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April 30, 2015

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PA PUBLIC UTILITY COMMISSION SECRETARY'S BUREAU

## **VIA UNITED PARCEL SERVICE**

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

4-00030161

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Re: Joint 2014 Annual Reliability Report – Metropolitan Edison Company, Pennsylvania Electric Company and Pennsylvania Power Company

Dear Secretary Chiavetta.

Pursuant to 52 Pa. Code § 57.195(a) and (b), enclosed for filing are two copies of the Joint 2014 Annual Reliability Report ("Joint Report") of Metropolitan Edison Company, Pennsylvania Electric Company and Pennsylvania Power Company (collectively, the "Companies"). Please date-stamp the additional copy and return it in the postage-paid envelope provided.

Please contact me if you have any questions.

Sincerely,

Tori L. Giesler

dlm Enclosures

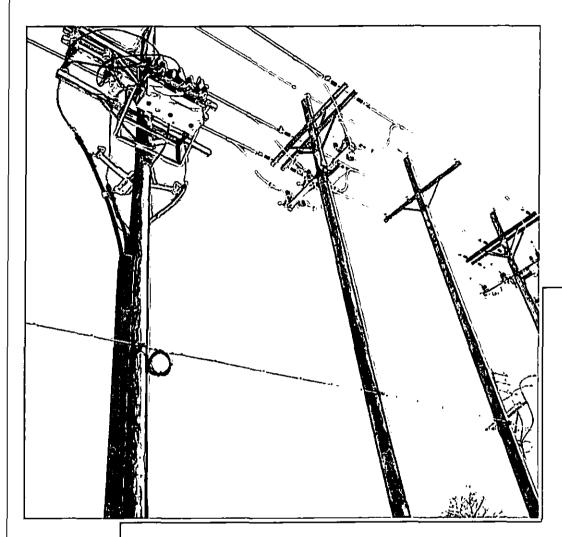
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Joint 2014 Annual Reliability Report

Pennsylvania Power Company, Pennsylvania Electric Company and Metropolitan Edison Company

Pursuant to 52 Pa. Code § 57.195(a) and (b)

# Joint 2014 Annual Reliability Report Pennsylvania Power Company, Pennsylvania Electric Company and Metropolitan Edison Company Pursuant to 52 Pa. Code Chapter § 57.195(a) and (b)

The following Joint 2014 Report ("Report") is submitted to the Pennsylvania Public Utility Commission ("PaPUC" or "Commission") on behalf of Pennsylvania Power Company ("Penn Power"), Pennsylvania Electric Company ("Penelec") and Metropolitan Edison Company ("Met-Ed") (collectively, the "Companies").

Section 57.195(b)(1) An overall current assessment of the state of the system reliability in the EDC's service territory including a discussion of the EDC's current programs and procedures for providing reliable electric service.

## Current Assessment of the State of System Reliability

#### Penn Power

Penn Power has developed a plan to improve its overall reliability and provide reliable service to its customers. The plan is structured into six main components, which include targeted removal of off corridor trees; installation of supervisory control and data acquisition (SCADA) and adaptive relaying; deployment of procedural enhancements to speed up restoration; installation of circuit ties, loops or sources; rehabilitation of distribution and transmission lines; and installation of SCADA motor operated air break (MOAB) line switches. A management team is in place that regularly meets to identify, manage, and monitor projects under this plan to ensure they remain on schedule. During 2014, three transmission SCADA switches were installed, one substation adaptive relay project was completed, four distribution feeder rebuilds were completed, and additional line fuses and reclosers were installed for improved sectionalization.

One of Penn Power's largest contributors to SAIDI, SAIFI and CAIDI are tree outages (due to the heavily forested and remote nature of the territory). In addition to the vegetation management work that Penn Power performs, including its routine vegetation management program and additional trimming of transmission radial taps with an aerial saw, Penn Power trimmed its worst performing circuits and high SAIDI devices in 2014. Additionally, Penn Power implemented an enhanced tree trimming program to address the large number of tree outages that occur mostly from healthy trees outside the right-of-way, under which Penn Power removed 8,036 off corridor trees (healthy and not) in 2014. This compares to 5,044 trees removed in 2013; 4,162 in 2012; and 2,037 in 2011. Penn Power plans to continue aggressive off corridor tree removals in 2015. This effort is expected to improve SAIFI, CAIDI, and SAIDI.

The dense vegetation and remoteness of Penn Power's territory present challenges to maintaining CAIDI performance. Penn Power accounts for this by also including the installation of SCADA technology

as part of its reliability enhancement strategy. SCADA provides communication with circuit breakers enabling the ability to remotely operate breakers to reduce restoration time. Adaptive relaying further allows a breaker to instantaneously clear a fault versus operating a fuse that would negatively impact CAIDI during lightning and wind storm events. Penn Power has specifically identified projects to install SCADA and adaptive relaying at 39 substations, in addition to the 20 substations that already have SCADA technology installed. This effort is expected to reduce Penn Power's CAIDI and SAIDI performance.

Penn Power has also initiated procedural enhancements targeted to reduce CAIDI and SAIDI, including items to speed up restoration such as the staging of critical materials for quick access, the installation of remote circuit monitors, and the dispatching of both trouble and line crews to outages on selected circuits in remote areas. When an outage is received, restoration crews do not always know the specific types of repairs that need to be made until they arrive onsite and patrol for damage. By sending both types of crews to a remote location, Penn Power better ensures the correct repair crew is onsite and can reduce the restoration time.

Penn Power will also continue annual field assessments of its facilities. The goal of this program is to identify aging infrastructure and broken equipment during circuit patrols and infrared inspections. Items such as cross arms, braces, switches, insulators, and poles are inspected to determine if they require repair or replacement before they can negatively affect the reliability of service to customers.

The customers experiencing multiple interruptions (CEMI) program is an ongoing program that focuses on the clusters of customers that experience frequent operations of line protection devices. This program not only aims to enhance system performance, but it also provides a means to reduce frequency of outages at the customer level that might not be otherwise addressed when targeting overall system metrics. As part of this program, forty-six fuses and three line reclosers were installed in 2014 to improve sectionalization, in addition to line hardware replacements.

Through these efforts, Penn Power remains committed to providing safe and reliable service to its customers. In 2014, Penn Power not only achieved CAIDI and SAIDI scores lower than the Commission-established 12-month standard, but also had a SAIFI score that was lower than their assigned targeted benchmark. Penn Power continues to focus its efforts on providing reliable service to its customers and looks forward to seeing the benefits of the projects that will continue to be implemented over the next few years.

#### Penelcc

In response to its recent reliability challenges and metric performance, Penelec has developed a plan that is designed to improve its overall ability to reliably serve its customers. Penelec's plan is divided into four main components which include: targeted circuit rehabilitation; porcelain cutout replacement; sectionalizing and SCADA control; and accelerated and enhanced vegetation management. These components were developed by analyzing over five years' worth of outage data, identification of the top outage causes, and specifically targeting those portions of the system that have the greatest opportunity to

experience reduced outage frequency and/or duration. The plan is designed to drive continuous, annual performance improvement that ultimately provides Penelec's customers with quality and dependable service.

The porcelain cutout replacement component of Penelec's plan is specifically geared towards the 34.5kV system. When it comes to equipment failures, cutout failures have been identified as the highest contributor to this outage category. Installing the new porcelain cutouts is expected to greatly enhance the reliability of the 34.5kV system and reduce the number of equipment failures that Penelec experiences.

One of the largest contributors to SAIFI, SAIDI and CAIDI are off right-of-way tree outages. As part of its vegetation management program, Penelec thoroughly inspects and performs vegetation management on every circuit once every five years. The vegetation management program removes off-corridor priority trees that are dead, dying, diseased, and leaning or significantly encroaching the corridor. Penelec has added an enhanced tree trimming component to its plan that will specifically address the large number of tree outages that occur mostly from healthy trees outside the right-of-way. Additional miles of trimming will also be accelerated ahead of the normal cycle. This enhanced and accelerated schedule is expected to reduce all three reliability indices. Penelec also invests millions in the proactive removal of off-corridor Ash trees that have been deemed a threat due to the Emerald Ash Borer insect.

In addition, annual inspections of the distribution system are carried out in an attempt to find areas of the system in need of repair before a potential outage can occur. The Company's inspection and maintenance program is geared towards specific components such as capacitors, poles, radio controlled switches, and reclosers. Equipment identified by this program is then repaired or replaced, as appropriate.

Finally, as part of its customer service improvement program, Penelec works directly with its customers to identify potential issues and implement solutions to ensure they receive reliable and dependable service. This program entails a thorough review and analysis of equipment on a customer's line by Company engineers to determine whether action is required. If so, Penelec will make the necessary modifications to its lines and equipment to ensure the customer's needs are satisfied.

Penelec personnel, from the physical field employees up to and including top management, are engaged in ensuring that the Company's reliability is in a state of continuous improvement. Reliability is a constant focus of the Company and all three indices are reviewed in depth on a monthly basis (and on a daily basis with less granularity). Actual performance is compared to targets and, if a particular target is not being met, discussion includes actions to improve performance. The reliability enhancement team continues to work towards solutions to address reliability performance despite any challenges. The plan described above is one such attempt to bring the Company in line with its stated metrics.

#### Met-Ed

Throughout 2014, Met-Ed continued its trend of strong system reliability by implementing a series of reliability initiatives that focus on the performance of the three-phase distribution backbone. These initiatives included aggressive tree trimming, circuit condition assessments, the replacement of porcelain

cutouts with polymer cutouts, adding additional protective equipment to circuits, and installing SCADA devices. The results of these initiatives have yielded reliability improvements that not only surpassed the Company's Commission-directed performance standard for CAIDI and SAIDI, but also surpassed the Company's three-year benchmark performance metric for SAIFI in 2014.

Met-Ed's aggressive tree trimming program led to the trimming of 183,901 trees and removal of 5,360 off-corridor priority trees that were identified as dead, dying, diseased, and leaning or significantly encroaching the corridor. This compares to 2013, which saw the trimming of 174,346 trees and the removal of 8,644 trees. The trees identified by this program were determined to be a potential cause of a future outage and were removed to prevent an interruption of electrical service to Met-Ed's customers. This tree trimming program will continue in the future to reduce the number of tree-caused outages.

