)	and line failure (18%).		
			Repair damage caused by trees during a storm	Complete	Jul-14	
			Repair damage caused by trees	Complete	Aug-14	1Q 2015
10	Grandview	00354-51	Repair damage caused by vehicle accident	Complete	Nov-14	2Q 2015
	Service processing and processing an		Repair line failure	Complete	Feb-15	3Q 2015 4Q 2015
			Repair damage caused by trees during a storm	Complete	May-15	4Q 2015
			Circuit inspection	To be completed 2016	0%	

Penele	c					
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
			Performance was driven by trees off ROW (90%)			
			Repair damage caused by trees during a storm	Complete	Jul-14	
			Repair equipment failure	Complete	Oct-14	1Q 2015
11	N Meshoppen Tran	00534-65	Restore fuse after operation from unknown cause	Complete	Nov-14	2Q 2015 3Q 2015
			Repair damage caused by trees during a storm	Complete	Jun-15	4Q 2015
			Porcelain cutout replacement	Complete	Dec-15	
			On cycle tree trimming	To be completed 2016	0%	
			Performance was driven by line failure (57%) an	d animals (36%).		20 2015
12	Buffalo Road	00580-31	Restore breaker operation of unknown cause	Complete	Sep-14	2Q 2015 3Q 2015 4Q 2015
12	Bullalo Road	id 00380-31	Repair damage caused by animal contact	Complete	Jun-15	
			Repair line failure during a storm	Complete	Sep-15	40 2015
		Crown 00319-51	Performance was driven by trees off ROW (76%) and vehicles (18%).			
13	Cuana		Repair damage caused by a vehicle	Complete	Jul-15	
13	Crown		Repair damage caused by trees during a storm	Complete	Oct-15	
			Circuit inspection	To be completed 2016	0%	
			Performance was driven by trees off ROW (48%)			
			Repair damage caused by a tree during a storm	Complete	Jul-14	
			Repair damage caused by trees	Complete	Nov-14	
			Repair damage caused by trees	Complete	Apr-15	2Q 2015
14	Falls	00297-65	Add additional protection per circuit coordination	Complete	Apr-15	3Q 2015 4Q 2015
			Repair equipment failure	Complete	Jun-15	
			On cycle tree trimming	To be completed 2016	0%	
			Circuit inspection	To be completed 2016	0%	
		Performance was driven by trees off ROW (99%). 91% of the outages occurred on one day.				2Q 2015
15	Titusville	Titusville 00387-51	Repair damage caused by trees during a storm	Complete	May-15	3Q 2015 4Q 2015

Peneleo 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
			Performance was driven by trees off ROW (38%)			
			Repair equipment failure	Complete	Apr-15	2Q 2015
16	Tower 51	00051-11	Repair damage caused by animal contact	Complete	May-15	3Q 2015
			Repair damage caused by trees during a storm	Complete	Jun-15	4Q 2015
			Circuit inspection	To be completed 2016	0%	
			Performance was driven by trees off ROW (54%)	, lightning (25%), and equ	ipment failure (13%).	
			Repair damage caused by trees	Complete	Nov-14	
	D	er 00584-31	Repair damage caused by lightning	Complete	Jul-15	3Q 2015 4Q 2015
17	Boyer		Repair equipment failure	Complete	Oct-15	
			Repair damage caused by trees during a storm	Complete	Oct-15	
			Circuit inspection	To be completed 2016	0%	
			Performance was driven by trees off ROW (58%)	and line failure (29%).		
			Repair equipment failure	Complete	Sep-14	1Q 2015 2Q 2015
			Repair damage caused by animal contact	Complete	Oct-14	
			Repair line failure	Complete	Jan-15	
10	McKean	00411-34	Repair damage caused by trees	Complete	Mar-15	
18	McKean	00411-34	Repair equipment failure	Complete	May-15	3Q 2015
			Repair damage caused by trees during a storm	Complete	Oct-15	4Q 2015
			On cycle tree trimming	Complete	Dec-15	
			Repair damage caused by trees during a storm	Complete	Dec-15	
			Circuit inspection	To be completed 2016	0%	
			Performance was driven by equipment failure (7	1%) and line failure (19%)	).	
10	Casash Dard	00550 21	Repair equipment failure	Complete	Dec-14	3Q 2015
19	French Road	Road 00550-31	Repair line failure	Complete	Jul-15	4Q 2015
			Repair equipment failure	Complete	Aug-15	

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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
			Performance was driven by trees off ROW (85%).			
			Restore fuse operation of unknown cause during a storm	Complete	Sep-14	
			Repair damage caused by trees during a storm	Complete	Sep-14	1Q 2015
20	DuBois Central	00119-23	Repair damage caused by trees during a storm	Complete	Nov-14	2Q 2015 3Q 2015
			Repair damage caused by trees	Complete	Feb-15	4Q 2015
			Repair damage caused by trees during a storm	Complete	Jun-15	4Q 2015
			Repair damage caused by trees during a storm	Complete	Oct-15	
			Targeted circuit rehab	To be completed 2016	0%	
	East Pike	00096-13	Performance was driven by lightning (75%) and v	was driven by lightning (75%) and vehicles (24%).		2Q 2015
21			Repair damage caused by lightning	Complete	Jun-15	3Q 2015
21			Repair damage caused by vehicle accident	Complete	Jun-15	4Q 2015
			Circuit inspection	Complete	Aug-15	102013
			Performance was driven by line failure (34%), tre			
			Restore recloser after operation from unknown cause	Complete	Nov-14	
			Repair line failure	Complete	Jan-15	
			Repair damage caused by trees during a storm	Complete	Jun-15	1Q 2015
22	Birmingham	00168-22	Repair damage caused by a vehicle	Complete	Sep-15	2Q 2015 3Q 2015 4Q 2015
			Repair damage caused by trees during a storm	Complete	Oct-15	
			Porcelain cutout replacement	Complete	Dec-15	
			Circuit inspection	To be completed 2016	0%	
			On cycle tree trimming	To be completed 2016	0%	
			Targeted circuit rehab	To be completed 2016	0%	

Penele	c					
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
			Performance was driven by equipment failure (69)			
			Repair line failure	Complete	Aug-14	
			Install additional fault indicators	Complete	Sep-14	
			Repair equipment failure	Complete	Sep-14	1Q 2015
23	East Pike	00095-13	Repair equipment failure	Complete	Dec-14	2Q 2015 3Q 2015
			Repair equipment failure	Complete	May-15	4Q 2015
			Circuit inspection	Complete	Aug-15	4Q 2013
			Repair line failure	Complete	Sep-15	
			Targeted main line rehab	Complete	Oct-15	
	Piney		Performance was driven by equipment failure (4 failure (7%).	0%), animals (21%), trees	off ROW (16%), and line	1Q 2015 2Q 2015 3Q 2015 4Q 2015
		00523-51	Repair damage caused by trees during a storm	Complete	Jun-14	
			Repair line failure	Complete	Feb-15	
24			Repair equipment failure during a storm	Complete	Mar-15	
			Repair damage from animal contact	Complete	May-15	
			On cycle tree trimming	Complete	Jun-15	
			Porcelain cutout replacement	Complete	Nov-15	
			Performance was driven by equipment failure (4 unknown cause (15%).	2%), line failure (34%), a	nd a breaker operation of	
			Repair line failure	Complete	Jul-14	2Q 2015
25	Blairsville East	00081-13	Repair equipment failure during a storm	Complete	Jun-15	3Q 2015
			Restore breaker operation of unknown cause during a storm	Complete	Jun-15	4Q 2015
			Repair line failure	Complete	Oct-15	
			Performance was driven by a breaker operation of unknown cause (47%), equipment failure (38%), and trees off ROW (11%).			
26	C	00527.62	Repair damage caused by trees	Complete	Mar-15	
26	Grover	over 00527-63	Restore breaker operation of unknown cause during a storm	Complete	Oct-15	
			Repair equipment failure	Complete	Dec-15	

Penele	c					
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
		Performance was driven by trees off ROW (79%) and equipment failure (13%).				
			Full cycle tree clearing	Complete	Dec-14	
			Repair damage caused by trees during a storm	Complete	May-15	2Q 2015
27	Timblin	00103-23	Repair damage caused by trees during a storm	Complete	Jun-15	3Q 2015
			Repair equipment failure	Complete	Dec-15	4Q 2015
			Porcelain cutout replacement	To be completed 2016	0%	
			Install new radio controlled switch	To be completed 2016	0%	
			Performance was driven by trees off ROW (99%)	. 87% of the outages occur	red on one day.	
28	Corry Central	00432-43	Repair damage caused by trees during a storm	Complete	Sep-15	
			Repair damage caused by trees during a storm	Complete	Oct-15	
			Performance was driven by lightning (35%), equ	ipment failure (27%), and	trees off ROW (10%).	
		00583-31	Repair damage caused by vehicle	Complete	Aug-14	1Q 2015
29	Boyer		Repair equipment failure	Complete	Jan-15	2Q 2015
29	Boyer		Circuit inspection	Complete	Jun-15	3Q 2015
			Repair damage caused by lightning	Complete	Jul-15	4Q 2015
			Repair damage caused by trees during a storm	Complete	Oct-15	
			Performance was driven by equipment failure (7	2%) and lightning (15%).		
			Repair damage caused by a vehicle	Complete	Oct-14	
			Replace selected deteriorated equipment identified by circuit patrol	Complete	Dec-14	
30	Philipsburg	00162-22	Repair damage caused by lightning	Complete	Jun-15	3Q 2015 4Q 2015
			Repair equipment failure during a storm	Complete	Jul-15	4Q 2013
			Repair equipment failure	Complete	Jul-15	
			Repair equipment failure	Complete	Sep-15	
			Porcelain cutout replacement	Complete	Dec-15	
			Performance was driven by line failure (71%) as	nd vehicles (23%).		1Q 2015
2.1	N 4:11 1	00052 11	Repair damage caused by trees during a storm	Complete	Oct-14	2Q 2015
31	Millcreek	00052-11	Repair damage caused by vehicle accident	Complete	Feb-15	3Q 2015
			Repair line failure	Complete	Feb-15	4Q 2015

Penele					Progress of Remedial	
Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Work or Date Completed	Appeared in 2 of 4 Quarters
			Performance was driven by trees off ROW (55%)	and line failure (43%).		
			Full cycle tree trimming	Complete	Jul-14	10.2015
			Repair line failure	Complete	Aug-14	1Q 2015 2Q 2015
32	Cooper	00069-11	Circuit inspection	Complete	Aug-14	3Q 2015
			Repair damage caused by wind	Complete	Dec-14	4Q 2015
			Repair line failure during a storm	Complete	Jun-15	1,420.5
			Repair damage caused by trees during a storm	Complete	Jun-15	
			Performance was driven by line failure (85%).			10 2015
33	Meyersdale	00022-12	Repair damage caused by trees during a storm	Complete	Jul-14	1Q 2015
33	North	00022-12	Repair line failure during a storm	Complete	Feb-15	2Q 2015 4Q 2015
			Repair line failure	Complete	Jul-15	
34	Lucerne	Performance was driven by trees off ROW (85%) and equipment failure (12%). 81% of the outages occurred on one day.				3Q 2015
34	Lucerne	00091-13	Repair equipment failure during a storm	Complete	May-15	4Q 2015
			Repair damage caused by trees	Complete	Aug-15	
		n Warren 00207-41	Performance was driven by trees off ROW (86%) and animals (10%).			
35	North Warren		Repair damage caused by trees during a storm	Complete	Jun-15	
33	North Walten		Repair damage caused by animal contact	Complete	Oct-15	
			Repair damage caused by trees during a storm	Complete	Oct-15	
			Performance was driven by trees off ROW (56%)	, lightning (19%), and equ	aipment failure (12%).	
			Repair damage caused by trees during a storm	Complete	May-15	2Q 2015
36	Dixonville East	00098-13	Repair damage caused by lightning	Complete	Jun-15	3Q 2015
			Repair equipment failure during a storm	Complete	Jun-15	4Q 2015
			On cycle tree trimming	To be completed 2016	0%	
			Performance was driven by trees off ROW (53%)	and animals (40%).		
			Repair damage caused by trees during a storm	Complete	Jun-14	
			Repair damage caused by trees during a storm	Complete	May-15	1Q 2015
37	Green Garden	0224-31	Repair damage caused by animal contact	Complete	Jun-15	2Q 2015
			Repair damage caused by trees during a storm	Complete	Oct-15	4Q 2015
			On cycle tree trimming	Complete	Nov-15	
			Circuit inspection	To be completed 2016	0%	

