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VIA E-FILING

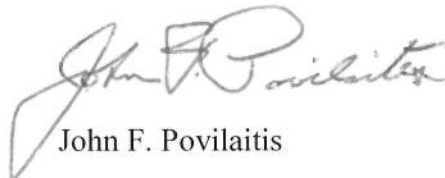
Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor
Harrisburg, PA 17120

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, M-2013-2341994

Dear Secretary Chiavetta:

On behalf of Metropolitan Edison Company, Pennsylvania Electric Company,
Pennsylvania Power Company and West Penn Power Company (the "Companies"), enclosed for
electronic filing is the Main Brief of the Companies. Please contact me if you have any
questions regarding the forgoing matters. Copies have been served as indicated in the attached
certificate of service.

Very truly yours,



John F. Povilaitis

JFP/kra
Enclosure

cc: The Honorable Elizabeth H. Barnes (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**

JOINT PETITION OF METROPOLITAN	:	
EDISON COMPANY, PENNSYLVANIA	:	
ELECTRIC COMPANY, PENNSYLVANIA	:	DOCKET NOS. M-2013-2341990
POWER COMPANY AND WEST PENN	:	M-2013-2341991
POWER COMPANY FOR APPROVAL OF	:	M-2013-2341993
THEIR SMART METER DEPLOYMENT	:	M-2013-2341994
PLAN	:	

MAIN BRIEF OF

**METROPOLITAN EDISON COMPANY,
PENNSYLVANIA ELECTRIC COMPANY,
PENNSYLVANIA POWER COMPANY AND
WEST PENN POWER COMPANY**

**Before Administrative Law Judge
Elizabeth H. Barnes**

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May 14, 2014

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I. INTRODUCTION

On March 19, 2014, Metropolitan Edison Company (“Met-Ed”), Pennsylvania Electric Company (“Penelec”) Pennsylvania Power Company (“Penn Power”), and West Penn Power Company (“West Penn”) (collectively, the “Companies”) filed a Revised Smart Meter Deployment Plan with the Commission (“Revised Deployment Plan”). As explained *infra*, the Revised Deployment Plan allows for Penn Power’s entire smart meter system to be operational by the end of next year. It will also accelerate the installation of smart meters in the other Companies’ service territories, thus accelerating not only the operational cost savings expected to be realized by the Companies, but also accelerating the opportunities for all of the Companies’ customers to save on their electric bills by reaping the full benefits of a competitive market sooner than they otherwise would. This can be done without any increase in the total estimated nominal cost of the project. And, on a net present value (“NPV”) basis, the Revised Deployment Plan can be implemented at little to no additional cost to customers, when a reasonable customer discount factor is assumed. As a result, there is a de minimis effect on rates. In light of the foregoing, the Companies respectfully ask that the Revised Deployment Plan be approved.

II. PROCEDURAL HISTORY

On December 31, 2012, the Companies filed a Smart Meter Deployment Plan (“Original Deployment Plan”) that the Commission approved with slight modifications through an Opinion and Order entered on March 6, 2014 (“Order”). Prior to the issuance of the Order, the Companies noted in their exceptions to the Administrative Law Judge’s November 8, 2013 Recommended Decision that the smart meter deployment schedule as proposed in the Original Deployment Plan could be accelerated.¹ The Commission’s March 6, 2014 Order indicated that if the Companies wished to pursue an accelerated deployment schedule, they “should promptly

¹ Companies’ Exception No. 6, pp. 25-27 (Dec. 2, 2013).

submit an amended [Deployment] Plan, with proper supporting documentation, with the Commission to properly provide the opportunity for all affected Parties, as well as [the] Commission, to fully evaluate and comprehend this proposal.”²

On March 19, 2014, the Companies filed the Revised Deployment Plan which reflects the Commission’s modifications to the Original Deployment Plan consistent with the Order and which also proposes to accelerate the deployment of smart meters in each of the Companies’ respective service territories. The Companies’ proposal was supported by (i) the Supplemental Testimony of Mr. George L. Fitzpatrick (Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S (Fitzpatrick Supp.)), which included as Appendices A and B, respectively, the Revised Deployment Plan in both a clean and red-line format; and (ii) the testimony of Ms. Laura W. Gifford (Met-Ed/Penelec/Penn Power/West Penn Statement No. 6-S (Gifford Supp.)). Subsequent to the submission of this testimony, the Companies responded to informal discovery propounded by the Office of Consumer Advocate (“OCA”) on the same.

On March 31, 2014, OCA filed Exceptions to the March 19, 2014 filing. The Companies filed a Response to those Exceptions on April 7, 2014. By Secretarial Letter dated April 16, 2014, the Commission referred the Revised Deployment Plan to the Office of Administrative Law Judge for the development of an evidentiary record. The Secretarial Letter further determined that the presiding officer should establish a procedural schedule providing for the certification of the record, without a recommended decision, by May 15, 2014 so as to provide sufficient time for the Commission to act on the Companies’ Revised Deployment Plan at its Public Meeting currently scheduled to be held on June 5, 2014.³

² March 6, 2014 Order at 43.