The circuit condition assessment program is designed to locate equipment, such as crossarms, insulators, and cutouts that are in need of repair or replacement. The items identified by this program are then prioritized and the equipment is either repaired or replaced, as appropriate.

In the event that an outage does occur, Met-Ed has installed a number of protective devices, such as fuses and reclosers, across the entire system. These devices prevent circuit lockouts by limiting the area of an outage to smaller sections of the circuit. Met-Ed added 257 fuses and ten reclosers to the system in 2014, compared to the 166 fuses and sixteen reclosers added in 2013. Additionally, Met-Ed continued its efforts to add remote controlled sectionalizing devices that allow for prompt restoration during outages - in 2014, nine SCADA devices were installed, as compared to seven in 2013. These devices reduce the time it takes to restore customers during an outage. Met-Ed also installed 949 fault indicators in 2014 that are designed to help linemen quickly locate the source of an outage, which is in addition to the 168 that were installed in 2013. Met-Ed has also been proactively replacing porcelain cutouts with polymer cutouts. Crews have focused their efforts in the lockout zone of circuits, as this represents the greatest opportunity to enhance the Company's system. In 2013, Met-Ed replaced 201 porcelain cutouts, while it replaced an additional 316 in 2014.

The projects mentioned above are all deigned to ensure that Met-Ed's reliability performance continues to meet the Commission's established benchmarks. Met-Ed is committed to providing its customers with dependable and reliable electric service. Engineers are constantly reviewing outage information and evaluating new projects and the positive impact they can have for customers.

#### Reliability Results

The table below, taken from the 4th Quarter 2014 Joint Reliability Report, shows that 8 of the Companies' 9 reliability indices in 2014 were better than the Commission's 12-Month Standard (shown in green).

		enn Powe	4		Penelec			Met-Ed	
12-Mo Rolling	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	1.111	1.26	1.52	1.552	1.15	1.38	1.113
CAIDI	101	121	106	117	141	118	117	140	128
SAIDI	113	162	118	148	213	183	135	194	141
MAIFI			1.12			4.47			1.33
Customers Served <sup>4</sup>	158,429		581,972		551,502				
Number of Sustained Interruptions	3,081		11,535		8,766				
Customers Affected	175,271		903,429		610,606				
Customer Minutes	18,617,503		106,425,607		77,955,889				
Number of Customer Momentary Interruptions	177,160		2,602,962		735,299				

Penn Power achieved better than benchmark SAIFI performance.
 Penelec's SAIFI performance is directly attributed to several non-excludable storm events that contributed 0,05 to the Company's overall SAIFI,
 Met-Ed achieved better than benchmark SAIFI performance.
 Represents the average number of customers served during the reporting period

Section 57.195(b)(2) A description of each major event that occurred during the year being reported on, including the time and duration of the event, the number of customers affected, the cause of the event and any modified procedures adopted to avoid or minimize the impact of similar events in the future.

## Major Events

As defined in 52 Pa. Code § 57.192, a major event is determined to have occurred where: 1) 10% of an electric utility's customers are out of service for five minutes or greater; or 2) an unscheduled interruption of electric service results from an action taken by an electric utility to maintain the adequacy and security of the electrical system, including emergency load control, emergency switching and energy conservation procedures, affecting at least one customer. This annual report for 2014 is based on the exclusion of major events as described in the second scenario above and is consistent with the major events granted by the Commission and reported in each of the 2014 quarterly reports. The major events for 2014 are as follows:

FirstEnergy Company	Customers Affected	Time and Duration of the Event		Cause of the Event	Commission Approval Status	
	135,688	Duration	4 days, 18 hours and 50 minutes	Winter Storm		
Met-Ed		Start Date/Time	February 5, 2014 01:16 A.M.	Nika with heavy snow and freezing rain	Approved April 23, 2014	
		End Date/Time	February 9, 2014 9:06 P.M.	necznig talli		

Section 57.195(b)(3) A table showing the actual values of each of the reliability indices (SAIFI, CAIDI, SAIDI, and if available, MAIFI) for the EDC's service territory for each of the preceding 3 calendar years. The report shall include the data used in calculating the indices, namely the average number of customers served, the number of sustained customer minutes interruptions, the number of customers affected and the minutes of interruption. If MAIFI values are provided, the number of customer momentary interruptions shall also be reported.

## Reliability Indices

For the purposes of this Report, all reliability reporting is based upon the Commission's definitions for "momentary outages" and "major events" (outage data excluded as a result of major events).

	Historic 12-Mont	h Rolling Relial	oility Indices	
	Index	2012	2013	2014
	SAIFI	1.17	1.35	1.11
}	CAIDI	114	140	106
ĺ	SAIDI	133	188	118
Penn	MAIFI	1.32	1.92	1.12
Power	Customer Minutes	20,952,827	29,871,524	18,617,503
	Customers Affected	184,126	214,133	175,271
	Minutes of Interruption	848,537	1,188,313	721,189
	Customers Served <sup>5</sup>	157,482	159,195	158,429
	SAIFI	1.41	1.48	1.55
	CAIDI	138	117	118
	SAIDI	194	174	183
	MAIFI	4.79	4.24	4.47
Penelec	Customer Minutes	113,316,787	101,239,564	106,425,607
	Customers Affected	822,950	863,604	903,429
	Minutes of Interruption	2,654,416	2,915,725	2,677,703
<u>                                       </u>	Customers Served <sup>4</sup>	583,225	583,116	581,972
	SAIFI	1.29	1.09	1.11
	CAIDI	120	105	128
	SAIDI	155	115	141
	MAIFI	2.15	1.92	1.33
Met-Ed	Customer Minutes	84,718,376	62,982,468	77,955,889
	Customers Affected	709,874	598,111	610,606
	Minutes of Interruption	2,654,416	1,528,229	2,536,278
	Customers Served <sup>4</sup>	548,153	548,887	551,502

<sup>&</sup>lt;sup>5</sup> Represents the average number of customers served during the reporting period

36-Month	36-Month Penn Po		wer Penelec		ec Me	
Rolling Year-End 2014	36-Month Standard	36-Month Actual	36-Month Standard	36-Month Actual	36-Month Standard	36-Month Actual
SAIFI	1.23	1.21	1.39	1.48	1.27	1.17
CAIDI	111	120	129	124	129	117
SAIDI	136	146	179	184	163	137

Section 57.195(b)(4) A breakdown and analysis of outage causes during the year being reported on, including the number and percentage of service outages, the number of customers interrupted, the 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

Outage by Cause						
4th Quarter 2014 12-Month Rolling	Penn Power					
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages		
Trees Off ROW - Tree	5,142,718	452	46,001	14.67%		
Animal	1,130,273	428	11,474	13.89%		
Lightning	1,537,098	375	10,758	12.17%		
Bird	330,263	338	4,044	10.97%		
Equipment Failure	2,213,312	330	22,140	10.71%		
Line Failure	3,242,273	290	25,779	9.41%		
Trees Off ROW - Limb	1,377,953	222	11,789	7.21%		
Unknown	621,725	144	12,361	4.67%		
Trees - Sec/Service	41,786	86	233	2.79%		
Vehicle	1,255,359	84	9,351	2.73%		
Overload	321,644	78	4,052	2.53%		
Previous Lightning	28,104	41	213	1.33%		
Human Error - Non-Company	362,819	40	5,015	1.30%		
Forced Outage	87,146	39	2,403	1.27%		
Trees On ROW	90,594	33	921	1.07%		
Ice	166,967	32	488	1.04%		
Customer Equipment	449,222	17	6,293	0.55%		
Human Error - Company	23,206	17	341	0.55%		
UG Dig-Up	20,816	15	207	0.49%		
Object Contact With Line	33,252	12	271	0.39%		
Wind	129,869	3	1,044	0.10%		
Fire	660	2	10	0.06%		
Contamination	785	1	1	0.03%		
Other Electric Utility	7,434	1	63	0.03%		
Other Utility - Non Electric	2,225	1	19	0.03%		
Total	18,617,503	3,081	175,271	100.00%		

#### <u>Proposed Solutions – Penn Power</u>

#### Trees Off ROW-Tree

Forestry Services reviews the "Trees/Not-Preventable" outages 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. 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 Non-Preventable" 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.

#### 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.

#### Lightning

The number of lightning-caused outages is mitigated through Penn Power's reliability improvement strategy. This includes inspection and maintenance practices such as circuit inspections and annual main feed inspections. These inspections can locate blown lightning arresters, broken grounds and other condition items, which could lead to higher lightning-caused outages. Substations also contain lightning protection through equipment such as arresters and grounding. These items are maintained by the substation group based on the Company's substation practices. Distribution protection coordination reviews allow for a fewer number of customers affected and quicker isolation of the affected circuit sections. In addition, Penn Power conducts periodic reviews of multi-operation devices to identify causes and trends and will engineer solutions to reduce the frequency of the outages.

## Outages by Cause - Penelec

	Ou	tage by Cause				
4th Quarter 2014 12-Month Rolling	Penelec					
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages		
Equipment Failure	28,557,408	3,334	311,986	28.90%		
Unknown	9,828,214	2,140	105,617	18.55%		
Trees Off ROW - Tree	29,780,272	1,115	157,601	9.67%		
Animal	2,469,432	1,107	27,804	9.60%		
Line Failure	13,522,399	905	108,637	7.85%		
Forced Outage	3,823,102	721	48,787	6.25%		
Trees Off ROW - Limb	2,923,980	349	19,350	3.03%		
Lightning	2,368,625	339	16,519	2.94%		
Trees - Sec/Service	452,413	322	1,249	2.79%		
Bird	658,202	272	6,718	2.36%		
Vehicle	5,887,118	264	41,315	2.29%		
Human Error - Company	174,601	179	9,181	1.55%		
Human Error - Non-Company	2,041,116	94	9,340	0.81%		
Trees On ROW	1,094,271	86	4,397	0.75%		
Overload	1,319,644	74	25,254	0.64%		
Other Electric Utility	230,590	47	2,340	0.41%		
UG Dig-Up	62,053	35	312	0.30%		
Object Contact With Line	391,709	32	1,589	0.28%		
Previous Lightning	4,952	23	35	0.20%		
Fire	197,574	22	835	0.19%		
Ice	5,708	19	26	0.16%		
Vandalism	33,203	14	326	0.12%		
Customer Equipment	10,022	13	69	0.11%		
Wind	471,246	12	1,086	0.10%		
Other Utility - Non Electric	29,455	8	89	0.07%		
Switching Error	86,382	5	2,958	0.04%		
Contamination	1,916	3	9	0.03%		
Total	106,425,607	11,535	903,429	100.00%		

#### Proposed Solutions – Penelec

#### Equipment Failure

Porcelain cutout failures represent approximately one-third of the equipment failure outages in Penelec's territory. To address this cause, Penelec continues to replace porcelain cutouts with polymer cutouts on the main feed three-phase backbone of circuits.

