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August 1, 2018

VIA ELECTRONIC FILING

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

Re: *Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company for Approval of their Smart Meter Deployment Plans;*
Docket Nos. M-2013-2341990, M-2013-2341991, M-2013-2341993 and M-2013-2341994

Dear Secretary Chiavetta:

Enclosed for filing on behalf of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company is the 2018 Smart Meter Technology Procurement and Installation Plan Annual Progress Report for the twelve-month period ended June 30, 2018 in the above-referenced proceeding.

Please contact me with any questions you may have. Copies of this filing have been served as indicated in the attached certificate of service.

Very truly yours,



Teresa K. Harrold

dln
Enclosures

c: The Honorable Elizabeth H. Barnes (via email and first class mail)
The Honorable Katrina L. Dunderdale (via email and first class mail)
The Honorable Dennis J. Buckley (via email and first class mail)
Bureau of Audits (via first class mail)
Bureau of Technical Utility Services, Reliability and Emergency Preparedness
Section (via first class mail)
Certificate of Service

**Before the
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**Metropolitan Edison Company
Pennsylvania Electric Company
Pennsylvania Power Company
West Penn Power Company**

**Docket No. M-2013-2341990
Docket No. M-2013-2341994
Docket No. M-2013-2341993
Docket No. M-2013-2341991**

**2018
ANNUAL PROGRESS REPORT
SMART METER TECHNOLOGY PROCUREMENT
AND INSTALLATION PLAN
(For the Twelve-Months Ended June 30, 2018)**

August 1, 2018

TABLE OF CONTENTS

I. Introduction	1
II. Deployment	1
III. Regulatory.....	6
IV. Progress on the End-to-End Solution.....	7
V. Business and Operational Readiness.....	7
VI. Financial Analysis / Cost Recovery.....	8
VII. Look Ahead	9
VIII. Conclusion.....	10
Exhibit A (Smart Meter Costs and Metrics).....	11

I. INTRODUCTION

Pursuant to the Implementation Order entered by the Pennsylvania Public Utility Commission (“Commission”) on June 24, 2009, at Docket No. M-2009-2092655,¹ Metropolitan Edison Company (“Met-Ed” or “ME”), Pennsylvania Electric Company (“Penelec” or “PN”), Pennsylvania Power Company (“Penn Power” or “PP”) and West Penn Power Company (“West Penn” or “WPP”) (collectively, the “Companies”) submit this smart meter progress report for the twelve-months ended June 30, 2018 (“Current Reporting Period”). This report provides an update on events that have taken place since the Companies’ last report submitted on August 1, 2017, at Docket Nos. M-2013-2341990, M-2013-2341991, M-2013-2341993 and M-2013-2341994, which covered the twelve-months ended June 30, 2017 (“Prior Reporting Period”).

II. DEPLOYMENT

The Companies’ Revised Deployment Plan² (“Approved Deployment Plan”) continues to be executed as part of the Commission-approved Smart Meter Implementation Plan (“SMIP”). Consistent with this plan, the eighteen-month Solution Validation Stage was successfully completed in Penn Power’s service territory on December 31, 2015. Full-scale deployment of smart meters in the other Companies’ service territories began in 2016 and continues in 2018. As of June 30, 2018, the project remains on schedule and within budget.

The Companies made significant progress during the Current Reporting Period. At the end of the Prior Reporting Period, a total of 1.06 million meters had been installed. As of June 30, 2018, the Companies have completed the installation of approximately 1.65 million smart meters in the Companies’ service territories. Penn Power’s end-to-end smart meter solution is completed, and the smart meter infrastructure continues to be built out in the Penelec, West Penn and Met-Ed service territories. While the end-to-end solution meets all fifteen functionality requirements established either through Act 129 or the Commission’s Implementation Order, the following requirements have not yet been fully implemented as of June 30, 2018, although significant progress has been made during the Current Reporting Period: i) Real Time Pricing/Time of Use Programs (expected completion in the first quarter of 2019); and (ii) Net Metering Capabilities (expected in the second quarter of 2019).

