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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

VIA UNITED PARCEL SERVICE

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

Re: Joint 2016 Annual Reliability Report – Metropolitan Edison Company, Pennsylvania Electric Company and Pennsylvania Power Company and West Penn Power Company

Dear Secretary Chiavetta,

Pursuant to 52 Pa. Code § 57.195(a) and (b), enclosed for filing are two copies of the Joint 2016 Annual Reliability Report ("Joint Report") of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn 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

Tori L. Giesler

dlm
Enclosures

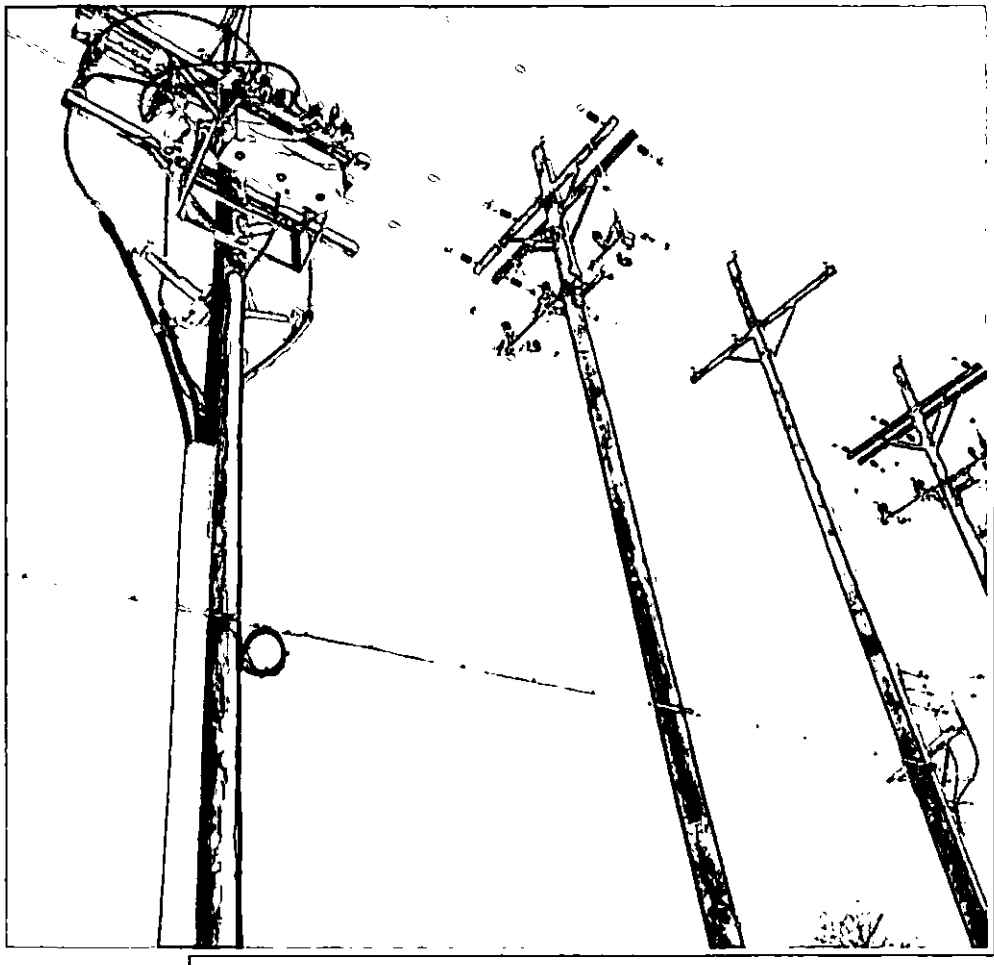
c: As Per Certificate of Service
D. Gill – Bureau of Technical Utility Services (via email and first class mail)
D. Searfoorce – Bureau of Technical Utility Services (via email and first class mail)
D. Washko – Bureau of Technical Utility Services (via email and first class mail)

PennPower
A FirstEnergy Company

Penelec
A FirstEnergy Company

Met-Ed
A FirstEnergy Company

WestPenn Power
A FirstEnergy Company



Joint 2016 Annual Reliability Report

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

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

Joint 2016 Annual Reliability Report
Pennsylvania Power Company, Pennsylvania Electric Company
Metropolitan Edison Company, and West Penn Power Company
Pursuant to 52 Pa. Code Chapter § 57.195(a) and (b)

The following Joint 2016 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"), Metropolitan Edison Company ("Met-Ed"), and West Penn Power Company ("West Penn") (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

The Companies remain committed to providing safe and reliable electric service to their customers and continue their ongoing efforts to strengthen the durability and flexibility of the electric system. Specifically, the Companies have put into place plans, which are described in various filings, to further support and improve reliability performance. These filings include Corrective Action Plans ("CAP"),[1] Reliability Plans,[2] Worst Performing Circuit ("WPC") Plans,[3] and the Long Term Infrastructure Improvement Plans ("LTIIP")[4]. Highlighted below are components of these plans with actions completed in 2016 as well as actions planned for 2017.

Penn Power

Penn Power continues to see positive improvements to all reliability indices. Specifically, in 2016, Penn Power not only achieved its twelve-month reliability performance standard in all three

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[1] In November 2014, Penn Power submitted a CAP designed to improve overall reliability and achieve benchmark performance in all three indices by year-end 2018. The projects and initiatives included in the CAP were for the period of 2014-2018. In December 2014, Penelec submitted a CAP designed to improve overall reliability and achieve benchmark performance in all three indices by year-end 2018. The projects and initiatives included in the CAP were for the period of 2015-2018

[2] On March 30, 2015, the Commission issued an order directing Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company to prepare and file a revised implementation plan relating to specific topics addressed in the report issued by the Commission's Bureau of Audits on February 12, 2015. *Implementation Plan for the Focused Management Audit of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company*, Docket Nos. D-2013-2365991, D-2013-2365992, D-2013-2365993, D-2013-2365994.

[3] See Footnote 2.

[4] On October 19, 2015, pursuant to Section 1352 of the Pennsylvania Public Utility Code, 52 Pa. Code §§ 121.1 et seq. and the Commission's final order in Implementation of Act 11 of 2012, Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company filed their respective petitions for approval of their LTIIPS at Docket Nos. P-2015-2508942, P-2015-2508936, P-2015-2508948, P-2015-2508931. On February 11, 2016, the Commission approved the plans.

reliability indices including System Average Interruption Duration Index ("SAIDI"), System Average Interruption Frequency Index ("SAIFI"), and Customer Average Interruption Duration Index ("CAIDI"). it also achieved the three-year standard and benchmark performance in all three reliability indices established by the Commission.

One of Penn Power's largest contributors to the SAIDI, SAIFI, and CAIDI indices are tree-caused outages. To target tree outages, Penn Power not only performs cycle based tree trimming, but also enhanced tree trimming that includes the removal of a large number of trees (healthy or not) located outside of the right-of-way. Specifically, in 2016, Penn Power performed enhanced trimming on 400 miles of circuits resulting in the removal of trees that are located outside of the right-of-way. Penn Power plans to continue with this aggressive off right-of-way tree removal by performing enhanced trimming on 685 miles in 2017.

Supervisory control and data acquisition ("SCADA") provides communication with circuit breakers, and line switches, which provides the ability to remotely operate these devices to reduce restoration time ultimately reducing SAIDI, SAIFI, and CAIDI indices. In 2016, Penn Power installed thirty SCADA switches on the transmission system and five on the distribution system. In 2017, Penn Power plans to install an additional fourteen switches on the distribution system.

To improve reliability by reducing long duration outages, Penn Power continues to install new distribution circuit ties and loops and add new sources which creates an alternate path from which power is provided to customers affected by an outage. In 2016, Penn Power created thirteen circuit ties and loops between radial circuits and has plans to create an additional ten circuit ties, loops, or new sources by the end of 2017.

Penn Power continues the rehabilitation of its 69kV transmission lines which includes the replacement of equipment such as poles, switches, crossarms, insulators and braces. This program targets the reduction of CAIDI and SAIDI. In 2016, Penn Power completed twenty-four miles of line rehabilitation and plans to complete approximately twenty-four miles in 2017.

Penn Power's Underground Residential Distribution ("URD") Cable Replacement program targets the replacement of bare concentric neutral cable. This cable was manufactured without an insulating jacket around the concentric neutral wires which often caused it to fail prematurely. In 2017, Penn Power plans to replace approximately 25,000 feet of cable.

Penn Power targets the replacement or reinforcement of wood poles identified by a qualified inspector that have either degraded beyond restorable condition or are restorable. In 2016, Penn Power replaced or reinforced 351 wood poles and has plans to replace or reinforce approximately 480 wood poles in 2017.

Lastly, Penn Power focuses on clusters of customers that experience frequent operations of line protection devices. This 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. In 2016, eighty-one improvement projects were completed which included the replacement or installation of various equipment such as fuses and reclosers.

Penelec

Penelec continues to focus on reducing long duration tree outages and equipment failures to improve its SAIFI and CAIDI indices. Specifically, in 2016, Penelec achieved its twelve-month reliability performance standard in all three reliability indices, as well as, its three-year CAIDI standard, and continues to work toward achieving benchmark performance.

To target tree outages, Penelec not only performs cycle based tree trimming which includes the proactive removal of Ash trees that have been deemed a threat due to the Emerald Ash Borer but also accelerates the removal of trees outside the right-of-way in zones one and two[5] of its distribution system. In 2016, Penelec accelerated the removal of trees outside the right-of-way on 425 miles and plans to accelerate approximately 955 miles in 2017. In addition to the items above, Penelec plans to employ additional tree trimming techniques on approximately 1,800 miles in 2017.

To target equipment failures, Penelec continues to proactively replace porcelain cutouts with polymer. Failed porcelain cutouts ultimately cause lockouts of reclosers and circuit breakers, as well as other equipment damage. In 2016, Penelec replaced porcelain cutouts on sixty-nine circuits, and plans to complete an additional eighty circuits by the end of 2017.

Penelec continues to perform circuit rehabilitation on select circuits. Specifically, Penelec performs inspections to identify equipment replacement needs and then schedules and completes the work. In 2016, Penelec completed the rehabilitation of fifteen circuits which included the replacement of poles, switches, crossarms, insulators, braces and cutouts, and plans to complete the rehabilitation of four additional circuits in 2017.

SCADA provides communication with circuit breakers and line switches, which provides the ability to remotely operate these devices to reduce restoration time ultimately reducing SAIDI, SAIFI, and CAIDI indices. In 2016, Penelec installed SCADA on seventeen circuits and plans to install SCADA on fourteen circuits in 2017.

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

Penelec continues to proactively install additional protective devices on its 34.5 kV circuits. By reviewing coordination and installing additional protective devices, fewer customers will be affected during an outage ultimately reducing Penelec's SAIFI performance. Planning and protection engineers perform a full circuit coordination study to construct and implement fuse protection and coordination recommendations. The selected circuits are based on overall performance and by the protection needs. In 2016, Penelec implemented fuse protection and coordination recommendations on twenty-one circuits and plans to address an additional seven circuits in 2017.

Penelec's Cap and Pin Insulator Replacement program targets the reduction of failed insulator caused outages and damage to adjacent equipment caused by failed insulators. The brown porcelain cap and pin style substation insulators are older units and are prone to failure. In 2017, Penelec plans to replace fifteen insulators.

In order to address customers served by radial circuits, Penelec continues its plans to build distribution ties and loops between radial sections of its circuits. This allows for circuit switching during outages and enables faster service restoration for customers. In 2016, Penelec installed one circuit tie and loop and plans to install an additional circuit tie and loop in 2017.

Penelec targets the replacement or reinforcement of wood poles identified by a qualified inspector that have either degraded beyond restorable condition or are restorable. In 2016, Penelec replaced or reinforced 3,966 wood poles and has plans to replace or reinforce additional 2,287 wood poles in 2017.

Lastly, while Penelec aims to enhance system performance, its Customer Service Improvement ("CSI") program provides a means to reduce frequency of outages at the customer level that might not be otherwise addressed when targeting overall system metrics. The CSI program will continue in 2017 and focus on customer complaints as a starting point to analyze clusters of customers that experience frequent or repeated outages. This includes a thorough review and analysis of equipment on a customer's line by Company engineers to determine whether action is required. In 2016, twenty-six improvement projects were completed to install voltage regulators, transformers, electronic sectionalizers, or animal guards.

Met-Ed

In early 2016, Met-Ed experienced weather events that were abnormal compared to the typical type of weather events experienced during that time of year. Despite this challenge, in 2016, Met-Ed achieved its twelve-month reliability performance standard for CAIDI and SAIDI reliability

indices, as well as its three-year standard in all three reliability indices. It is important to note that in absence of these abnormal weather events, Met-Ed has shown strong reliability performance. Specifically, in 2013, Met-Ed achieved benchmark performance in all three indices as well as benchmark performance for SAIFI in 2014 and benchmark performance for CAIDI in 2015. In addition, Met-Ed achieved its twelve-month and three-year reliability standards for all three indices in 2013 through 2015. Met-Ed continues to work toward benchmark.

In addition to the cycle based tree trimming that Met-Ed performs, it plans to also perform enhanced tree trimming. Enhanced trimming removes overhanging trees in zones one and two, and also clears cross country right-of-ways with mowing in zones one and two. The trees identified by this program are determined to be a potential cause of a future outage and are removed to prevent an interruption of electrical service to Met-Ed's customers. Met-Ed plans to perform enhanced trimming on approximately 303 miles on sixteen circuits in 2017.