Inspection and maintenance practices, such as overhead circuit inspections, identify and correct potential equipment-related problems before they cause an outage. Penelec inspects each circuit in its entirety (from substation to meter), which includes 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.

To reduce the impact of outages, distribution circuit protection coordination reviews and the enhanced circuit protection schemes that result provide isolation of equipment failures. To limit the number of multiple outages at the same location, Engineering Services continually monitors outage data and investigates to identify causes and trends of equipment failures and other outages.

#### 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

Forestry Services reviews the "Trees/Not-Preventable" 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. Circuits are then prioritized by customer minutes due to "Trees/Not-Preventable" 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.

## Outages by Cause – Met-Ed

	Ou	itage by Cause				
4th Quarter 2014 12-Month Rolling	Met-Ed					
Cause	Customer Minutes	Number of Sustained Interruptions	Customers Affected	% Based on Number of Outages		
Equipment Failure	18,4 <u>17,</u> 151	2,311	167,932	26.36%		
Animal	2,248,538	1,407	<u>3</u> 2,637	16.05%		
Unknown	7,093,745	1,228	68,830	14.01%		
Trees Off ROW - Tree	14,432,617	748	59,981	8.53%		
Line Failure	7,867,205	577	<u>5</u> 5,832	6.58%		
Trees Off ROW - Limb	4,696,759	419	28,782	4.78%		
Lightning	1,582,984	357	19,061	4.07%		
Forced Outage	3,655,771	315	68,356	3.59%		
Trees On ROW	4,306,985	312	17,714	3.56%		
Vehicle	8,873,190	302	58,464	3.45%		
Bird	851,029	290	11,133	3.31%		
Trees - Sec/Service	345,327	136	823	1.55%		
Ice	1,508,685	83	3,357	0.95%		
Overload	428,876	73	4,037	0.83%		
Human Error - Non-Company	507,723	72	4,452	0.82%		
Object Contact With Line	762,007	52	5,049	0.59%		
UG Dig-Up	267,522	21	1,092	0.24%		
Customer Equipment	8,272	20	65	0.23%		
Previous Lightning	10,195	20	94	0.23%		
Fire	25,933	7	320	0.08%		
Human Error - Company	56,930	6	1,937	0.07%		
Vandalism	146	3	3	0.03%		
Contamination	283	2	3	0.02%		
Other Utility - Non Electric	2,512	2	10	0.02%		
Other Electric Utility	75	1	1	0.01%		
Switching Error	5,120	1	640	0.01%		
Wind	309	1	1	0.01%		
Total	77,955,889	8,766	610,606	100.00%		

#### Proposed Solutions – Met-Ed

#### Equipment Failure

The number of equipment failures is mitigated by way of inspection and maintenance practices, such as circuit inspections and others. Further, distribution circuit protection coordination reviews and the enhanced circuit protection schemes that result will provide isolation of equipment failures and lessen 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.

#### 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.

#### 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.

Submitted Pursuant to 52 Pa. Code § 57.195(a) and (b)

<u>Section 57.195(b)(5)</u> A list of the major remedial efforts taken to date and planned for circuits that have been on the worst performing 5% of circuits list for a year or more.

## Worst Performing Circuits - Remedial Actions

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

Section 57.195(b)(6) A comparison of established transmission and distribution inspections and maintenance goals/objectives versus actual results achieved during the year being reported on. Explanations of any variances shall be included.

T&D Inspection and Maintenance Programs

Inspection and Maintenance 2014		Penr	Power	Penelec		Met-Ed	
		Planned	Completed	Planned	Completed	Planned	Completed
Faranta	Transmission (Miles)	144.37	150.99	352.1	369.7	229.21	241.64
Forestry	Distribution (Miles)	1,157	1,157	4,604	4,604	2,697	2,697
T	Aerial Patrols	2	2	2	2	2	2
Transmission	Groundline	0	0	279	377	0	0
	General Inspections	924	924	4,848	4,843 <sup>6</sup>	2,592	2,592
0.14-41	Transformers	120	120	724	724	445	445
Substation	Breakers	32	32	310	310	96	96
	Relay Schemes	40	40	285	285	204	204
	Capacitors	1,004	1,004	8,702	8,702	4,748	4,748
	Poles	10,600	10,794	41,111	41,132	28,452	28,493
Dinasibassi - u	Reclosers	781	781	2,574	2,573 <sup>7</sup>	1,064	1,064
Distribution	Radio-Controlled Switches (2 / year)	Penn Power has no radio-controlled switches		2,356	2,391	274	274

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

A substation was sold in July 2014. This resulted in five less inspections than planned at the beginning of 2014.
 Year end result is one less than commitment due to system data verification

<u>Section 57.195(b)(7)</u> A comparison of budgeted versus actual transmission and distribution operation and maintenance expenses for the year being reported on in total and detailed by the EDC's own functional account code of FERC account code as available. Explanations of any variances shall be included.

Budgeted vs. Actual T&D Operation & Maintenance Expenditures

	Penn Po T&D O&M =								
	Transmission								
	0-4	2014	2014	Variance	N-48				
ſ	Category	Actuals	Budget	%	Notes <sup>8</sup>				
560	Operation Supervision and Engineering	32	-	100%	1				
561	Load Dispatching	113,617	122,198	-7%					
562	Station Expenses	-		0%					
563	Overhead Lines Expenses			0%					
565	Transmission of Electricity by Others	6,965,394	5,714,611	22%_	2				
566	Miscellaneous Transmission Expenses	41,573	77,451	-46%	3				
567	Rents	11		100%	1				
568	Maintenance Supervision and Engineering	4,798	3,995	20%	1				
569	Maintenance of Structures	26,869	62,921	-57%	4				
570	Maintenance of Station Equipment	8,078	3,047	165%	5				
571	Maintenance of Overhead Lines	42,095	23,569	79%	6				
572	Transmission-Maintenance of Underground Lines	20	<u>-</u>	100%	_ 1				
573	Maintenance of Miscellaneous Transmission Plant	(2,760)	_5,106	-154%	7				
575	Market Administration, Monitoring & Compliance Services	19,022	21,584	-12%	8				
Transr	nission Total	7,218,740	6,034,482	20%	-				
	Distribu								
		2014	2014	Variance					
ł	Category	Actuals	Budget	%	Notes <sup>6</sup>				
580	Operation Supervision and Engineering	(55,437)	101,165	-155%					
581	Load Dispatching	- (==,,	- 121114	0%	<del></del>				
582	Station Expenses	6,822	_	100%	10				
583	Overhead Line Expenses	99,035		100%	11				
584	Underground Line Expenses	224,487	285,640	-21%	12				
586	Meter Expenses	89,014	82,707	8%					
587	Customer Installations Expenses	-		0%					
588	Miscellaneous Distribution Expenses	1,375,974	800,736	72%	13				
589	Rents	374,944	321,416	17%	14				
590	Maintenance Supervision and Engineering	71,289	80,547	-11%	15				
591	Maintenance of Structures	-	-	0%					
592	Maintenance of Station Equipment	591,310	206,826	186%	16				
593	Maintenance of Overhead Lines	7,732,157	6,326,282	22%	17				
594	Maintenance of Underground Lines	369,369	(15,356)	-2505%	18				
595	Maintenance of Line Transformer	_	-	0%					
596	Maintenance of Street Lighting and Signal Systems	280,096	728	38358%	19				
597	Maintenance of Meters	582,448	457,689	27%	20				
598	Maintenance of Miscellaneous Distribution Plant	265,621	401,780	-34%	21				
	ution Total	12,007,130	9,050,160	33%	<del> </del>				
Penn l	Power Total	19,225,870	15,084,642	27%					

<sup>\*</sup> Please use the numbers listed in the "Notes" column when referencing the "Variance Explanations (Variances 10% or greater)" table on the next page.

	Variance Explanations (Variances 10% or greater)
	Current budgeting practices do not budget directly to FERC accounts. The Company budgets to different cost
1	collectors, which settle to FERC accounts. Actual settlements to these FERC accounts are relatively
<u> </u>	immaterial amounts.
2	Over budget due to higher transmission network charges than budgeted.
3	Under budget due to lower Information Technology (IT) service labor and contractor costs than budgeted.
4	Under budget due to lower Information Technology (IT) service labor and software costs than budgeted.
5	Over budget due to higher labor, leases, and materials than budgeted.
6	Over budget due to tree trimming, licenses and permits, and labor being greater than budgeted.
7	Under budget due to lower field worker essential materials and stores handling overheads than budgeted.
8	Under budget due to load procurement expenses being less than budgeted.
9	Under budget due distribution supervision and engineering costs being less than budgeted.
10	Over budget due to higher labor, leases, and materials for equipment repair and maintenance than anticipated.
11	Over budget due to higher labor and contractor costs than budgeted.
12	Under budget due to lower contractor services, labor, and materials costs than budgeted.
13	Over budget due to higher fleet usage, labor, and contractor costs than budgeted.
14_	Over budget due to higher joint use rental, labor, and contractor costs than budgeted.
15	Under budget due to supervision and engineering technical services labor being less than budgeted.
16	Over budget due to higher contractor, labor, and material costs than budgeted.
17	Over budget due to higher forestry contractors, leases, and materials than budgeted.
18	Over budget due to higher labor, materials, and contractor costs than budgeted.
19	Over budget due to higher labor, materials, and lease costs than budgeted.
20	Over budget due to higher labor, motor fuels, and vehicle lease costs than budgeted.
21	Under budget due to Information Technology (IT) service labor, materials, and stores handling costs being
	less than budgeted.