Current Deployment:

The Companies’ deployment of smart meters continues to be on schedule consistent with the timelines set forth in the Companies’ Approved Deployment Plan. All installed smart meter systems are functioning properly, with communication and estimated read rates consistent with expectations. Over one million smart meters have been certified for billing in the Companies’ service territories, thus allowing automated billing to commence and providing those customers with access to their energy usage through the internet portal discussed below.

¹ *In re Smart Meter Procurement and Installation*, Docket No. M-2009-2092655 (Order entered June 24, 2009) (“Implementation Order”), p. 14.

² The Commission approved this plan in the case of *the Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company For Approval of Their Smart Meter Deployment Plan*, Docket Nos. M-2013-2341990, M-2013-2341991, M-2013-2341993, and M-2013-2341994 (Order entered June 25, 2014).

As of June 30, 2018, approximately 1.65 million meters and, combined, 4,483 connected grid routers (“CGRs”) and range extenders (“REs”), along with the related infrastructure, have been deployed in the Companies’ service territories as shown below:

	<u>Meters (000s)</u>	<u>CGRs</u>	<u>REs</u>
Met-Ed	383	289	160
Penelec	557	629	1,947
Penn Power	168	116	502
West Penn	<u>541</u>	<u>505</u>	<u>335</u>
Total	1,649	1,539	2,944

For a summary of additional smart meter metrics³ and cumulative costs as of June 30, 2018, see attached Exhibit A.

During the Current Reporting Period, the Companies continued to address the disputed installations and 60 Amp round meter socket repair issues that were both discussed in the Companies’ last annual progress report. They also conducted a cybersecurity assessment during the Current Reporting Period. Below is an update on the progress made in each of these areas:

Disputed Installations: After the completion of a successful pilot study in Penn Power’s service territory, the Companies implemented an effective, proven procedure for resolving disputed installations system-wide during Full-Scale Deployment in each of the Companies’ service territories. With almost 1.65 million meters installed, there have been approximately 5,400 disputed installations since project inception. Thus far, more than 5,000 disputes have been positively resolved in favor of smart meter installation. As of June 30, 2018, there are 71 formal complaints and 29 informal complaints pending before the Commission. The deployment staff is currently working with approximately 250 additional customers through the outreach and educational process implemented as part of the disputed installation procedure.

60 Amp Round Meter Socket Repairs: Prior to Full-Scale Deployment, the Companies estimated approximately 75,000 60 amp round meter sockets throughout the Companies’ service territories were in need of repair at an estimated cost of approximately \$ 52.5 million. The costs for this repair work exceeded the costs originally estimated for maintenance/repair work included in the Approved Deployment Plan. The Companies informed the Commission and other customer advocates of this issue and, on June 27, 2016, the Companies submitted a letter to the Secretary of the Commission providing public notice of the same to all interested parties. No party filed comments or expressed opposition in response to the Companies’ letter.

³ On April 9, 2015, the Commission approved a Joint Petition for Partial Settlement in each of the Companies’ respective base rate cases. See *Pennsylvania Public Utility Commission v. Metropolitan Edison Company*, Docket No. R-2014-2428745 (Order entered April 9, 2015); *Pennsylvania Public Utility Commission v. Pennsylvania Electric Company*, Docket No. R-2014-2428743 (Order entered April 9, 2015); *Pennsylvania Public Utility Commission v. Pennsylvania Power Company*, Docket No. R-2014-2428744 (Order entered April 9, 2015); and *Pennsylvania Public Utility Commission v. West Penn Power Company*, Docket No. R-2014-2428742 (Order entered April 9, 2015) (hereinafter collectively, “2014 Rate Cases”). As part of this settlement, the Companies agreed to provide certain information related to smart meter deployment, which is also included in Exhibit A and denoted by an asterisk (*).

As of June 30, 2018, approximately 32,675 round meter sockets have been repaired. It is anticipated that all remaining round meter sockets identified to date will be repaired by 2020.

Cybersecurity: The Companies engaged SecureState to conduct a vulnerability assessment, identify risks, and provide recommendations for the AMI infrastructure. Specifically included in this assessment were the following:

- 4G Connected Grid Router (CGR)
- 4G direct connect to meters (meters that will not connect to a CGR)
- Testing for device vulnerabilities
- Table - Top exercise to explore various forms of potential cyber attacks.