In an effort to better ensure the adequate protection of circuits and ultimately minimize outage frequency and duration by reducing the scope of large outages, Met-Ed installs fuses on unprotected segments of distribution circuits. Met-Ed installed 1,181 fuses to the system in 2016 and plans to install an additional 432 fuses in 2017.

In order to address customers served by radial circuits, Met-Ed continues its plans to build distribution ties and loops between radial sections of its circuits. This allows for circuit switching during outages and enables faster service restoration for customers. In 2016, Met-Ed installed one circuit tie and loop and plans to install three circuit ties and one circuit loop in 2017.

Met-Ed continues to perform circuit rehabilitation on select circuits. Specifically, Met-Ed performs inspections to identify equipment replacement needs and then schedules and completes the work. In 2016, Met-Ed completed the rehabilitation of one circuit which included the replacement of poles, switches, crossarms, insulators, braces and cutouts, and plans to complete the rehabilitation of eleven additional circuits in 2017.

Met-Ed targets the replacement or reinforcement of wood poles identified by a qualified inspector that have either degraded beyond restorable condition or are restorable. In 2016, Met-Ed replaced or reinforced 288 wood poles and plans to replace or reinforce approximately 368 wood poles in 2017.

SCADA provides communication with circuit breakers, line switches, and reclosers, which provides the ability to remotely operate these devices to reduce restoration time ultimately reducing SAIDI, SAIFI, and CAIDI indices. In 2016, Met-Ed installed seventy SCADA switches and plans to install twenty-eight in 2017.

Met-Ed's URD Cable Replacement program targets the replacement of bare concentric neutral cable. This cable was manufactured without an insulating jacket around the concentric neutral wires which often caused it to fail prematurely. In 2016, Met-Ed replaced approximately 3,900 feet of cable and plans to replace approximately 12,500 feet of cable in 2017.

To target equipment failure, Met-Ed continues to proactively replace porcelain cutouts with polymer cutouts. Failed porcelain cutouts ultimately cause lockouts of reclosers and circuit breakers, as well as other equipment damage. In 2016, Met-Ed replaced 533 porcelain cutouts on six circuits and will target an additional five circuits in 2017.

Finally, in 2017, Met-Ed will focus on protective devices that operate multiple times in a defined time period. This not only aims to enhance system performance, but it also provides a means to reduce frequency of outages at the device level that might not be otherwise addressed when targeting overall system metrics. In 2017, improvement projects will be completed to replace reclosers, cutouts, and animal guards.

West Penn

West Penn continues to see positive improvements to all reliability indices. Specifically, in 2016, West Penn not only achieved its twelve-month and three-year reliability performance standards in all three reliability indices, it also achieved benchmark performance for the CAIDI and SAIDI reliability indices.

One of West Penn's largest contributors to the SAIDI, SAIFI, and CAIDI indices are tree-caused outages. To target tree outages, West Penn not only performs cycle based tree trimming, but also continues its program to accelerate the mitigation of trees subject to damage by the Emerald Ash Borer. In 2016, West Penn removed approximately 23,000 trees damaged by the Emerald Ash Borer and plans to remove approximately 50,000 trees damaged in 2017.

In an effort to better ensure the adequate protection of circuits and ultimately minimize outage frequency and duration by reducing the scope of large outages, West Penn installs new fused cutouts on unprotected circuits. West Penn installed eighty-one fuses in 2016 and plans to install at least sixty fuses in 2017.

West Penn continues to perform circuit rehabilitation on select circuits. Specifically, West Penn performs inspections to identify equipment replacement needs and then schedules and completes the work. This program focuses on strengthening zones one and two by identifying equipment for replacement such as poles, switches, crossarms, insulators, braces, and cutouts. In

2016, thirty-eight circuits were rehabilitated and West Penn plans to rehabilitate approximately fifty-five circuits in 2017.

West Penn targets select WPCs for enhanced rehabilitation which can include hardware rehabilitation, coordination review, installation of additional protective devises, or recloser installation. In 2016, six WPCs received enhanced rehabilitation and West Penn plans to target an additional six WPCs in 2017.

The enhanced overcurrent protection program installs new electronic reclosers with SCADA control at targeted substations which limits the number of customers affected and allow remote switching to restore customers more quickly. Adding SCADA control to electronic reclosers in select substations, with existing SCADA capabilities, provides additional monitoring and also allows for remote switching to restore customers at the circuit level more quickly. In 2016, West Penn installed twenty-five electronic reclosers at five substations and plans to install twenty-eight electronic reclosers at four substations in 2017.

The subtransmission modernization and automation program oversees the installation of SCADA controlled reclosers and switches on the subtransmission system and also includes automatic air switch modernization. To provide enhanced sectionalizing for larger blocks of customers at the substation source level, West Penn installs electronic reclosers at the substation. This enables West Penn to restore large sections of customers more quickly. In 2016, West Penn installed fifty-six electronic controlled reclosers or switches and plans to install sixty-five reclosers or switches in 2017.

West Penn's URD Cable Replacement program targets the replacement of bare concentric neutral cable. This cable was manufactured without an insulating jacket around the concentric neutral wires which often caused it to fail prematurely. In 2016, West Penn replaced approximately 13,000 feet of cable and plans to replace 18,300 feet of cable in 2017.

The underground getaway replacement program replaced select underground substation exits which is cable that leads out of the substation to the overhead lines. These exits are also referred to as underground getaways. Specifically, this program targets underground getaways that were installed prior to 1988 and are known to be prone to failure. By replacing these getaways, West Penn will reduce the interruptions to a circuit associated with the cable as well as the long interruption times associated with the replacement. In 2016, West Penn replaced underground getaways at three substations, which impacted seven circuits.

West Penn targets the replacement or reinforcement of wood poles identified by a qualified inspector that have either degraded beyond restorable condition or are restorable. In 2016, West Penn

replaced or reinforced 384 wood poles and plans to replace or reinforce approximately 370 wood poles in 2017.

Finally, West Penn focuses on clusters of customers that experience frequent operations of line protection devices. This 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. In 2016, twenty-nine improvement projects were completed to replace fuses, reclosers, and transformers.

Conclusion

The Companies continue to make investments in their electric systems and employ various programs and projects to improve reliability and limit the scope of outages. All of the work described above is designed to better ensure benchmark reliability performance is achieved by year-end 2018. The Companies are committed to providing customers with safe and reliable electric service and look forward to seeing the benefits these projects and programs will provide in future years.

Reliability Results

The table below, taken from the 4th Quarter 2016 Joint Reliability Report, shows that eleven of twelve reliability indices in 2016 were better than the Commission's twelve-month standards (shown in green).

4Q 2016 (12-Mo Rolling)	Penn Power			Penelec			Met-Ed			West Penn		
	Benchmark	Twelve-Month Standard	Twelve-Month Actual	Benchmark	Twelve-Month Standard	Twelve-Month Actual	Benchmark	Twelve-Month Standard	Twelve-Month Actual	Benchmark	Twelve-Month Standard	Twelve-Month Actual
SAIFI	1.12	1.34	**1.09**[6]	1.26	1.52	**1.43**	1.15	1.38	1.44	1.05	1.26	**1.08**
CAIDI	101	121	**95**[7]	117	141	**120**	117	140	**124**	170	204	**147**[8]
SAIDI	113	162	**104**[9]	148	213	**171**	135	194	**178**	179	257	**159**[10]
MAIFI[11]			0.81			3.85			1.10			
Customers Served[12]	161,850			581,260			558,363			712,703		
Number of Sustained Interruptions	3,163			11,912			10,071			11,158		
Customers Affected	176,968			833,315			804,947			772,206		
Customer Minutes	16,841,199			99,584,395			99,559,235			113,097,150		
Number of Customer Momentary Interruptions	131,669			2,234,693			615,406					

[6] Penn Power's SAIFI achieved benchmark performance or better.
[7] Penn Power's CAIDI achieved benchmark performance or better.
[8] West Penn's CAIDI achieved benchmark performance or better.
[9] Penn Power's SAIDI achieved benchmark performance or better.
[10] West Penn's SAIDI achieved benchmark performance or better.
[11] MAIFI values are not available for West Penn.
[12] 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.*[13]

Major Events

FirstEnergy Company	Customers Affected	Time and Duration of the Event		Cause of the Event	Commission Approval Status
Penelec	1,794	Duration	12 days, 9 hours, and 44 minutes	Heavy rain resulting in catastrophic flash flooding in Lycoming County	Approved December 23, 2016
		Start Date/Time	October 21, 2016 06:52		
		End Date/Time	November 2, 2016 16:36		

[13] For purposes of this Joint Report, all reliability figures are based upon the Pennsylvania Public Utility Commission's definitions for momentary outages and major events pursuant to 52 Pa. Code § 57.192.

Section 57.195(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

Historic 12-Month Rolling Reliability Indices				
	Index	**2014**	**2015**	**2016**
Penn Power	SAIFI	1.11	1.14	1.09
	CAIDI	106	100	95
	SAIDI	118	114	104
	MAIFI	1.12	0.64	0.81
	Customer Minutes	18,617,503	18,211,842	16,841,199
	Customers Affected	175,271	181,479	176,968
	Minutes of Interruption	721,189	666,315	703,768
	Customers Served[14]	158,429	159,612	161,850
Penelec	SAIFI	1.55	1.36	1.43
	CAIDI	118	140	120
	SAIDI	183	191	171
	MAIFI	4.47	2.61	3.85
	Customer Minutes	106,425,607	111,191,315	99,584,395
	Customers Affected	903,429	792,673	833,315
	Minutes of Interruption	2,677,703	3,029,993	2,806,020
	Customers Served[15]	581,972	581,832	581,260
Met-Ed	SAIFI	1.11	1.19	1.44
	CAIDI	128	113	124
	SAIDI	141	136	178
	MAIFI	1.33	1.18	1.10
	Customer Minutes	77,955,889	75,171,284	99,559,235
	Customers Affected	610,606	662,492	804,947
	Minutes of Interruption	2,536,278	2,068,447	2,627,337
	Customers Served[16]	551,502	554,476	558,363

[14] Represents the average number of customers served during the reporting period.
[15] Represents the average number of customers served during the reporting period.
[16] Represents the average number of customers served during the reporting period.

Historic 12-Month Rolling Reliability Indices				
	Index	**2014**	**2015**	**2016**
West Penn	SAIFI	1.02	1.17	1.08
	CAIDI	137	154	147
	SAIDI	139	179	159
	Customer Minutes	99,203,464	127,282,345	113,097,150
	Customers Affected	722,597	827,613	772,206
	Minutes of Interruption	2,592,328	3,418,558	3,263,252
	Customers Served[17]	711,915	709,782	712,703

The tables below show that ten of twelve reliability indices in 2016 were better than the Commission's three-year standards (shown in green).

Three-Year Rolling Year-End 2016	Penn Power		Penelec	
	Three-Year Standard	Three-Year Actual	Three-Year Standard	Three-Year Actual
SAIFI	1.23	1.11	1.39	1.45
CAIDI	111	101	129	126
SAIDI	136	112	179	182

Three-Year Rolling Year-End 2016	Met-Ed		West Penn	
	Three-Year Standard	Three-Year Actual	Three-Year Standard	Three-Year Actual
SAIFI	1.27	1.25	1.16	1.09
CAIDI	129	122	187	146
SAIDI	163	152	217	159

[17] Represents the average number of customers served during the reporting period.

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 2016 12-Month Rolling	**Penn Power**			
Cause	**Customer Minutes**	**Number of Sustained Interruptions**	**Customers Affected**	**% Based on Number of Outages**
Animal	1,731,193	523	18,059	16.53%
Trees off ROW - tree	5,164,750	486	27,172	15.37%
Bird	372,608	387	5,134	12.24%
Lightning	1,328,503	362	11,960	11.44%
Equipment failure	2,254,111	324	48,637	10.24%
Line failure	1,591,709	262	22,150	8.28%
Trees off ROW - limb	1,166,649	237	6,691	7.49%
Unknown	495,552	152	7,482	4.81%
Trees - sec/service	80,759	109	340	3.45%
Vehicle	1,580,775	86	13,330	2.72%
Forced outage	222,894	54	8,315	1.71%
Previous lightning	39,778	54	385	1.71%
Overload	85,996	35	1,350	1.11%
Human error - non-company	114,961	27	1,750	0.85%
Human error - company	26,335	11	427	0.35%
Ice	156,023	11	1,163	0.35%
Object contact with line	89,363	10	458	0.32%
UG dig-up	15,157	9	117	0.28%
Trees on ROW	15,784	8	111	0.25%
Fire	273,045	5	1,694	0.16%
Customer equipment	5,939	4	14	0.13%
Other electric utility	24,522	3	201	0.09%
Vandalism	4,377	2	21	0.06%
Other utility - non electric	416	2	7	0.06%
Total	**16,841,199**	**3,163**	**176,968**	**100.00%**

Proposed Solutions – Penn Power

Penn Power analyzes its outage data to develop solutions aimed towards improving reliability. The following paragraphs identify the top outage causes for the twelve-month period ending December 31, 2016, and associated actions designed to address these outage causes.