	Pene T&D O&M								
	Transmission								
		2014	2014	Variance					
	Category	Actuals	Budget	%	Notes <sup>9</sup>				
560	Operation Supervision and Engineering	19,345	69,355	-72%	1				
561	Load Dispatching	459,584	1,517,766	-70%	2				
562	Station Expenses	23,014	-	100%	3				
563	Overhead Lines Expenses	282,629	355,969	-21%	4				
565	Transmission of Electricity by Others	12,460,075	10,218,911	22%	5				
566	Miscellaneous Transmission Expenses	695,223	890,931	-22%	6				
567	Rents	3,140,278	2,760,371	14%	7				
568	Maintenance Supervision and Engineering	966,814	1,159,278	-17%	1				
569	Maintenance of Structures	351,554	294,706	19%	8				
570	Maintenance of Station Equipment	2,246,005	348,372	545%	9				
571	Maintenance of Overhead Lines	6,341,346	8,136,986	-22%	10				
572	Transmission - Maintenance of Underground Lines	130	<u> </u>	100%	11				
573	Maintenance of Miscellaneous Transmission Plant	36,877	<del>_</del>	100%	12				
575	Market Administration, Monitoring & Compliance Services	29,976	53,272	-44%	13				
Tran	smission Total	27,052,851	25,805,917	5%					
	Distrib	ution							
<del></del>	<del></del>	2014	2014	Variance					
	Category	Actuals	Budget	% _	Notes <sup>7</sup>				
580	Operation Supervision and Engineering	259,880	566,579	-54%	14				
581	Load Dispatching	367,205	384,505	-4%					
582	Station Expenses	214,453		100%	15				
583	Overhead Line Expenses	67,894	52,827	29%	12				
584	Underground Line Expenses	733,701	838,920	-13%	16				
585	Distribution-Street Lighting & Signal Systems Expenses	396	-	100%	11				
EGG	Meter Expenses	556,647		420/	17				
ו סטכ ו		JJU.U <del>-1</del> 7 I	636,909	-13%					
586 587			636,909	-13% 0%					
587	Customer Installations Expenses			0%					
587 588	Customer Installations Expenses Miscellaneous Distribution Expenses	8,513,338	6,377,416		18 19				
587 588 589	Customer Installations Expenses Miscellaneous Distribution Expenses Rents	8,513,338 1,470,399	6,377,416 1,227,405	0% 33% 20%	18				
587 588 589 590	Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering	8,513,338	6,377,416	0% 33%	18 19				
587 588 589 590 591	Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures	8,513,338 1,470,399 325,308	6,377,416 1,227,405 372,115	0% 33% 20% -13% 0%	18 19				
587 588 589 590 591 592	Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment	8,513,338 1,470,399 325,308 4,823,638	6,377,416 1,227,405	0% 33% 20% -13% 0% -2%	18 19				
587 588 589 590 591 592 593	Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment Maintenance of Overhead Lines	8,513,338 1,470,399 325,308 4,823,638 18,539,236	6,377,416 1,227,405 372,115 - 4,922,709 20,544,662	0% 33% 20% -13% 0% -2% -10%	18 19 1				
587 588 589 590 591 592 593 594	Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment Maintenance of Overhead Lines Maintenance of Underground Lines	8,513,338 1,470,399 325,308 4,823,638 18,539,236 658,192	6,377,416 1,227,405 372,115 4,922,709	0% 33% 20% -13% 0% -2% -10% 1166%	18 19 1				
587 588 589 590 591 592 593 594 595	Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformer	8,513,338 1,470,399 325,308 4,823,638 18,539,236 658,192 7,392	6,377,416 1,227,405 372,115 4,922,709 20,544,662 51,984	0% 33% 20% -13% 0% -2% -10% 1166% 100%	18 19 1 1 16 20				
587 588 589 590 591 592 593 594 595 596	Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformer Maintenance of Street Lighting and Signal Systems	8,513,338 1,470,399 325,308 4,823,638 18,539,236 658,192 7,392 1,070,004	6,377,416 1,227,405 372,115 4,922,709 20,544,662 51,984	0% 33% 20% -13% 0% -2% -10% 1166% 100% -34%	18 19 1 1 16 20 12 21				
587 588 589 590 591 592 593 594 595 596 597	Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformer Maintenance of Street Lighting and Signal Systems Maintenance of Meters	8,513,338 1,470,399 325,308 4,823,638 18,539,236 658,192 7,392 1,070,004 2,275,850	6,377,416 1,227,405 372,115 - 4,922,709 20,544,662 51,984 - 1,620,566 1,451,746	0% 33% 20% -13% 0% -2% -10% 1166% 100% -34% 57%	18 19 1 1 16 20 12 21 20				
587 588 589 590 591 592 593 594 595 596 597 598	Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformer Maintenance of Street Lighting and Signal Systems	8,513,338 1,470,399 325,308 4,823,638 18,539,236 658,192 7,392 1,070,004	6,377,416 1,227,405 372,115 4,922,709 20,544,662 51,984	0% 33% 20% -13% 0% -2% -10% 1166% 100% -34%	18 19 1 1 16 20 12 21				

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<sup>&</sup>lt;sup>9</sup> Please use the numbers listed in the "Notes" column when referencing the "Variance Explanations (Variances 10% or greater)" table on the next page.

	Variance Explanations (Variances 10% or greater)
	Under budget due to supervision and engineering overheads being less than planned.
2	Under budget due to lower contractor costs and PJM reimbursable services settling to load dispatching.
3	Over budget due to labor requirements and equipment rental expenses being more than planned.
4	Under budget due to equipment rental expenses being less than planned.
5	Over budget due to higher Network Integration Transmission Services (NITS) charges which is a result of less
	customers shopping than anticipated.
6	Under budget due to the allocation of corporate overheads being less than planned.
7	Over budget due to higher than planned leases/rentals.
8	Over budget due to higher Information Technology (IT) costs than anticipated.
9	Over budget due to costs to maintain station equipment and internal labor required to complete this work
	being more than planned.
10	Under budget due to vegetation management costs being less than planned.
	Current budgeting practices do not budget directly to FERC accounts. The Company budgets to different cost
11	collectors, which settle to FERC accounts. Actual settlements to these FERC accounts are relatively
	immaterial amounts.
12	Over budget due to materials required for this work being greater than planned.
13	Under budget due to lower load procurement for market administration, monitoring and compliance services.
14	Under budget due to accounting reclassifications of contractor services to other FERC accounts.
15	Over budget due to internal labor required to complete this work, which was not budgeted to this FERC
	account.
16	Under budget due to contractor costs being less than planned.
17	Under budget due to labor costs being less than planned.
18	Over budget due to fleet costs charged to O&M being greater than planned.
19	Over budget due to internal labor requirements and contractor costs being greater than planned.
20	Over budget due to labor costs being more than planned.
21	Under budget due to more capital repairs than planned.
22	Over budget due to tool & equipment requirements and supervision & engineering overheads being greater
22	than planned.