Penele 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	
			Performance was driven by trees off ROW (78%)				
			Repair damage caused by trees during a storm	Complete	Jun-15	3Q 2015	
38	Corry East	00247-43	Repair damage caused by trees during a storm	Complete	Sep-15	4Q 2015	
			Repair equipment failure	Complete	Sep-15	4Q 2015	
			Porcelain cutout replacement	To be completed 2016	0%		
			Performance was driven by trees off ROW (44%) vehicles (19%).	, a fuse operation of unkno	wn cause (33%), and		
			Repair damage caused by vehicle accident	Complete	Jan-15	20.2015	
			Repair damage caused by trees during a storm	Complete	Jun-15	2Q 2015	
39	Bradford South	00106-42	Repair damage caused by trees during a storm	Complete	Jun-15	3Q 2015	
			Circuit inspection	Complete	Sep-15	4Q 2015	
			Restore fuse after operation from unknown cause	Complete	Sep-15		
			Performance was driven by line failure (54%) an	nd trees off ROW (32%).			
			Repair damage caused by trees	Complete	Jun-15		
40	Brockway	00127-23	Repair line failure during a storm	Complete	Nov-15		
			On cycle tree trimming	To be completed 2016	0%		
			Performance was driven by trees off ROW (46%), equipment failure (29%), and line failure (20%).				
			Repair equipment failure	Complete	Mar-15	40.000	
41	East Sayre	00518-61	Repair line failure	Complete	Jun-15	3Q 2015	
			Repair damage caused by trees	Complete	Jul-15	4Q 2015	
			Porcelain cutout replacement	Complete	Dec-15		
			Performance was driven by trees off ROW (91%,	). 91% of the outages occur	rred on two days.		
40	Б. 1.	00101 51	Repair damage caused by trees during a storm	Complete	May-15	3Q 2015	
42	Emlenton	00121-51	Repair damage caused by trees during a storm	Complete	Sep-15	4Q 2015	
			On cycle tree trimming	To be completed 2016	0%		
			Performance was driven by vandalism (66%), tre	ees off ROW (22%), and lin	ne failure (10%).		
			Repair damage caused by vehicle accident	Complete	Nov-14		
4.5	m1 02		Repair line failure	Complete	Mar-15	3Q 2015	
43	Tiffany	00435-65	Repair damage caused by vandalism	Complete	Jul-15	4Q 2015	
			Repair damage caused by trees	Complete	Oct-15		
			Circuit inspection	To be completed 2016	0%		

Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of Quarters
		Performance was driven by equipment failure (33%), lightning (22%), trees off ROW (20%), and line failure (10%).				
			Repair damaged caused by trees	Complete	Aug-14	
44	Brookville	00125-23	Repair line failure	Complete	Feb-15	2Q 2015
44	DIOOKVIIIC	00123-23	Repair damage caused by lightning	Complete	Jun-15	3Q 2015
			Repair equipment failure	Complete	Jun-15	4Q 2015
			Repair equipment failure	Complete	Oct-15	
			Porcelain cutout replacement	To be completed 2016	0%	
			Performance was driven by equipment failure (52	2%), trees off ROW (35%).	and lightning (8%)	
			Repair damage caused by vehicle accident	Complete	Jul-14	1Q 2015 2Q 2015 4Q 2015
			Repair equipment failure	Complete	Sep-14	
			Repair equipment failure	Complete	Oct-14	
45	Page Road	00445-43	Repair line failure	Complete	Oct-14	
45	rage Road	00443-43	Full cycle tree clearing	Complete	Dec-14	
			Repair equipment failure	Complete	Mar-15	
			Repair damage caused by trees during a storm	Complete	Jun-15	
			Circuit inspection	Complete	Jun-15	
			Repair damage caused by trees during a storm	Complete	Dec-15	
			Performance was driven by trees off ROW (46%)			
			Repair damage caused by trees	Complete	Sep-14	
46	Knox	00323-51	Repair damage caused by trees	Complete	Feb-15	1Q 2015
40	KIIOX	00323-31	Repair equipment failure	Complete	Apr-15	3Q 2015
			Repair damage from animal contact	Complete	Sep-15	4Q 2015
			Repair damage caused by trees during a storm	Complete	Nov-15	
			Performance was driven by trees off ROW (93%)		6).	
			Repair damage caused by trees during a storm	Complete	May-15	
47	East Hickory	00200-41	Repair damage caused by trees during a storm	Complete	May-15	2Q 2015
7/	East HICKORY	00200-41	Repair equipment failure	Complete	Jun-15	3Q 2015
			Circuit inspection	Complete	Aug-15	4Q 2015
			Repair damage caused by trees during a storm	Complete	Dec-15	

Penele 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	
			Performance was driven by vehicles (81%) and ecoccurred on two days.	1Q 2015			
48	Buffalo Road	00265-31	Repair damage caused by vehicle accident	Complete	Jan-15	2Q 2015 3Q 2015	
			Repair equipment failure	Complete	Jan-15	4Q 2015	
			Porcelain cutout replacement	Complete	Nov-15	1 2013	
			Performance was driven by a breaker operation of	f unknown cause (55%) a	nd trees off ROW (38%).	10.2015	
			Repair line failure	Complete	Dec-14	1Q 2015	
49	McConnellstown	00099-82	Restore breaker operation of unknown cause	Complete	Mar-15	2Q 2015 3Q 2015	
			Repair damage caused by trees during a storm	Complete	Jun-15	4Q 2015	
			Circuit inspection	Complete	Aug-15	1 40 2013	
50	D	00200 11	Performance was driven by vehicles (75%) and littwo days.	ne failure (21%). 94% of	the outages occurred on	3Q 2015	
50	Bay	00200-11	Repair line failure	Complete	Jul-15	4Q 2015	
			Repair damage caused by vehicle accident	Complete	Sep-15		
		00081-72	Performance was driven by trees off ROW (84%) and a forced outage due to structure fire (16%).				
	D .		Forced outage due to structure fire	Complete	Sep-15		
51	Portage		Repair damage caused by trees during a storm	Complete	Dec-15		
			On cycle tree trimming	To be completed 2016	0%		
			Performance was driven by trees off ROW (78%)	and equipment failure (2)	0%).		
			Repair damaged caused by trees during a storm	Complete	Jul-14		
			Repair equipment failure during a storm	Complete	Jul-14	2Q 2015	
52	Lake Como	00788-65	Repair equipment failure	Complete	Apr-15	3Q 2015	
			Repair damaged caused by trees	Complete	Jul-15	4Q 2015	
			Repair damaged caused by trees	Complete	Sep-15		
			Circuit inspection	To be completed 2016	0%		
			Performance was driven by non-company human (11%).				
53	Greenwood	00041-71	Repair damage caused by non-company human error	Complete	Jun-15		
	2010/2010		Repair damage caused by trees during a storm	Complete	Nov-15		
			Repair damage caused by vehicle accident	Complete	Dec-15		
			Circuit inspection	To be completed 2016	0%		

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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
			Performance was driven by trees off ROW (67%)			
			Full cycle tree trimming	Complete	Sep-14	
			Repair damage caused by trees	Complete	Oct-14	1Q 2015
54	Marienville	00328-51	Repair damage caused by trees during a storm	Complete	Nov-14	2Q 2015
54	Marienville	00328-31	Repair line failure	Complete	Apr-15	3Q 2015
			Repair line failure	Complete	Jul-15	4Q 2015
			Circuit inspection	Complete	Aug-15	
			Repair damage caused by trees during a storm	Complete	Nov-15	
		nction 00331-51	Performance was driven by trees off ROW (76%)	, line failure (10%), and e	quipment failure (7%).	
5.5	Tieles Terreles		Repair damage caused by trees during a storm	Complete	May-15	
55	Utica Junction		Repair line failure	Complete	Oct-15	
			Repair equipment failure	Complete	Nov-15	
	Mercer Pike	00473-52	Performance was driven by trees off ROW (96%). 89% of the outages occurred on one day.			20 2015
56			Repair damage caused by trees during a storm	Complete	Jun-15	3Q 2015 4Q 2015
			Repair damage caused by trees during a storm	Complete	Sep-15	
			Performance was driven by vehicles (79%) and l two days.	1Q 2015		
57	Belleville	00124-81	Repair line failure	Complete	Jan-15	2Q 2015 3Q 2015
			Repair damage caused by a vehicle	Complete	Jan-15	4Q 2015
			Circuit inspection	Complete	Jun-15	40 2015
			Performance was driven by trees off ROW (82%)	and line failure (10%).		
			Repair equipment failure	Complete	Jul-14	
			Repair damage caused by a vehicle	Complete	Sep-14	20.2015
50	F.1	00000 12	Repair equipment failure	Complete	Dec-14	2Q 2015
58	Edgewood	00089-13	Repair damage caused by trees during a storm	Complete	Jun-15	3Q 2015 4Q 2015
			Repair damage caused by trees during a storm	Complete	Jul-15	10 2013
			Circuit inspection	Complete	Jul-15	
			Repair line failure during a storm	Complete	Nov-15	

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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
			Performance was driven by a breaker operation and animals (13%).			
			Restore breaker operation of unknown cause	Complete	Apr-15	
59	French Road	00551-31	Repair damage from animal contact	Complete	Aug-15	
			Repair damage caused by trees	Complete	Nov-15	
			On cycle tree trimming	To be completed 2016	0%	
			Circuit inspection	To be completed 2016	0%	
	Ralphton		Performance was driven by equipment failure (4)	6%), line failure (26%), an	d lightning (20%).	
		00014-12	Repair equipment failure	Complete	Mar-15	3Q 2015 4Q 2015
			Repair damage caused by lightning	Complete	Apr-15	
60			Repair line failure during a storm	Complete	Jun-15	
			Repair equipment failure	Complete	Sep-15	
			Repair equipment failure	Complete	Dec-15	
		00617-63	Performance was driven by line failure (50%), a lightning (10%).	breaker operation of unkn	own cause (33%), and	
61	South Mansfield		Repair line failure	Complete	Mar-15	
			Repair damage caused by lightning	Complete	Jul-15	
			Restore breaker operation of unknown cause	Complete	Dec-15	
			Performance was driven by equipment failure (5	2%) and trees off ROW (4)	1%).	
			Restore recloser operation of unknown cause during storm	Complete	Jul-14	1Q 2015
		00000	Repair equipment failure	Complete	Feb-15	2Q 2015
62	Salix	00070-11	Replace underground exit	Complete	May-15	3Q 2015
			Repair damage caused by trees during a storm	Complete	Jun-15	4Q 2015
			Repair damage caused by trees during a storm	Complete	Dec-15	
			Circuit inspection	To be completed 2016	0%	