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

To reduce tree caused outages, Penn Power not only performs cycle based tree trimming, but also enhanced tree trimming that includes the removal of a large number of trees (healthy or not) located outside of the right-of-way. Specifically, in 2016, Penn Power performed enhanced trimming on 400 miles of circuits resulting in the removal of trees that are located outside of the right-of-way. Penn Power plans to continue with this aggressive off right-of-way tree removal by performing enhanced trimming on 685 miles in 2017.

In addition to the inspection and maintenance ("I&M")[18] programs that set forth schedules for regular inspections of distribution and substation facilities and are geared towards specific components such as capacitors, reclosers, switches, poles, circuits, and overhead and underground transformers, there are a number of other reliability projects that have been identified to help reduce the number of, and limit the duration and impact of, interruptions to customers. See Penn Power's Current Assessment of the State of System Reliability portion of this report, where many of these projects are described in further detail.

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

Outages by Cause – Penelec

Outage by Cause				
4th Quarter 2016 12-Month Rolling	**Penelec**			
Cause	**Customer Minutes**	**Number of Sustained Interruptions**	**Customers Affected**	**% Based on Number of Outages**
Equipment failure	23,159,160	2,811	252,416	23.60%
Unknown	7,586,158	1,907	90,133	16.01%
Animal	3,634,107	1,436	31,017	12.06%
Trees off ROW - tree	29,238,690	1,374	163,041	11.53%
Forced outage	4,407,908	824	49,011	6.92%
Line failure	11,806,781	798	93,609	6.70%
Lightning	5,250,940	609	42,024	5.11%
Bird	810,314	490	10,122	4.11%
Trees off ROW - limb	3,613,270	429	24,791	3.60%
Trees - sec/service	254,337	347	1,053	2.91%
Vehicle	4,743,509	229	32,351	1.92%
Trees on ROW	1,032,177	164	5,417	1.38%
Human error - non-company	2,039,829	126	21,859	1.06%
Previous lightning	158,488	73	939	0.61%
Other electric utility	318,998	64	1,546	0.54%
Overload	199,686	40	2,675	0.34%
UG dig-up	175,964	40	842	0.34%
Human error - company	125,629	30	6,001	0.25%
Object contact with line	82,046	25	883	0.21%
Ice	194,676	23	715	0.19%
Customer equipment	6,312	16	45	0.13%
Wind	564,572	15	1,200	0.13%
Vandalism	44,733	14	373	0.12%
Contamination	5,549	10	25	0.08%
Fire	18,057	10	104	0.08%
Other utility - non electric	104,918	6	790	0.05%
Call error	3,987	1	33	0.01%
Switching error	3,600	1	300	0.01%
Total	**99,584,395**	**11,912**	**833,315**	**100.00%**

Proposed Solutions – Penelec

Penelec analyzes its outage data to develop solutions aimed towards improving reliability. The following paragraphs identify the top outage causes for the twelve-month period ending December 31, 2016, and associated actions designed to address these outage causes.

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

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 reduce unknown outages, an outage-by-cause analysis is used to analyze and develop circuit and system reliability improvement plans. In an effort 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. Lastly, for certain unknown outages, engineering may conduct a post outage circuit inspections as needed.

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

In addition, there are a number of other reliability projects that have been identified to help reduce the number of, and limit the duration and impact of, interruptions to customers. See Penelec's Current Assessment of the State of System Reliability portion of this report, where many of these programs are described in further detail.

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

Outages by Cause – Met-Ed

Outage by Cause				
4th Quarter 2016 12-Month Rolling	**Met-Ed**			
Cause	**Customer Minutes**	**Number of Sustained Interruptions**	**Customers Affected**	**% Based on Number of Outages**
Equipment failure	22,027,207	2,368	204,106	23.51%
Animal	3,945,575	1,652	42,172	16.39%
Unknown	6,982,829	1,206	74,702	11.98%
Trees off ROW - tree	24,732,753	1,126	108,386	11.18%
Line failure	7,432,783	610	50,134	6.06%
Trees off ROW - limb	6,504,289	568	50,083	5.64%
Forced outage	3,859,586	492	80,891	4.89%
Trees on ROW	4,382,098	450	22,259	4.47%
Bird	245,899	426	3,614	4.23%
Lightning	1,715,782	338	27,123	3.36%
Vehicle	12,848,962	290	72,526	2.88%
Trees - sec/service	548,727	216	1,276	2.14%
Human error - non-company	875,387	79	13,850	0.78%
Overload	1,056,737	57	11,044	0.57%
Object contact with line	890,968	44	5,374	0.44%
UG dig-up	145,508	31	1,589	0.31%
Human error - company	289,510	28	15,039	0.29%
Previous lightning	251,795	26	6,962	0.26%
Other electric utility	371,892	18	12,434	0.18%
Customer equipment	5,857	13	36	0.13%
Wind	313,276	9	648	0.09%
Fire	6,847	6	40	0.06%
Ice	41,855	6	129	0.06%
Vandalism	37,506	5	436	0.05%
Contamination	1,651	3	10	0.03%
Other utility - non electric	43,907	3	83	0.03%
Switching error	49	1	1	0.01%
Total	**99,559,235**	**10,071**	**804,947**	**100.00%**

Proposed Solutions – Met-Ed

Met-Ed analyzes its outage data to develop solutions aimed towards improving reliability. The following paragraphs identify the top outage causes for the twelve-month period ending December 31, 2016, and associated actions designed to address these outage causes.

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

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.

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.

In addition, there are a number of other reliability projects that have been identified to help reduce the number of, and limit the duration and impact of, interruptions to customers. See Met-Ed's Current Assessment of the State of System Reliability portion of this report, where many of these programs are described in further detail.

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

Outages by Cause – West Penn

Outage by Cause				
4th Quarter 2016 12-Month Rolling	**West Penn**			
Cause	**Customer Minutes**	**Number of Sustained Interruptions**	**Customers Affected**	**% Based on Number of Outages**
Equipment failure	19,708,784	2,274	153,444	20.38%
Trees off ROW - tree	38,916,719	1,947	151,384	17.45%
Unknown	8,201,282	1,757	80,016	15.75%
Animal	2,065,004	1,187	29,185	10.64%
Line failure	13,770,946	1,071	78,810	9.60%
Forced outage	6,242,254	987	117,291	8.85%
Bird	519,977	378	5,946	3.39%
Trees off ROW - limb	4,417,627	366	26,344	3.28%
Trees on ROW	5,645,687	349	25,840	3.13%
Vehicle	8,438,061	305	62,670	2.73%
Trees - sec/service	167,180	200	434	1.79%
Lightning	2,504,106	131	13,316	1.17%
Human error - non-company	1,038,811	71	10,900	0.64%
Human error - company	221,021	36	6,574	0.32%
UG dig-up	159,675	29	1,722	0.26%
Object contact with line	180,666	22	2,031	0.20%
Customer equipment	102,766	16	2,578	0.14%
Overload	172,076	14	839	0.13%
Fire	152,087	5	572	0.04%
Vandalism	102,377	5	379	0.04%
Other utility - non electric	48,614	3	367	0.03%
Other electric utility	54,942	2	722	0.02%
Switching error	111,316	2	697	0.02%
Wind	155,172	1	145	0.01%
Total	**113,097,150**	**11,158**	**772,206**	**100.00%**

Proposed Solutions – West Penn

West Penn analyzes its outage data to develop solutions aimed towards improving reliability. The following paragraphs identify the top outage causes for the twelve-month period ending December 31, 2016, and associated actions designed to address these outage causes.

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

To reduce tree caused outages, West Penn not only performs cycle based tree trimming, but also continues its program to accelerate the mitigation of trees subject to damage by the Emerald Ash Borer. In 2016, West Penn removed approximately 23,000 trees damaged by the Emerald Ash Borer and plans to remove approximately 50,000 trees damaged in 2017.

To reduce unknown outages, West Penn employs a root cause analysis for all circuit lockouts that includes patrols of all unknown outage causes. In addition, field personnel investigate recurring outages on specific sectionalizing devices when an unknown outage occurs.

In addition, there are a number of other reliability projects that have been identified to help reduce the number of, and limit the duration and impact of, interruptions to customers. See West Penn's Current Assessment of the State of System Reliability portion of this report, where many of these programs are described in further detail.

Section 57.195(b)(5) 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, Met-Ed, and West Penn'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 2016		Penn Power		Penelec		Met-Ed		West Penn	
		Planned	**Completed**	**Planned**	**Completed**	**Planned**	**Completed**	**Planned**	**Completed**
Forestry	Transmission (Miles)	116.03	116.03	386.17	386.17	258.02	258.02	171.55	171.55
	Distribution (Miles)	1.109	1.109	3.794	3.794	2.349	2.349	4.516	4.672
Transmission	Aerial Patrols	2	2	2	2	2	2	2	2
	Groundline	532	666	1.274	1.635	904	1.155	15	23
Substation	Substation Inspections Class A	146	146	798	799[19]	420	421[20]	972	972
	Substation Inspections Class B	146	146	798	800[19]	420	421[20]	972	972
	Substation Inspections Class C	584	584	3.192	3.196[19]	1.680	1.684[20]	3.888	3.888
	Transformers	100	100	524	524	222	222	504	504
	Breakers	8	8	256	256	24	24	322	322
	Relay Schemes	14	14	101	101	97	97	160	160
Distribution	Capacitors	992	992	8.783	8.783	4.755	4.755	1.305	1.305
	Poles	10.600	10.708	41.111	42.858	17.111	18.552	26.880	26.898
	Reclosers	808	812	2.567	2.572	1.079	1.084	3.776	3.762[21]
	Radio-Controlled Switches (2 / year)	Penn Power has no radio-controlled switches		2.566	2.573	290	303	West Penn has no radio-controlled switches	

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

[19] Penelec energized a substation in May 2016 adding additional inspections (Class A – 1 inspection, Class B – 2 inspections, Class C – 4 inspections).
[20] Met-Ed energized a substation in June 2016 adding additional inspections (Class A – 1 inspection, Class B – 1 inspection, Class C – 4 inspections).
[21] Fourteen reclosers were not found in the field.

Section 57.195(b)(7) 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 Power T&D O&M - 2016 ($)					
Transmission					
	Category	**2016 Actuals**	**2016 Budget**	**Variance %**	**Notes[22]**
560	Operation Supervision and Engineering	2,082	0	100%	1
561	Load Dispatching	94,424	113,534	-17%	2
562	Station Expenses	2,417	0	100%	3
563	Overhead Lines Expenses	4,448	0	100%	3
565	Transmission of Electricity by Others	4,648,254	7,912,360	-41%	4
566	Miscellaneous Transmission Expenses	32,282	120,490	-73%	5
567	Rents	0	0	100%	
568	Maintenance Supervision and Engineering	18,999	11,263	69%	6
569	Maintenance of Structures	31,991	22,815	40%	7
570	Maintenance of Station Equipment	9,402	3,047	209%	8
571	Maintenance of Overhead Lines	50,888	(104,906)	-149%	9
572	Transmission-Maintenance of Underground Lines	0	0	100%	
573	Maintenance of Miscellaneous Transmission Plant	(1,755)	0	100%	10
575	Market Administration, Monitoring & Compliance Services	(244)	20,035	-101%	11
Transmission Total		**4,893,188**	**8,098,638**		
Distribution					
	Category	**2016 Actuals**	**2016 Budget**	**Variance %**	**Notes**
580	Operation Supervision and Engineering	5,904	0	100%	12
581	Load Dispatching	188	0	100%	13
582	Station Expenses	43,146	0	100%	14
583	Overhead Line Expenses	126,630	0	100%	15
584	Underground Line Expenses	198,899	549,945	-64%	16
586	Meter Expenses	65,571	83,916	-22%	17
587	Customer Installations Expenses	0	0	100%	
588	Miscellaneous Distribution Expenses	(379,333)	760,794	-150%	18
589	Rents	347,630	318,986	9%	
590	Maintenance Supervision and Engineering	90,057	108,672	-17%	19
591	Maintenance of Structures	0	0	100%	
592	Maintenance of Station Equipment	1,015,972	490,579	107%	20
593	Maintenance of Overhead Lines	9,065,206	12,525,125	-28%	21
594	Maintenance of Underground Lines	313,678	(8,657)	-3723%	22
595	Maintenance of Line Transformer	35,612	0	100%	3
596	Maintenance of Street Lighting and Signal Systems	118,784	0	100%	23
597	Maintenance of Meters	667,023	267,587	149%	24
598	Maintenance of Miscellaneous Distribution Plant	337,753	120,281	181%	25
Distribution Total		**12,052,721**	**15,217,228**		
Penn Power Total		**16,945,909**	**23,315,866**		

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

Penn Power - Variance Explanations (Variances 10% or greater)	
1	Over budget due to transmission operations supervision and engineering costs being greater than planned.
2	Under budget due to transmission and dispatching costs being lower than planned.
3	Over budget due to labor being greater than planned.
4	Under budget due to network integration transmission services charges being lower than planned.
5	Under budget due to labor costs being lower than planned.
6	Over budget due to supervision and engineering costs being greater than planned.
7	Over budget due to information technology service labor and software costs being greater than planned.
8	Over budget due to labor and equipment leases for maintenance of station equipment being greater than planned
9	Over budget due to material and labor for maintenance of overhead lines being greater than planned
10	Under budget due to material expenses being lower than planned.
11	Under budget due to load procurement expenses being lower than planned.
12	Over budget due to distribution operations supervision and engineering costs being greater than planned.
13	Current budgeting practices do not budget directly to FERC accounts. FirstEnergy Service Company budgets to different cost collectors, which settle to FERC accounts. Actual settlements to these FERC accounts are relatively immaterial amounts.
14	Over budget due to labor and materials for equipment repair and maintenance being greater than planned.
15	Over budget due to labor and contractor costs for overhead lines being greater than planned.
16	Under budget due to contractor services and materials being lower than planned.
17	Under budget due to labor required for meter replacements and repairs being lower than planned.
18	Under budget due to material and lease assessment costs being lower than planned.
19	Under budget due to labor allocations of distribution maintenance supervision and engineering costs being lower than planned.
20	Over budget due to contractor and labor costs for maintenance of station equipment being greater than planned.
21	Under budget due to contractors and leases for maintenance of overhead lines being lower than planned.
22	Over budget due to labor, contractor, and material costs for maintenance of underground lines being greater than planned.
23	Over budget due to labor and contractor costs for maintenance of street lighting being greater than planned.
24	Over budget due to labor and material costs for maintenance of meters being greater than planned.
25	Over budget due to information technology service labor being greater than planned.