	Met-Ed							
	T&D O&M - 2014 (\$)							
	Transmission							
	Category	2014	_2014	Variance	Notes <sup>10</sup>			
		Actuals	Budget	%				
560	Operation Supervision and Engineering	14,979	55,628	-73%	1			
561	Load Dispatching	694,127	1,337,244	-48%	2			
562	Station Expenses	23,762		100%	3			
563	Overhead Lines Expenses	20,643	33,112	-38%	4			
565	Transmission of Electricity by Others	14,757,036	11,776,276	25%	5			
566	Miscellaneous Transmission Expenses	675,517	1,137,533	-41%	6			
567	Rents	723,706	472,415	53%	7			
568	Maintenance Supervision and Engineering	769,914	934,756	-18%	8			
569	Maintenance of Structures	297,981	266,402	12%	9			
570	Maintenance of Station Equipment	1,704,655	2,337,380	-27%	10			
571	Maintenance of Overhead Lines	2,960,232	3,040,319	-3%	<u> </u>			
572	Maintenance of Underground Lines	224		100%	11			
573	Maintenance of Miscellaneous Transmission Plant	196,451	65,528	200%	12			
575	Market Administration, Monitoring & Compliance Services	36,654	53,861	-32%	13			
Tran	smission Total	22,875,881	21,510,453	6%				
	Distri	oution						
		2014						
					_			
	Category				Notes <sup>8</sup>			
500		Actuals	Budget	<u>%</u>				
580	Operation Supervision and Engineering	Actuals (149,907)	Budget 497,840	<b>%</b> -130%	14			
581	Operation Supervision and Engineering Load Dispatching	Actuals (149,907) 271,373	Budget 497,840 328,242	<b>%</b> -130% -17%	14			
581 582	Operation Supervision and Engineering Load Dispatching Station Expenses	Actuals (149,907) 271,373 857,618	Budget 497,840 328,242 612,237	% -130% -17% 40%	14 8 15			
581 582 583	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses	Actuals (149,907) 271,373 857,618 18,224	Budget 497,840 328,242 612,237 37,277	% -130% -17% 40% -51%	14 8 15 4			
581 582	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses	Actuals (149,907) 271,373 857,618	Budget 497,840 328,242 612,237	% -130% -17% 40%	14 8 15			
581 582 583 584 585	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses	Actuals (149,907) 271,373 857,618 18,224 752,184	8udget 497,840 328,242 612,237 37,277 576,477	% -130% -17% 40% -51% 30% 0%	14 8 15 4 16			
581 582 583 584 585	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses	Actuals (149,907) 271,373 857,618 18,224	Budget 497,840 328,242 612,237 37,277	% -130% -17% 40% -51% 30% 0% -26%	14 8 15 4			
581 582 583 584 585 586 587	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses Customer Installations Expenses	Actuals (149,907) 271,373 857,618 18,224 752,184	8udget 497,840 328,242 612,237 37,277 576,477 732,481	% -130% -17% 40% -51% 30% 0% -26% 0%	14 8 15 4 16			
581 582 583 584 585 586 587 588	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses	Actuals (149,907) 271,373 857,618 18,224 752,184 - 541,985 - 5,821,851	8udget 497,840 328,242 612,237 37,277 576,477 732,481 - 4,347,575	% -130% -17% 40% -51% 30% 0% -26% 0% 34%	14 8 15 4 16			
581 582 583 584 585 586 587 588 589	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Rents	Actuals (149,907) 271,373 857,618 18,224 752,184 - 541,985 - 5,821,851 563,190	8udget 497,840 328,242 612,237 37,277 576,477 732,481 - 4,347,575 540,873	% -130% -17% 40% -51% 30% 0% -26% 0% 34% 4%	14 8 15 4 16			
581 582 583 584 585 586 587 588 589 590	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering	Actuals (149,907) 271,373 857,618 18,224 752,184  - 541,985 - 5,821,851 563,190 290,148	8udget 497,840 328,242 612,237 37,277 576,477 - 732,481 - 4,347,575 540,873 331,277	% -130% -17% 40% -51% 30% 0% -26% 0% 34% 4% -12%	14 8 15 4 16			
581 582 583 584 585 586 587 588 589 590 591	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures	Actuals (149,907) 271,373 857,618 18,224 752,184  - 541,985 - 5,821,851 563,190 290,148 12,985	## A ST	% -130% -17% 40% -51% 30% 0% -26% 0% 34% 4% -12% -9%	14 8 15 4 16 17 18			
581 582 583 584 585 586 587 588 589 590 591 592	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment	Actuals (149,907) 271,373 857,618 18,224 752,184  541,985 5,821,851 563,190 290,148 12,985 2,628,399	## A ST	% -130% -17% 40% -51% 30% 0% -26% 0% 34% 4% -12% -9% -23%	14 8 15 4 16 17 18 19			
581 582 583 584 585 586 587 588 589 590 591 592 593	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Station Equipment Maintenance of Overhead Lines	Actuals (149,907) 271,373 857,618 18,224 752,184  541,985 5,821,851 563,190 290,148 12,985 2,628,399 33,880,517	## A ST	% -130% -17% 40% -51% 30% 0% -26% 0% 34% 4% -12% -9% -23% 128%	14 8 15 4 16 17 18 19 20 21			
581 582 583 584 585 586 587 588 589 590 591 592 593 594	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Station Equipment Maintenance of Overhead Lines Maintenance of Underground Lines	Actuals (149,907) 271,373 857,618 18,224 752,184 541,985 5,821,851 563,190 290,148 12,985 2,628,399 33,880,517 1,622,863	## A ST	% -130% -17% 40% -51% 30% 0% -26% 0% 34% 4% -12% -9% -23% 128% -20%	14 8 15 4 16 17 18 19 20 21 22			
581 582 583 584 585 586 587 588 589 590 591 592 593	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Station Equipment Maintenance of Overhead Lines	Actuals (149,907) 271,373 857,618 18,224 752,184  541,985 5,821,851 563,190 290,148 12,985 2,628,399 33,880,517	## A ST	% -130% -17% 40% -51% 30% 0% -26% 0% 34% 4% -12% -9% -23% 128%	14 8 15 4 16 17 18 19 20 21			
581 582 583 584 585 586 587 588 589 590 591 592 593 594	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformer Maintenance of Street Lighting and Signal	Actuals (149,907) 271,373 857,618 18,224 752,184 541,985 5,821,851 563,190 290,148 12,985 2,628,399 33,880,517 1,622,863	## A ST	% -130% -17% 40% -51% 30% 0% -26% 0% 34% 4% -12% -9% -23% 128% -20%	14 8 15 4 16 17 18 19 20 21 22			
581 582 583 584 585 586 587 588 589 590 591 592 593 594 595	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Structures Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformer Maintenance of Street Lighting and Signal Systems	Actuals (149,907) 271,373 857,618 18,224 752,184  541,985 5,821,851 563,190 290,148 12,985 2,628,399 33,880,517 1,622,863 45 601,201	## A97,840 ## 328,242 ## 612,237 ## 37,277 ## 576,477  ## 732,481 ## 4,347,575 ## 540,873 ## 331,277 ## 14,240 ## 3,424,695 ## 14,888,857 ## 2,025,624 ## 247,191	% -130% -17% 40% -51% 30% 0% -26% 0% 34% 4% -12% -9% -23% 128% -20% 100%	14 8 15 4 16 17 18 19 20 21 22 11 23			
581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Structures Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformer Maintenance of Street Lighting and Signal Systems Maintenance of Meters	Actuals (149,907) 271,373 857,618 18,224 752,184	## A97,840 ## 328,242 ## 612,237 ## 37,277 ## 576,477  ## 732,481 ## 4,347,575 ## 540,873 ## 331,277 ## 14,240 ## 3,424,695 ## 14,888,857 ## 2,025,624 ## 247,191 ## 1,620,577	% -130% -17% 40% -51% 30% 0% -26% 0% 34% 4% -12% -9% -23% 128% -20% 100% 143%	14 8 15 4 16 17 18 19 20 21 22 11			
581 582 583 584 585 586 587 588 590 591 592 593 594 595 596 597	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Structures Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformer Maintenance of Street Lighting and Signal Systems Maintenance of Meters Maintenance of Miscellaneous Distribution Plant	Actuals (149,907) 271,373 857,618 18,224 752,184	## A97,840 ## 328,242 ## 612,237 ## 37,277 ## 576,477  ## 732,481 ## 4,347,575 ## 540,873 ## 331,277 ## 14,240 ## 3,424,695 ## 14,888,857 ## 2,025,624 ## 247,191 ## 1,620,577 ## 1,651,356	% -130% -17% 40% -51% 30% 0% -26% 0% 34% 4% -12% -9% -23% 128% -20% 100% 143% 11% 2%	14 8 15 4 16 17 18 19 20 21 22 11 23			
581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598	Operation Supervision and Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Distribution-Street Lighting & Signal System Expenses Meter Expenses Customer Installations Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Structures Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformer Maintenance of Street Lighting and Signal Systems Maintenance of Meters	Actuals (149,907) 271,373 857,618 18,224 752,184	## A97,840 ## 328,242 ## 612,237 ## 37,277 ## 576,477  ## 732,481 ## 4,347,575 ## 540,873 ## 331,277 ## 14,240 ## 3,424,695 ## 14,888,857 ## 2,025,624 ## 247,191 ## 1,620,577	% -130% -17% 40% -51% 30% 0% -26% 0% 34% 4% -12% -9% -23% 128% -20% 100% 143%	14 8 15 4 16 17 18 19 20 21 22 11 23			

Please use the numbers listed in the "Notes" column when referencing the "Variance Explanations (Variances 10% or greater)" table on the next page.

	Waniana Carlandian (Varianan 100/ an airatan)
	Variance Explanations (Variances 10% or greater)
<u> </u>	Under budget due to lower than planned service company labor allocations.
2_	Under budget due to lower than planned contractor expenses.
3_	Over budget due to higher than planned labor expense.
4	Under budget due to lower than planned lease/rental expenses.
5	Over budget due to higher PJM transmission and congestion charges.
6	Under budget due to lower than planned Information Technology (IT) labor and service charges.
7_	Over budget due to higher than planned lease/rental expenses.
8_	Under budget due to lower than planned labor expenses.
9	Over budget due to higher than planned Information Technology (IT) labor and service charges.
10	Under budget due to lower labor and better reimbursements than planned.
	Current budgeting practices do not budget directly to FERC accounts. The Company budgets to different cost
11	collectors, which settle to FERC accounts. Actual settlements to these FERC accounts are relatively
	immaterial amounts.
12	Over budget due to higher than planned contractor and utility expenses.
13	Under budget due to lower than planned load procurement expenses for market administration, monitoring
13	and compliance services.
14	Under budget due to unplanned service company benefit adjustments.
15	Over budget due to higher than planned contractor expenses.
16	Over budget due to higher than planned labor, materials, and supervision and engineering overheads.
17	Under budget due to lower than planned labor and materials.
18	Over budget due to higher than planned transportation expense.
19	Under budget due to lower than planned supervision and engineering overheads.
20	Under budget due to lower than planned labor and transportation expense.
<u> </u>	Over budget due to higher than planned labor, fuel, lease/rentals, contractors, telecommunications, employee
21	expenses and overheads.
22	Under budget due to lower labor, materials and transportation expenses.
23	Over budget due to higher than planned labor, fuel, contractors, lease/rental expenses and overheads.
	Over budget due to higher than planned labor, fuel, materials, lease/rental expenses and telecommunications
24	expenses.
	<del></del>

Section 57.195(b)(8) A comparison of budgeted versus actual transmission and distribution operation and maintenance capital expenses for the year being reported on in total and detailed by the EDC's own functional account code or FERC account code as available. Explanations of any variances 10% or greater shall be included.

Budgeted vs. Actual T&D Capital Expenditures

		Penn Powe			
T&D Capital = 2014 (\$)					
Category	2014 Actuals	2014 Budget	Annual Budget	Variance %	Notes <sup>11</sup>
Capacity	2,971,612	216,605	216,605	1272%	20
Condition	3,522,177	5,772,263	5,772,263	-39%	21
Facilities	47,716			100%	22
Forced	7,627,447	3,261,092	3,261,092	134%	23
Meter Related	1,060,030	(29,792)	(29,792)	-3658%	24
New Business	7,880,231	1,921,528	1,921,528	310%	25
Other	13,872,901	14,040,397	14,040,397	-1%	
Reliability	5,552,057	4,135,545	4,135,545	34%	26
Street Light	344,354	26,210	26,210	1214%	27
Tools & Equip	341,937	80,111	80,111	327%	28
Vegetation Mgt.	5,119,599	5,171,678	5,171,678	-1%	
Penn Power Total	48,340,060	34,595,638	34,595,638	40%	

	Penelec				
	T&D Capital - 2014 (\$)				
Category	2014 Actuals	2014 Budget	Annual Budget	Variance %	Notes <sup>9</sup>
Capacity	(578,108)	22,323,404	22,323,404	-103%	9
Condition	23,430,505	30,179,409	30,179,409	-22%	10
Facilities	1,333,217	1,693,781	1,693,781	-21%	11
Forced	38,231,230	32,297,454	32,297,454	18%	12
Meter Related	5,742,316	3,895,991	3,895,991	47%	13
New Business	16,792,988	12,306,471	12,306,471	36%	14
Other	34,514,620	20,842,813	20,842,813	66%	15
Reliability	37,436,754	23,756,577	23,756,577	58%	16
Street Light	2,380,498	1,886,896	1,886,896	26%	17
Tools & Equip	4,879,384	962,713	962,713	407%	18
Vegetation Mgt.	18,628,879	23,564,629	23,564,629	-21%	19
Penelec Total	182,792,284	173,710,138	173,710,138	5%	

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

<sup>11</sup> Please use the numbers listed in the "Notes" column when referencing the "Variance Explanations (Variances 10% or greater)" table on page 25.