Penele	c						
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	
			Performance was driven by equipment failure (479).	%), trees off ROW (22%),	and trees on ROW		
(2)	D CC I D I	00201.21	Repair equipment failure	Complete	Jan-15		
63	Buffalo Road	00201-31	Repair equipment failure	Complete	Apr-15		
			Repair damage caused by trees during a storm	Complete	Dec-15		
			Repair damage caused by trees during a storm	Complete	Dec-15		
			Performance was driven by trees off ROW (99%).			10 2015	
	Brooklyn 0	00749-65	Repair tree damage	Complete	Jul-14	1Q 2015 2Q 2015	
			Repair damage caused by trees during a storm	Complete	Jul-14	2Q 2013	
			Performance was driven by trees off ROW (46%)	and vehicles (42%).			
			Repair damage caused by trees during a storm	Complete	Jul-14	1Q 2015 2Q 2015 3Q 2015	
	Brookville West	00121 22	Repair damage caused by trees	Complete	Oct-14		
		00121-23	Repair damage caused by trees during a storm	Complete	Nov-14		
			Repair equipment failure	Complete	Mar-15		
			Repair damage caused by a vehicle	Complete	Apr-15		
		00201-41	Performance was driven by trees off ROW (90%).				
			1	Repair damage caused by trees	Complete	Jul-14	1Q 2015
	East Hickory		Repair damage caused by trees	Complete	Dec-14	2Q 2015 3Q 2015	
	150		Repair damage caused by trees during a storm	Complete	Jun-15		
			Circuit inspection	Complete	Aug-15		
			Performance was driven by line failure (72%) and	d vehicles (11%).			
			Repair equipment failure during storm	Complete	Jul-14		
			Repair line failure	Complete	Aug-14	1Q 2015	
	East Towanda	00525-62	Repair line failure	Complete	Nov-14	2Q 2015	
			Repair line failure	Complete	Jan-15	3Q 2015	
			Reconductor circuit between poles TWM-1 and TWM-42	Complete	Aug-15		
			Performance was driven by equipment failure (45	%), line failure (35%), a	nd trees off ROW (19%).		
	Vannana	00528 21	Repair damage caused by trees	Complete	Jul-14	1Q 2015	
	Kearsarge	00528-31	Repair line failure	Complete	Sep-14	2Q 2015	
			Repair equipment failure	Complete	Jan-15		

Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed	Appeared in 2 of a
973	Laceyville	00278-65 Performance was driven by trees off ROW (91%). 90% of the outages occurred on one day.		rred on one day.	1Q 2015	
	Euceyvine	00278-03	Repair damage caused by trees during a storm	Complete	Jul-14	2Q 2015
			Performance was driven by trees off ROW (86%)	and lightning (5%).		
	Lake City	00429-34	Repair damage caused by lightning	Complete	Jul-14	1Q 2015
			Repair damage caused by a tree	Complete	Sep-14	2Q 2015
			Performance was driven by a recloser operation	of unknown cause (85%) of		
	Laporte	00772-62	Restore recloser operation of unknown cause during storm	Complete	Jul-14	1Q 2015 2Q 2015
			Repair damage caused by trees	Complete	Oct-14	24 2015
			Performance was driven by trees off ROW (90%).			
	McVeytown	00112-81	Repair damage caused by a tree during a storm	Complete	Jul-14	1Q 2015
			Repair damage caused by trees	Complete	Aug-14	2Q 2015
			Performance was driven by trees off ROW (67%) and line failure (21%).			
	Machannan	00283-65	Repair damage caused by trees during a storm	Complete	Jul-14	
	Meshoppen	00283-63	Repair damage caused by trees during a storm	Complete	Jul-14	1Q 2015
			Repair line failure	Complete	Nov-14	2Q 2015
			Performance was driven by equipment failure (47)			
	Natl Forge Sw	00577 41	Repair equipment failure during a storm	Complete	May-15	2Q 2015
	Sta	00577-41	Repair damage caused by trees during a storm	Complete	May-15	3Q 2015
			Repair damage due to lightning strike	Complete	Jun-15	
			Performance was driven by trees off ROW (56%), strike (9%).			
			Restore recloser operation due to non-utility lightning strike	Complete	Jul-14	
			Repair damage caused by trees	Complete	Jul-14	gag taranan
1888	North Warren	00596-41	Repair damage caused by trees during a storm	Complete	Nov-14	1Q 2015
			Restore fuse after operation from unknown cause	Complete	Nov-14	2Q 2015
			Rehabilitate circuit - items identified during circuit patrol	Complete	Sep-15	
			On cycle tree trimming	Complete	Dec-15	

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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	
			Performance was driven by line failure (99%). On past twelve months.	e outage accounted for 9	9% of the CMI in the	1Q 2015	
	Punxsutawney	00625-23	Repair damage caused by trees during a storm	Complete	Jul-14	2Q 2015	
			Repair damage caused by trees during a storm	Complete	Sep-14	3Q 2015	
			Repair line failure	Complete	Nov-14		
			Performance was driven by trees off ROW (56%), unknown cause (9%).	line failure (16%), and f	use operation due to		
			Restore fuse operation of unknown cause during a storm	Complete	Jul-14	1Q 2015	
	Russell Hill	00282-65	Repair damage caused by trees during a storm	Complete	Jul-14	2Q 2015	
			Repair line failure	Complete	Dec-14		
			Repair damage caused by trees during a storm	Complete	Jun-15		
			Circuit inspection	Complete	Aug-15		
			Performance was driven by trees off ROW (45%),				
				Repair damage caused by trees during a storm	Complete	Jul-14	10.2015
	Ct	00625 72	Repair damage caused by trees	Complete	Oct-14	1Q 2015 2Q 2015 3Q 2015	
	Saxton	00625-73	Repair damage from animal contact	Complete	Jun-15		
			Repair equipment failure	Complete	Jun-15		
			Circuit inspection	Complete	Jul-15		
			Performance was driven by equipment failure (48%), a recloser operation of unknown cause (26%), and trees off ROW (16%).				
			Repair equipment failure during a storm	Complete	Jul-14		
	Springboro	ingboro 00237-52	Restore recloser operation of unknown cause during a storm	Complete	Nov-14	1Q 2015 2Q 2015	
		1000	Repair damage caused by trees	Complete	Mar-15		
			Targeted main line rehab	Complete	Dec-15		
			Porcelain cutout replacement	Complete	Dec-15		
			On cycle tree trimming	Complete	Dec-15		

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		
		Performance was driven by line failure (34%), trees off ROW (28%), and animals (20%).						
			Repair damage caused by trees during a storm	Complete	Jul-14			
			Repair line failure	Complete	Aug-14	1Q 2015		
	Thompson	00436-65	Circuit inspection	Complete	Aug-14	2Q 2015		
			Repair line failure	Complete	Jan-15	3Q 2015		
			Repair damage caused by trees	Complete	Sep-15			
			On cycle tree trimming	Complete	Nov-15			
			Performance was driven by trees off ROW (66%)	and equipment failure (2)	9%).			
	77	00442.65	Repair damage caused by trees during a storm	Complete	Jul-14	1Q 2015		
	Thompson	00442-65	Repair damage caused by trees during a storm	Complete	Jul-14	2Q 2015		
			Repair equipment failure	Complete	May-15			
			Performance was driven trees off ROW (75%) and	nd a recloser operation of	unknown cause (21%).			
	Timblin	00116 22	Repair damage caused by trees during a storm	Complete	Sep-14	1Q 2015		
	Timblin	00116-23	Restore recloser operation of unknown cause during a storm	Complete	Jun-15	2Q 2015		
			Performance was driven by line failure (61%) and	d trees off ROW (17%).				
		00207-43		Re	Repair damage caused by trees during a storm	Complete	Jul-14	1Q 2015
	Union City		Repair line failure during a storm	Complete	Feb-15	2Q 2015		
			Repair line failure during a storm	Complete	Feb-15			
			Performance was driven by line failure (32%), trequipment failure (13%).		ning (25%), and			
			Repair equipment failure	Complete	Jul-14	2Q 2015		
	Utica Junction	00318-51	Repair line failure during a storm	Complete	Apr-15	3Q 2015		
			Repair damage due to lightning strike	Complete	Jun-15			
			Circuit inspection	Complete	Aug-15			
			Performance was driven by equipment failure (8	0%) and trees off ROW (1	9%).	10.2015		
	Wyalusing	yalusing 00532-62 Repair equipment failure during storm Comple	Complete	Jul-14	1Q 2015			
			Repair damage caused by trees	Complete	Dec-14	2Q 2015		
			Performance was driven by line failure (71%) as	_ A		HANNE DA		
	D1 : 111 E	t 00082-13	Repair line failure	Complete	Jul-14			
	Blairsville East		Circuit inspection	Complete	Jul-15			
			On cycle tree trimming	Complete	Nov-15			

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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
			Performance was driven by equipment failure (30 off ROW (14%).			
			Repair damage caused by trees	Complete	Jul-14	
	Curryville	00644-71	Repair line failure	Complete	Nov-14	
			Repair line failure	Complete	Dec-14	
			Circuit inspection	Complete	Jul-15	
			On cycle tree trimming	Complete	Nov-15	
			Performance was driven by trees off ROW (40%)	, line failure (34%), and v	ehicles (14%).	
		00518-31	Repair damage caused by vehicle accident	Complete	Oct-14	
	Lowell Avenue		Repair damage caused by trees during a storm	Complete	May-15	
			Repair line failure	Complete	Aug-15	
			On cycle tree trimming	Complete	Dec-15	
			Performance was driven by trees off ROW (44%)			
			Repair damage caused by trees during a storm	Complete	Jun-15	
	Madana	00147.22	Repair damage caused by trees	Complete	Jul-15	
	Madera	00147-22	Repair equipment failure	Complete	Aug-15	
			Repair equipment failure	Complete	Oct-15	
			Porcelain cutout replacement	Complete	Dec-15	
			Performance was driven by trees off ROW (52%,	, equipment failure (25%)	, and line failure (7%).	
	Shawville 00153-21		Repair damage caused by trees	Complete	Aug-14	
		00153-21	Repair equipment failure	Complete	Aug-14	
			Repair line failure during a storm	Complete	Dec-14	
			Porcelain cutout replacement	Complete	Dec-15	

Met-E						
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
			Performance was driven by trees off ROW (66%)			
			Install additional main line tap fusing	Complete	Sep-14	
		Spot tree removals	Complete	Oct-14		
			Upgrade main line recloser	Complete	Dec-14	
			Main line switch arrester repairs from assessment	Complete	Dec-14	
1			Install additional main line fault indicators	Complete	Jan-15	
		irdsboro 00756-1	Complete engineering review for additional remote-control devices	Complete	Jan-15	1Q 2015 2Q 2015 3Q 2015 4Q 2015
			Proactive every-other-month main line forestry inspection	Complete	Feb-15	
			Spot tree trimming/removals	Complete	Mar-15	
1	Birdsboro		Proactive every-other-month main line forestry inspection	Complete	Apr-15	
			Targeted tree trimming to improve reliability	Complete	Jun-15	
			Proactive every-other-month main line forestry inspection	Complete	Aug-15	
			Install remote operated main line switches	Complete	Sep-15	
			Proactive every-other-month main line forestry inspection	Complete	Oct-15	
			Targeted tree trimming to improve reliability	Complete	Dec-15	
			Perform accelerated backbone and three phase circuit assessment	Complete	Dec-15	
			Targeted tree trimming to improve reliability	Complete	Jan-16	
			Proactive every-other-month main line forestry inspection (Jan-Feb time period)	Complete	Jan-16	
			Replace porcelain cutout	To be completed 2016	0%	