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

Penelec T&D O&M - 2016 (S)					
Transmission					
	Category	**2016 Actuals**	**2016 Budget**	**Variance %**	**Notes**
560	Operation Supervision and Engineering	39,292	18,384	114%	1
561	Load Dispatching	572,788	1,410,677	-59%	2
562	Station Expenses	242,711	0	100%	3
563	Overhead Lines Expenses	655,359	355,969	84%	4
565	Transmission of Electricity by Others	22,107,216	17,928,442	23%	5
566	Miscellaneous Transmission Expenses	605,077	1,105,164	-45%	6
567	Rents	3,671,920	3,344,046	10%	7
568	Maintenance Supervision and Engineering	1,421,324	1,457,226	-2%	
569	Maintenance of Structures	383,118	109,605	250%	3
570	Maintenance of Station Equipment	2,459,577	428,628	474%	8
571	Maintenance of Overhead Lines	8,270,421	10,257,981	-19%	9
572	Transmission - Maintenance of Underground Lines	0	0	100%	
573	Maintenance of Miscellaneous Transmission Plant	(48)	0	100%	10
575	Market Administration, Monitoring & Compliance Services	(0)	30,918	-100%	11
Transmission Total		**40,428,754**	**36,447,042**		
Distribution					
	Category	**2016 Actuals**	**2016 Budget**	**Variance %**	**Notes**
580	Operation Supervision and Engineering	104,106	106,900	-3%	
581	Load Dispatching	380,471	421,219	-10%	12
582	Station Expenses	384,091	0	100%	13
583	Overhead Line Expenses	123,427	52,827	134%	14
584	Underground Line Expenses	849,746	789,356	8%	
586	Meter Expenses	574,056	723,375	-21%	15
587	Customer Installations Expenses	0	0	100%	
588	Miscellaneous Distribution Expenses	8,608,042	7,101,929	21%	16
589	Rents	1,649,954	1,227,405	34%	4
590	Maintenance Supervision and Engineering	397,200	493,177	-19%	12
591	Maintenance of Structures	0	0	100%	
592	Maintenance of Station Equipment	4,620,148	7,191,895	-36%	17
593	Maintenance of Overhead Lines	20,288,881	19,487,596	4%	
594	Maintenance of Underground Lines	1,089,619	175,254	522%	4
595	Maintenance of Line Transformer	210,102	0	100%	4
596	Maintenance of Street Lighting and Signal Systems	948,207	2,905,519	-67%	17
597	Maintenance of Meters	2,404,528	1,899,872	27%	4
598	Maintenance of Miscellaneous Distribution Plant	1,967,094	563,528	249%	3
Distribution Total		**44,599,675**	**43,139,852**		
Penelec Total		**85,028,429**	**79,586,893**		

Penelec - Variance Explanations (Variances 10% or greater)	
1	Over budget due to outside services/contractors and labor requirements being greater than planned.
2	Under budget due to outside services/contractors and PJM reimbursable services settling to load dispatching being lower than planned.
3	Over budget due to labor requirements and network costs being greater than planned.
4	Over budget due to labor requirements being greater than planned.
5	Over budget due to network integration transmission services charges which is a result of less customers shopping being greater than planned.
6	Under budget due to network costs being lower than planned.
7	Over budget due to leases/rentals being greater than planned.
8	Over budget due to internal labor required to complete this work being greater than planned.
9	Under budget due to vegetation management costs being lower than planned.
10	Current budgeting practices do not budget directly to FERC accounts. FirstEnergy Service Company budgets to different cost collectors, which settle to FERC accounts. Actual settlements to these FERC accounts are relatively immaterial amounts.
11	Under budget due to load procurement expenses for the load serving entity being lower than planned.
12	Under budget due to internal labor required to complete this work being lower than planned.
13	Over budget due to internal labor required to complete this work which was not budgeted to this FERC account.
14	Over budget due to materials required for this work being greater than planned.
15	Under budget due to supervision and engineering overheads being lower than planned.
16	Over budget due to miscellaneous distribution expenses being greater than planned.
17	Under budget due to fleet costs charged to O&M and labor costs being lower than planned.

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

Met-Ed T&D O&M - 2016 ($)					
Transmission					
	Category	**2016 Actuals**	**2016 Budget**	**Variance %**	**Notes**
560	Operation Supervision and Engineering	31,648	19,295	64%	1
561	Load Dispatching	466,110	1,549,563	-70%	2
562	Station Expenses	121,854	0	100%	3
563	Overhead Lines Expenses	200,302	33,112	505%	3
565	Transmission of Electricity by Others	12,380,543	17,657,649	-30%	4
566	Miscellaneous Transmission Expenses	643,896	965,756	-33%	5
567	Rents	1,063,834	835,574	27%	6
568	Maintenance Supervision and Engineering	1,111,636	1,257,255	-12%	7
569	Maintenance of Structures	300,048	98,136	206%	8
570	Maintenance of Station Equipment	2,800,589	2,658,144	5%	
571	Maintenance of Overhead Lines	3,990,809	5,742,576	-31%	9
572	Maintenance of Underground Lines	1,405	0	100%	3
573	Maintenance of Miscellaneous Transmission Plant	275,192	171,572	60%	10
575	Market Administration, Monitoring & Compliance Services	149	39,104	-100%	11
Transmission Total		**23,388,015**	**31,027,737**		
Distribution					
	Category	**2016 Actuals**	**2016 Budget**	**Variance %**	**Notes**
580	Operation Supervision and Engineering	108,444	138,032	-21%	7
581	Load Dispatching	239,704	429,836	-44%	7
582	Station Expenses	677,944	635,086	7%	
583	Overhead Line Expenses	72,617	37,277	95%	12
584	Underground Line Expenses	0	576,477	-100%	13
586	Meter Expenses	571,021	912,550	-37%	7
587	Customer Installations Expenses	0	0	100%	
588	Miscellaneous Distribution Expenses	5,786,027	4,800,085	21%	14
589	Rents	540,950	540,873	0%	
590	Maintenance Supervision and Engineering	341,652	450,737	-24%	7
591	Maintenance of Structures	5,084	19,064	-73%	15
592	Maintenance of Station Equipment	3,896,717	3,345,342	16%	16
593	Maintenance of Overhead Lines	25,920,651	20,575,029	26%	17
594	Maintenance of Underground Lines	2,079,079	2,101,516	-1%	
595	Maintenance of Line Transformer	220,459	0	100%	18
596	Maintenance of Street Lighting and Signal Systems	714,459	256,266	179%	3
597	Maintenance of Meters	2,256,172	1,808,430	25%	3
598	Maintenance of Miscellaneous Distribution Plant	2,032,519	719,375	183%	19
Distribution Total		**45,463,499**	**37,345,977**		
Met-Ed Total		**68,851,514**	**68,373,714**		

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

Met-Ed - Variance Explanations (Variances 10% or greater)	
1	Over budget due to planned contractor expenses and computer software costs being greater than planned.
2	Under budget due to contractor expense, leases, and PJM ancillary services being lower than planned.
3	Over budget due to labor expenses being greater than planned.
4	Under budget due to PJM ancillary services, transmission enhancement charges, and congestion charges being lower than planned.
5	Under budget due to utilities being lower than planned.
6	Over budget due to leased/rental buildings being greater than planned.
7	Under budget due to labor expenses being lower than planned.
8	Over budget due to labor expense and utilities being greater than planned.
9	Under budget due to vegetation management contractor expenses being lower than planned.
10	Over budget due to contractors and material expenses being greater than planned.
11	Under budget due to PJM ancillary services being lower than planned.
12	Over budget due to telecommunications expenses being greater than planned.
13	Under budget due to contractor expenses being lower than planned.
14	Over budget due to contractors and licenses being greater than planned.
15	Under budget due to labor and material expenses being lower than planned.
16	Over budget due to telecommunications, leases and material expenses being greater than planned.
17	Over budget due to contractor expense being greater than planned.
18	Over budget due to labor and material expenses being greater than planned.
19	Over budget due to contractor, material and utilities expenses being greater than planned.

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

West Penn T&D O&M - 2016 (S)					
Transmission					
	Category	**2016 Actuals**	**2016 Budget**	**Variance %**	**Notes**
560	Operation Supervision and Engineering	41,096	19,724	108%	1
561	Load Dispatching	787,159	2,080,358	-62%	2
562	Station Expenses	378,662	1,463,984	-74%	3
563	Overhead Lines Expenses	339,113	7,006	4740%	4
565	Transmission of Electricity by Others	43,695,775	30,864,730	42%	5
566	Miscellaneous Transmission Expenses	277,189	347,235	-20%	6
567	Rents	309,298	263,394	17%	7
568	Maintenance Supervision and Engineering	462,251	388,602	19%	8
569	Maintenance of Structures	52,558	83,486	-37%	9
570	Maintenance of Station Equipment	2,176,232	199,456	991%	10
571	Maintenance of Overhead Lines	9,580,167	5,544,493	100%	11
572	Maintenance of Underground Lines	(22)	0	100%	12
573	Maintenance of Miscellaneous Transmission Plant	0	0	100%	
575	Market Administration, Monitoring & Compliance Services	(112)	0	100%	12
Transmission Total		**58,099,365**	**41,262,469**		
Distribution					
	Category	**2016 Actuals**	**2016 Budget**	**Variance %**	**Notes**
580	Operation Supervision and Engineering	215,026	130,262	65%	13
581	Load Dispatching	1,174,887	1,470,338	-20%	14
582	Station Expenses	783,375	1,256,706	-38%	15
583	Overhead Line Expenses	1,443,643	1,374,063	5%	
584	Underground Line Expenses	1,206,649	974,363	24%	16
586	Meter Expenses	874,227	1,079,896	-19%	14
587	Customer Installations Expenses	0	0	100%	
588	Miscellaneous Distribution Expenses	13,575,418	10,496,974	29%	17
589	Rents	0	0	100%	
590	Maintenance Supervision and Engineering	360,450	444,241	-19%	14
591	Maintenance of Structures	0	0	100%	
592	Maintenance of Station Equipment	5,294,698	2,919,585	81%	10
593	Maintenance of Overhead Lines	20,058,670	35,868,603	-44%	18
594	Maintenance of Underground Lines	630,042	728,590	-14%	19
595	Maintenance of Line Transformer	72,513	0	100%	12
596	Maintenance of Street Lighting and Signal Systems	1,090,245	831,979	31%	20
597	Maintenance of Meters	1,317,358	1,472,240	-11%	21
598	Maintenance of Miscellaneous Distribution Plant	608,548	551,464	10%	22
Distribution Total		**48,705,747**	**59,599,305**		
West Penn Total		**106,805,112**	**100,861,774**		

West Penn - Variance Explanations (Variances 10% or greater)	
1	Over budget due to transmission operation supervision and engineering costs for labor and all other expenses being greater than planned.
2	Under budget due to contractor and labor costs required to perform the work being lower than planned.
3	Under budget due to internal labor and all other expenses being lower than planned.
4	Over budget due to work management labor costs being greater than planned.
5	Over budget due to transmission enhancement charges being greater than planned.
6	Under budget due to internal labor, materials, and employee expense costs being lower than planned.
7	Over budget due to rents for information technology and transmission personnel being greater than planned.
8	Over budget due to contractor costs being greater than planned.
9	Under budget due to information technology labor costs being lower than planned.
10	Over budget due to internal labor, contractor, material, and transportation costs being greater than planned.
11	Over budget due to internal labor and contractor costs for tree-trimming being greater than planned.
12	Current budgeting practices do not budget directly to FERC accounts. FirstEnergy Service Company budgets to different cost collectors, which settle to FERC accounts. Actual settlements to these FERC accounts are relatively immaterial amounts.
13	Over budget due to contractor, employee expense, material, and lease costs being greater than planned.
14	Under budget due to internal labor being lower than planned.
15	Under budget due to internal labor and fleet requirements for the work being lower than planned.
16	Over budget due to contractor costs and administrative & general construction overheads for underground locating work being greater than planned.
17	Over budget due to material, contractor, lease, and internal labor costs being greater than planned.
18	Under budget due to contractor, internal labor, and material costs being lower than planned.
19	Under budget due to internal labor and transportation costs being lower than planned.
20	Over budget due to internal labor, contractor, and transportation costs being greater than planned.
21	Under budget due to internal labor, transportation, and contribution in aid of construction being lower than planned.
22	Over budget due to lease costs being greater than planned.