Met≟Ed T&D Capital – 2014 (\$)					
Category	2014 Actuals	2014 Budget	Annual Budget	Variance %	Notes <sup>12</sup>
Capacity	25,207,685	17,810,045	17,810,045	42%	1
Condition	21,068,053	12,384,025	12,384,025	70%	2
Facilities	954,140	396,476	396,476	141%	3
Forced	32,954,784	22,569,629	22,569,629	46%	4
Meter Related	4,326,296	3,093,873	3,093,873	40%	5
New Business	17,557,843	14,022,673	14,022,673	25%	6
Other	29,861,993	8,694,842	8,694,842	243%	7
Reliability	9,994,696	9,411,947	9,411,947	6%	
Street Light	502,106	536,631	536,631	-6%	
Tools & Equip	2,036,267	916,961	916,961	122%	8
Vegetation Mgt.	14,412,448	14,896,759	14,896,759	-3%	
Met-Ed Total	158,876,312	104,733,860	104,733,860	52%	-"

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

<sup>&</sup>lt;sup>12</sup> Please use the numbers listed in the "Notes" column when referencing the "Variance Explanations (Variances 10% or greater)" table on the next page.

	Variance Explanations (Variances 10% or greater)
	Over budget due to North Temple transmission line and Foxhill substation transformer projects being greater
<u>L</u> '	than planned.
2	Over budget due to distribution line unscheduled work, transmission line programs, and the Caterpillar
Ĺ	substation project being greater than planned.
3	Over budget due to Reading Pottsville Pike Facility roof and external stair projects being greater than planned.
4	Over budget due to major storm costs and substation failure costs being greater than planned.
5	Over budget due to the meter exchange program and the Smart Meter project being greater than planned.
6	Over budget due to residential new construction and service upgrades being greater than planned.
7	Over budget due to pension and supervision overheads, and the New Radio System project being greater than planned.
8	Over budget due to Information Technology Projects (IT) being greater than planned.
9	Under budget due to timing differences in several construction projects, and to an accounting correction to transfer portions of the Conemaugh to Seward Line project costs to TrAILCo.
10	Under budget due to timing of Shawville Station - relocation central building & equip, transmission (Priority 3
10	& 4) inspection follow-pp work, and Keystone 6-500 kV "SF" breaker replacement projects.
II	Under budget due to timing of facilities projects.
12	Over budget due to major storm costs, and circuit and substation repair costs being greater than planned.
13	Over budget due to higher meter and smart meter exchanges being greater than planned.
14	Over budget due to new commercial business being greater than planned.
15	Over budget due to transportation-related overheads being greater than planned.
16	Over budget due to higher condition repairs and clearance remediation costs than planned.
17	Over budget due to new streetlight installations being greater than planned.
18	Over budget due to Work Management Rollout and Information Technology (IT) projects being greater than planned.
19	Under budget due to planned vegetation management costs being less than planned.
20_	Over budget due to equipment replacement projects being higher than budgeted.
21	Under budget due to fewer unscheduled equipment repairs and replacements than budgeted.
22	Over budget due to higher roofing repair work than anticipated in the budget.
23	Over budget due to line failure work, emergency storm restoration, and related follow up work being greater than budgeted.
24	Over budget due to greater meter related work than budgeted.
25	Over budget due to greater residential and commercial new business work than anticipated in the budget.
26	Over budget due to greater circuit reliability work and equipment replacement than budgeted.
27	Over budget due to higher unscheduled lighting repair and replacement-related work than budgeted.
28	Over budget due to higher work management equipment and tool costs than budgeted.

Section 57.195(b)(9) Quantified transmission and distribution inspection and maintenance goals/objectives for the current calendar year detailed by system area (that is, transmission, substation and distribution).

T&D Inspection & Maintenance Programs – 2015 Goals / Objectives

T&D Inspection & Maintenance Programs = 2015					
Program/Project	Penn Power	Penelec	Met-Ed		
Forestry					
Transmission (Miles)	53.31	526.65	262.27		
Distribution (Miles)	1,122	3,791	2,305		
Transmission					
Aerial Patrols	2	2	2		
Groundline (Poles)	0	0	1,127		
Substation					
Substation Inspections Class A	146	802	422		
Substation Inspections Class B	146	802	422		
Substation Inspections Class C	584	3,208	1,688		
Transformers	112	598	343		
Breakers	10	242	71		
Relay Schemes	33	153	96		
Distribution		<del></del>			
Capacitors	998	8,766	4,753		
Poles	11,000	41,111	29,055		
Reclosers	791	2,571	1,085		
Radio-Controlled Switches (2 / year)	Penn Power has no radio-controlled switches	2,466	284		

<u>Section 57.195(b)(10)</u> Budgeted transmission and distribution operation and maintenance expenses for the current year in total and detailed by the EDC's own functional account code or FERC account code as available.

## 2015 T&D O&M Budget<sup>13</sup>

	Penn Power		
T&D O&M - Annual 2015 (\$)			
	Transmission		
	Category	Annual Budget	
561	Load Dispatching	113,534	
565	Transmission of Electricity by Others	7,203,360	
566	Miscellaneous Transmission Expenses	34,009	
568	Maintenance Supervision and Engineering	10,899	
569	Maintenance of Structures	84,131	
570	Maintenance of Station Equipment	3,047	
571	Maintenance of Overhead Lines	(78,786)	
573	Maintenance of Miscellaneous Transmission Plant		
575	Market Administration, Monitoring & Compliance	20,035	
_	Services	20,035	
Transi	Transmission Total 7,390,229		
	Distribution		
	Category	Annual Budget	
580	Operation Supervision & Engineering	-	
582	Station Expenses	-	
584	Underground Line Expenses	570,310	
586	Meter Expenses	84,654	
588	Miscellaneous Distribution Expenses	782,299	
589	Rents	318,986	
590_	Maintenance Supervision and Engineering	98,110	
592	Maintenance of Station Equipment	577,877	
593	Maintenance of Overhead Lines	11,532,013	
594	Maintenance of Underground Lines	(8,657)	
596	Maintenance of Street Lighting and Signal Systems	-	
597	Maintenance of Meters	271,630	
598	Maintenance of Miscellaneous Distribution Plant	498,884	
Distrib	ution Total	14,726,106	
Penn Power Total 22,116,335			

<sup>13</sup> Budgets are subject to change.

	Penelec		
	T&D Ø&M - Annual 2015 (\$)		
Transmission			
	Category	Annual Budget	
560	Operation Supervision & Engineering	18,466	
561	Load Dispatching	1,412,098	
563	Overhead Line Expenses	355,969	
<del>56</del> 5	Transmission of Electricity by Others	16,480,442	
566	Miscellaneous Transmission Expenses	514,740	
_567	Rents	3,344,046	
568	Maintenance Supervision and Engineering	1,459,004	
569	Maintenance of Structures	486,189	
570	Maintenance of Station Equipment	426,117	
571	Maintenance of Overhead Lines	10,264,838	
573	Maintenance of Miscellaneous Transmission Plant		
575	Market Administration, Monitoring & Compliance Services	30,918	
Transi	Transmission Total 34,792,827		
Distribution			
	Category	Annual Budget	
580	Operation Supervision & Engineering	101,171	
581	Load Dispatching	427,181	
583	Overhead Line Expenses	52,827	
584	Underground Line Expenses	789,356	
586	Meter Expenses	717,586	
588	Miscellaneous Distribution Expenses	5,227,693	
589	Rents	1,227,405	
590	Maintenance Supervision and Engineering	445,602	
592	Maintenance of Station Equipment	6,784,758	
593	Maintenance of Overhead Lines	20,139,740	
594	Maintenance of Underground Lines	175,254	
596	Maintenance of Street Lighting and Signal Systems	2,692,017	
597	Maintenance of Meters	1,788,857	
598	Maintenance of Miscellaneous Distribution Plant	2,423,154	
Distrib	ution Total	42,992,600	
Penel	ec Total	77,785,428	

	Met-Ed			
	11 = 10 =			
	T&D O&M - Annual 2015 (\$)			
	Transmission			
<u>.</u>	Category	Annual Budget		
560	Operation Supervision & Engineering	17,503		
561	Load Dispatching	1,491,628		
563	Overhead Line Expenses	33,112		
565	Transmission of Electricity by Others	16,390,649		
566	Miscellaneous Transmission Expenses	444,540		
567	Rents	835,574		
568	Maintenance Supervision and Engineering	1,258,782		
569	Maintenance of Structures	402,996		
570	Maintenance of Station Equipment	2,389,753		
571_	Maintenance of Overhead Lines	5,550,301		
573	Maintenance of Miscellaneous Transmission Plant	218,250		
575	Market Administration, Monitoring & Compliance	39,104		
	Services			
Trans	mission Total	29,072,193		
Distribution				
	Category	Annual Budget		
580	Category Operation Supervision & Engineering	Annual Budget 94,022		
580 581	Category Operation Supervision & Engineering Load Dispatching			
-	Operation Supervision & Engineering	94,022		
581	Operation Supervision & Engineering  Load Dispatching	94,022 377,351		
581 582	Operation Supervision & Engineering Load Dispatching Station Expenses	94,022 377,351 621,931		
581 582 583	Operation Supervision & Engineering Load Dispatching Station Expenses Overhead Line Expenses	94,022 377,351 621,931 37,277		
581 582 583 584	Operation Supervision & Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses	94,022 377,351 621,931 37,277 576,477		
581 582 583 584 586	Operation Supervision & Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Meter Expenses	94,022 377,351 621,931 37,277 576,477 738,286		
581 582 583 584 586 588 589 590	Operation Supervision & Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Meter Expenses Miscellaneous Distribution Expenses	94,022 377,351 621,931 37,277 576,477 738,286 8,848,872		
581 582 583 584 586 588 589 590 591	Operation Supervision & Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Meter Expenses Miscellaneous Distribution Expenses Rents	94,022 377,351 621,931 37,277 576,477 738,286 8,848,872 540,873 407,244 17,728		
581 582 583 584 586 588 589 590	Operation Supervision & Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Meter Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering	94,022 377,351 621,931 37,277 576,477 738,286 8,848,872 540,873 407,244		
581 582 583 584 586 588 589 590 591 592 593	Operation Supervision & Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Meter Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures	94,022 377,351 621,931 37,277 576,477 738,286 8,848,872 540,873 407,244 17,728 3,938,353 18,199,723		
581 582 583 584 586 588 589 590 591 592	Operation Supervision & Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Meter Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment	94,022 377,351 621,931 37,277 576,477 738,286 8,848,872 540,873 407,244 17,728 3,938,353		
581 582 583 584 586 588 589 590 591 592 593 594 595	Operation Supervision & Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Meter Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformers	94,022 377,351 621,931 37,277 576,477 738,286 8,848,872 540,873 407,244 17,728 3,938,353 18,199,723 2,028,332 394,300		
581 582 583 584 586 588 589 590 591 592 593 594 595	Operation Supervision & Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Meter Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformers Maintenance of Street Lighting and Signal Systems	94,022 377,351 621,931 37,277 576,477 738,286 8,848,872 540,873 407,244 17,728 3,938,353 18,199,723 2,028,332 394,300 251,887		
581 582 583 584 586 588 589 590 591 592 593 594 595	Operation Supervision & Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Meter Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformers Maintenance of Street Lighting and Signal Systems Maintenance of Meters	94,022 377,351 621,931 37,277 576,477 738,286 8,848,872 540,873 407,244 17,728 3,938,353 18,199,723 2,028,332 394,300 251,887 1,774,920		
581 582 583 584 586 588 589 590 591 592 593 594 595 596 597	Operation Supervision & Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Meter Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformers Maintenance of Street Lighting and Signal Systems Maintenance of Meters Maintenance of Miscellaneous Distribution Plant	94,022 377,351 621,931 37,277 576,477 738,286 8,848,872 540,873 407,244 17,728 3,938,353 18,199,723 2,028,332 394,300 251,887 1,774,920 2,213,807		
581 582 583 584 586 588 589 590 591 592 593 594 595 596 597	Operation Supervision & Engineering Load Dispatching Station Expenses Overhead Line Expenses Underground Line Expenses Meter Expenses Miscellaneous Distribution Expenses Rents Maintenance Supervision and Engineering Maintenance of Structures Maintenance of Station Equipment Maintenance of Overhead Lines Maintenance of Underground Lines Maintenance of Line Transformers Maintenance of Street Lighting and Signal Systems Maintenance of Meters	94,022 377,351 621,931 37,277 576,477 738,286 8,848,872 540,873 407,244 17,728 3,938,353 18,199,723 2,028,332 394,300 251,887 1,774,920		