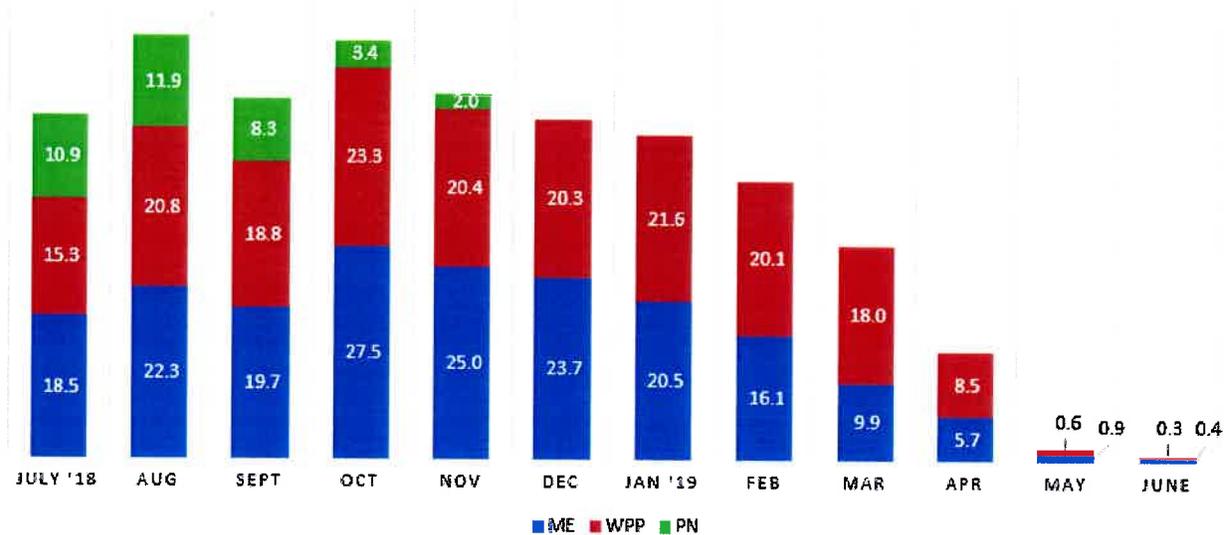
No major vulnerabilities were identified by SecureState.

Upgrades/Enhancements to the end-to-end Smart Meter Infrastructure: In order to comply with vendor support requirements and to ensure that the Companies' cybersecurity is up to date, the Companies also made numerous upgrades and enhancements to the end-to-end smart meter IT infrastructure by, among other things, upgrading systems, installing patches and replacing end of life equipment.

Future Deployment:

Based on current information and absent any unforeseen events, the Companies anticipate installing approximately 415,000 smart meters during the period July 1, 2018 through June 30, 2019 (“Next Reporting Period”), which represents the last segment of the “standard” smart meter installations during the Full-Scale Deployment Stage.⁴ The anticipated meter deployment schedule for each of the Companies during this time frame is set forth below:⁵