³ April 16, 2014 Secretarial Letter at 3.

On April 18, 2014, the presiding officer, Administrative Law Judge (“ALJ”) Elizabeth H. Barnes, issued her Second Prehearing Order. This order directed the parties to submit prehearing conference memoranda on or before April 24, 2014. A prehearing conference was held on April 25, 2014. At the Prehearing Conference ALJ Barnes adopted the following procedural schedule for this phase of the proceeding:

Intervenors’ Direct Testimony	April 29, 2014 (2:00 p.m.)
Informal Discovery Conference Call	May 1, 2014
Discovery Written Responses	May 2, 2014 (best effort basis)
Rebuttal Testimony	May 5, 2014
Draft Common Brief Outline Circulated by Companies	May 6, 2014
Evidentiary Hearing/ oral rejoinder	May 7, 2014 (Harrisburg)
Responses to ALJ-authorized data requests	May 12, 2014
Briefs	May 14, 2014

On April 29, 2014, OCA served the Supplemental Testimony of J. Richard Hornby (OCA Statement No. 1-S). This testimony was subsequently revised and corrected on May 6, 2014. On May 5, 2014, the Companies served the Supplemental Rebuttal Testimony of George L. Fitzpatrick (Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-SR). An evidentiary hearing was conducted on May 7, 2014 before ALJ Barnes. All previously served supplemental and supplemental rebuttal testimony was admitted into the evidentiary record without objection, as were OCA Cross Examination Exhibits 1 and 2, and ME/PN/PP/WP Hearing Exhibits 1 and 2. In response to a request by OCA during the evidentiary hearing, the Companies, on May 12, 2014, filed their response to On the Record Data Request No. 1. Also, consistent with the Order,

the Companies filed their Communications Plan on May 6, 2014, after providing interested parties an opportunity to comment. This Brief is being submitted pursuant to the procedural schedule set forth above.

III. DESCRIPTION OF REVISED DEPLOYMENT PLAN

The Companies filed the Original Deployment Plan on December 31, 2012. The original deployment schedule included in that plan contemplated a three-year Solution Validation Stage wherein the Companies would first create a test lab/“mini-system” in Penn Power’s service territory by installing 60,000 meters (5,000 meters in 2014, 15,000 meters in 2015, and 40,000 meters in 2016) and then commence the Full-Scale Deployment Stage in 2017. The purpose of the Solution Validation Stage was to, among other things, test an end-to-end smart meter “mini-system” and resolve as many system problems as possible in a controlled environment before beginning full scale deployment in the remaining service territories. This period was also to be used to identify potential areas of savings resulting from the installation of smart meters.

During the period between the submission of briefs supporting the Original Deployment Plan in June 2013, and the issuance of the ALJ’s Recommended Decision on the Original Deployment Plan in November 2013, the Companies continued testing the smart meter equipment and determined that they could prudently accelerate the smart meter deployment schedule as reflected in the Revised Deployment Plan. Assuming the Revised Deployment Plan is approved by mid-June 2014, the Companies will completely build out the Penn Power service territory, comprised of approximately 170,000 meters, in 18 months, with 50,000 meters and related infrastructure being installed during the second half of 2014, and the remainder being installed by the end of 2015. The Full-Scale Deployment Stage would then commence in early 2016. As a result, the Solution Validation Stage will end, and the final Full-Scale Deployment Stage will begin, one year sooner than contemplated under the Original Deployment Plan. This

will accelerate cost savings not only throughout Penn Power's service territory, but also in the other Companies' service territories during the Full-Scale Deployment Stage.

The Revised Deployment Plan also makes it possible for approximately 98.5% of all smart meters to be installed by mid-2019, rather than the end of 2019 as contemplated in the Original Deployment Plan, with the remainder being installed no later than the end of 2022. While the Companies will work to accelerate the completion of the Full-Scale Deployment Stage, the installation of the last 1.5% of the meters involves installations in areas that are difficult to access or difficult to interface with the smart meter infrastructure. The Companies will address these remaining meters (including those located within Penn Power's service territory) last, with the expectation that during the installation of the other meters, potential communication issues could be resolved through technological improvements, thus avoiding the need to incorporate significantly more expensive communication solutions, such as satellite transmissions, when integrating such remote locations into the overall smart meter system. Because these technological improvements are not yet readily available in the marketplace, the Companies prefer to leave the 2022 Full-Scale Deployment Stage end date unchanged at this time. If the Companies can cost effectively accelerate this end date, they will do so.⁴

When developing the Revised Deployment Plan, the Companies utilized the same modeling process as that used to develop the estimated costs and operational cost savings set forth in the Original Deployment Plan. However, several of the model inputs for the Revised Deployment Plan had to be modified to reflect the shortened and more intensive Solution Validation Stage, the commencement of the Full-Scale Deployment Stage one year earlier than originally contemplated and the acceleration of additional realizable operational cost savings