Met-E	d			BURE MAD			
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	
			Performance was driven by underground line fa (20%).	ilure (35%), trees off ROW (	29%), and trees on ROW		
			Comprehensive circuit assessment	Complete	Mar-15		
			Targeted forestry inspection	Complete	May-15		
			Upgrade substation getaway cables	Complete	Aug-15		
			Replace underground cable in Flying Hills underground residential development	Complete	Aug-15	2Q 2015	
2	Flying Hills	00776-1	Replace fault indicators	Complete	Oct-15	3Q 2015	
			Targeted overhead circuit inspection	Complete	Oct-15	4Q 2015	
			Complete engineering circuit configuration review	Complete	Nov-15		
			Install additional tap fuses	Complete	Dec-15		
			Complete circuit reconfiguration	To be completed 2016	50%		
			On cycle tree trimming	To be completed 2016	5%		
			Overhead circuit inspection	To be completed 2016	0%		
		thwood 00821-3	Performance was driven by a single wind storm (67%).				
			Overhead circuit inspection	Complete	Feb-15		
3	Northwood		Forestry Zone 1 aerial patrol	Complete	Jul-15		
			Replace/repair high priority items identified during circuit patrol	To be completed 2016	50%		
			Performance was driven by trees off ROW (33% equipment failure (15%).	6), forced outage (27%), tree	es on ROW (20%), and		
			Replace poles identified during wood pole inspection	Complete	May-15	1Q 2015	
	CI	00005.3	Perform wood pole inspection	Complete	Jul-15	2Q 2015 3Q 2015 4Q 2015	
4	Shawnee	wnee 00895-3	Mid-cycle backbone and three phase forestry inspection	Complete	Oct-15		
			Perform accelerated backbone circuit assessment	Complete	Dec-15		
			On cycle tree trimming	To be completed 2016	0%		

Met-E						A STATE OF THE STA
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
			Performance was driven by equipment failure (7)	7%) and trees on ROW (119	%).	
			Replace underground exit	Complete	Aug-14	
			Replace switch	Complete	Jan-15	2Q 2015
5	Lickdale	00626-2	Repair line failure	Complete	Jun-15	3Q 2015
			Circuit inspection	Complete	Sep-15	4Q 2015
			Replace main line recloser	To be completed 2016	50%	
			Replace main line recloser	To be completed 2016	0%	
			Performance driven by forced outages (40%), ve	hicles (23%), and trees off	ROW (22%).	
		Hill 00816-3	Replace crossarms identified during circuit assessment	Complete	Aug-14	1Q 2015 2Q 2015
			Mid-cycle backbone and three phase forestry inspection	Complete	Oct-14	
			Danger tree removal from mid-cycle forestry inspection	Complete	Nov-14	
			Forestry Zone 1 aerial patrol	Complete	Jul-15	
6	Fox Hill		Install additional Supervisory Control and Data Acquisition (SCADA) switch	Complete	Sep-15	
			Replace fault indicators	Complete	Sep-15	3Q 2015
			Install additional Supervisory Control and Data Acquisition (SCADA) switch	Complete	Sep-15	4Q 2015
			Add Supervisory Control and Data Acquisition (SCADA) control to recloser	Complete	Dec-15	
			Perform accelerated backbone circuit assessment	Complete	Dec-15	
			Replace spacer blocks	Complete	Jan-16	
			On cycle tree trimming	To be completed 2016	0%	

Rank	Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial	Progress of Remedial Work or Date	Appeared in 2	
				Work Completed	Completed	of 4 Quarters	
			Performance was driven by a cutout problem (45%) and trees off ROW (21%). 88% of the CMI occurred on three days.				
			Repair equipment failure	Complete	May-15	20.2015	
	C	00762.2	Poles were replaced and equipment repaired	Complete	Jun-15	2Q 2015	
/	Swatara Hill	00763-2	Repair damage caused by trees during a storm	Complete	Jun-15	3Q 2015 4Q 2015	
			Repair damage caused by lightning	Complete	Jul-15	4Q 2013	
			Replace pole and repair equipment	Complete	Dec-15		
			Replace pole and repair equipment	Complete	Dec-15		
		le 00737-1	Performance was driven by trees off ROW (37%,	nance was driven by trees off ROW (37%) and equipment failure (35%).			
			Overhead circuit inspection	Complete	Aug-14	3Q 2015 4Q 2015	
			Install additional main line fault indicators	Complete	Oct-14		
8	Lynnville		Replace crossarm from inspection	Complete	Jun-15		
			Replace insulators and repair pole tops from inspection	Complete	Jun-15		
			Replace main line recloser	Complete	Dec-15		
			Performance was driven by overhead line failure underground equipment failure (15%).	e (48%), underground line f	ailure (26%), and		
			Perform wood pole inspection	Complete	Mar-15	3Q 2015 4Q 2015	
9	Painted Sky	y 00650-1	Replace pole identified during wood pole inspection	Complete	Apr-15		
			Underground equipment inspection	To be completed 2016	0%		
			Overhead circuit inspection	To be completed 2016	0%		

Met-E	d			Status of Remedial	Progress of Remedial	Appeared in 2	
Rank	Substation	Circuit	Remedial Action Planned or Taken	Work Completed	Work or Date Completed	of 4 Quarters	
		Performance was driven by equipment failure (30%), vehicles (18%), trees off ROW (13%), and trees on ROW (11%).					
			Upgrade substation relays	Complete	Sep-14		
			Comprehensive tree trimming	Complete	Dec-14		
			Pole replacements from pole inspections	Complete	Jan-15	1Q 2015	
10	Bern Church	00789-1	Replace underground cable in Plum Creek underground residential development	Complete	Sep-15	2Q 2015 3Q 2015 4Q 2015	
			Replace fault indicators	Complete	Oct-15	4Q 2013	
			Targeted overhead circuit inspection	Complete	Dec-15		
			Repair/replace pole top	To be completed 2016	0%		
			Overhead circuit inspection	To be completed 2016	0%		
	Straban	00676-4	Performance was driven by vehicles (45%), trees off ROW (41%), and equipment failures (11%).				2Q 2015
11			Overhead circuit inspection	Complete	Oct-15	3Q 2015 4Q 2015	
			Install recloser on Taneytown Rd	Complete	Nov-15		
			Performance was driven by trees off ROW (67%), vehicles (15%), and equipment failure (8%). 32% of the outages were the result of a June 20, 2015 storm.				
			Upgrade main line Group Operated Air Break (GOAB) #74459 to EMS radio controlled Motor Operated Air Break (MOAB) switch with faulted circuit indicators	Complete	Oct-14	1Q 2015 2Q 2015 3Q 2015 4Q 2015	
12	Mountain	00744-4	Upgrade main line recloser to EMS radio controlled	Complete	Oct-14		
			Upgrade main line GOAB #T1-754 to EMS radio controlled MOAB with faulted circuit indicators	Complete	Sep-15		
			Repair/replace items identified during underground circuit inspection	Complete	Oct-15		
			Overhead circuit inspection	To be completed 2016	0%		

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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
			Performance was driven by trees off ROW (80%)	).		
	Annville	le 00741-2	Mid-cycle backbone forestry inspection	Complete	Aug-14	2Q 2015 3Q 2015 4Q 2015
13			Repair line failure	Complete	Oct-14	
			Repair damage caused by trees during a storm	Complete	Oct-15	
			On cycle tree trimming	Complete	Nov-15	
			Performance was driven by equipment failure (71%).			
			Main line circuit inspection	Complete	Feb-15	1Q 2015 3Q 2015 4Q 2015
1.4	Dames illa	00786 1	Main line pole replacement	Complete	Apr-15	
14	Bernville	ille 00786-1	Replace fault indicators	Complete	Sep-15	
			Install additional main line disconnects	Complete	Oct-15	
			Replace main line crossarms from inspection	To be completed 2016	50%	

Met-Ed						
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
			Performance was driven by trees off ROW (40%)	, line failure (31%), and tre	es on ROW (14%).	
			Comprehensive tree trimming	Complete	Oct-14	
			Upgrade main line recloser	Complete	Nov-14	
			Install remote operated main line switches	Complete	Nov-14	
			Install new main line recloser	Complete	Dec-14	
			Install additional main line fault indicators	Complete	Jan-15	
			Proactive every-other-month main line forestry inspection	Complete	Jan-15	
		00757-1	Spot tree trimming/removals	Complete	Mar-15	1Q 2015 2Q 2015 3Q 2015 4Q 2015
			Proactive every-other-month main line forestry inspection	Complete	Apr-15	
			Targeted tree trimming to improve reliability	Complete	Jun-15	
15	Birdsboro		Targeted forestry inspection	Complete	Jun-15	
13			Proactive every-other-month main line forestry inspection	Complete	Aug-15	
			Targeted overhead circuit inspection	Complete	Oct-15	
			Proactive every-other-month main line forestry inspection	Complete	Oct-15	
			Targeted tree trimming to improve reliability	Complete	Dec-15	
			Perform accelerated backbone and three phase circuit assessment	Complete	Dec-15	
			Replace crossarm	To be completed 2016	0%	
			Replace crossarm brace	To be completed 2016	0%	
			Proactive every-other-month main line forestry inspection (January-February time period)	To be completed 2016	0%	
			Targeted tree trimming to improve reliability	To be completed 2016	0%	

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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
		Performance was driven by equipment failure (68%).				
			Perform wood pole inspection	Complete	Jun-15	
	Shawnee	00860-3	Replace poles identified during wood pole inspection	Complete	Aug-15	1Q 2015 2Q 2015
16	Snawnee	00860-3	Install additional Supervisory Control and Data Acquisition (SCADA) controlled switch	Complete	Sep-15	3Q 2015 4Q 2015
			Perform accelerated backbone circuit assessment	Complete	Dec-15	
			Performance was driven by trees on ROW (37%)	animals (27%), and trees	off ROW (16%).	
			Complete engineering circuit configuration review	Complete	Sep-14	1Q 2015 4Q 2015
			Engineering circuit protection review in conjunction with Huffs Church substation construction	Complete	Jan-15	
			Lockout zone circuit inspection	Complete	Feb-15	
		00705-1	Install additional main line fault indicators	Complete	Mar-15	
17	Barto		Replace crossarm from assessment	Complete	Mar-15	
			Replace insulator from assessment	Complete	Mar-15	
			Comprehensive circuit assessment	Complete	Mar-15	
			Proactive main line forestry patrol	Complete	May-15	
			Replace crossarm braces from assessment	Complete	Jun-15	
			Replace switch arrester from assessment	Complete	Oct-15	
			On cycle tree trimming	To be completed 2016	5%	
			Overhead circuit inspection	To be completed 2016	0%	
			Performance was driven by trees off ROW (70%)	).		
			Forestry Zone 1 aerial patrol	Complete	Jul-15	2Q 2015
18	Shawnee	00899-3	Perform wood pole inspection	Complete	Jul-15	3Q 2015
18	Shawhee	00077-3	Replace fault indicators	Complete	Jul-15	4Q 2015
			Replace crossarm	Complete	Oct-15	
			Correct fuse coordination	Complete	Oct-15	

Met-Ec	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
			Performance was driven by trees off ROW (94%).			10.0015
			Comprehensive circuit assessment	Complete	Sep-14	
	Birchwood		Comprehensive tree trimming	Complete	Nov-14	1Q 2015 2Q 2015
19		00622-3	Replace voltage regulator	Complete	Dec-14	3Q 2015
			Repair items identified during circuit assessment	Complete	Dec-14	4Q 2015
			On cycle tree trimming	To be completed 2016	0%	
			Performance was driven by trees off ROW (63%)	and equipment failure (35)	%).	20 2015
20	State Street	e Street 00620-1	On cycle tree trimming	Complete	Jul-15	3Q 2015 4Q 2015
			Upgrade tie switch	To be completed 2016	50%	
		Performance was driven by trees off ROW (42%), equipment failure (26%), and trees on ROW (19%).				
			Install additional main line fault indicators	Complete	Dec-14	
			Comprehensive circuit assessment	Complete	Jul-15	
			Install additional main line recloser	Complete	Aug-15	20 2015
21	Flying Hills	00777-1	Upgrade circuit getaway cables	Complete	Aug-15	3Q 2015 4Q 2015
			Upgrade circuit tie capability	Complete	Aug-15	4Q 2013
			Upgrade main line conductor	Complete	Aug-15	
			On cycle tree trimming	To be completed 2016	0%	
			Overhead circuit inspection	To be completed 2016	0%	
			Performance was driven by vehicles (58%) and e	equipment failure (32%).		
			Replace eleven porcelain cutouts	Complete	Jul-14	
			Install new fuse	Complete	Sep-14	1Q 2015
22	Swatara Hill	00764-2	Install new span of underground cable to create underground development loop	Complete	Sep-14	2Q 2015 3Q 2015
			Repair damage caused by a vehicle	Complete	Jul-15	4Q 2015
			Pole was replaced and equipment repaired	Complete	Sep-15	
			Lockout zone circuit inspection	Complete	Dec-15	
22	Fairniau	00510.4	Performance was driven by vehicles (91%). 70% that occurred on October 21, 2015.		sult of one vehicle contact	
23	Fairview	00519-4	Cycle tree trimming	Complete	Dec-14	
			Overhead circuit inspection	Complete	Apr-15	