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 Power T&D Capital – 2016 ($)					
Category	**2016 Actuals**	**2016 Budget**	**Annual Budget**	**Variance %**	**Notes**
Capacity	2,125,031	751,832	751,832	183%	1
Condition	3,304,567	7,150,119	7,150,119	-54%	2
Facilities	505,997	602,890	602,890	-16%	3
Forced	12,948,914	3,122,387	3,122,387	315%	4
Meter Related	746,771	(29,741)	(29,741)	-2611%	5
New Business	4,763,341	1,532,307	1,532,307	211%	6
Other	9,730,877	5,520,456	5,520,456	76%	7
Reliability	11,782,583	18,597,817	18,597,817	-37%	8
Street Light	2,938,941	30,169	30,169	9641%	9
Tools & Equip	21,397	439,691	439,691	-95%	10
Vegetation Mgt.	2,428,173	3,773,223	3,773,223	-36%	11
Penn Power Total	**51,296,591**	**41,491,149**	**41,491,149**		

Penelec T&D Capital – 2016 ($)					
Category	**2016 Actuals**	**2016 Budget**	**Annual Budget**	**Variance %**	**Notes**
Capacity	20,121,617	27,883,571	27,883,571	-28%	12
Condition	17,868,854	21,748,193	21,748,193	-18%	13
Facilities	6,575,119	3,990,402	3,990,402	65%	14
Forced	40,108,866	30,242,225	30,242,225	33%	15
Meter Related	3,012,652	4,571,800	4,571,800	-34%	16
New Business	13,799,975	10,288,566	10,288,566	34%	17
Other	46,989,335	60,570,532	60,570,532	-22%	18
Reliability	16,119,292	17,571,069	17,571,069	-8%	
Street Light	1,954,880	2,049,681	2,049,681	-5%	
Tools & Equip	952,685	1,538,594	1,538,594	-38%	19
Vegetation Mgt.	16,836,253	21,191,380	21,191,380	-21%	20
Penelec Total	**184,339,529**	**201,646,013**	**201,646,013**		

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

Met-Ed T&D Capital – 2016 ($)					
Category	**2016 Actuals**	**2016 Budget**	**Annual Budget**	**Variance %**	**Notes**
Capacity	19,466,001	16,592,793	16,592,793	17%	21
Condition	20,359,195	21,080,001	21,080,001	-3%	
Facilities	2,990,924	2,640,989	2,640,989	13%	22
Forced	35,885,202	26,337,879	26,337,879	36%	23
Meter Related	2,626,219	4,017,105	4,017,105	-35%	24
New Business	16,311,376	15,597,407	15,597,407	5%	
Other	22,603,635	26,337,860	26,337,860	-14%	25
Reliability	11,932,984	12,193,200	12,193,200	-2%	
Street Light	1,040,093	403,763	403,763	158%	26
Tools & Equip	716,528	1,281,871	1,281,871	-44%	27
Vegetation Mgt.	5,964,535	11,280,846	11,280,846	-47%	20
Met-Ed Total	**139,896,692**	**137,763,715**	**137,763,715**		

West Penn T&D Capital – 2016 ($)					
Category	**2016 Actuals**	**2016 Budget**	**Annual Budget**	**Variance %**	**Notes**
Capacity	5,537,188	7,892,506	7,892,506	-30%	28
Condition	12,649,521	9,082,236	9,082,236	39%	29
Facilities	4,732,694	3,345,053	3,345,053	41%	30
Forced	32,926,070	29,427,863	29,427,863	12%	31
Meter Related	3,102,116	3,143,581	3,143,581	-1%	
New Business	25,059,772	28,649,406	28,649,406	-13%	32
Other	24,235,350	21,760,865	21,760,865	11%	33
Reliability	23,590,738	27,984,215	27,984,215	-16%	34
Street Light	8,832,619	3,030,711	3,030,711	191%	35
Tools & Equip	1,897,435	3,351,261	3,351,261	-43%	36
Vegetation Mgt.	23,574,450	28,833,132	28,833,132	-18%	37
West Penn Total	**166,137,952**	**166,500,829**	**166,500,829**		

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

	Variance Explanations (Variances 10% or greater)
1	Over budget due to equipment replacement projects being greater than planned.
2	Under budget due to unscheduled equipment repairs and replacements being lower than planned.
3	Under budget due to service center facility paving costs being lower than planned.
4	Over budget due to line failure work, highway relocation, and related follow up work being greater than planned.
5	Over budget due to meter related work being greater than planned.
6	Over budget due to residential and commercial new business work being greater than planned.
7	Over budget due to smart meter installation costs and construction overheads being greater than planned.
8	Under budget due to circuit reliability work and equipment replacement being lower than planned.
9	Over budget due to unscheduled lighting repair and replacement-related work being greater than planned.
10	Under budget due to work management equipment and tool costs being lower than planned.
11	Under budget due to planned and unplanned trimming being lower than planned.
12	Under budget due to timing differences in several construction projects and adjustment to capital related payroll overhead being lower than planned.
13	Under budget due to timing differences in several construction projects being lower than planned.
14	Over budget due to Erie Power Systems Institute relocation and Johnstown roof replace project being greater than planned.
15	Over budget due to critical infrastructure protection version 5 and small storm costs being greater than planned.
16	Under budget due to meter and smart meter exchanges being lower than planned.
17	Over budget due to new commercial business being greater than planned.
18	Under budget due to PA smart meter implementation, supervision overheads, and pension overheads being lower than planned.
19	Under budget due to work management rollout and information technology projects being lower than planned.
20	Under budget due to vegetation management distribution and vegetation management transmission being lower than planned.
21	Over budget due to Huff's Church and North Lebanon substation projects being greater than planned.
22	Over budget due to regional service center facilities projects being greater than planned.
23	Over budget due to major storms and substation failures being greater than planned.
24	Under budget due to meter exchanges being lower than planned.
25	Under budget due to PA smart meter implementation being lower than planned.
26	Over budget due to LED streetlight replacement program being greater than planned.
27	Under budget due to information technology projects being lower than planned.
28	Under due to less customer-related new load work being lower than planned.
29	Over budget due to lines rehabilitation and unscheduled equipment repairs and replacements being greater than planned.
30	Over budget due to facilities work, including St Mary's HVAC system and Greensburg retaining wall being greater than planned.
31	Over budget due to failures partially offset by major storms being greater than planned.
32	Under budget due to commercial new business being lower than planned.
33	Over budget due to overheads and foreign utility work being greater than planned.
34	Under budget due to NERC alert mitigation and Long Term Infrastructure Improvement Plan being lower than planned.
35	Over budget due to LED streetlight replacements being greater than planned.
36	Under budget due to information technology legacy circuit replacements and regional small tools being lower than planned.
37	Under budget due to distribution vegetation management spend being lower than planned.

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 – 2017 Goals / Objectives

T&D Inspection & Maintenance Programs - 2017				
Program/Project	**Penn Power**	**Penelec**	**Met-Ed**	**West Penn**
Forestry				
Transmission (Miles)	61.67	435.17	288.34	301.88
Distribution (Miles)	1,187	3,792	2,895	4,589
Transmission				
Aerial Patrols	2	2	2	2
Groundline (Poles)	680	1,863	0	1,076
Substation				
Substation Inspections Class A	146	800	422	970
Substation Inspections Class B	146	800	422	970
Substation Inspections Class C	584	3,200	1,688	3,880
Transformers	107	553	246	517
Breakers	25	272	110	402
Relay Schemes	45	300	270	160
Distribution				
Capacitors	991	8,766	4,754	1,308
Poles	10,600	41,591	29,514	32,856
Reclosers	814	2,569	1,100	3,798
Radio-Controlled Switches (2 / year)	Penn Power has no radio-controlled switches	2,578	446	West Penn has no radio-controlled switches

Section 57.195(b)(10) 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.

2017 T&D O&M Budget[23]

Penn Power T&D O&M - Annual 2017 ($)		
Transmission		
Category		**Annual Budget**
560	Operation Supervision & Engineering	2,131
561	Load Dispatching	129,496
562	Station Expenses	(188)
563	Overhead Line Expenses	(327)
565	Transmission of Electricity by Others	4,974,660
566	Miscellaneous Transmission Expenses	3,312
568	Maintenance Supervision and Engineering	15,945
569	Maintenance of Structures	31,967
570	Maintenance of Station Equipment	3,047
571	Maintenance of Overhead Lines	(113,596)
575	Market Administration, Monitoring & Compliance Services	0
Transmission Total		**5,046,448**
Distribution		
Category		**Annual Budget**
580	Operation Supervision & Engineering	0
582	Station Expenses	0
584	Underground Line Expenses	527,329
586	Meter Expenses	65,503
588	Miscellaneous Distribution Expenses	1,675,198
589	Rents	318,986
590	Maintenance Supervision and Engineering	51,223
592	Maintenance of Station Equipment	422,770
593	Maintenance of Overhead Lines	10,587,759
594	Maintenance of Underground Lines	39,446
595	Maintenance of Line Transformers	49,005
596	Maintenance of Street Lighting and Signal Systems	0
597	Maintenance of Meters	569,682
598	Maintenance of Miscellaneous Distribution Plant	429,707
Distribution Total		**14,736,609**
Penn Power Total		**19,783,057**

[23] Budgets are subject to change.

Penelec T&D O&M - Annual 2017 (S)		
Transmission		
Category		**Annual Budget**
560	Operation Supervision & Engineering	0
561	Load Dispatching	461,019
563	Overhead Line Expenses	355,969
565	Transmission of Electricity by Others	21,918,956
566	Miscellaneous Transmission Expenses	0
567	Rents	167,963
568	Maintenance Supervision and Engineering	0
569	Maintenance of Structures	319,134
570	Maintenance of Station Equipment	60,000
571	Maintenance of Overhead Lines	(140,573)
573	Maintenance of Miscellaneous Transmission Plant	0
575	Market Administration, Monitoring & Compliance Services	0
Transmission Total		**23,142,468**
Distribution		
Category		**Annual Budget**
580	Operation Supervision & Engineering	427,025
581	Load Dispatching	219,806
583	Overhead Line Expenses	52,827
584	Underground Line Expenses	779,118
586	Meter Expenses	616,163
588	Miscellaneous Distribution Expenses	11,351,893
589	Rents	1,131,717
590	Maintenance Supervision and Engineering	264,742
592	Maintenance of Station Equipment	5,306,478
593	Maintenance of Overhead Lines	23,361,832
594	Maintenance of Underground Lines	69,502
595	Maintenance of Line Transformers	235,441
596	Maintenance of Street Lighting and Signal Systems	2,200,704
597	Maintenance of Meters	2,569,856
598	Maintenance of Miscellaneous Distribution Plant	141,458
Distribution Total		**48,728,562**
Penelec Total		**71,871,030**

Met-Ed T&D O&M - Annual 2017 ($)		
Transmission		
	Category	**Annual Budget**
560	Operation Supervision & Engineering	0
561	Load Dispatching	647,058
563	Overhead Line Expenses	33,112
565	Transmission of Electricity by Others	9,193,248
566	Miscellaneous Transmission Expenses	(5,372)
567	Rents	0
568	Maintenance Supervision and Engineering	0
569	Maintenance of Structures	294,556
570	Maintenance of Station Equipment	4,085
571	Maintenance of Overhead Lines	(62,822)
573	Maintenance of Miscellaneous Transmission Plant	0
575	Market Administration, Monitoring & Compliance Services	0
Transmission Total		**10,103,865**
Distribution		
	Category	**Annual Budget**
580	Operation Supervision & Engineering	(46,673)
581	Load Dispatching	284,556
582	Station Expenses	673,558
583	Overhead Line Expenses	60,277
584	Underground Line Expenses	576,477
586	Meter Expenses	610,230
588	Miscellaneous Distribution Expenses	7,536,853
589	Rents	540,873
590	Maintenance Supervision and Engineering	229,486
591	Maintenance of Structures	9,197
592	Maintenance of Station Equipment	4,721,647
593	Maintenance of Overhead Lines	23,963,410
594	Maintenance of Underground Lines	1,269,502
595	Maintenance of Line Transformers	269,474
596	Maintenance of Street Lighting and Signal Systems	257,830
597	Maintenance of Meters	2,214,148
598	Maintenance of Miscellaneous Distribution Plant	721,416
Distribution Total		**43,892,259**
Met-Ed Total		**53,996,125**

West Penn T&D O&M - Annual 2017 ($)		
Transmission		
Category		**Annual Budget**
560	Operation Supervision & Engineering	28,019
561	Load Dispatching	1,909,320
562	Station Expenses	564,078
563	Overhead Line Expenses	232,165
565	Transmission of Electricity by Others	56,410,511
566	Miscellaneous Transmission Expenses	263,677
567	Rents	27,242
568	Maintenance Supervision and Engineering	433,877
569	Maintenance of Structures	25,424
570	Maintenance of Station Equipment	1,368,824
571	Maintenance of Overhead Lines	8,314,564
573	Maintenance of Miscellaneous Transmission Plant	0
575	Market Administration, Monitoring & Compliance Services	0
Transmission Total		**69,577,701**
Distribution		
Category		**Annual Budget**
580	Operation Supervision & Engineering	91,738
581	Load Dispatching	1,570,708
582	Station Expenses	1,321,663
583	Overhead Line Expenses	938,409
584	Underground Line Expenses	1,125,000
586	Meter Expenses	1,679,034
588	Miscellaneous Distribution Expenses	14,532,066
589	Rents	0
590	Maintenance Supervision and Engineering	403,423
591	Maintenance of Structures	0
592	Maintenance of Station Equipment	6,416,604
593	Maintenance of Overhead Lines	27,322,843
594	Maintenance of Underground Lines	679,004
595	Maintenance of Line Transformers	252,110
596	Maintenance of Street Lighting and Signal Systems	841,835
597	Maintenance of Meters	1,243,835
598	Maintenance of Miscellaneous Distribution Plant	285,821
Distribution Total		**58,704,092**
West Penn Total		**128,281,793**

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.