⁴ Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S (Fitzpatrick Supp.), pp. 3-4.

currently estimated to be \$12 million.⁵ Although the total estimated nominal cost of the Revised Deployment Plan is the same as that included in the Original Deployment Plan, with the installation of 110,000 additional meters in Penn Power's service territory by the end of 2015, the completion of much of the smart meter and information technology ("IT") infrastructure needed throughout the FirstEnergy Pennsylvania footprint during the shortened Solution Validation Period, and the acceleration of the commencement of the Full-Scale Deployment Phase by one year, the Companies will spend approximately \$47 million more in capital during the period 2014 through 2019, with a significant portion of this spend occurring in the first three years of deployment and corresponding decreases occurring in later years.⁶ As a result of accelerating this spend, there will be cost shifts among the years, thus impacting both the overall net present value of the Revised Deployment Plan and the surcharges to be imposed under Rider SMT-C.⁷ These cost shifts, along with the estimated increase in realized operational cost savings of \$12 million were reflected in the modeling of the Revised Deployment Plan. Program costs, as depicted in Chapter 4 of the Revised Deployment Plan, were updated to reflect the Companies' latest information and planning. In the aggregate, these updates resulted in overall O&M cost estimates increasing by approximately \$8 million, and overall capital costs decreasing by approximately the same amount. All other assumptions remained unchanged from those used when developing the Original Deployment Plan.⁸ Accordingly, the Revised Deployment Plan factors in neither the potential savings that may be realized through the additional savings

⁵ Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S (Fitzpatrick Supp.), pp. 5, 9;

⁶ Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S (Fitzpatrick Supp.), pp. 5-6, ; OCA Statement No. 1-S (Hornby Supp.), p. 16; Exh. GLF-3SR; Exh. GLF-4SR. Comparing the two plans \$51 million more capital will be spent through the Revised Deployment Plan in 2014; \$49 million more in 2015; \$40 million more in 2016, \$7 million less in 2017; \$28 million less in 2018 and \$60 million less in 2019.

⁷ Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S (Fitzpatrick Supp.), p. 4.

⁸ Id. pp. 5-6.

categories identified by OCA⁹ nor other non-operating customer benefits¹⁰ expected to be achieved, both of which should be accelerated through the implementation of the Revised Deployment Plan.

After reflecting the acceleration in spending and the anticipated acceleration of savings in the four cost savings categories identified by the Companies in the Original Deployment Plan, the Revised Deployment Plan has a NPV that is \$48.1 million more than the Original Deployment Plan when the Companies' Weighted Average Cost of Capital ("WACC") is used as the discount rate and no other potential savings are taken into account.¹¹ However, the Revised Deployment Plan is \$8 million less than the Original Deployment Plan on an NPV basis when the customers' discount rate of 0.37% is used.¹² Using a customer discount rate of 2.67%, which reflects the current yield on a 10-year U.S. Treasury note, the NPV of the cost of the Revised Deployment Plan is only \$13 million more than the NPV of the Original Deployment Plan.¹³ However, as discussed *infra*, this relatively minor cost differential is completely eliminated if the estimated savings from only one of the many potential benefits categories – the estimated savings from time of use rates offered by Electric Generation Suppliers ("EGSs") – is factored into the analysis.

IV. SUMMARY OF ARGUMENT

The principal difference between the Original and the Revised Deployment Plans is the proposal in the latter plan to accelerate smart meter deployment and the resultant shifting of approximately \$47 million of net costs through 2019 (with \$142 million of capital costs being

⁹ The OCA identified several additional categories of savings, including revenue enhancement, avoided cost and distribution operations. (Tr. p. 216).

¹⁰ Mr. Fitzpatrick identified several of these potential categories, including time varying rates and customer energy management. Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S (Fitzpatrick Supp.), p. 7.

¹¹ Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S (Fitzpatrick Supp.), pp. 6, 8.

¹² Id. at 6, 8 and 9.

¹³ Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-SR (Fitzpatrick Supp. Reb.), pp. 5, 7.

accelerated through 2016). The disparity in the parties' positions regarding the reasonableness of the Revised Deployment Plan is attributable to their differing views on the discount factor that should be assumed when assessing the two plans on a NPV basis.

When compared to the Original Deployment Plan, the Revised Deployment Plan provides for (i) the installation of smart meters for 170,000 of Penn Power's customers by the end of 2015, instead of 60,000 by 2017; (ii) the build out of Penn Power's entire smart meter end-to-end system by the end of 2015, instead of a "mini-system" for 60,000 meters by the end of 2017; (iii) the completion of much of the smart meter and IT infrastructure needed throughout the FirstEnergy Pennsylvania footprint earlier in the deployment period, instead of phasing in these infrastructure components through the end of 2019; (iv) the installation of approximately 98.5% of all smart meters by mid-2019, instead of the end of 2019; (v) the realization of an estimated \$12 million in additional operational cost savings through just the savings categories that the Companies believe can currently be estimated; (vi) the identification and acceleration of other, as yet, unquantifiable operational cost savings and other non-operational customer benefits sooner than would otherwise be realized; and (vii) approximately 15 million more customer months during which customers will be able to reap the full benefits of competitive markets through the use of their smart meters.¹⁴ Notably, all of this can be accomplished without any increase in the total estimated nominal cost of the project.