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
			Performance was driven by trees off ROW (74%)			
24	C. I II	00157.1	Replace poles identified during wood pole inspection	Complete	Sep-14	
24	Schuylkill Ave	00157-1	Targeted forestry inspection	Complete	Nov-15	
			Complete engineering review for substation upgrade	To be completed 2016	25%	
			Performance was driven by vehicles (70%).			
	North Bangor	Bangor 00813-3	Mid-cycle backbone and three phase forestry inspection	Complete	Sep-14	1Q 2015 2Q 2015 4Q 2015
25			Forestry Zone 1 aerial patrol	Complete	Jul-15	
			Cycle tree trimming	Complete	Nov-15	
			Overhead circuit inspection	To be completed 2016	0%	
			Performance was driven by trees off ROW (47%)	and equipment failure (45)	%).	
			Mid-cycle backbone and three phase forestry inspection	Complete	Jul-14	1Q 2015 2Q 2015 4Q 2015
			Replace recloser	Complete	Jul-14	
		00743-2	Perform tree work identified during mid-cycle backbone and three phase forestry inspection	Complete	Jul-14	
26	Annville		Complete engineering review for remote- control devices	Complete	Oct-15	
			Comprehensive tree trimming	Complete	Nov-15	
			Replace switch with Supervisory Control and Data Acquisition (SCADA) Motor Operated Air Break (MOAB)	Complete	Dec-15	
			Lockout zone circuit inspection	Complete	Dec-15	

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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
			Performance was driven by line failure (34%).			
			Replace/repair high priority items identified during circuit patrol	Complete	May-15	
			Forestry to perform off cycle comprehensive circuit tree patrol	Complete	Jun-15	1Q 2015
27	Windsor	/indsor 00797-4	Replacement of porcelain cutouts with polymer cutouts on the circuit backbone	Complete	Aug-15	3Q 2015 4Q 2015
			Install additional fault indicators	Complete	Sep-15	
			Install additional fuses	Complete	Sep-15	
			Replace pole identified during the circuit pole inspection	Complete	Sep-15	
			Performance was driven by equipment failure (3. ROW (13%).	3%), wind (26%), trees on I	ROW (23%), and trees off	
28	South Hamb	00741-1	Install additional main line fault indicators	Complete	Sep-14	3Q 2015
			Replace main line crossarms from assessment	Complete	Dec-14	4Q 2015
			Cycle tree trimming	Complete	Jul-15	
			Performance was driven by vehicles (42%).			
29	Taxville	00575-4	Comprehensive circuit assessment	Complete	Apr-15	3Q 2015
29	Taxville	005/5-4	Replace/repair high priority items identified during circuit patrol	To be completed 2016	5%	4Q 2015

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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
			Performance was driven by trees off ROW (49%) the trees off ROW outages occurred during mino vehicle outages were the result of one vehicle con	r storms on June 30 and Jul		
30	North Hanover	00509-4	The vehicle contact pole was replaced and associated repairs were made at time of restoration	Complete	May-15	3Q 2015
	North Fidulo (C)		The problem tree was removed and associated repairs were made at time of restoration	Complete	Jun-15	4Q 2015
			The problem tree was removed and associated repairs were made at time of restoration	Complete	Jul-15	
			On cycle tree trimming	To be completed 2017 <sup>25</sup>	0%	
		00826-3	Performance was driven by equipment failure (48%) and line failure (23%).			
			Replace poles identified during wood pole inspection	Complete	Aug-14	1Q 2015 2Q 2015
			Comprehensive tree trimming	Complete	Oct-14	
31	North Bangor		Perform accelerated backbone and three phase circuit assessment	Complete	Jun-15	
			Forestry Zone 1 aerial patrol	Complete	Jul-15	3Q 2015 4Q 2015
			Replace capacitor bank	Complete	Aug-15	4Q 2013
			Correct fuse coordination	Complete	Sep-15	
			Perform circuit protection study	Complete	Nov-15	
			Overhead circuit inspection	To be completed 2016	75%	
			Performance was driven by trees off ROW (83%)			
32	Ringing Rocks	cks 00708-1	Overhead circuit inspection	Complete	Oct-14	3Q 2015 4Q 2015
32	Kinging Rocks		Replace crossarm from inspection	Complete	Feb-15	
			Targeted forestry inspection	Complete	Oct-15	

<sup>&</sup>lt;sup>25</sup> Incorrectly reported with a 2016 completion date in the 3<sup>rd</sup> quarter.

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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		
			Performance was driven by trees off ROW (57%).					
			Comprehensive tree trimming	Complete	Oct-14	10.0015		
			Replace/repair high priority items identified during circuit patrol	Complete	Nov-14			
33	Newberry	00576-4	Replace/repair high priority items identified during circuit patrol	Complete	Apr-15	1Q 2015 2Q 2015 3Q 2015		
			Mid-cycle backbone and three phase forestry inspection	Complete	May-15	4Q 2015		
			Targeted tree trimming to improve reliability	Complete	Jun-15			
			Replace porcelain cutouts on circuit backbone with polymer cutouts	Complete	Aug-15			
		et Hill 00527-4	Performance was driven by line failure (46%).					
			Replace/repair high priority items identified during circuit patrol	Complete	Dec-14			
34	Violet Hill		Perform annual recloser inspections	Complete	Mar-15			
34	Violet Hill		Replace crossarm	Complete	Oct-15			
			Replace recloser found out of service during annual inspection	Complete	Nov-15			
			On cycle tree trimming	To be completed 2016	0%			
			Performance was driven by equipment failure (50) 48% of the outages occurred when a pole failed of					
			The downed pole was replaced and associated repairs were made at time of restoration	Complete	Jan-15			
35	Orrtanna	orrtanna 00764-4	Repair/replace items identified during capacitor inspection	Complete	Mar-15			
			The problem tree was removed and associated repairs were made at time of restoration	Complete	May-15			
			On cycle tree trimming	Complete	Dec-15			

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	
			Performance was driven by lightning (52%), equipment failures (27%), and trees off ROW (11%). 51% of the outages occurred during a storm on May 31, 2015.				
			Cycle tree trimming	Complete	Oct-14		
36	Dillahura	00749-4	Install new recloser on Range End Rd	Complete	Sep-14	2Q 2015	
30	Dillsburg	00749-4	The lightning damage was repaired and associated repairs were made at time of restoration	Complete	May-15	4Q 2015	
			Overhead circuit inspection	To be completed 2016	0%		
		Angelica 00129-4	Performance was driven by equipment failure (4	7%) and trees off ROW (36)	%).		
37	Angelica		Install main line fault indicators	Complete	Apr-15		
			Cycle tree trimming	Complete	Oct-15		
	Allen	Allen 00501-4	Performance was driven by trees off ROW (32%), equipment failure (27%), vehicles (11%), and lightning (9%).				
38			Perform engineering review of faulted circuit indicator age and locations	Complete	Nov-14		
			Cycle tree trimming	Complete	Mar-15		
			Overhead circuit inspection	To be completed 2016	0%		
			Performance was driven by trees off ROW (41%), line failure (17%), vehicles (12%), and lightning (11%). 51% of outages were the result of storms that occurred on June 20, June 23, and July 25, 2015.				
			Install additional faulted circuit indicators two locations	Complete	Aug-14	10.2015	
	Allen	Allen 00502-4	Perform engineering review of existing faulted circuit indicator age	Complete	Oct-14	1Q 2015 2Q 2015 3Q 2015	
			Retire and replace failed faulted circuit indicators in five locations	Complete	Nov-14	3Q 2013	
			Comprehensive tree trimming	Complete	Jan-15		
	Performance was driven by one storm related outage (81%)						
	Annville	00742-2	Comprehensive tree trimming	Complete	Sep-15	2Q 2015	

Met-Eo	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	
			Performance was driven by equipment failure (37%) and vehicles (24%).				
			Install new getaway cables and riser at Bair substation	Complete	Feb-15		
	D :	00571.4	Replace broken cutout	Complete	Apr-15	1Q 2015	
	Bairs	00571-4	Mid-cycle backbone and three phase forestry inspection	Complete	May-15	2Q 2015	
			Retire and replace failed fault circuit indicators	Complete	Aug-15		
			Targeted tree trimming to improve reliability	Complete	Nov-15		
			Performance was driven by vehicles (50%), birds (16%), and equipment failure (11%).				
		Bath 00873-3 R as	Comprehensive circuit assessment	Complete	Jan-15	10 2015	
	Bath		Replace items identified during circuit assessment	Complete	Aug-15	1Q 2015 2Q 2015 3Q 2015	
			Replace porcelain cutouts on circuit backbone with polymer cutouts	Complete	Nov-15	3Q 2013	
			Performance was driven by damage from a single snow storm that occurred on November 26, 2014 (78%).				
			Comprehensive circuit assessment	Complete	Jul-14	1Q 2015	
	Birchwood	00623-3	Comprehensive tree trimming	Complete	Dec-14	2Q 2015	
			Replace/repair high priority items identified during circuit patrol	Complete	Feb-15	3Q 2015	
			Install fault indicators	Complete	Feb-15		
N. San			Performance was driven by line failure (32%), ve	chicles (24%), and equipm	ent failure (20%).		
			Comprehensive circuit assessment	Complete	Sep-14	1Q 2015	
	Carsonia	00764-1	Replace main line arrester from assessment	Complete	Mar-15	2Q 2015	
	Carsonia	00707-1	Replace porcelain cutouts on circuit backbone with polymer cutouts	Complete	Oct-15	3Q 2015	

Met-E 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	
			Performance was driven by equipment failure (4-	1%), trees off ROW (19%),	and trees on ROW (18%).		
				Main line crossarm repair from comprehensive circuit patrol	Complete	Nov-14	
			Main line pole top repair from assessment	Complete	Dec-14		
	Leesport	00811-1	Replace substation getaway cable and terminators	Complete	Mar-15	1Q 2015 2Q 2015	
			Cycle tree trimming	Complete	May-15	2Q 2013	
			Perform accelerated backbone, three phase circuit assessment	Complete	Jul-15		
			Main line coordination improvements	Complete	Oct-15		
			Replace main line pole	Complete	Nov-15		
			Performance was driven by damage from a storm that occurred on July 2, 2014 (79%).				
	Marshalls Creek	00128-3	Engineering to perform circuit protection review	Complete	Dec-14	1Q 2015 2Q 2015	
			Performance was driven by equipment failure (4. (5%). 66% of outages from December 6, 2014 a		nimals (14%), and vehicles		
		00740 4	Comprehensive tree trimming	Complete	Aug-14	1Q 2015	
	Mountain	00740-4	Install one recloser at new location	Complete	Oct-14	2Q 2015 3Q 2015	
			Replace porcelain cutouts on circuit backbone with polymer cutouts	Complete	Apr-15	3Q 2013	
			Performance was driven by trees off ROW (23%,	and vehicles (34%).			
			Comprehensive circuit assessment	Complete	Oct-14		
			Cycle tree trimming	Complete	Dec-14	1Q 2015	
	Newberry	Newberry 00586-4	Replace/repair high priority items identified during circuit patrol	Complete	Feb-15	2Q 2015 3Q 2015	
			Mid-cycle backbone and three phase forestry inspection	Complete	Apr-15		
			Targeted tree trimming to improve reliability	Complete	Jun-15		