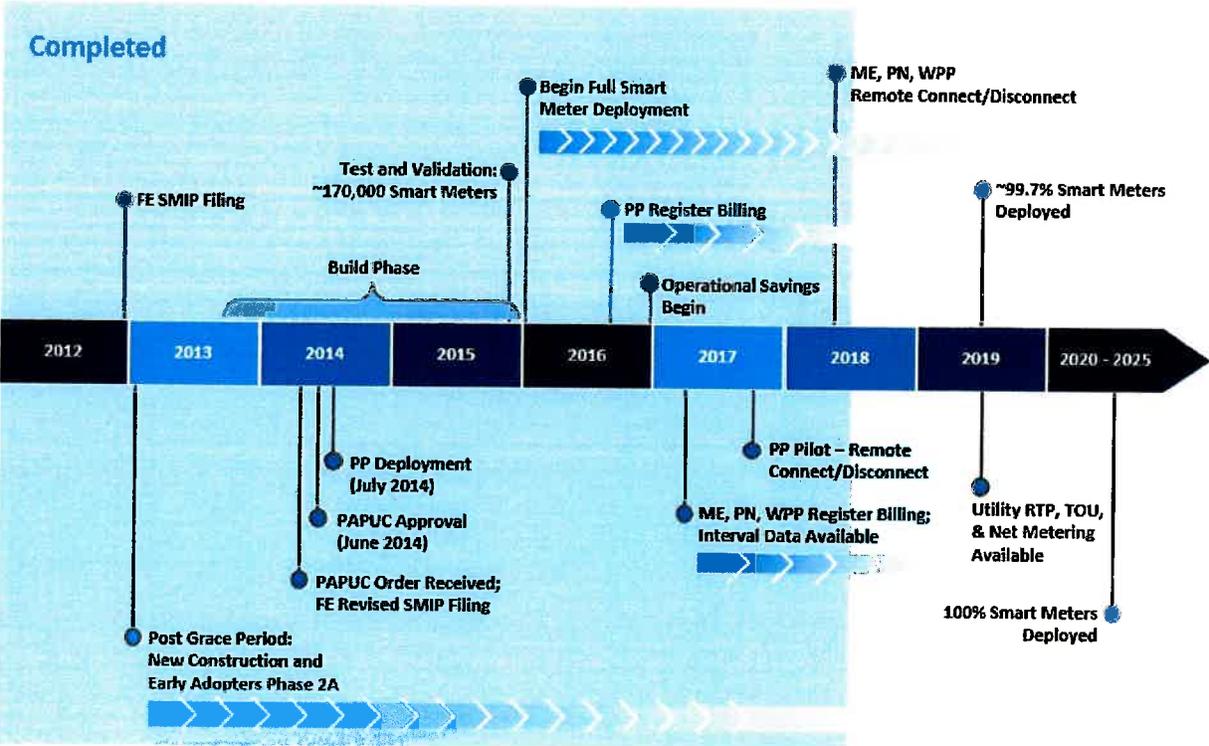
JULY 2018 - JUNE 2019 DEPLOYMENT PLAN
THOUSANDS (ROUNDED)



⁴ As stated in the Approved Deployment Plan, the Companies estimated that approximately 1.5% of the meter installations would be more difficult to achieve, such as difficult to access/remote locations and “communication challenged” installations (jointly, “Non-standard Installations”). According to the Approved Deployment Plan, these Non-standard Installations will be installed between mid-2019 and 2022. As a result of lessons learned during the project, the Companies now estimate that the percentage of Non-standard Installations will be 0.3%, rather than 1.5%, and will take place as originally scheduled in the Approved Deployment Plan. It is expected that these remaining meters will require more complex, and perhaps more expensive communications technologies that could result in a higher incremental cost for each of these meters. Additionally, another 0.4% of the already installed smart meters may not yet be bill certified due to unavailability of mesh network communications in certain areas.

⁵ 2018-2019 deployment schedule maps for each of these Companies, along with communities that will receive smart meters during the Next Reporting Period can be found on FirstEnergy’s website at: <https://www.firstenergycorp.com/help/pa-smartmeter/schedule.html>.

Similarly, based on current information and absent any unforeseen events, the Companies anticipate the project will continue to follow the timeline set forth below:



III. REGULATORY

Consistent with the Commission's directive to the Companies to work with stakeholder groups during smart meter deployment, the Companies held a number of meetings during the Current Reporting Period. The Commission also directed the Companies to report on multi-jurisdictional smart meter related costs. Both are discussed below.

Collaboration:

Stakeholder Meetings: The Companies hosted stakeholder meetings in Harrisburg Pennsylvania, on December 5, 2017 and April 24, 2018. These meetings provided timely updates on the status of the Companies' implementation of the Approved Deployment Plan. In addition to providing an update on deployment and the anticipated smart meter deployment schedule, the Companies also summarized the status of various other issues, including billing enablement, customer and supplier portals, disputed installations, round socket repairs, voluntary remote connections/disconnections, customer privacy and cyber security. During the April 24, 2018 meeting, the Companies also demonstrated the new Customer Portal – the request for which was made by interested parties following an overview of the new portal at the December 5th meeting – and also provided an update on new communication materials and website upgrades that accommodate the large Spanish speaking population in the Companies' service territories.