None of these facts were challenged by the OCA. Instead, the dispute lies in the cost of the Revised Deployment Plan on a NPV basis. As the Companies demonstrated, on a NPV basis, the Revised Deployment Plan can be adopted at little or no additional cost to the customer, assuming the use of a reasonable discount factor that reflects the customer's opportunity cost for the money it otherwise would not be spending during the first several years of the deployment

¹⁴ Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S (Fitzpatrick Supp.), p. 12.

schedule. To that end, the Companies' performed a NPV sensitivity analysis assuming discount factors of 0.37% and 2.67%, which represent the average return an individual could earn on a one year certificate of deposit ("CD") in the Reading, Pennsylvania area and the current yield on a 10-year U.S. Treasury note, respectively. These analyses resulted in NPV costs of the Revised Deployment Plan that ranged from \$8 million *less expensive* to \$13 million *more expensive* than the Original Deployment Plan before any estimated savings beyond that estimated in the four savings categories identified by the Companies in the Original Deployment Plan are factored into the analysis. Because the Companies believe that the use of a one year CD interest rate as the discount factor is appropriate, and the use of this rate in their NPV analysis resulted in a positive NPV, there was no need to reflect any additional potential savings in the analysis. That said, if only one additional savings category (e.g. potential savings from the facilitation of EGS provided time-of-use rates) is factored into the analysis, the NPV of the Revised Deployment Plan is \$630,000 less if the 2.67% interest rate on the 10-year Treasury note is used as the discount factor; and \$23 million less if the interest rate on the one year CD is used.¹⁵

OCA did not perform an independent NPV comparison of the two plans. Instead it elected to recreate the Companies' NPV analysis adopting all of the Companies' assumptions except one – the discount rate.¹⁶ In its NPV analysis, OCA elected to use a 9% discount factor which is not income tax adjusted, which is supposed to be used to assess Federal government projects, and which reflects a rate for the private sector. More to the point, the 9% discount rate simply does not reflect a residential customer's opportunity cost of the extra 74¢ to \$3.42 per month that the customer would pay during the first several years of deployment if the Revised

¹⁵ Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-SR (Fitzpatrick Supp. Reb.), fn. 3, p. 11.

¹⁶ Tr. p. 212.

Deployment Plan is implemented.¹⁷ Further, the cross examination exhibits introduced by OCA during the evidentiary hearing in support of its use of the 9% discount rate should be rejected out of hand. OCA Cross Examination Exhibit No. 1 (Hornby workpaper) has no probative value, because it has no points of reference that would allow the reader to put the information in context. And OCA Cross Examination Exhibit No. 2 (Ameren Order on Rehearing) is equally irrelevant because the circumstances underlying the Illinois Commerce Commission's decision in the Ameren case are much different from the circumstances before this Commission. Finally, while the OCA claims to have reconstructed the Companies' NPV calculations in order to make an apples-to-apples comparison to the Companies' NPV analyses, the OCA failed to follow the Companies' logic underlying those calculations by ignoring savings that its own witness admits will exist¹⁸ and which should have been factored into its NPV analysis.

V. ARGUMENT

A. The Acceleration of Smart Meter Deployment as Proposed by the Companies is in the Public Interest and Can Be Implemented at Little or No Additional Cost to the Customer.

1. The Adoption of the Revised Deployment Plan Will Allow Customers to Reap the Full Benefits of Competitive Markets Sooner Than They Otherwise Would.

In its June 9, 2010 Opinion and Order at Docket No. M-2009-2123950, in which the Companies' initial smart meter filing was addressed, the Commission urged the Companies to accelerate the deployment of smart meters, stating as follows:

[W]e believe the companies can and should aim for full deployment sooner than 2022. Every year that the Companies wait represents money that ratepayers could potentially save on their electric utility bills. The sooner customers are given access to tools such as smart meters which allow them to better gauge how their usage patterns correspond to the price of electric generation, the sooner the customers will have the option of tailoring their individual usage patterns to save

¹⁷ Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S (Fitzpatrick Supp.), pp. 4-5.

¹⁸ Tr. pp. 216, 219, 223.

money on their electric bills. We strongly advise [the Companies] that it is in the best interest of all parties involved, especially [their] customers, to deploy smart meters and their corresponding infrastructure as soon as safe and reliable operations will allow. [Order at 14].