Section 57.195(b)(11) Budgeted transmission and distribution capital expenses for the current year in total and detailed by the EDC's own functional account code or FERC account code as available.

## 2015 T&D Capital Budget14

Penn Power		
T&D Capital - Annual 2015 (\$)		
Category And Services	Annual Budgett	
Capacity	2,223,398	
Condition	7,034,550	
Facilities	956,803	
Forced	2,041,265	
Meter Related	(29,894)	
New Business	2,547,564	
Other	21,961,385	
Reliability	2,532,325	
Street Light	65,228	
Tools & Equip	323,145	
Vegetation Management	3,992,187	
Penn Power Total	43,647,957	

Peneleç		
T&D Capital - Annual 2015 (\$)		
Category	MannuallBudget	
Capacity	5,883,018	
Condition	25,235,991	
Facilities	2,429,569	
Forced	32,416,429	
Meter Related	3,780,689	
New Business	11,739,956	
Other	29,531,666	
Reliability	15,068,538	
Street Light	1,864,142	
Tools & Equip	4,770,812	
Vegetation Management	20,627,446	
Penelec Total	153,348,258	

Met-Ed				
T&D Capital - Annual 2015 (\$)				
Category * Annual Budg				
Capacity	7,351,896			
Condition	14,746,353			
Facilities	3,895,007			
Forced	21,860,758			
Meter Related	3,864,460			
New Business	12,437,644			
Other	26,503,727			
Reliability	6,533,178			
Street Light	492,096			
Tools & Equip	946,073			
Vegetation Management	5,11 <u>6,7</u> 70			
Met-Ed	103,747,962			

<sup>&</sup>lt;sup>14</sup> Budgets are subject to change and are reported on a Generally Accepted Accounting Principles (GAAP) basis.

Section 57.195(b)(12) Significant changes, if any, to the transmission and distribution maintenance programs previously submitted to the Commission.

## Changes to T&D Maintenance Programs

The Companies continue to review their inspection and maintenance practices to confirm that they are consistent with industry standards and that they support the achievement of the applicable Commission-approved reliability benchmarks and standards. In 2014, there were no significant revisions made to the Companies' inspection and maintenance practices.

## **ATTACHMENT A**

Worst Performing Circuits - Remedial Actions

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Penn/Power				
Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Date Remedial Work Completed
		Performance was driven by trees off right-of-wa (20%).	ry (36%), equipment failure	(22%), and line failure
		The problem tree was removed and associated repairs were made at time of restoration	Complete	Nov-13
Jamestown	W-162	Repair equipment failure	Complete	Feb-14
		Reliability job to install fuses	Complete	May-14
	Repair line failur	Repair line failure	Complete	Jul-14
		Repair damage caused by tree	Complete	Jul-14
	ļ	Repair equipment failure	Complete	Sep-14

Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial	Date Remedial Work
		D C 1: 1 : .C:1 /2/	Work Completed	Completed
		Performance was driven by equipment failure (34)		
	1	Repair line failure	Complete	Oct-13
Athens	00514-61	Repair damage caused by a vehicle	Complete	Jan-14
		Repair equipment failure	Complete	·
		Repair damage caused by lightning	Complete	Jun-14
-		Circuit inspection	To be completed 2015	
		Performance was driven by equipment failure (55		·
		Repair equipment failure	Complete	<u> </u>
		Repair tree damage	Complete	1
East Towanda	00525-62	Repair equipment failure during storm	Complete	Jul-14
Last Towanda	00323-02	Repair line failure	Complete	Aug- <u>14</u>
		Repair line failure	Complete	Nov-14
		Reconductoring circuit between poles TWM-1 and TWM-42	To be completed 2015	2015
		Performance was driven by equipment failure (49%) and line failure (34%).		
		Restored recloser operation of unknown cause	Complete	Oct-13
		Repair line failure	Complete	Apr-14
Edinboro	00420-34	Repair equipment failure	Complete	Apr-14
		Repair equipment failure	Complete	Jun-14
		Repair line failure	Complete	Sep-14
		Repair line failure	Complete	Nov-14
<del></del> -		Performance was driven by equipment failure (57%) and non-preventable trees (40%).		
	ļ	Repair equipment failure	Complete	
French Road	00223-31	Repair equipment failure	Complete	
		Repair damage caused by trees	Complete	Oct-13 Apr-14 Apr-14 Jun-14 Sep-14 Nov-14  s (40%).  Dec-13 Jan-14 Jul-14 Aug-14
		Repair equipment failure	Complete	
		Performance was driven by equipment failure (50	<u> </u>	<del></del>
		Repair damage caused by trees during a storm	Complete	
Logan	00701-81	Repair equipment failure	Complete	·
		Repair damage caused by a vehicle	Complete	
		Full cycle tree trimming	Complete	<del>                                     </del>

Penelec				
Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Date Remedial Work Completed
"		Performance was driven by non-preventable trees	(55%) and line failure (28%	5).
		Repair line failure	Complete	Nov-13
		Repair line failure	Complete	Jun-14
Madera	00166-22	Repair damage caused by trees during a storm	Complete	Jun-14
	i	Repair tree damage	Complete	Jul-14
		Circuit inspection	To be completed 2015	
		Full cycle tree trimming	To be completed 2015	
		Performance was driven by unknown cause during failure (22%).		
		Repair line failure	Complete	Jan-14
Marienville	00327-51	Restore switch operation of unknown cause during a storm	Complete	Jun-14
		Repair damage caused by trees during a storm	Complete	Jun-14
		Circuit inspection	To be completed 2015	ı
	1	Full cycle tree trimming	To be completed 2015	
		Performance was driven by non-preventable trees and line failure (17%).	s (55%), recloser operation o	f unknown cause (20%),
Daniell Aria	00237-31	Restore recloser operation of unknown cause	Complete	nplete Mar-14
Powell Ave	00237-31	Repair damage caused by trees during a storm	Complete	Jun-14
		Repair line failure	Complete	Aug-14
		Full cycle tree trimming	To be completed 2015	
	ĺ	Performance was driven by equipment failure (53	%) during storms and line fo	iilure (35%).
		Repair equipment failure	Complete	Mar-14
		Repair line failure	Complete	Mar-14
Rolling Meadows	00310-31	Repair equipment failure	Complete	Apr-14
•		Repair equipment failure	Complete	Sep-14
		Repair damage caused by trees	Complete	Oct-14
		Circuit inspection	To be completed 2015	
_		Performance was driven by equipment failure (64	(%) and non-preventable tree	es (21%).
		Repair damage caused by trees during a storm	Complete	Jan-14
Snakespring	00628-73	Repair equipment failure	Complete	Mar-14
		Repair equipment failure	Complete	Jun-14
		Repair line failure	Complete	Dec-14

Penélec				
Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Date Remedial Work Completed
		Performance was driven by non-preventable trees	(40%), equipment failure (2	8%), and line failure
		(14%).		
		Repair tree damage from a minor storm	Complete	Oct-13
		Repair equipment failure	Complete	Dec-13
Springboro	00237-52	Repair damage caused by trees during a storm	Complete	Mar-14
Springuoto	00237-32	Repair line failure	Complete	Jun-14
		Repair equipment failure during storm	Complete	Jul-14
		Restore recloser operation of unknown cause during storm	Complete	Nov-14
		Full cycle tree trimming	To be completed 2015	
	00744.66	Performance was driven by a vehicle accident (88	%).	
Starruca	00744-65	Repair damage caused by a vehicle	Complete	Mar-14
		Performance was driven by trees non-preventable failure (9%).		
	00436-65	Restore fuse operation of unknown cause	Complete	Jan-14
Thompson		Repair damage caused by a vehicle	Complete	Jan-14
Thompson		Repair damage caused by trees during a storm	Complete	Jul-14
		Repair line failure	Complete	Aug-14
		Circuit inspection	Complete	Aug-14
		Full cycle tree trimming	To be completed 2015	
		Performance was driven by an unknown caused lo human error (24%).	ockout (37%), line failure (3.	1%), and non-company
Tiffany	00435-65	Restore unknown lockout	Complete	Jan-14
Tillally	00433-03	Repair line failure	Complete	Mar-14
		Repair line damage from non-company human error	Complete	Apr-14
•		Performance was driven by non-preventable trees	(56%) and lightning (25%).	
		Repair damage caused by trees during a storm	Complete	Nov-13
		Installed additional fault indicators	Complete	Jan-14
	1	Repair damage caused by lightning	Complete	May-14
		Repair damage caused by lightning	Complete	May-14
Tionesta Jct Sw Sta	00498-51	Repair damage caused by trees during a storm	Complete	Jun-14
		Repair damage caused by trees during a storm	Complete	Jul-14
		Off right-of-way tree trim identified by circuit patrol	Complete	Sep-14
		Full cycle tree trimming	To be completed 2015	