Commission Staff Visit: On January 30, 2018, the Companies hosted Commission Staff, including members of the Commission's Bureau of Technical Utility Services, Bureau of Consumer Services, Bureau of Audits, and Bureau of Investigation and Enforcement, at their Reading Pennsylvania office, the purpose of which was to provide Staff with an overview of the Companies' operations, which included an update on the Companies' smart meter project.

Other: In addition to these formal meetings, the Companies continue to maintain an open door policy to answer any questions or address any specific concerns raised by interested parties.

Cost Allocation of SMIP Costs Among Sister Utilities In Other States:

In its March 6, 2014 Order, the Commission ordered the Companies "to provide a report with their next SMT-C filing that identifies expenditures on all components of their [Approved Deployment] Plan that have the potential to benefit their sister utilities in other states when they begin deploying smart meters and that describes the method through which the Companies will receive credit from FirstEnergy Service Company for those expenditures."⁶ The Commission further ordered "that to the extent any system upgrades are currently being utilized by the Companies' sister utilities, the Companies are directed to properly allocate those costs to the sister utilities."⁷

As of the date of this report, none of the Companies' sister utilities in other states are deploying smart meters and, therefore, no Pennsylvania smart meter related costs are being allocated to

⁶ *Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company For Approval of Their Smart Meter Deployment Plan*, Docket Nos. M-2013-2341990, M-2013-2341991, M-2013-2341993, and M-2013-2341994, p. 47 (Final Order entered March 6, 2014).

⁷ *Id.*

those utilities.⁸ If and when smart meter deployment outside of Pennsylvania occurs, the Companies, as part of their SMT-C filing, will provide a report that identifies expenditures on all components of their Approved Deployment Plan that have the potential to benefit their sister utilities in other states, and will propose a method by which said costs will be shared by those other utilities.

IV. PROGRESS ON THE END-TO-END SOLUTION

Generally, the Companies' end-to-end solution is complete. As previously reported, fundamental connectivity was tested and verified in 2014. The same was completed for baseline operations in 2015 and 2016, with data validation and synchronization occurring during this same time frame. As already discussed, billing enablement is complete in Penn Power's service territory and is progressing in the other Companies' service territories consistent with the schedule as set forth in the Approved Deployment Plan. The Companies anticipate that Penelec will be the next Company to achieve full deployment of smart meters, currently estimated by the end of 2018.

V. BUSINESS AND OPERATIONAL READINESS

As the Companies indicated in their 2017 Annual Progress Report, the Companies were investigating a potential interim solution to improve their estimated meter read rates through a process that would allow the Companies to utilize smart meter readings prior to full-scale deployment.⁹ This process was implemented during the Prior Reporting Period and has been utilized throughout the Current Reporting Period. This "interim meter reading process" solution allows the Companies' meter reading departments to use polled smart meter data in certain locations and enter this data into hand held devices prior to the smart meter system's billing features becoming fully functional. This process continues to contribute to a significant reduction in estimated read rates and also allows the Companies to accelerate the elimination of manual meter reading activities before bill certification is completed in a given area. The savings resulting from this interim process and the coincident elimination of meter reading activities in the Companies' service territories with bill certified smart meters, are discussed in Section VI ("Financial Analysis / Cost Recovery") of this report.

As previously reported, communications, training, and workshops were developed to finalize the capabilities that will support smart meter operations throughout deployment and into steady state activities. As detailed in the Companies' Communication Plan, the "90-60-30" day communication strategy continues to be followed. During the Prior Reporting Period, the Companies enhanced the smart meter section of the Companies' website by adding information regarding Home Area Network Devices and, during the Current Reporting Period, they added information in Spanish to accommodate the Spanish speaking population within the Companies' respective service territories. They also developed several new internal employee workshops in the areas of (i) Interval Enablement; (ii) Remote

⁸ On February 28, 2016, the Ohio FirstEnergy Companies filed a proposed Grid Modernization business plan with the Public Utility Commission of Ohio in Case No. 16-0481-EL-UNC. This proposed plan included a timeline for the Companies to achieve full smart meter implementation with data and transfer capabilities and examples of grid modernization initiatives. To date, no action has been taken by the Ohio Commission on the proposed plan.