2017 T&D Capital Budget[24]

Penn Power T&D Capital - Annual 2017 ($)	
Category	**Annual Budget**
Capacity	3,344,902
Condition	5,130,764
Facilities	319,077
Forced	10,123,480
Meter Related	344,211
New Business	1,460,104
Other	12,007,035
Reliability	11,326,433
Street Light	1,361,986
Tools & Equip	25,275
Vegetation Management	3,581,290
Penn Power Total	**49,024,556**

Penelec T&D Capital - Annual 2017 ($)	
Category	**Annual Budget**
Capacity	(1,008,200)
Condition	8,823,016
Facilities	3,996,302
Forced	51,162,339
Meter Related	4,328,578
New Business	9,706,256
Other	45,830,645
Reliability	8,113,019
Street Light	1,677,133
Tools & Equip	531,684
Vegetation Management	21,891,389
Penelec Total	**155,052,161**

[24] Budgets are subject to change and are reported on a Generally Accepted Accounting Principles (GAAP) basis.

Met-Ed T&D Capital - Annual 2017 ($)	
Category	**Annual Budget**
Capacity	9,715,488
Condition	11,441,219
Facilities	2,234,386
Forced	27,693,964
Meter Related	2,915,732
New Business	13,631,743
Other	38,264,199
Reliability	8,067,013
Street Light	3,657,218
Tools & Equip	368,064
Vegetation Management	6,900,200
Met-Ed	**124,889,226**

West Penn T&D Capital - Annual 2017 ($)	
Category	**Annual Budget**
Capacity	10,423,339
Condition	12,595,548
Facilities	4,040,053
Forced	25,147,542
Meter Related	2,902,668
New Business	25,816,980
Other	50,392,586
Reliability	31,804,963
Street Light	11,119,986
Tools & Equip	1,956,383
Vegetation Management	29,255,825
West Penn	**205,455,873**

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 they are consistent with industry standards and they support the achievement of the applicable Commission-approved reliability benchmarks and standards. In the 4th quarter of 2015, the Companies requested approval to include switches and sectionalizers as part of the Companies Distribution Overhead Line Inspection practices as items that will be inspected. On March 4, 2016, the Commission granted approval with this change being effective beginning in 2016.

ATTACHMENT A

Worst Performing Circuits – Remedial Actions

Penn Power				
Substation	**Circuit**	**Remedial Action Planned or Taken**	**Status of Remedial Work Completed**	**Progress of Remedial Work or Date Completed**
Stoneboro	W-131	*Performance was driven by trees off ROW (37%), line failure (21%), vehicle (20%), and equipment failure (8%).*		
		Conduct thermal scan of circuit	Complete	Feb-16
		Repair line failure	Complete	Mar-16
		Repair damage caused by a tree	Complete	Sep-16
		Repair damage caused by a vehicle	Complete	Oct-16
		Enhanced tree trimming	Complete	Dec-16

Penelec				
Substation	**Circuit**	**Remedial Action Planned or Taken**	**Status of Remedial Work Completed**	**Progress of Remedial Work or Date Completed**
Birmingham	00168-22	*Performance was driven by trees off ROW (38%), line failure (22%), and equipment failure (14%).*		
		Repair line failure	Complete	Jan-16
		Circuit inspection	Complete	Jun-16
		Repair equipment failure	Complete	Jul-16
		On cycle tree trimming	Complete	Jul-16
		Targeted circuit rehab	Complete	Jul-16
		Repair damage caused by trees	Complete	Aug-16
		Repair equipment failure	Complete	Oct-16
Blairsville East	00081-13	*Performance was driven by lightning (43%), trees off ROW (30%), and animal (22%).*		
		Repair equipment failure	Complete	May-16
		Repair damage caused by lightning during a storm	Complete	Jul-16
		Repair damage caused by animals	Complete	Aug-16
		Repair damage caused by trees	Complete	Aug-16
		Circuit inspection	To be completed 2017	0%
Bradford South	00106-42	*Performance was driven by trees off ROW (82%) and equipment failure (12%).*		
		Repair damage caused by trees during a storm	Complete	Feb-16
		Repair equipment failure	Complete	Dec-16
Crown	00319-51	*Performance was driven by lightning (43%), trees off ROW (31%), and animal (12%).*		
		Repair damage caused by lightning during a storm	Complete	Jun-16
		Circuit inspection	Complete	Jul-16
		Repair damage caused by animal contact	Complete	Oct-16
		Repair damage caused by trees	Complete	Dec-16
		Install new radio controlled switch	To be completed 2017	0%
		On cycle tree trimming	To be completed 2017	0%
DuBois	00137-23	*Performance was driven by equipment failure (47%) and trees off ROW (38%).*		
		Repair equipment failure	Complete	May-16
		Repair damage caused by trees	Complete	Jul-16
		Repair damage caused by trees during a storm	Complete	Nov-16

Penelec				
Substation	**Circuit**	**Remedial Action Planned or Taken**	**Status of Remedial Work Completed**	**Progress of Remedial Work or Date Completed**
Erie East	00234-31	*Performance was driven by equipment failure (49%) and animal (37%).*		
		Repair damage caused by animal contact	Complete	Aug-16
		Repair equipment failure	Complete	Aug-16
		Repair equipment failure	Complete	Nov-16
		Circuit inspection	To be completed 2017	0%
		On cycle tree trimming	To be completed 2017	0%
Fairview East	00218-34	*Performance was driven by equipment failure (44%), vehicle (35%), and trees off ROW (15%).*		
		Repair damage caused by trees during a storm	Complete	Jan-16
		Repair damage caused by trees during a storm	Complete	Feb-16
		On cycle tree trimming	Complete	Mar-16
		Repair equipment failure	Complete	Jun-16
		Restore service resulting from overloaded transformer	Complete	Jun-16
		Repair damage caused by vehicle accident	Complete	Oct-16
		Circuit inspection	To be completed 2017	0%
Gold	00714-63	*Performance was driven by trees off ROW (65%) and equipment failure (27%).*		
		Repair damage caused by trees during a storm	Complete	Feb-16
		Circuit inspection	Complete	May-16
		Repair equipment failure	Complete	Jun-16
		Repair damage caused by trees during a storm	Complete	Nov-16
Madera	00166-22	*Performance was driven by recloser operation of unknown cause (47%) and trees off ROW (38%).*		
		Restore recloser operation of unknown cause - patrol conducted	Complete	Feb-16
		Restore damage caused by trees during a storm	Complete	Mar-16
		Install fault inductors	Complete	May-16
		Repaired damage caused by non-company human error	Complete	Aug-16

Penelec				
Substation	**Circuit**	**Remedial Action Planned or Taken**	**Status of Remedial Work Completed**	**Progress of Remedial Work or Date Completed**
Marienville	00328-51	*Performance was driven by trees off ROW (80%) and lightning (11%).*		
		Repair damage caused by trees during a storm	Complete	Feb-16
		Repair damage caused by lightning during a storm	Complete	Aug-16
		Repair damage caused by trees	Complete	Sep-16
		Install new radio controlled switch	To be completed 2017	0%
		Repair damage caused by trees during a storm	Complete	Sep-16
		Repair damage caused by trees during a storm	Complete	Oct-16
		Circuit inspection	Complete	Oct-16
Philipsburg	00162-22	*Performance was driven by equipment failure (52%), trees off ROW (18%), and a fuse operation of an unknown cause (8%).*		
		Restored fuse operation of an unknown cause	Complete	Jun-16
		Repair equipment failure	Complete	Sep-16
		Repair damage caused by trees during a storm	Complete	Nov-16
		Targeted circuit rehab	To be completed 2017	0%
		On cycle tree trimming	To be completed 2017	0%
Powell Avenue	00237-31	*Performance was driven by trees off ROW (33%), vehicle (31%), and lightning (29%).*		
		Repair damage caused by a vehicle	Complete	Feb-16
		Repair damage caused by trees during a storm	Complete	Apr-16
		Add additional protection per circuit coordination	Complete	Jun-16
		Repair damage caused by lightning	Complete	Jul-16
		Circuit inspection	Complete	Nov-16
		Targeted circuit rehab	To be completed 2017	0%
Rolling Meadows	00310-31	*Performance was driven by line failure (35%), UG dig-up (21%), vehicle (19%), and equipment failure (12%).*		
		Repair damage caused by a vehicle	Complete	Jan-16
		Repair line failure	Complete	Jan-16
		Repair damage caused by UG dig-up by a non-company contractor	Complete	Jun-16
		Repair damage from vehicle	Complete	Aug-16
		Repair line failure	Complete	Nov-16
		Targeted circuit rehab	To be completed 2017	0%

Penelec				
Substation	**Circuit**	**Remedial Action Planned or Taken**	**Status of Remedial Work Completed**	**Progress of Remedial Work or Date Completed**
Russell Hill	00282-65	*Performance was driven by trees off ROW (81%) and wind (11%).*		
		Repair damage from wind	Complete	Feb-16
		Repair damage caused by trees during a storm	Complete	Mar-16
		Repair damage caused by trees	Complete	Sep-16
		On cycle tree trimming	Complete	Oct-16
Tiffany	00435-65	*Performance was driven by trees off ROW (75%) and line failure (23%).*		
		Repair damage caused by trees during a storm	Complete	Jan-16
		Repair line failure during a storm	Complete	Apr-16
		Circuit inspection	Complete	Jul-16
Tionesta Junction	00498-51	*Performance was driven by trees off ROW (40%), equipment failure (27%), and line failure (20%).*		
		Repair damage by trees during a storm	Complete	Feb-16
		Repair equipment failure	Complete	Jun-16
		Repair line failure	Complete	Jun-16
		Repair damage caused by trees during a storm	Complete	Aug-16
		Repair damage caused by trees	Complete	Sep-16
		Repair damage caused by trees during a storm	Complete	Nov-16
		Targeted circuit rehab	To be completed 2017	0%
		Circuit inspection	To be completed 2017	0%
Tunkhannock	00533-65	*Performance was driven by trees off ROW (69%) and equipment failure (16%).*		
		Repair damage caused by trees	Complete	Feb-16
		Repair damage caused by trees during a storm	Complete	Feb-16
		Repair equipment failure	Complete	Apr-16
		Repair damage caused by trees	Complete	Oct-16
		Targeted circuit rehab	To be completed 2017	0%
		Install new radio controlled recloser	To be completed 2017	0%
		Circuit inspection	To be completed 2017	0%

Penelec				
Substation	**Circuit**	**Remedial Action Planned or Taken**	**Status of Remedial Work Completed**	**Progress of Remedial Work or Date Completed**
Union City	00206-43	*Performance was driven by trees off ROW (57%) and lightning (27%).*		
		Repair damage caused by trees during a storm	Complete	Jun-16
		Create circuit tie with Morgan Street substation	Complete	Aug-16
		Repair damage caused by lightning during a storm	Complete	Sep-16
		On cycle tree trimming	Complete	Dec-16
Warren South	00220-41	*Performance was driven by trees off ROW (74%) and vehicle (12%).*		
		Repair damage caused by a vehicle	Complete	Feb-16
		Repair damage caused by trees during a storm	Complete	Aug-16
		On cycle tree trimming	Complete	Nov-16

Met-Ed				
Substation	**Circuit**	**Remedial Action Planned or Taken**	**Status of Remedial Work Completed**	**Progress of Remedial Work or Date Completed**
Bath	**00873-3**	*Performance was driven by trees off ROW (27%), vehicle (25%), and equipment failure (19%).*		
		Install Supervisory Control and Data Acquisition (SCADA) switch	Complete	Oct-16
		Install Supervisory Control and Data Acquisition (SCADA) recloser	Complete	Oct-16
		Perform accelerated backbone and three phase circuit assessment	Complete	Dec-16
Bernville	00787-1	*Performance was driven by equipment failures (49%), trees on ROW (19), and line failure (11%).*		
		Repair equipment failure during blizzard	Complete	Jan-16
		Three phase forestry inspection	Complete	Mar-16
		Upgrade main line recloser	Complete	Mar-16
		Targeted overhead circuit inspection	Complete	Jun-16
		Targeted forestry inspection	Complete	Aug-16
		Targeted forestry inspection	Complete	Sep-16
		Targeted tree trimming to improve reliability	Complete	Nov-16
		Install Supervisory Control and Data Acquisition (SCADA) switch	Complete	Nov-16
		Targeted overhead circuit inspection	Complete	Dec-16
		Replace crossarm from inspection	To be completed 2017	0%
		Overhead circuit inspection	To be completed 2017	0%
		On cycle tree trimming	To be completed 2017	0%
Birchwood	00622-3	*Performance was driven by trees off ROW (44%) and vehicle (26%).*		
		On cycle tree trimming	Complete	Oct-16
		Perform accelerated backbone and three phase circuit assessment	Complete	Dec-16
Birchwood	00624-3	*Performance was driven by vehicle (41%) and trees off ROW (37%).*		
		Upgrade main line recloser	Complete	Jun-16
		Perform accelerated backbone and three phase circuit assessment	Complete	Dec-16
		Replace/repair high priority items identified during circuit assessment	To be completed 2017	0%