In accordance with this directive, the Companies, during the ensuing Assessment Period leading up to the filing of the Original Deployment Plan on December 31, 2012, evaluated their originally proposed deployment schedule and discovered measures that could be taken to shorten that schedule by essentially three years. Thereafter, between the completion of briefing on the Original Deployment Plan in June 2013 and the ALJ's issuance of her Recommended Decision in November 2013, the Companies sought additional opportunities to further shorten the deployment schedule so as to provide customers with "the option of tailoring their individual usage patterns to save money on their electric bills" in a safe and reliable manner at the earliest practical date. These efforts translated into the Revised Deployment Plan. As Mr. Fitzpatrick explained, during this period, the Companies further tested critical smart meter equipment, revisited the anticipated deployment schedule with several of the vendors involved in the deployment, and ultimately concluded that the Solution Validation Stage could be modified to provide virtually all Penn Power customers¹⁹ with a smart meter by the end of 2015.²⁰ Further, because a significant portion of the infrastructure needed to serve customers throughout the FirstEnergy Pennsylvania footprint will be completed during the build out of the Penn Power smart meter system, customers in the other Companies' service territories will also receive smart meters sooner.

Assuming Commission approval of the Revised Deployment Plan by mid-June 2014, an entire utility's (Penn Power's) smart meter system can be operational by the end of next year.

¹⁹ As in the Original Deployment Plan, the remote and difficult installations will be done later in the deployment schedule with the expectation that technology will evolve in the interim to provide more cost effective installation solutions.

²⁰ Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S (Fitzpatrick Supp.), pp. 2, 5.

Moreover, when compared to the Original Deployment Plan, 15 million more customer months of smart meter usage by customers can be gained. This will allow customers to reap the full benefits of competitive markets sooner, thus accelerating the timeframe in which they can potentially save on their electric bills. As the Commission noted in its June 9, 2010 Order: “The sooner customers are given access to tools such as smart meters which allow them to better gauge how their usage patterns correspond to the price of electric generation, the sooner the customers will have the option of tailoring their individual usage patterns to save money on their electric bills.” The Revised Deployment Plan provides customers with this opportunity.

2. Through the Adoption of the Revised Deployment Plan, the Companies Will be Able to Identify Potential Problems and Potential Cost Savings Opportunities Sooner Than Originally Contemplated.

In their Original Deployment Plan, the Companies indicated their intention to utilize the Solution Validation Stage as an opportunity to, among other things, identify and resolve problems before the commencement of full deployment, and to develop appropriate savings identification, tracking and measuring protocols. Through the adoption of the Revised Deployment Plan, which envisions an entire end-to-end system being built for an entire utility by the end of next year, the Companies will have an opportunity to identify and resolve problems that may not have been encountered in the smaller scale system contemplated in the Original Deployment Plan, thus potentially avoiding more problems during full scale deployment which might otherwise create negative customer impressions of smart meters. Further, by expanding the scope and accelerating the completion of the Solution Validation Stage in Penn Power’s service territory, the Companies will gain a more comprehensive and timely understanding of potential savings opportunities.

3. The Revised Deployment Plan Can Be Adopted With Little or No Increase in the Net Present Value Cost of the Plan.

As noted previously, the nominal cost of the Revised Deployment Plan is the same as the cost of the Original Deployment Plan. However, because the timing of expenditures differs in the two plans, it is appropriate to evaluate them on a NPV basis. Furthermore, as Mr. Fitzpatrick explained, the determination to be made at this juncture is whether customers – and not the Companies – are better off under the Revised Deployment Plan.²¹ For this reason, Mr. Fitzpatrick utilized a discount factor of 0.37%, which represents the recent rate an individual could earn on a one year CD in the Reading, Pennsylvania area.

The use of the 0.37% discount rate results in the Revised Deployment Plan costing approximately \$8.0 million less than the Original Deployment Plan on a NPV basis. However, this figure is considered to be conservative for several reasons. First, except for updating the inputs previously discussed, Mr. Fitzpatrick utilized the same assumptions used in the Original Deployment Plan. Consequently, the analysis makes no assumptions as to the amount of additional savings that may be derived from (i) the additional operational cost savings categories identified by the OCA; or (ii) the additional non-operational cost savings benefit categories identified in the October 8, 2013 Smart Grid Consumer Collaborative Study (“SGCC”), *Smart Grid Economic and Environmental Benefits – A Review and Synthesis of Research on Smart Grid Benefits and Costs* (“SGCC Report”) (ME/PE/PP/WP Hearing Ex. 2), which reports on the costs and benefits of smart grid/smart meter projects implemented by 24 different utilities throughout the country.²² While results differ among the 24 utilities examined, the Report notes that, on average, the Benefit/Cost Ratio when both operational and non-operational savings are

²¹ Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-SR (Fitzpatrick Supp. Reb.), p. 3.