⁹ Implementation Plan Progress Report for the Focused Management and Operations Audit, Docket No. D-2013-2365991 et al, p. 74 (February 1, 2018).

Connect/Disconnect; (iii) Network Optimization and Mitigation; (iv) Interval Billing; and (v) Portal Design, all of which will be utilized in future employee training.

As reported in the Companies' last Annual Progress Report, a new customer portal was to be developed because the vendor would no longer support the prior customer portal. During the Current Reporting Period, the Companies implemented a new customer portal that allows customers to view meter reading and billing data, including hourly interval data, usage trends and comparisons for those customers with bill certified smart meters.

During the Current Reporting Period, the Companies implemented Remote Connect and Disconnect procedures for "move-in"/"move out" scenarios, and for reconnections. These actions have significantly improved customer response times and have enhanced employee safety.

The Companies continue to monitor smart meter related customer interactions, which to date include over 2.7 million direct mail pieces (letters or brochures), approximately 150,000 customer website visits, and approximately 23,000 customer calls to the call center. Additional customer-related metrics are included in Exhibit A.

VI. FINANCIAL ANALYSIS / COST RECOVERY

In accordance with Act 129 and subsequent Commission Orders, the Companies, with the assistance of outside consultants, developed a detailed smart meter financial analysis model ("Financial Model") to estimate and analyze the costs and operational cost savings associated with the smart meter program. The Program Management Office ("PMO") ensures that this Financial Model is being followed and updated to reflect the most current project-related information.

Cost Recovery Overview:

As a result of the Commission orders in the 2014 and 2016 Rate Cases,¹⁰ the Companies are recovering the smart meter revenue requirements through base rates. The Commission-approved settlements allow the Companies to recover through the Smart Meter Technologies Charge ("SMT-C") Riders any costs incurred that exceed those in base rates. If/when smart meter costs exceeded the revenue requirements in base rates, the incremental amount is booked and will be eligible to be recovered through the SMT-C Riders in the next SMT-C Computation Year (January 1 through December 31) in accordance with the terms and conditions of the Companies' tariffs. To date, the Companies have not exceeded the revenue requirement in base rates. However, savings were recognized and booked in 2017 which prompted the Companies to restart the SMT-C Riders on January 1, 2018 to refund realized savings to customers.

As a result of the Tax Cuts and Jobs Act of 2018 ("TCJA"), the Companies were required by the Commission to establish a TCJA Surcharge Rider to refund to customers the reduction in the corporate federal tax rates from 35% to 21%. As of July 1, 2018, the Companies are refunding a Commission-approved percentage of distribution rates to customers monthly. Since the smart meter costs are also recovered through distribution rates, the Companies deem it appropriate that the smart meter revenue requirements as stated in the 2016 Rate Case be reduced by the same percentages. The Companies compare the current

¹⁰ The Commission approved partial settlements on January 19, 2017 in *Pennsylvania Public Utility Commission v. Metropolitan Edison Company, et al*, Docket Nos. R-2016-2537349 (Met-Ed), R-2016-2537352 (Penelec), R-2016-2537355 (Penn Power), and R-2016-2537359 (West Penn) (hereinafter collectively, "2016 Rate Cases").

smart meter revenue requirement to the revenue requirement in base rates to determine if/when the costs exceed what is in base rates and if there is an incremental amount to be booked. This is further explained in the Companies' rate filings that were made with the Commission on August 1, 2018.

Benefits Realization:

For purposes of measuring savings related to the installation of smart meters, baselines of pre-existing cost levels were identified in the 2014 and 2016 Rate Cases for the following categories: (1) Meter Reading; (2) Meter Services; (3) Back Office; (4) Contact Center; (5) Reduction of Theft of Service; (6) Revenue Enhancements; (7) Avoided Capital Costs; (8) Distribution Operations; and (9) Load Research.¹¹ When actual costs are less than the established baselines, those savings flow through the Companies' SMT-C Rider rates.