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	
			Performance was driven by trees off ROW (35%)				
			Mid-cycle backbone and three phase forestry inspection	Complete	Oct-14	1Q 2015	
	North Cornwall	00610-2	Replace switch	Complete	Apr-15	2Q 2015	
			Install additional main line recloser	Complete	Apr-15	3Q 2015	
			Install additional fault indicators	Complete	Jun-15		
			Overhead circuit inspection	Complete	Sep-15		
			Performance was driven by trees off ROW (34%),	equipment failure (28%),	and vehicles (17%).		
	North Lebanon	00712-2	Replace/repair high priority items identified during circuit patrol	Complete	Feb-15	2Q 2015	
			Replace/repair high priority items identified during circuit patrol	Complete	Apr-15	3Q 2015	
		. Nazareth 00809-3	Performance was driven by vehicles (49%), equipment failure (32%), and trees off ROW (14%).				
	S. Nazarath		Install additional Supervisory Control and Data Acquisition (SCADA) controlled switch	Complete	Aug-14	1Q 2015	
	S. Nazaretti		Replace porcelain cutouts on circuit backbone with polymer cutouts	Complete	Mar-15	2Q 2015 3Q 2015	
			Forestry Zone 1 aerial patrol	Complete	Jul-15		
	Saylorsburg	00114-3	Performance was driven by trees off ROW (67%)	and equipment failure (23	%).	2Q 2015	
	Saylorsourg	00114-3	Forestry to trim circuit	Complete	Dec-14	3Q 2015	
			Performance was driven by trees off ROW (77%)	and equipment failure (11	%).		
	Snydersville	00621-3	Comprehensive tree trimming	Complete	Nov-14	1Q 2015	
	Silydeisville	00021-3	Replace recloser	Complete	Feb-15	2Q 2015	
			Install fault indicators	Complete	Mar-15		
			Performance was driven by trees off ROW (52%)	and vehicles (14%).			
	South Lebanon	00780-2	Mid-cycle backbone forestry inspection	Complete	Aug-14	1Q 2015 2Q 2015	
	South Lebanon	00780-2	Pole was replaced and equipment repaired	Complete	Oct-14		
			Cycle tree trimming	Complete	Nov-15		

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
			Performance was driven by equipment failure (73	2%).		
			Install additional main line fault indicators	Complete	Sep-14	
	Weisenberg	00602-1	Replace main line insulator	Complete	Apr-15	1Q 2015
			Replace fault indicators	Complete	Aug-15	2Q 2015
			Comprehensive circuit assessment	Complete	Oct-15	
		Performance was driven by equipment failure (89%). 71% of the outages occurred on one day.				
			Comprehensive tree trimming	Complete	Aug-14	
	3rd and Green	00785-2	Replace arrester	Complete	Nov-14	1Q 2015
	3" and Green		Replace two crossarms, three cutouts, and three arresters	Complete	Nov-14	2Q 2015
			Replace recloser	Complete	Oct-15	
			Performance was driven by vehicles (34%), equipality failure (12%). Install fault indicators	Complete	off ROW (18%), and line  Jul-14	
	Birchwood	wood 00624-3	Comprehensive circuit patrol	Complete	Aug-14	
			Replace recloser	Complete	Sep-14	
			Comprehensive tree trimming	Complete	Nov-14	
			Install sectionalizer	Complete	Oct-15	
			Replace porcelain cutouts on circuit backbone	Complete	Oct-15	
			Performance was driven by previous lightning (4		The state of the s	
			Complete engineering circuit configuration review	Complete	Sep-14	
	East Topton	00733-1	Complete engineering circuit protection review in conjunction with Huffs Church Substation construction	Complete	Jan-15	
			Overhead circuit inspection	Complete	Sep-15	
			Complete circuit reconfiguration	To be completed 2016	25%	
			Performance was driven by equipment failure (6.	9%) and vehicles (21%).		
	Moselem	Moselem 00782-1	Complete engineering circuit configuration review	Complete	Oct-14	
			Comprehensive circuit assessment	Complete	Aug-15	
			Comprehensive tree trimming	Complete	Nov-15	

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
			Performance was driven by a line failure outage	(59%) and animals (39%).		
	South Hamburg	00745-1	Install additional main line fault indicators	Complete	Sep-14	
	ocum riamous out	00743-1	Replace main line crossarm from assessment	Complete	Dec-14	
			Install additional main line disconnects	Complete	Oct-15	
			Performance was driven by equipment failure (92%).			
	Third Street	00178-1	Spot main line inspection	Complete	Jan-15	
	Tillia Street	00176-1	Complete load reduction project	Complete	Oct-15	
			Substation transformer cable replacement	Complete	Nov-15	
18 1	Performance was driven by lightning (1194) and trace off POW (289/)					
	Tolna	00793-4	Comprehensive tree trimming	Complete	Nov-15	

Vest Per	nn Power						
Rank	Substation	Circuit	Remedial Actions Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters	
,	Kiski Valley	K illianning Ra	Performance was driven by trees off ROW (78%) and forced outages (18%). 75% of the outages occurred on two minor storm days.				
1	Distrib		Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Feb-15	3Q 2015 4Q 2015	
2	Cecil	Bishop	Performance was driven by trees off ROW (81%) and forced outages (13%). 70% of the outages occurred on one minor storm day.				
2	Ceen	ecii Bishop	Zone 1 circuit patrol. Five danger trees found and remediated.	Complete	Jul-15	3Q 2015 4Q 2015	
			Performance was driven by equipment failure (56%) and trees off ROW (40%). 88% of the outages occurred on two minor storm days.				
3	Vandergrift	Grifflo Park	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	May-15	3Q 2015 4Q 2015	
			On cycle tree trimming	To be completed 2016	0%		
4	Dutch Fork	Claysville	Performance was driven by trees off ROW (38%), unknowns (33%), trees on ROW (15%), and line failure (11%). 44% of the outages occurred on three days, two of which were minor storm days.				
			Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Mar-15	3Q 2015 4Q 2015	
5	Lagonda	Lagonda	Performance was driven by trees off RO storm days.	W (89%). 92% of the out	ages occurred on two minor	3Q 2015	
3	Lagolida	Lagonda	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Mar-15	4Q 2015	
6	Donagal	Champion	Performance was driven by line failure outages occurred on four days, three of			3Q 2015	
O	Donegal	Donegal Champion	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	May-15	4Q 2015	
_		D 11 G	Performance was driven by trees off ROW (57%) and equipment failure (33%). 78% of the				
7	Kane	Kane Russell City	outages occurred on three minor storm On cycle tree trimming	To be completed 2016	0%		

Rank	Substation	Circuit	Remedial Actions Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters	
8	Westraver	Pittsburgh Coal	Performance was driven by line failure (32%), trees off ROW (31%), forced outages (19%), and trees on ROW (12%). 76% of the outages occurred on four days, three of which were minor storm days.				
			On cycle tree trimming	Complete	Dec-15	4Q 2015	
			Performance was driven by trees off ROW (91%). 78% of the outages occurred on one minor storm day.				
9	Gordon	Wolfdale	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Jun-15	2Q 2015 3Q 2015	
			Overhead circuit patrol	Complete	Nov-15	4Q 2015	
			On cycle tree trimming	To be completed 2016	0%		
	Shaffers Corner	rs Corner Braeburn	Performance was driven by trees off ROW (69%) and trees on ROW (18%). 76% of the outages occurred on three minor storm days.				
10			Zone 1 circuit patrol. No hardware issues found. Eight trees found and remediated.	Complete	Mar-15	2Q 2015 3Q 2015 4Q 2015	
			On cycle tree trimming	To be completed 2016	0%		
		r Seventh St Rd	Performance was driven by trees off ROW (92%). 83% of the outages occurred on three minor storm days.				
11	Shaffers Corner		Cycle tree trimming	Complete	Dec-14	2Q 2015 3Q 2015	
			Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Jan-15	4Q 2015	
			Performance was driven by equipment for once of which was a minor storm day.	ailure (75%). 82% of the o	outages occurred on two days,		
12	Piney Fork	Stoltz	Zone 1 forestry patrol. Thirty-six trees identified to be remediated.	Complete	Nov-15		
			Remediate thirty-six trees identified in Zone 1 forestry patrol	To be completed 2016	0%		
			Performance was driven by trees off RO			2Q 2015	
			61% of the outages occurred on three de	ays, two of which were min	nor storm days.		
13	Amity	Banetown	Zone 1 circuit patrol. No hardware issues found. Eight trees found and remediated.	Complete	Jun-15	3Q 201 4Q 201	

West Pe	nn Power		<b>公司的企业总统的</b>				
Rank	Substation	Circuit	Remedial Actions Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters	
14	Different	D-:0	Performance was driven by trees off ROW (74%) and unknowns (20%). 88% of the outages occurred on four days, two of which were minor storm days.				
14	Driftwood	d Driftwood	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Jun-15	3Q 2015 4Q 2015	
15	South Union	Fairchance	Performance was driven by line failure (69% of the outages occurred on four day				
			On cycle tree trimming	Complete	Oct-15		
16	Midway	Midway	Performance was driven by trees off RO occurred on one minor storm day.	W (68%) and trees on RO	W (14%). 38% of the outages		
16	Midway	Midway	Zone 1 forestry patrol. No tree issues found.	Complete	Nov-15		
17	Finleyville	Finleyville Gastonville	Performance was driven by equipment failure (30%), forced outages (26%), trees off ROW (24%), and line failure (16%). 72% of the outages occurred on two days, one of which was a minor storm day.			3Q 2015 4Q 2015	
			Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Jan-15	4Q 2013	
			Performance was driven by trees off ROW (45%), equipment failure (20%), and lightning (16%). 60% of the outages occurred on three days, one of which was a minor storm days.				
18	Murrycrest	Sardis Road	Zone 1 circuit patrol. No hardware issues found. Twenty-two trees found and remediated.	Complete	Mar-15	2Q 2015 3Q 2015 4Q 2015	
10			Performance was driven by line failure trees on ROW (14%). 99% of the outage days.			2Q 2015	
19	Cecil	Southpointe	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Jun-15	3Q 2015 4Q 2015	
			On cycle tree trimming	To be completed 2016	0%		
20	Gordon	Tyler	Performance was driven by equipment failure (39%), trees on ROW (29%), and vehicles (19%). 90% of the outages occurred on three minor storm days.				
20	Gordon	Tyler	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Mar-15	2Q 2015 3Q 2015 4Q 2015	

West P	enn Power	THE STATE				The late	
Rank	Substation	Circuit	Remedial Actions Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters	
21		West Newton	Performance was driven by equipment failure (46%), forced outages (30%), and trees off ROW (18%). 85% of the outages occurred on three days, two of which were minor storm days.				
21	Westraver	west Newton	CEMI review to be performed. No high CEMI taps found.	Complete	Dec-15	3Q 2015 4Q 2015	
22	South Fayette 138	Abele	Performance was driven by equipment for and forced outages (12%). 70% of the outstorm days.			2Q 2015 3Q 2015	
			On cycle tree trimming	Complete	Nov-15	4Q 2015	
23	North Union	Phillips	Performance was driven by trees off ROW (45%), equipment failure (24%), unknowns (17%), and forced outages (11%). 81% of the outages occurred on three days, two of which were minor storm days.				
			Cycle tree trimming	Complete	Jul-15		
24		uperior Clumerville	Performance was driven by equipment failure (53%) and trees off ROW (45%). 96% of the outages occurred on two days, one of which was a minor storm day.				
24	Superior		Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Mar-15	4Q 2015	
			Performance was driven by line failure (62%), forced outages (17%), and trees off ROW (8%). 68% of the outages occurred on one day.				
25	Franklin	Rogersville	Zone 1 circuit patrol. No hardware issues found. Four trees found and remediated.	Complete	Jul-15	3Q 2015 4Q 2015	
26	Westraver	Fellehurg	Performance was driven by line failure (74%) and trees on ROW (12%). 85% of the outages occurred on two days.				
20	Westlavel	Fellsburg	On cycle tree trimming	Complete	Sept-15	3Q 2015 4Q 2015	
27	Cecil	Musa	Performance was driven by trees off RC occurred on two days, one of which was		ages (13%). 86% of the outages	2Q 2015 3Q 2015	
21	Cecii	ecil Muse	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Jun-15	4Q 201:	