Penelec	Penelec			
Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Date Remedial Work Completed
		Performance was driven by non-preventable trees (13%).	(36%), equipment failure (3	1%), and unknown cause
		Repair equipment failure	Complete	Nov-13
Ilaian City	00206 42	Repair equipment failure	Complete	Dec-13
Union City	00206-43	Restore recloser operation of unknown cause	Complete	Jun-14
		Restore recloser operation of unknown cause	Complete	Jul-14
		Repair equipment failure	Complete	Aug-14
		Circuit inspection	To be completed 2015	
		Performance was driven by damage from line fail (13%).	ure (61%), equipment failur	e (14%), and animal contact
Union City	00208-43	Add additional protection per circuit coordination	Complete	Dec-13
		Repair equipment failure	Complete	Apr-14
		Repair line failure	Complete	Jun-14
		Repair damage caused by animal contact	Complete	Dec-14

Met-Ed					
Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Date Remedial Work Completed	
		Performance was driven by a cutout problem (40%) (7%).	a conductor issue (23%),	and non-preventable trees	
	[	Replace crossarm	Complete	Jan-14	
		Replace crossarm	Complete	Jan-14	
		Replace Pole	Complete	Jan-14	
Annville	00743-2	Mid-cycle backbone and three phase forestry inspection	Complete	Jul-14	
		Replace recloser	Complete	Jul-14	
		Perform tree work identified during mid-cycle backbone and three phase forestry inspection	Complete	Jul-14	
		Complete engineering review for remote-control devices	To be completed 2015		
		Comprehensive tree trimming	To be completed 2015		
		Performance was driven by trees non-preventable (41%) and trees preventable (31%).			
		Mid-cycle backbone and three phase forestry inspection	Complete	Apr-14	
		Spot forestry inspection	Complete	Jun-14	
		Complete engineering circuit configuration review	Complete	Sep-14	
Barto	00705-1	Engineering circuit protection review in conjunction with Huffs Church Substation construction	Complete	Jan-15	
Durio	00703-1	Lockout zone circuit inspection	Complete	Feb-15	
	1	Install additional mainline fault indicators	Complete	Mar-15	
		Replace crossarm from assessment	Complete	Mar-15	
		Replace insulator from assessment	Complete	Mar-15	
	1	Comprehensive circuit assessment	Complete	Mar-15	
		Replace crossarm braces from assessment	To be completed 2015		
		Replace switch arrester from assessment	To be completed 2015		
		Proactive mainline forestry patrol	To be completed 2015		

Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Date Remedial Worl Completed	
		Performance was driven by an outage caused by a ve	ehicle accident (33%), tree	s non-preventable (32%	
		and equipment problems (26%).			
		Install additional main line fault indicators	Complete	Dec-13	
		Repair main line ridge pins from assessment	Complete	Mar-14	
Bern Church	00789-1	Complete engineering for substation relay upgrade	Complete	Mar-14	
		Perform wood pole inspections	Complete	Jun-14	
	·	Upgrade substation relays	Complete	Sep-14	
		Comprehensive tree trimming	Complete	Dec-14	
		Pole replacements from pole inspections	To be completed 2015		
		Performance was driven by trees-non preventable (4	18%) and equipment failur	es (20%).	
		Spot tree trimming and removals	Complete	Oct-13	
		Upgrade main line recloser and customer re-	Complete	Oct-13	
		distribution project	Complete	Oct-13	
		Replace main line crossarm from assessment	Complete	Oct-13	
		Perform accelerated backbone and three phase assessment	Complete	Dec-13	
		Install additional main line recloser	Complete	Jan-14	
		Install additional main line fault indicators	Complete	Jan-14	
	!	Performed accelerated backbone and three phase assessment	Complete	Mar-14	
		Comprehensive tree trimming	Complete	Apr-14	
		Main line arrester repairs from assessment	Complete	May-14	
Birdsboro	00756-1	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	
		Install additional mainline fault indicators	Complete	Jan-15	
		Complete engineering review for additional	Complete	7411-12	
		remote-control devices	Complete	Jan-15	
		Proactive every-other-month mainline forestry	Complete		
		inspection	Complete	Feb-15	
		Spot Tree Trimming/Removals	Complete	Mar-15	
		Proactive every-other-month mainline forestry inspection	To be completed 2015	AYABA AW	
		Install remote operated mainline switches	To be completed 2015		

Met-Ed Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Date Remedial Work Completed
		Performance was driven by trees non-preventable (-caused by an animal (16%).	41%), equipment failures (.	22%), and an outage
		Main line crossarm repairs from comprehensive circuit patrol	Complete	Mar-14
	1	Spot forestry inspection	Complete	Jun-14
		Comprehensive tree trimming	Complete	Oct-14
		Upgrade main line recloser	Complete	Nov-14
Birdsboro	00757-1	Install remote operated main line switches	Complete	Nov-14
		Install new main line recloser	Complete	Dec-14
		Install additional mainline fault indicators	Complete	Jan-15
		Proactive every-other-month mainline forestry inspection	Complete	Jan-15
		Spot tree trimming/removals	Complete	Mar-15
		Proactive every-other-month mainline forestry inspection	To be completed 2015	
		Performance was driven by vehicle accidents (64%)	).	<u> </u>
		Comprehensive circuit assessment	Complete	Oct-13
		Forestry to perform off cycle, comprehensive circuit tree patrol	Complete	Mar-14
Hill	00737-4	Tree trimming identified during off cycle circuit tree patrol	Complete	Apr-14
HIII	00/3/-4	Provide additional tie capacity on the circuit	Complete	Oct-14
		Replace/Repair high priority items identified during circuit patrol	Complete	Dec-14
		Replacement of porcelain cutouts with polymer cutouts on the circuit backbone	To be completed 2015	
		Install radio control devices on the circuit	To be completed 2015	

Vlet≟Ed Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Date Remedial Work Completed
		Performance was driven by tree preventable (19%), trees non-preventable (16%), and equipment failure (35%).		
		Comprehensive circuit assessment	Complete	Jan-14
		Perform accelerated backbone, three phase, and single phase circuit assessment	Complete	Jan-14
		Forestry to perform off cycle comprehensive circuit tree patrol	Complete	Mar-14
Mandama	00576-4	Tree trimming identified during off cycle circuit tree patrol	Complete	Mar-14
Newberry	00376-4	Comprehensive tree trimming	Complete	Oct-14
		Replace/repair high priority items identified during circuit patrol	Complete	Nov-14
		Replacement of Porcelain Cutouts with polymer cutouts on the circuit backbone	To be completed 2015	
		Replace/Repair high priority items identified during circuit patrol	To be completed 2015	
		Forestry to perform off cycle comprehensive circuit tree patrol	To be completed 2015	
		Performance was driven by non-preventable trees (t	58%).	
g)	00037.2	Replace sectionalizer with Supervisory Control and Data Acquisition (SCADA) Motor Operated Air Break (MOAB) switch	Complete	Apr-14
Shawnee	00837-3	Mid-cycle backbone and three phase forestry inspection	Complete	Sep-14
		Perform wood pole inspection	Complete	Mar-15
		Comprehensive tree trimming	To be completed 2015	
		Performance was driven by non-preventable trees (	<del> </del>	
		Replace switch	Complete	Apr-14
Shawnee	00895-3	Upgrade step transformer	Complete	May-14
Oliavillee	000,33	Mid-cycle backbone and three phase forestry inspection	To be completed 2015	
		Perform wood pole inspection	To be completed 2015	

## **ATTACHMENT B**

## **Substation Annual Infrared Scans**

Pursuant to the Implementation Plan filed by Met-Ed. Penelec, and Penn Power in response to Audit Finding No. VI-2 Follow-up Recommendation of the Management Efficiency Investigation at Docket Nos. D-2009-2143263, D-2009-2143264, and D-2009-2143265, the Companies will strive to correct major deficiencies within seven days and deficiencies within 30 days; and submit, as an appendix to the Annual Reliability Report to the Commission, a list of deficiencies and major deficiencies not corrected within their respective time frames and the reasons they have not been corrected in a timely manner.

The tables below contain a list of deficiencies and major deficiencies not corrected within the 7 and 30 day time frames.

Renn Power			4		
Hot Spot Type	Hot Spot Description	Days Overdue at Completion	Reason		
Penn Power does not have any deficiencies or major deficiencies not corrected within the 7 and 30-day time frames.					

	Penelee			
١	Hot Spot Type	Hot Spot Description	Days Overdue at Completion	Reason
				Human Error – Crews
	Deficiency	No. 1 Transformer Breaker	1	inadvertently repaired nearby
	Deficiency	34KV at East Sayre substation.	1	hot spot and not reported hot
Ì				spot

Met-Ed			
Hot Spot Type	Hot Spot Description	Days Overdue at Completion	Reason
Deficiency	13.2 kV Switch Disconnect at	251	Load conditions delayed the
	Mountain substation		work

## BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Joint 2014 Annual Reliability Report – : Metropolitan Edison Company, : Pennsylvania Electric Company and : Pennsylvania Power Company :

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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 Reading, PA 17105-3265 Tanya McCloskey Office of Consumer Advocate 555 Walnut Street – 5<sup>th</sup> Floor Harrisburg, PA 17101-1923

David Dulick Pennsylvania Rural Electric Association 212 Locust Street, 2<sup>nd</sup> Floor Harrisburg, PA 17101

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

Dated: April 30, 2015

FirstEnergy Service Company 2800 Pottsville Pike P.O. Box 16001

Reading, Pennsylvania 19612-6001

(610) 921-6203

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