As of June 30, 2018, the Companies recognized savings of almost \$14 million, most of which is attributable to meter reading efficiencies. Other savings occurred in the back office as a result of fewer billing issues needing to be resolved. Below is a summary of the savings realized during the Current Reporting Period:

	Penn Power (\$ Millions)	Met-Ed (\$ Millions)	Penelec (\$ Millions)	West Penn (\$ Millions)	Total (\$ Millions)
Meter Reading	2.8	3.7	3.4	3.3	13.2
Back Office	<u>0.1</u>	<u>0.2</u>	<u>0.2</u>	<u>0.2</u>	<u>0.7</u>
Total	2.9	3.9	3.6	3.5	13.9

On August 1, 2018, the Companies are also filing for Commission approval of their respective SMT-C Rider rates and tariff supplements for savings, which are proposed to be effective on January 1, 2019, in accordance with the terms and conditions of the SMT-C Riders. The savings to be refunded to customers are reflected in those rates.

VII. LOOK AHEAD

The Companies are in the final twelve months of the Full-Scale Deployment Stage of their smart meter project, that will result in 99.7% of all smart meters being deployed. The Companies anticipate continuing deployment of smart meters during the Next Reporting Period in a manner similar to that which was done during the Current Reporting Period, and will continue to address disputed installation issues, 60 AMP round meter socket repairs and the implementation of remote connect/disconnect procedures. During the Next Reporting Period, continued focus will be placed on the completion of the back office systems, the development of interval and net metering billing capabilities, the completion of Non-standard Installations, which also includes the development of cost effective communication solutions for the "communication challenged" installations, and the continued transition to a steady state operation as the project gets closer to completion.

¹¹ The Companies' established baselines for various categories of potential savings in the 2014 Rate Cases. These baselines were updated in the 2016 Rate Cases.

VIII. CONCLUSION

In sum, the Companies continue to follow the Approved Deployment Plan without any material modifications. The number of meters installed, as well as the deployment costs and benefits to date, generally comport with the overall projections included in the Approved Deployment Plan.¹² The Companies have not encountered any significant problems with any of the components selected as part of their smart meter solution and the system is operating as expected.

Met-Ed, Penelec, Penn Power, and West Penn thank the Commission for the opportunity to provide a status update on their Smart Meter Implementation Plan and would be pleased to answer any questions the Commission or its Staff may have.

¹² A limited exception relates to the Companies' 60 amp meter socket repairs that were discussed earlier in the report.

Exhibit A
Smart Meter Costs and Metrics
Cumulative As Of June 30, 2018

SMART METER COSTS:

	Capital (\$ Millions)	O&M (\$ Millions)	Total (\$ Millions)
IT Hardware/Software	58.4	22.1	80.5
IT Labor/Contractor	61.5	18.6	80.1
Bus. Unit Labor/Contractor	0.1	121.1	121.2
Bus. Unit Other	1.5	24.4	25.9
Meter Installation/Network Install	<u>345.1</u>	<u>10.4</u>	<u>355.5</u>
Total	466.6	196.6	663.2

SMART METER DEPLOYMENT METRICS:

Smart Meters Deployed (000s)*	1,649
Smart Meters Deployed and Communicating (000s)*	1,624
Smart Meters Certified for Billing (000s)	1,029
Smart Meters Deployed for New Construction* (000s)	57
Early Adopters*	1
Customers With Home Area Network (HAN) Devices*	40
CGRs Installed	1,539
Range Extenders Installed	2,944
Formal PUC Complaints Open/Closed (Current Reporting Period only)*	
Installation	68/5
AMI Functionality or Accuracy	3/0
HAN Related	0/0
Other	0/0
Informal Customer Complaints Open/Closed (Current Reporting Period only)*	
Installation	26 / 49
AMI Functionality or Accuracy	3 / 8
HAN Related	0 / 0
Other	0 / 0
Estimated Reduction in Greenhouse Gas Emissions*	370 MT CO ₂ e
Voltage/Var Controls (Number/Percentage)* ¹³	0 / 0%

* Denotes Metrics Reported Pursuant to Agreement in 2014 Rate Cases.

¹³ This metric reflects the total number and percentage of distribution lines utilizing sensing from AMI meters as part of the Companies' voltage regulation scheme.

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company for Approval of their Smart Meter Deployment Plans	:	Docket No. M-2013-2341990
	:	M-2013-2341991
	:	M-2013-2341993
	:	M-2013-2341994
	:	

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 and electronic mail, as follows:

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