²² Because the use of the 0.37% discount rate demonstrated that the Revised Deployment Plan was less costly than the Original Deployment Plan on a NPV basis, there was no need to attempt to quantify these types of savings/benefits.

considered falls between 1.5 to 1 in the “Reference Case” and 2.6 to 1 in the “Ideal Case”.²³ As Mr. Fitzpatrick explained, although the Companies’ smart meter system is not yet operational and there is very little data specific to the Companies’ deployment plan that would allow for a similar analysis specific to the Companies, the SGCC Report demonstrates that the average Benefit/Cost ratios are greater when non-operational cost savings benefits are considered, thus indicating that such benefits are feasible and potentially significant.²⁴ Second, the 0.37% discount rate has not been tax adjusted, which would have resulted in a lower discount rate and thus made the Revised Deployment Plan even more attractive on an NPV basis.²⁵

In response to criticisms lodged by OCA witness Hornby in his supplemental testimony²⁶, Mr. Fitzpatrick presented two additional analyses: (i) an NPV analysis assuming a higher discount rate of 2.67%; and (ii) an NPV analysis incorporating an estimate of the potential savings to customers through EGS sponsored time-of-use (“TOU”) rates, the implementation of which will be facilitated by the installation of smart meter technology. The 2.67% discount rate is the current rate that can be earned on a 10-year U.S. Treasury note and corresponds to the benchmark used in the SGCC Report to discount future smart meter costs and benefits. The SGCC Report was sponsored by the Smart Grid Consumer Collaborative whose membership is comprised of over 100 participants, including more than 35 utilities, 8 regulatory agencies (California, Colorado, Illinois, Massachusetts, Michigan, New Hampshire, Oregon and Texas), 4 national laboratories, 4 state consumer advocates, approximately 20 smart grid vendors, and 20 special interest advocacy groups, including the California Center for Sustainable Energy, Environmental Defense Fund, Future of Privacy Forum, Institute for Energy & Environment at

²³ Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S (Fitzpatrick Supp.), pp. 7-8.

²⁴ Id. at 8.

²⁵ Tr. p. 167; OCA Statement No 1-S (Hornby Supp.), p. 11.

²⁶ See e.g., OCA Statement No. 1-S (Hornby Supp.), pp. 7-8; 18.

Vermont Law, Natural Resources Defense Council and Utility Consumers' Action Network.²⁷ In endorsing the use of the rate on a 10-year U. S. Treasury note, the SGCC stated: "We chose a discount rate reflecting a customer's perspective. In essence, the discount rate represents the interest a customer could earn by purchasing a low-risk investment, such as a government bond, instead of Smart Grid capabilities. Because we are using a 13-year horizon for our cost-benefit analysis, we use the interest rate from a 10-year U. S. government bond (2.74 percent) for the NPV analysis."²⁸

As Mr. Fitzpatrick explained, changing the discount rate from 0.37% to 2.67% and leaving all other assumptions unchanged results in the Revised Deployment Plan costing approximately \$13 million more than the Original Deployment Plan on a NPV basis. If the potential savings attributable to the availability of EGS sponsored TOU rates – estimated by Mr. Fitzpatrick to approximate \$9.6 million per year upon reaching full participation levels²⁹ – are factored into the analysis, the cost of the Revised Deployment Plan, on an NPV basis, is about \$630,000 **less**.

Finally, there is ample reason to conclude that the favorable \$630,000 differential in costs may substantially understate the benefits of the Revised Deployment Plan for several reasons. First, in quantifying savings, Mr. Fitzpatrick utilized data from a 2005 article cited in the SGCC Report so as to be consistent with the other data from the SGCC Report on which he relied, rather than employing actual data from recent TOU pilots conducted by West Penn and a sister utility (Cleveland Electric Illuminating Company) that had kWh savings and demand reductions

²⁷ ME/PE/PP/WP Hearing Exh. No. 1, p. 3; Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-SR (Fitzpatrick Supp. Reb.), p. 6.

²⁸ ME/PE/PP/WP Hearing Exh. No. 2, p. 42 (footnote omitted).

²⁹ As Mr. Fitzpatrick explained, when making this calculation, the assumed participation rate of 16% was applied to the number of meters deployed. Therefore, while \$9.6 million represents the annual estimated benefit to customers through TOU rates when all smart meters are deployed, this savings was ramped up prior to that point. (Tr. pp. 179-180; 189).

far greater than those assumed in his TOU analysis.³⁰ Second, Mr. Fitzpatrick's analysis only incorporates potential TOU savings and does not account for other potential benefits that the SGCC Report indicates are likely to materialize; nor does it account for any additional operational cost savings that may accrue through the additional savings categories identified by OCA, such as revenue enhancement, avoided capital costs and distribution operations.

In sum, comparing the two plans from the customer's perspective results in the cost of the Revised Deployment Plan being approximately \$8 million less on a NPV basis than the Original Deployment Plan when a discount factor equivalent to an interest rate earned on a one year CD (0.37%) is assumed. If a discount factor equivalent to the current yield on a 10-year U.S. Treasury note (2.67%) is employed which is consistent with the analysis as set forth in the 24 utility study summarized in the SGCC Report, the cost of the Revised Deployment Plan is approximately \$13 million more on an NPV basis than the Original Deployment Plan before any savings beyond the Companies' original estimated operational cost savings are assumed. And, if just a single category of potential customer benefits – the estimated \$9.6 million of TOU savings annually – is incorporated into the NPV analysis, the net cost of the Revised Deployment Plan, assuming a discount factor of 2.67%, is approximately \$630,000 less on an NPV basis than the Original Deployment Plan (or \$23 million less if Mr. Fitzpatrick's 0.37% discount rate is retained). In light of the positive impact on competition and the *de minimis* impact on customer rates as discussed below, it is abundantly clear that customers would be better off under the Revised Deployment Plan and, accordingly, it should be approved by the Commission.