West Pe	enn Power	MARKET STATE					
Rank	Substation	Circuit	Remedial Actions Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters	
			Performance was driven by trees off ROW (63%) and line failure (27%). 53% of the outages occurred on two minor storm days.				
28	Rutan	Bristoria	Zone 1 circuit patrol. No hardware issues found. Five trees found and remediated.	Complete	Jul-15	3Q 2015 4Q 2015	
			Performance was driven by vehicles (39) the outages occurred on four days, two o				
29	V:11-	Vanceville	Cycle tree trimming	Complete	Jul-14	1Q 2015	
	Vanceville	vanceville	Zone 1 hardware and forestry patrol.  No hardware or tree issues found.	Complete	Jan-15	3Q 2015 4Q 2015	
			Hixon Road tie point	Complete	May-15		
20	2	Rutan Windridge	Performance was driven by line failure (44%), trees off ROW (38%), and forced outages (11%). 90% of the outages occurred on four days, two of which were minor storm days.				
30	Rutan		Zone 1 vegetation patrol	Complete	Nov-15		
			Overhead circuit patrol	To be completed 2016	0%		
2.1	Houston	n Murdock	Performance was driven by unknowns (24%), trees on ROW (19%), forced outages (20%), equipment failure (16%), and vehicles (16%). 89% of the outages occurred on five days.				
31			Overhead circuit patrol	Complete	Nov-15	3Q 2015 4Q 2015	
			Cycle tree trimming	Complete	Dec-15		
32	Houston	Canonsburg	Performance was driven by trees off ROW (98%). 98% of the outages occurred on one minor storm day.				
32	Houston	Canonsburg	Overhead circuit patrol	Complete	Nov-15	4Q 2015	
			Cycle tree trimming	Complete	Dec-15		
33	Lake Lynn-Union	Fancy Hill	Performance was driven by trees off RO 75% of the outages occurred on five day			1Q 2015 2Q 2015	
33	Lake Lynn-Onion	Taney Tim	On cycle tree trimming	Complete	Nov-15	3Q 2015 4Q 2015	
			Performance was driven by trees on ROW (58%), forced outages (21%), and trees off ROW (17%). 87% of the outages occurred on three days, two of which were minor storm days.				
34	Hickory	cory Fort Cherry	Cycle tree trimming	Complete	Jan-15	3Q 201:	
			Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Jul-15	4Q 2015	

West Pe	nn Power			Status of Remedial	Progress of Remedial Work	Appeared	
Rank	Substation	Circuit	Remedial Actions Planned or Taken	Work	or Date Completed	in 2 of 4 Quarters	
35	Smithton	Yukon	Performance was driven by trees off ROW (32%), vehicles (30%), forced outages (18%), and line failure (17%). 90% of the outages occurred on three days, one of which was a minor storm day.			1403400	
			On cycle tree trimming	Complete	Dec-14		
36	Hickory	Hickory	Performance was driven by line failure ( unknown (13%), and forced outages (12 which was a minor storm day.			2Q 2015 3Q 2015	
			Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Jul-15	4Q 2015	
37	Stahlstown	Kreager	Performance was driven by trees off RO occurred on two minor storm days.	11 Marie - Challe Affer 17 Chandle and Charles and Special Communication of the Charles and Charles an	(36%). 94% of the outages		
			Zone 1 vegetation patrol	Complete	Nov-15		
	Wilcox		Performance was driven by trees off ROW (58%), unknowns (18%), and forced outages (6%). 81% of the outages occurred on three minor storm days.			20.2016	
38		cox Wilcox	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Jul-15	3Q 2015 4Q 2015	
			On cycle tree trimming	Complete	Nov-15		
20		Performance was driven by other electric utility (29%), vehicles (23%), trees off ROW (22%), and forced outages (17%). 66% of the outages occurred on three days.					
39	Waterville	ville Waterville	Cycle tree trimming	Complete	Nov-15		
			Overhead circuit patrol	To be completed 2016	0%		
40	Fort Palmer	West Fairfield	Performance was driven by vehicles (40 outages (12%). 70% of the outages occu				
			Overhead circuit patrol	To be completed 2016	0%		
			Performance was driven by trees off RO vehicles (7%). 29% of the outages occur		(16%), line failure (11%), and		
	Avalla	W. Middletown	Cycle tree trimming	Complete	Dec-14	1Q 201:	
	Avella	w. Middletown	Zone 1 hardware and forestry patrol. No hardware or tree issues found.	Complete	Mar-15	2Q 2015	
			Overhead circuit inspection	Complete	Nov-15		
			Performance was driven by trees off RO	W (82%). 61% of the out	ages occurred on two days.	1Q 201	
	Bethel Park	Dashwood	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Mar-15	2Q 201:	

Rank	Substation	Circuit	Remedial Actions Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
			Performance was driven by equipment failure (46%) and trees off ROW (33%). 79% of the outages occurred on three days.			
	Buena Vista	Chicora	Cycle tree trimming	Complete	Jan-15	1Q 2015 2Q 2015
			Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Mar-15	2013
			Performance was driven by trees on RO 55% of the outages occurred on one min		20%), and line failure (13%).	1Q 2015
	Butler	Center Ave	Cycle tree trimming	Complete	Dec-14	2Q 2015
			Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Jun-15	3Q 2015
	Casil	Performance was driven by trees off ROW (97%). 75% of the outages occurred on two minor storm days.				1Q 2015
	Cecil	Hendersonville	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Mar-15	2Q 2015 3Q 2015
			Performance was driven by trees off ROW (91%). 91% of the outages occurred on two days.			1Q 2015
	Charleroi	Warner	Cycle tree trimming	Complete	Dec-14	2Q 2015 3Q 2015
1000	Crossgates	Peters Twp	Performance was driven by trees off ROW (87%). 85% of the outages occurred on one day.			1Q 2015
	Crossgates	reters twp	On cycle tree trimming	Complete	Oct-15	2Q 2015
	Emporium	West Creek	Performance was driven by equipment for outages occurred on one day.	ailure (71%) and trees of	f ROW (25%). 56% of the	1Q 2015 3Q 2015
			On cycle tree trimming	Complete	Dec-15	3Q 2013
			Performance was driven by trees on RO of the outages occurred on three days.	W (34%), forced outages	(28%), and vehicles (23%). 74%	10 2015
	Fountaindale	Carroll Valley	Zone 1 circuit patrol. No hardware issues found. Two trees found and remediated.	Complete	Jun-15	1Q 2015 2Q 2015
			Performance was driven by trees off RO 95% of the outages occurred on two min		%), and forced outages (14%).	1Q 2015
	Galley	Galley Waterdam Zon	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Mar-15	2Q 2015 3Q 2015
			Overhead circuit patrol	Complete	Nov-15	10 To

Rank	Substation	Circuit	Remedial Actions Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters	
	Kittanning	Garretts Run	Performance was driven by trees off ROW (52%), trees on ROW (27%), and forced outages (18%). 68% of the outages occurred on two days.			1Q 2015	
			On cycle tree trimming	Complete	Dec-15	2Q 2015	
	Neath Ferrate	Ouldela	Performance was driven by vehicles (70% occurred on one day.	%) and equipment failure	(23%). 69% of the outages	1Q 2015 2Q 2015	
	North Fayette	Oakdale	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Mar-15	3Q 2015	
	Peters	McMurray	Performance was driven by trees off RO occurred on three days.	W (47%) and trees on RO	W (26%). 64% of the outages	1Q 2015 2Q 2015	
	101.102.00.00000.001	-	On cycle tree trimming	Complete	Nov-15	2Q 2013	
	Dinov Foul	Performance was driven by equipment failure (56%), line failure (18%), and trees off ROW (16%). 53% of the outages occurred on one day.				1Q 201 2Q 201	
	Piney Fork	Cochran Mill	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Feb-15	3Q 2015	
	D 111	No. N	Performance was driven by trees off ROW (58%) and forced outages (26%). 89% of occurred on three days.		ges (26%). 89% of the outages	1Q 2015	
	Robbins	bbins Mt. Vernon	Circuit inspection	Complete	Nov-15	2Q 2015	
			Cycle tree trimming	Complete	Dec-15		
	Smith	Francis Mine	Performance was driven by trees off RO	W (87%). 87% of the out	ages occurred on three days.	1Q 2015	
	Silliui	Francis Wille	No remedial actions are planned at this t	ime		2Q 2015	
			Performance was driven by vehicles (66%) and equipment failure (25%). 65% of the outages occurred on one day.			2Q 2015	
	Smithton	Fitzhenry	Cycle tree trimming	Complete	Dec-14	3Q 2015	
			Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Jan-15	3Q 2013	
	St. Clair	St. Clair  Valley  Performance was driven by trees off ROW (52%) and vehicles (25%). 49% of the outages occurred on two days.			1Q 2015		
	St. Clair	valley	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Mar-15	2Q 201	

Rank	Substation	Circuit	Remedial Actions Planned or Taken	Status of Remedial Work	Progress of Remedial Work or Date Completed	Appeared in 2 of 4 Quarters
			Performance was driven by trees off ROW (83%) and equipment failure (12%). 70% of the outages occurred on one minor storm day.			
	Weedville	Weedville	Zone 1 circuit patrol. No hardware or tree issues found.	Complete	Mar-15	2Q 2015 3Q 2015
			On cycle tree trimming	To be completed 2016	0%	
	West	Trinity	Performance was driven by trees off RO occurred on two days.	W (47%) and vehicles (21	%). 78% of the outages	1Q 2015 2Q 2015
	Waynesboro	(**)	Cycle tree trimming	Complete	Dec-14	2Q 2013
	Fayetteville	Performance was driven by trees off ROW (38%), trees on ROW (24%), and line failure (22%).  Bikle Road 82% of the outages occurred on three days.				
			Cycle tree trimming	Complete	Aug-15	
	Loyalhanna	Performance was driven by trees off ROW (65%) and lightning (16%). 91% of the outages  Center Drive occurred on three days.				
		72	On cycle tree trimming	Complete	Mar-15	
	Luzama	West	Performance was driven by vehicles (92	%). 98% of the outages oc	curred on one day.	
	Luzerne	Brownsville	Circuit inspection	Completed	Sep-15	
	Samialdan	Adamshura	Performance was driven by equipment f outages occurred on two days.	ailure (60%) and trees off	ROW (40%). 100% of the	
	Sewickley	Adamsburg	Zone 1 circuit patrol. No hardware or tree issues found.	Completed	Sep-15	
	Washington	Washington Wade Performance was driven by equipment failure (50%), line failure (23%), and trees off ROW (16%). 69% of the outages occurred on two days.				
	The state of the s		On cycle tree trimming	Complete	Oct-15	
			Performance was driven by trees on ROW (46%) and trees off ROW (36%). 90% of the outages occurred on three days.			
	Whiteley	niteley Mt. Morris Zone 1 tree trimming	Zone 1 tree trimming	To be completed 2016 <sup>26</sup>	0%	
			On cycle tree trimming	To be completed 2016	0%	

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<sup>&</sup>lt;sup>26</sup> Incorrectly reported with a 2015 completion date in the 3<sup>rd</sup> quarter

## ATTACHMENT C

FirstEnergy's Compliance with Terms of the March 30, 2015 Management Audit Order <u>Pursuant to Docket Nos. D-2014-2365991 and D-2014-2365992, (Appendix A)(2):</u> 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.