Met-Ed

Substation	Circuit	Remedial Action Planned or Taken	Status of Remedial Work Completed	Progress of Remedial Work or Date Completed
Crossroads	00728-4	*Performance was driven by trees off ROW (53%) and vehicle (29%).*		
		Replace/repair high priority items identified during circuit patrol	Complete	May-16
		Overhead circuit inspection	Complete	Sep-16
		Replace poles identified during wood pole inspection	Complete	Nov-16
Fox Hill	00850-3	*Performance was driven by trees off ROW (56%) and vehicle (24%).*		
		Post storm forestry inspection	Complete	Mar-16
		Extensive off right-of-way danger tree removal	Complete	Mar-16
		Forestry zone 1 aerial patrol	Complete	Jul-16
Lynnville	00737-1	*Performance was driven by trees off ROW (40%), trees on ROW (22%), and equipment failure (16%).*		
		Replace main line crossarm	Complete	Apr-16
		Overhead circuit inspection	To be completed 2017	0%
North Cornwall	00610-2	*Performance was driven by equipment failure (47%), object contact with line (17%), and trees off ROW (16%).*		
		Install additional main line recloser	Complete	Jun-16
		On cycle tree trimming	Complete	Sep-16
		Replace recloser	Complete	Sep-16
		Conduct thermal scan of the three phase main line and replace damaged equipment	Complete	Nov-16
		Install fuses	To be completed 2017	5%
North Lebanon	00712-2	*Performance was driven by equipment failure (34%), overload (24%), and trees off ROW (21%).*		
		Repair equipment failure	Complete	Jan-16
		The problem tree was removed and associated repairs were made at time of restoration	Complete	Feb-16
		Replace broken equipment	Complete	May-16
		Repair broken ground	Complete	Sep-16
		On cycle tree trimming	To be completed 2017	0%

Met-Ed				
Substation	**Circuit**	**Remedial Action Planned or Taken**	**Status of Remedial Work Completed**	**Progress of Remedial Work or Date Completed**
S. Nazareth	00809-3	*Performance was driven by trees off ROW (41%) and equipment failure (40%).*		
		On cycle tree trimming	Complete	Jun-16
		Forestry zone 1 aerial patrol	Complete	Jul-16
		Perform accelerated backbone and three phase circuit assessment	Complete	Dec-16
		Overhead circuit inspection	To be completed 2017	0%
		Replace/repair high priority items identified during circuit assessment	To be completed 2017	0%
Shawnee	00895-3	*Performance was driven by vehicle (53%) and trees off ROW (39%).*		
		Post storm forestry inspection	Complete	Apr-16
		Install additional Supervisory Control and Data Acquisition (SCADA) switch	Complete	May-16
		Install additional Supervisory Control and Data Acquisition (SCADA) recloser	Complete	Jul-16
		On cycle tree trimming	Complete	Oct-16
		Perform accelerated backbone and three phase circuit assessment	Complete	Dec-16
		Overhead circuit inspection	To be completed 2017	0%
		Replace porcelain cutouts on circuit three phase with polymer cutouts	To be completed 2017	0%
		Targeted main line circuit rehabilitation	To be completed 2017	0%
		Install additional Supervisory Control and Data Acquisition (SCADA) switches	To be completed 2017	0%
		Enhanced three phase tree trimming	To be completed 2017	0%
		Create circuit tie	To be completed 2017	20%

Met-Ed				
Substation	**Circuit**	**Remedial Action Planned or Taken**	**Status of Remedial Work Completed**	**Progress of Remedial Work or Date Completed**
Swatara Hill	00763-2	*Performance was driven by equipment failure (51%), unknown (22%), and trees off ROW (16%).*		
		Repair equipment failure	Complete	Mar-16
		Replace pole identified during wood pole inspection	Complete	Mar-16
		Install additional main line recloser	Complete	Aug-16
		Replace porcelain cut outs with polymer cut outs	Complete	Dec-16
		Targeted line inspection	Complete	Dec-16
		Repair items found during inspection	To be completed 2017	5%
		Overhead circuit inspection	To be completed 2017	0%
		Construct circuit tie	To be completed 2017	0%

West Penn				
Substation	**Circuit**	**Remedial Actions Planned or Taken**	**Status of Remedial Work**	**Progress of Remedial Work or Date Completed**
Amity	Banetown	*Performance was driven by tree on ROW (39%), trees off ROW (22%), and line failure (17%).*		
		Repair line failure	Complete	Jan-16
		Repair damage caused by trees during a storm	Complete	Jan-16
		Repair equipment failure	Complete	Feb-16
		Repair damage caused by tree	Complete	Feb-16
		Repair line failure	Complete	Mar-16
		Repair damage caused by a tree during a storm	Complete	Jun-16
		Repair damage caused by tree	Complete	Jul-16
		Targeted line rehab	Complete	Aug-16
		On cycle tree trimming	To be completed 2017	0%
Dutch Fork	Claysville	*Performance was driven by equipment failure (61%) and trees off ROW (21%).*		
		Repair line failure	Complete	Jan-16
		Repair damage caused by trees during a storm	Complete	Jan-16
		Repair damage caused by tree	Complete	Feb-16
		Repair equipment failure	Complete	Mar-16
		Repair damage caused by tree	Complete	Mar-16
		Repair damage caused by trees during a storm	Complete	Mar-16
		Repair damage caused by a tree during a storm	Complete	Jun-16
		Targeted circuit rehab	Complete	Jul-16
		Repair damage caused by trees during a storm	Complete	Aug-16
		Perform CEMI review	Complete	Sep-16
		On cycle tree trimming	Complete	Dec-16
		Overhead circuit inspection	To be completed 2017	0%

West Penn				
Substation	**Circuit**	**Remedial Actions Planned or Taken**	**Status of Remedial Work**	**Progress of Remedial Work or Date Completed**
Fawn	Bull Creek	*Performance was driven by trees off ROW (65%) and vehicle (25%).*		
		Repair equipment failure	Complete	Jan-16
		Repair damage caused by a vehicle	Complete	Jan-16
		Repair damage caused by trees during a storm	Complete	Jan-16
		Repair damage caused by trees during a storm	Complete	Feb-16
		Repair line failure	Complete	Mar-16
		Repair damage caused by trees during a storm	Complete	Mar-16
		Repair damage caused by a tree	Complete	Apr-16
		Repair damage caused by trees during a storm	Complete	Jun-16
		Repair equipment failure during a storm	Complete	Aug-16
		On cycle tree trimming	Complete	Dec-16
		Overhead circuit inspection	To be completed 2017	0%
North Union	Phillips	*Performance was driven by trees off ROW (90%).*		
		Repair damage caused by trees during a storm	Complete	Jan-16
		Repair damage caused by a tree during a storm	Complete	Jun-16
		Repair damage caused by a tree	Complete	Aug-16
		Targeted circuit rehab	Complete	Oct-16
		Reliability job to install fuses	To be completed 2017	0%
Piney Fork	Gillhall	*Performance was driven by trees off ROW (55%), equipment failure (18%), and trees on ROW (11%).*		
		Repair line failure	Complete	Jan-16
		Repair line failure	Complete	Mar-16
		Repair damage caused by tree	Complete	Mar-16
		Repair line failure during a storm	Complete	Mar-16
		Repair damage caused by trees during a storm	Complete	Mar-16
		On cycle tree trimming	Complete	Mar-16
		Repair damage caused by tree	Complete	May-16
		Repair equipment failure	Complete	Jun-16
		Repair equipment failure during a storm	Complete	Jul-16
		On cycle tree trimming	Complete	Sep-16

West Penn				
Substation	**Circuit**	**Remedial Actions Planned or Taken**	**Status of Remedial Work**	**Progress of Remedial Work or Date Completed**
Piney Fork	Stoltz	*Performance was driven by trees off ROW (68%) and animal (18%).*		
		Repair damage caused by animal contact	Complete	Jan-16
		Repair equipment failure	Complete	Jan-16
		Repair damaged pole	Complete	Feb-16
		Repair damage caused by a vehicle	Complete	Feb-16
		Repair line failure during a storm	Complete	Feb-16
		Repair equipment failure	Complete	Mar-16
		Remediate thirty-six trees identified in zone 1 forestry patrol	Complete	Mar-16
		Repair equipment failure	Complete	Mar-16
		Repair line failure during a storm	Complete	Mar-16
		Repair damage caused by animal contact	Complete	May-16
		Repair line failure during a storm	Complete	Aug-16
		Targeted circuit rehab	Complete	Oct-16
		Repair damage caused by a tree during a storm	Complete	Dec-16
		Repair damage caused by a tree during a storm	Complete	Dec-16
		On cycle tree trimming	To be completed 2017	0%
Rutan	Windridge	*Performance was driven by trees off ROW (70%) and equipment failure (15%).*		
		Repair line failure	Complete	Jan-16
		Repair damage caused by trees during a storm	Complete	Jan-16
		Repair damage caused by animal contact	Complete	Feb-16
		Repair line failure	Complete	Feb-16
		Repair damage caused by a tree	Complete	Mar-16
		Repair damage caused by trees during a storm	Complete	Mar-16
		Repair damage caused by non-company human error	Complete	Jun-16
		Repair damage caused by a tree	Complete	Jun-16
		Hardware and coordination rehabilitation	Complete	Jul-16
		Overhead circuit patrol	Complete	Sep-16
		Reliability job to install fuses	Complete	Oct-16
		Restore outage caused by non-company human error	Complete	Dec-16

West Penn				
Substation	**Circuit**	**Remedial Actions Planned or Taken**	**Status of Remedial Work**	**Progress of Remedial Work or Date Completed**
Smith	Florence	*Performance was driven by trees off ROW (70%) and line failure (21%).*		
		Repair line failure	Complete	Feb-16
		Repair damage caused by tree	Complete	Feb-16
		Repair line failure during a storm	Complete	Mar-16
		Repair damage caused by trees during a storm	Complete	Mar-16
		Restore unknown outage during a storm	Complete	Jun-16
		Repair line failure during a storm	Complete	Jul-16
		Zone 2 Ash Tree removal	To be completed 2017	0%
Vandergrift	Grifflo Park	*Performance was driven by equipment failure (39%), trees off ROW (38%), and line failure (12%).*		
		Repair recloser	Complete	Jan-16
		Repair damage caused by tree	Complete	Feb-16
		Repair line failure	Complete	Mar-16
		On cycle tree trimming	Complete	Mar-16
		Enhanced overcurrent protection	Complete	Aug-16
		Targeted circuit rehab	Complete	Sep-16
Westraver	West Newton	*Performance was driven by equipment failure (90%).*		
		Repair damaged conductor due to customer's equipment	Complete	Mar-16
		Repair equipment failure	Complete	Mar-16
		Repair damage caused by a tree	Complete	Mar-16
		Repair equipment failure during a storm	Complete	Mar-16
		Restore unknown outage	Complete	Jun-16
		On cycle tree trimming	Complete	Sep-16
		Targeted circuit rehab	To be completed 2017	0%

ATTACHMENT B

Automatic Splice Failures

Pursuant to the Joint Petition For Full Settlement of Proceeding at Docket No. C-2012-2307244, West Penn Power Company will track automatic splice failures and will report, for a period of three years, on the frequency of automatic splice failures as part of its annual reliability report. A report that includes this data is to be filed with the Commission for the next three years as an attachment to the reliability report filed on an annual basis.[25]

For the reporting period of 2016, West Penn experienced a total of four automatic splice failures.

[25] This concludes West Penn's reporting of its automatic splice failures.

ATTACHMENT C

FirstEnergy's Compliance with Terms of the March 30, 2015 Management Audit Order & Corrective Action Plan

On March 30, 2015, the Commission issued an order directing Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company to prepare and file a revised implementation plan relating to specific topics addressed in the report issued by the Commission's Bureau of Audits on February 12, 2015.[26] More specifically, Ordering Paragraphs 3 and 4 refer to reliability and worst performing circuits, respectively.

In a tentative order issued on August 20, 2015 accepting the Implementation Plans, the Companies were ordered to report progress for Ordering Paragraphs 3 and 4 on an annual basis in the Annual Reliability Report filed under 52 Pa. Code § 57.195.[27]

See Attachment C for both the 2016 progress report for Ordering Paragraphs 3 and 4.

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[26] Implementation Plans for the Focused Management Audit of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company can Docket Nos. D-2013-2365991, D-2013-2365992, D-2013-2365993, D-2013-2365994.

[27] Additionally, in the tentative order, it allowed Penn Power and Penelec to consider the Annual Reliability Report as the fourth quarter CAP update. In a letter dated January 6, 2017 from Paul Diskin, Director, Technical Utility Services, Penn Power is no longer required to provide quarterly CAP updates. Please note that Penelec's 2016 projects related to its Reliability and Worst Performing Circuit Plans are the same as Penelec's 2016 projects related to its CAP.