³⁰ Tr. p. 175-176.

4. The Adoption of the Revised Deployment Plan Will Have a De Minimis Effect on Customers' Rates and the Interim Rates Proposed by the Companies Should be Approved.

Although the nominal cost of the two plans is projected to be the same, the expansion of the scope of the Solution Validation Stage and acceleration of smart meter deployment will result in a shift of approximately \$142 million of capital spend during the period 2014-2016, with corresponding decreases in later years. As a result of this rebalancing of costs, under the Revised Deployment Plan there is a slight increase in customers' bills during the 2014-2016 period and a corresponding decrease in later years.³¹ Further, as Exhibit GLF-3SR demonstrates, during the 2014-2016 period in which the vast majority of the incremental capital spend occurs under the Revised Deployment Plan, the impacts on a customer's monthly bill, assuming consumption of 750 kWh per month, range from a low of 74¢ per month in 2015 for West Penn customers to a high of \$3.42 per month in 2016 for Penn Power customers.

Notwithstanding OCA's claims to the contrary, these increases are not significant or material when properly viewed on a total bill basis, ranging from a low of 0.89% for Penelec's customers in 2015 to a high of 4.46% for Penn Power customers in 2016. Putting this in perspective, the largest increase in 2016 for Penn Power customers approximates the cost of a gallon of milk per month.³² However, because smart meters in Penn Power's service territory are expected to be operational in 2016, these same customers will be "better able to gauge how their electricity usage patterns correspond to the price of electric generation", "will have the option of tailoring their individual usage patterns to save money on their electric bills" and, therefore, should be able to offset the 2016 increase in rates in whole or substantial part.

³¹ See Exh. GLF-4SR.

³² Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S (Fitzpatrick Supp. Reb.), p. 5.

The Companies' current SMT-C Riders provide for an interim filing if events occur that may result in either a significant over- or under-collection through current rates. Since the current SMT-C rates went into effect, several significant changes occurred due to the issuance of the Commission's March 6, 2014 Opinion and Order. The Companies are filing Interim SMT-C rates: (i) to address the acceleration of spending in the next several years as contemplated in the Revised Deployment Plan; (ii) to incorporate the recovery of the remaining \$5.1 million of Customer Information System ("CIS") costs incurred by West Penn when developing its original smart meter deployment plan; and (iii) to reflect the annual average number of meters as of June 30, 2013. The Revised Deployment Plan contemplates the installation of 170,000 smart meters throughout Penn Power's service territory over approximately 18 months. In contrast, the Companies' Original Deployment Plan assumed that only 60,000 meters would be installed in Penn Power's service territory through the end of 2016. As a consequence, the costs reflected in the Companies' existing SMT-C Rider rates are understated. If the Revised Deployment Plan is approved and the SMT-C rates are left unchanged, those rates would result in a material under-collection of recoverable costs expected to be incurred during the current Computational Year (January – December, 2014). The interim filing is made in an effort to better levelize SMT-C rates in 2014 and 2015.³³

No changes to the text of the SMT-C Riders for Met-Ed, Penelec or Penn Power were proposed. As a result of the Commission's ruling in its March 6, 2014 Order on West Penn's \$5.1 million CIS cost claim, the text in West Penn Tariff No. 37 and West Penn Tariff No. 39 have been changed to include the collection of the remaining \$5.1 million of CIS costs incurred in 2009 and 2010 associated with the development of the original smart meter plan, with

³³ Met-Ed/Penelec/Penn Power/West Penn St. No. 6-S (Gifford Supp.), pp. 2-3.

compliance pro-forma tariff updates to the West Penn SMT-C Riders depicted in Exhibit LWG-9.³⁴

Exhibits LWG-5 through LWG-8 demonstrate that the monthly SMT-C rate bill impacts for the last six months of 2014 by customer class for both the Original Deployment Plan and the Revised Deployment Plan, based on the costs of the Revised Deployment Plan, are not unreasonably higher than current rates. The overall ranges of SMT-C rates for all the customers of the Companies shown in the Revised Deployment Plan's Figure 5.1 are not materially different compared to the rate ranges for the Original Deployment Plan.³⁵ In light of the foregoing, the Interim SMT-C rates and the update to the text of West Penn's Tariff Nos. 37 and 39 should be approved.