N INT	Per	nelec	Met-Ed		
	Open P3 Conditions	Overdue P3 Conditions	Open P3 Conditions	Overdue P3 Conditions	
2Q	2,889	2,021	2,077	1,896	
3Q	3,250	1,818	1,982	1,662	
4Q	3,092	1,899	1,949	1,629	

<u>Open P3 Conditions</u>: Total number of open P3 conditions recorded on the last day of the quarter, including overdue P3 conditions

Overdue P3 Conditions: Number of open P3 conditions that have been open for more than 365 days

<u>Pursuant to Docket Nos. D-2014-2365991, D-2014-2365992, D-2014-2365993, and D-2014-2365994, (Appendix A)(3):</u> 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.

Penn Power – 2015 Third Party Line Hit Incidents YTD December 2015 <sup>27</sup>					
Cause of Line Hit	Number of Incidents	Invoice Amount	Recovery Amount		
Dig In - Other	3	\$0	\$0		
Excavated in Tolerance	6	\$14,613	\$7,188		
Excavation Inconsistent with Ticket Scope	3	\$3,120	\$2,175		
Excavation Prior to Lawful Start Date	1	\$198	\$198		
Expired Ticket	3	\$7,905	\$2,221		
Hand Digging	0	\$0	\$0		
Marked Improperly	2	\$3,818	\$3,818		
No Ticket	17	\$37,480	\$25,401		
Total	35	\$67,134	\$41,001		

Penelec – 2015 Third Party Line Hit Incidents YTD December 2015 <sup>28</sup>					
Cause of Line Hit	Number of Incidents	Invoice Amount	Recovery Amount		
Dig In - Other	1	\$0	\$0		
Excavated in Tolerance	33	\$64,775	\$19,192		
Excavation Inconsistent with Ticket Scope	4	\$3,599	\$3,599		
Excavation Prior to Lawful Start Date	2	\$1,940	\$1,940		
Expired Ticket	7	\$18,700	\$6,295		
Hand Digging	4	\$2,660	\$2,105		
Marked Improperly	10	\$32,801	\$27,292		
No Ticket	34	\$55,699	\$15,849		
Total	95	\$180,174	\$76,272		

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<sup>&</sup>lt;sup>27</sup> Representative of claims identified since February 16, 2015, which corresponds with the implementation of the new CS-Stars Enterprise Claims Management Platform (STARS).

<sup>&</sup>lt;sup>28</sup> Representative of claims identified since February 16, 2015, which corresponds with the implementation of the new CS-Stars Enterprise Claims Management Platform (STARS).

Met-Ed – 2015 Third Party Line Hit Incidents YTD December 2015 <sup>29</sup>					
Cause of Line Hit	Number of Incidents	Invoice Amount	Recovery Amount		
Dig In - Other	15	\$4,495	\$0		
Excavated in Tolerance	24	\$107,358	\$18,737		
Excavation Inconsistent with Ticket Scope	11	\$21,633	\$6,291		
Excavation Prior to Lawful Start Date	3	\$3,720	\$2,669		
Expired Ticket	3	\$2,832	\$1,811		
Hand Digging	0	\$0	\$0		
Marked Improperly	6	\$8,220	\$7,720		
No Ticket	16	\$46,500	\$4,167		
Total	78	\$194,758	\$41,395		

West Penn Power – 2015 Third Party Line Hit Incidents YTD December 2015 <sup>30</sup>					
Cause of Line Hit	Number of Incidents	Invoice Amount	Recovery Amount		
Dig In - Other	7	\$978	\$0		
Excavated in Tolerance	3	\$5,721	\$2,900		
Excavation Inconsistent with Ticket Scope	3	\$9,449	\$0		
Excavation Prior to Lawful Start Date	3	\$1,578	\$439		
Expired Ticket	2	\$15,064	\$748		
Hand Digging	3	\$0	\$0		
Marked Improperly	9	\$15,057	\$6,516		
No Ticket	20	\$38,413	\$16,367		
Total	50	\$86,260	\$26,970		

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		

<sup>&</sup>lt;sup>29</sup> Representative of claims identified since February 16, 2015, which corresponds with the implementation of the new CS-Stars Enterprise Claims Management Platform (STARS).

<sup>&</sup>lt;sup>30</sup> Representative of claims identified since February 16, 2015, which corresponds with the implementation of the new CS-Stars Enterprise Claims Management Platform (STARS).

## **ADDENDUM**

Proposed Changes to Approved and Existing 2015-2016 Biennial Inspection, Maintenance, Repair and Replacement Plan<sup>31</sup>

<sup>&</sup>lt;sup>31</sup> The proposed changes and revisions that the Companies request herein only pertain to distribution overhead line inspections.

**Section 57.198(l): EDC Updates**. An EDC may request approval from the Commission for revising its approved plan. An EDC shall submit to the Commission, as an addendum to its quarterly reliability report under § § 57.193(c) and 57.195, prospective and past revisions to its plan and a discussion of the reasons for the revisions. Within 60 days, the Commission or the Director of CEEP will accept or reject the revisions to the plan. The appeal procedure in subsection (k) applies to the appeal of a rejection of revisions to the plan.

#### Request for Revision

Pursuant to 52 Pa. Code § 57.198(l), Pennsylvania Power Company ("Penn Power"), Pennsylvania Electric Company ("Penelec"), Metropolitan Edison Company ("Met-Ed"), and West Penn Power Company ("West Penn Power") hereby request to modify their current distribution overhead line program. The reason for revision is to include switches and sectionalizers to the list of items to be inspected in the <u>Distribution Inspection & Maintenance Practice – Overhead Circuits and Equipment</u>.

The proposed distribution overhead line program follows on pages 94-97. The Penn Power revision is found on page 94; the Penelec revision is found on page 95; the Met-Ed revision is found on page 96; and the West Penn Power revision is found on page 97. Upon approval, these pages will replace the pages in the existing approved plans.



**Section 57.198(n)(4).** Distribution overhead line inspections. Distribution lines shall be inspected by ground patrol a minimum of once every 1 – 2 years. A visual inspection must include checking for:

- i. Broken insulators
- ii. Conditions that may adversely affect operation of the overhead distribution line
- iii. Other conditions that may adversely affect operation of the overhead distribution line

#### Program Description

Penn Power shall visually inspect overhead lines and equipment on a five-year cycle. The purpose for inspecting overhead lines and equipment is to identify and repair unsafe conditions or conditions that may adversely affect service reliability, and to comply with the requirements of state regulatory agencies and the National Electrical Safety Code. This program shall be limited to overhead facilities.

Approximately one-fifth of all circuits will be inspected annually to levelize labor commitments and expenses. This preventative maintenance will consist of a visual inspection and recording of abnormal conditions including but not limited to the following types of overhead circuit equipment:

- Conductors (wire and cable) excessive slack, condition, damage, clearances
- Supporting structures (wood poles) deteriorated condition, sustained damage (lightning, vehicle, woodpecker holes)
- Pole hardware (including insulators) condition, damage
- Guying condition, damage
- Pole-mounted distribution equipment (including overhead transformers) condition, damage
- Switches
- Sectionalizers

Further detailed information regarding Penn Power's inspection of Distribution Overhead Lines may be found in the <u>Distribution Inspection & Maintenance Practice – Overhead Circuits and Equipment.</u>



**Section 57.198(N)(4).** Distribution overhead line inspections. Distribution lines shall be inspected by ground patrol a minimum of once every 1 – 2 years. A visual inspection must include checking for:

- i. Broken insulators
- ii. Conditions that may adversely affect operation of the overhead distribution line
- iii. Other conditions that may adversely affect operation of the overhead distribution line

#### Program Description

Penelec shall visually inspect overhead lines and equipment on a five-year cycle. The purpose for inspecting overhead lines and equipment is to identify and repair unsafe conditions or conditions that may adversely affect service reliability, and to comply with the requirements of state regulatory agencies and the National Electrical Safety Code. This program shall be limited to overhead facilities.

Approximately one-fifth of all circuits will be inspected annually to levelize labor commitments and expenses. This preventative maintenance will consist of a visual inspection and recording of abnormal conditions including but not limited to the following types of overhead circuit equipment:

- Conductors (wire and cable) excessive slack, condition, damage, clearances
- Supporting structures (wood poles) deteriorated condition, sustained damage (lightning, vehicle, woodpecker holes)
- Pole hardware condition, damage
- Guying condition, damage
- Pole-mounted distribution equipment condition, damage
- Switches
- Sectionalizers

For further detailed information regarding <u>Penelec's</u> inspection of Distribution Overhead Lines, reference the <u>Distribution Inspection & Maintenance Practice – Overhead Circuits</u> and <u>Equipment</u>.



**Section 57.198(n)(4). Distribution overhead line inspections.** Distribution lines shall be inspected by ground patrol a minimum of once every 1 – 2 years. A visual inspection must include checking for:

- Broken insulators
- ii. Conditions that may adversely affect operation of the overhead distribution line
- iii. Other conditions that may adversely affect operation of the overhead distribution line

#### Program Description

Met-Ed shall visually inspect overhead lines and equipment on a five-year cycle. The purpose for inspecting overhead lines and equipment is to identify and repair unsafe conditions or conditions that may adversely affect service reliability, and to comply with the requirements of state regulatory agencies and the National Electrical Safety Code. This program shall be limited to overhead facilities.

Approximately one-fifth of all circuits will be inspected annually to levelize labor commitments and expenses. This preventative maintenance will consist of a visual inspection and recording of abnormal conditions including but not limited to the following types of overhead circuit equipment:

- Conductors (wire and cable) excessive slack, condition, damage, clearances
- Supporting structures (wood poles) deteriorated condition, sustained damage (lightning, vehicle, woodpecker holes)
- Pole hardware (including insulators) condition, damage
- Guying condition, damage
- Pole-mounted distribution equipment (including overhead transformers) condition, damage
- Switches
- Sectionalizers

Further detailed information regarding Met-Ed's inspection of Distribution Overhead Lines may be found in the <u>Distribution Inspection & Maintenance Practice – Overhead Circuits and Equipment.</u>



**Section 57.198(n)(4).** Distribution overhead line inspections. Distribution lines shall be inspected by ground patrol a minimum of once every 1 – 2 years. A visual inspection must include checking for:

- Broken insulators
- ii. Conditions that may adversely affect operation of the overhead distribution line
- iii. Other conditions that may adversely affect operation of the overhead distribution line

#### Program Description

West Penn Power shall visually inspect overhead lines and equipment on a six-year cycle. The purpose for inspecting overhead lines and equipment is to identify and repair unsafe conditions or conditions that may adversely affect service reliability, and to comply with the requirements of state regulatory agencies and the National Electrical Safety Code. This program shall be limited to overhead facilities.

Approximately one-sixth of all circuits will be inspected annually to levelize labor commitments and expenses. This preventative maintenance will consist of a visual inspection and recording of abnormal conditions including but not limited to the following types of overhead circuit equipment:

- Conductors (wire and cable) excessive slack, condition, damage, clearances
- Supporting structures (wood poles) deteriorated condition, sustained damage (lightning, vehicle, woodpecker holes)
- Pole hardware (including insulators) condition, damage
- Guying condition, damage
- Pole-mounted distribution equipment (including overhead transformers) condition, damage
- Switches
- Sectionalizers

Further information regarding West Penn Power's inspection of Distribution Overhead Lines may be found in the <u>Distribution Inspection & Maintenance Practice – Overhead Circuits and Equipment.</u>

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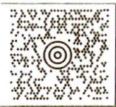
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