Penn Power Projects 2016											
Forestry (Project Lead: Forestry Manager)											
Project Description	**Plan Type**	**Start Date** *(Actual/Projected)*	**Original Projected Completion Date**	**Updated Projected Completion Date**	**Actual Completion Date**	**Percent Complete**	**Potential SAIFI Reliability Benefit**	**Potential CAIDI Reliability Benefit**	**Potential SAIDI Reliability Benefit**	**Actual Cost**	**Comments**
Enhanced Tree Removal (400 miles)	Reliability	January 2016	December 2016		December 30, 2016	100%	0.031	1.043	2.531	$ 4,284,545.00	
Distribution Projects (Project Lead: Line General Manager)											
Project Description	**Plan Type**	**Start Date** *(Actual/Projected)*	**Original Projected Completion Date**	**Updated Projected Completion Date**	**Actual Completion Date**	**Percent Complete**	**Potential SAIFI Reliability Benefit**	**Potential CAIDI Reliability Benefit**	**Potential SAIDI Reliability Benefit**	**Actual Cost**	**Comments**
Install Circuit Ties, Loops, or Sources (25 Miles)	Reliability	January 2016	December 2016		December 26, 2016	100%		0.503	0.648	$ 9,164,292.00	
Transmission Projects (Project Lead: Line General Manager)											
Project Description	**Plan Type**	**Start Date** *(Actual/Projected)*	**Original Projected Completion Date**	**Updated Projected Completion Date**	**Actual Completion Date**	**Percent Complete**	**Potential SAIFI Reliability Benefit**	**Potential CAIDI Reliability Benefit**	**Potential SAIDI Reliability Benefit**	**Actual Cost**	**Comments**
69 kV Line Rehab (24 miles)	Reliability	January 2016	December 2016		December 30, 2016	100%	0.022	0.826	3.239	$ 19,204,494.00	
Install 30 SCADA MOAB switches	Reliability	January 2016	December 2016		December 27, 2016	100%		0.924	1.292	$ 2,427,390.00	

Project Projects 2016

Distribution Lines Projects (Project Lead: Engineering Project Manager)

Project Description	Plan Type	Start Date (Actual/Projected)	Original Projected Completion Date	Updated Projected Completion Date	Actual Completion Date	Percent Complete	Potential SAIFI Reliability Benefit	Potential CAIDI Reliability Benefit	Potential SAIDI Reliability Benefit	Actual Cost	Comments
Complete Construction of Backfeed for 00206-43	Reliability	February 2015	November 2016		August 25, 2016	100%	0.0017		0.20	$ 1,153,253	
Targeted Mainline Rehabilitation of 00164-22	Reliability	February 2016	May 2016		May 31, 2016	100%	0.0050		0.59	$ 198,875	
Targeted Mainline Rehabilitation of 00168-22	Reliability	June 2016	September 2016		August 5, 2016	100%	0.0013		0.15	$ 643,284	
Finish protection/coordination work on 00013-12	Reliability	March 2016	June 2016		May 24, 2016	100%	0.0003		0.04	$ 104,164	
Finish protection/coordination work on 00237-31	Reliability	August 2016	October 2016		June 21, 2016	100%	0.0003		0.04	$ 2,576	
Finish protection/coordination work on 00529-33 - NEW	Reliability	April 2016	June 2016		May 19, 2016	100%	0.0001		0.01	$ 9,985	
Finish protection/coordination work on 00572-33 - NEW	Reliability	April 2016	July 2016		May 19, 2016	100%	0.0003		0.04	$ 21,665	
Finish protection/coordination work on 00511-61 - NEW	Reliability	March 2016	June 2016		May 24, 2016	100%	0.0007		0.08	$ 69,684	
Finish protection/coordination work on 00080-13 - REMOVED	Reliability	April 2016	July 2016				0.0003		0.04		Subsequent data analysis performed during the design phase of this project determined a lower reliability benefit than originally calculated. The funds targeted to this project have been reallocated to circuit 00013-12 to increase the scope of work on this circuit
Finish protection/coordination work on 00570-31 - REMOVED	Reliability	April 2016	June 2016				0.0003		0.01		Subsequent data analysis performed during the design phase of this project determined a lower reliability benefit than originally calculated. The funds targeted to this project have been reallocated.
Finish protection/coordination work on 00498-53 - REMOVED	Reliability	April 2016	July 2016				0.0003		0.04		Subsequent data analysis performed during the design phase of this project determined a lower reliability benefit than originally calculated. The funds targeted to this project have been reallocated.
Finish protection/coordination work on 00436-65 - REMOVED	Reliability	March 2016	June 2016				0.0007		0.08		Subsequent data analysis performed during the design phase of this project determined a lower reliability benefit than originally calculated. The funds targeted to this project have been reallocated.

Porcelain Cutout Replacement (Project Lead: Engineering Project Manager)

Project Description	Plan Type	Start Date (Actual/Projected)	Original Projected Completion Date	Updated Projected Completion Date	Actual Completion Date	Percent Complete	Potential SAIFI Reliability Benefit	Potential CAIDI Reliability Benefit	Potential SAIDI Reliability Benefit	Actual Cost	Comments
34kV 3 Phase Priority 2 circuit list cutout replacement (68 circuits)	Reliability	January 2016	December 2016		September 27, 2016	100%	0.0112		1.33	$ 3,022,263	

12KV and below Substation Isolation SCADA (Project Lead: Engineering Project Manager)

Project Description	Plan Type	Start Date (Actual/Projected)	Original Projected Completion Date	Updated Projected Completion Date	Actual Completion Date	Percent Complete	Potential SAIFI Reliability Benefit	Potential CAIDI Reliability Benefit	Potential SAIDI Reliability Benefit	Actual Cost	Comments
Titusville West - Install SCADA	Reliability	August 2016	September 2016		May 31, 2016	100%	0.0019		0.22	$ 66,037	
Reedsville - Install SCADA	Reliability	April 2016	May 2016		May 31, 2016	100%	0.0017		0.20	$ 198,995	
Roxbury - Install SCADA	Reliability	June 2016	August 2016		August 30, 2016	100%	0.0012		0.19	$ 74,411	
Viscose Mill - Install SCADA	Reliability	July 2016	August 2016		August 26, 2016	100%	0.0014		0.17	$ 176,632	
Twin Rocks - Install SCADA	Reliability	February 2016	March 2016		March 30, 2016	100%	0.0014		0.17	$ 182,731	
Bellwood North - Install SCADA	Reliability	November 2016	December 2016		August 24, 2016	100%	0.0032		0.14	$ 230,334	
Thomas Avenue - Install SCADA	Reliability	May 2016	June 2016		May 24, 2016	100%	0.0013		0.13	$ 65,644	
Knoxville - Install SCADA	Reliability	October 2016	November 2016		May 3, 2016	100%	0.0011		0.13	$ 69,028	
Poplar Street - Install SCADA	Reliability	July 2016	August 2016		August 24, 2016	100%	0.0010		0.12	$ 37,750	
Towanda - Install SCADA	Reliability	September 2016	October 2016		June 27, 2016	100%	0.0011		0.13	$ 165,072	
Sheridan Street - Install SCADA - NEW	Reliability	October 2016	November 2016		April 4, 2016	100%	0.0016		0.19	$ 113,969	
Dudley Sub - Install SCADA - NEW	Reliability	May 2016	June 2016		June 30, 2016	100%	0.0010		0.12	$ 252,721	
Spartansburg - Install SCADA - NEW	Reliability	April 2016	June 2016		June 28, 2016	100%	0.0018		0.21	$ 75,094	
Vail - Install SCADA - REMOVED	Reliability	October 2016	November 2016				0.0016		0.19		Subsequent data analysis performed during the design phase of this project determined a lower reliability benefit than originally calculated. The funds targeted to this project have been reallocated.
WB x Sub - Install SCADA - REMOVED	Reliability	April 2016	June 2016				0.0018		0.21		Subsequent data analysis performed during the design phase of this project determined a lower reliability benefit than originally calculated. The funds targeted to this project have been reallocated.
18th Avenue - Install SCADA - REMOVED	Reliability	May 2016	June 2016				0.0010		0.12		Subsequent data analysis performed during the design phase of this project determined a lower reliability benefit than originally calculated. The funds targeted to this project have been reallocated.

Forestry (Project Lead: Forestry Manager)

Description	Plan Type	Start Date (Actual/Projected)	Original Projected Completion Date	Updated Projected Completion Date	Actual Completion Date	Percent Complete	Potential SAIFI Reliability Benefit	Potential CAIDI Reliability Benefit	Potential SAIDI Reliability Benefit	Actual Cost	Comments
Accelerated Off ROW tree removal zone 3 & 2 on high tree SAIFI 34 5kV (319 miles)	Reliability	January 2016	December 2016		May 31, 2016	100%	0.0060	0.61	1.63	$ 384,410	
Accelerated Off ROW tree removal zone 1 & 2 on high tree SAIFI (77 miles)	Reliability	January 2016	December 2016		May 31, 2016	100%	0.0075	0.79	2.01	$ 158,993	

Met-Ed Projects 2016											
Project Description	Plan Type	Start Date *(Actual/Projected)*	Original Projected Completion Date	Updated Projected Completion Date	Actual Completion Date	Percent Complete	Potential SAIFI Reliability Benefit	Potential CAIDI Reliability Benefit	Potential SAIDI Reliability Benefit	Actual Cost	Comments
776-1 Replace URD Cable, Flying Hills	WPC	January 2016	December 2016		June 16, 2016	100%	0.0010			$ 289,437.00	
826-3 Replace with Open Wire, Spacer Cable along Meixel Valley Rd.	WPC	January 2016	December 2016		October 16, 2016	100%	0.0005		0.059	$ 643,970.00	
860-3 Replace Porcelain Side Post Insulators with Polymer	WPC	January 2016	December 2016		May 16, 2016	100%	0.0030		0.354	$ 210,981.00	
Porcelain Cutout Replacement (6 Circuits)	WPC	January 2016	December 2016		November 16, 2016	100%	0.0004		0.040	$ 1,045,776.00	
SCADA (New Installations & Retrofits - 11 Circuits)	WPC	January 2016	December 2016		December 20, 2016	100%	0.0331		5.570	$ 3,676,768.00	This combines the two lines items from the original filing where the first line item contained 5 circuits and the second contained 6 circuits.

West Penn Projects 2016											
Project Description	Plan Type	Start Date *(Actual/Projected)*	Original Projected Completion Date	Updated Projected Completion Date	Actual Completion Date	Percent Complete	Potential SAIFI Reliability Benefit	Potential CAIDI Reliability Benefit	Potential SAIDI Reliability Benefit	Actual Cost	Comments
Vanceville - Hardware and Coordination Rehabilitation	WPC	January 2016	December 2016		August 16, 2016	100%	0.001		0.060	$ 35,472.00	
McGovern - Hardware and Coordination Rehabilitation	WPC	January 2016	December 2016		June 16, 2016	100%	0.001		0.060	$ 17,387.00	
Ohiopyle - Hardware and Coordination Rehabilitation	WPC	January 2016	December 2016		August 16, 2016	100%	0.001		0.060	$ 10,674.00	
East Millsboro - Hardware and Coordination Rehabilitation	WPC	January 2016	December 2016		August 16, 2016	100%	0.001		0.060	$ 5,339.00	
Waterville - Hardware and Coordination Rehabilitation	WPC	January 2016	December 2016		June 16, 2016	100%	0.001		0.060	$ 21,259.00	
Windridge - Hardware and Coordination Rehabilitation	WPC	January 2016	December 2016		June 16, 2016	100%	0.001		0.060	$ 12,028.00	
Vanceville - Add 2 additional phases (1 Mile) to split customer exposure	WPC	January 2016	December 2016		August 16, 2016	100%	0.002		0.050	$ 296,940.00	
McGovern - Replace all non-vacuum type line reclosers	WPC	January 2016	December 2016		July 16, 2016	100%	0.001		0.060	$ 27,117.00	
Enhanced Overcurrent Protection and SCADA Control	Reliability	January 2016	December 2016		November 27, 2016	100%	0.004		0.134	$ 4,112,973.00	
Subtransmission Modernization and Automation	Reliability	January 2016	December 2016		November 30, 2016	100%	0.009		0.603	$ 3,474,314.00	
Targeted Circuit Rehabilitation	Reliability	January 2016	December 2016		December 1, 2016	100%	0.006		0.512	$ 2,596,567.00	
Replace Underground Getaways installed prior to 1988	Reliability	January 2016	December 2016		June 30, 2017	70%	0.001		0.070	$ 317,180.00	3 projects will be deferred to 2017. See the Company's response to VII-1 for additional detail

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Joint 2016 Annual Reliability Report –	:
Metropolitan Edison Company,	:
Pennsylvania Electric Company and	:
Pennsylvania Power Company	:

CERTIFICATE OF SERVICE

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

Service by first class mail, as follows:

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

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

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

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

Service by electronic mail, as follows:

David Dulick, General Counsel
David Dulick@ccsenergy.com

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

Dated: April 28, 2017

Tori L. Giesler /am

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LTR 1 OF 1

SHIP TO:
ROSEMARY CHIAVETTA, SECRETARY
PA PUBLIC UTILITY COMMISSION
2ND FLOOR
COMMONWEALTH KEYSTONE BUILDING
400 NORTH STREET
HARRISBURG PA 17120-0079

PA 171 9-20

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REF 1:CC # 503003
REF 2:T. GIESLER REAP - 37

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