5. The OCA's Critique of the Companies' Accelerated Deployment Plan is Flawed.

Throughout this proceeding, the OCA has sought to cast the Revised Deployment Plan in the worst possible light by ignoring many of the facts that negate OCA's claims and presenting others that distort reality. For example, OCA's witness, Mr. Hornby, completely ignored the benefits to customers of having access to smart meter technology at an earlier date. Instead, he chose to focus on the Revised Deployment Plan's impact on project costs and customer rates during the period 2014-2016 when the spending of approximately \$142 million of capital costs are being accelerated and the period 2014-2019 when a net of approximately \$47 million of capital costs are being accelerated,³⁶ while disregarding the corresponding decreases in costs and revenue requirements in subsequent years. Similarly, Mr. Hornby highlighted certain short-term

³⁴ Met-Ed/Penelec/Penn Power/West Penn St. No. 6-S (Gifford Supp.), p. 9.

³⁵ Id. at 8-9.

³⁶ See e.g., OCA Statement No. 1-S (Hornby Supp.), p. 2 (Ratepayers will pay higher SMT-C rates under the Revised Deployment Plan through 2019 with increases ranging from \$0.95/month to \$3.39/month); p. 5 (The Companies cumulative capital and operating costs through 2019 are projected to be \$62.7 million higher under the Revised Deployment Plan).

percentage increases in the Companies' Rider SMT-C charges that necessarily flow from the accelerated expenditures, but neglected to acknowledge that adoption of the Revised Deployment Plan would have a de minimis effect on a total bill basis. Finally, as more fully discussed below, the OCA's NPV analysis is seriously flawed because it assumes an unreasonably high discount factor and fails to take into account savings that even the OCA's expert admits will be generated. For all of these reasons, the OCA's critique of the Revised Deployment Plan should be rejected.

(a) The OCA's Use of a Nine Percent Discount Factor in its NPV Analysis is Unreasonable.

In his analysis, OCA witness Hornby used a discount factor of 9%, which he claimed was derived by adding a 7.0% rate purportedly used by the Office of Management and Budget ("OMB") to evaluate the effectiveness of Federal programs, plus an assumed 2% inflation rate factor.³⁷ However, as Mr. Fitzpatrick explained, use of the 7% OMB rate is inappropriate in this instance for several reasons. First, it has not been income tax adjusted. Second, it was created to evaluate government projects. And, third, the rate is akin to one to be used for the private sector, which is primarily comprised of for-profit businesses, and not residential customers.³⁸

More importantly, Mr. Hornby's use of a 9% discount factor simply does not reflect the true opportunity cost of money for a residential customer. When determining the discount factor to be used for NPV purposes, one looks at the alternative uses for the money if it weren't being spent on the project being assessed.³⁹ As Mr. Fitzpatrick noted, it is unrealistic to assume that a customer would modify his or her investment or debt management strategy based on the

³⁷ OCA Statement No. 1-S (Hornby Supp.), p. 20.

³⁸ Id.

³⁹ Id.

availability of an additional 74¢, or even \$3.42, per month. It is even more unrealistic to assume that if such an investment was made, it would earn 9% per annum.⁴⁰

The OCA attempted to justify Mr. Hornby's use of a 9% discount rate through the introduction of two exhibits. The first, OCA Cross Examination Exhibit 1, is purported to be a summary of discount rates utilized by others in NPV and/or cost-benefit analyses. This exhibit provides no probative value and should be rejected out of hand. First, none of this information can be put into context. For example, the discount rate assumption included for Oklahoma Gas & Electric refers to testimony on some unknown topic by some unknown witness for some unknown party. Other discount factors listed on OCA's exhibit reference unknown exhibits presented for unknown reasons (Potomac Electric Power, BG&E and Atlantic City Electric), or are included in an unknown person's response to an unknown question on an unknown topic made in an unknown data request (Nevada Power and Sierra Pacific). Similarly, the references to discount factors referenced in California Commission decisions (Pacific Gas & Electric and San Diego Gas and Electric) provide no information on the purpose of the calculations, the assumptions underlying the use of the discount factors listed, whether the Commission adopted the discount factors cited, or the Commission's rationale when adopting or rejecting them. And, finally, the highest of all discount factors included on the exhibit is nothing more than a self-serving reference to an unknown exhibit prepared by Mr. Hornby in a West Penn Power case that resulted in a settlement among the parties. In light of the foregoing, the information included on OCA Cross Examination Exhibit 1 offers no substantive value and should be rejected out of hand.

OCA Cross Examination Exhibit No. 2, the Illinois Commerce Commission's ("ICC") Order on Rehearing on the Ameren Illinois Company's ("Ameren") Advanced Metering

⁴⁰ Id. at 5.

Infrastructure (“AMI”) Plan, is equally irrelevant because the circumstances surrounding the Ameren case are far different from those before this Commission.

In the Ameren case, there was no statutory mandate to install advanced metering infrastructure. Instead, it was incumbent upon the ICC to determine whether Ameren’s AMI plan was cost beneficial consistent with the requirements of an Illinois statute.⁴¹ In Pennsylvania, the legislature has already determined that smart meter deployment is in the public interest when it enacted Act 129 mandating that smart meters be provided to all Pennsylvania customers. Therefore, there was no need (or requirement) for the Companies to perform an Ameren-type cost-benefit analysis supporting their proposed smart meter deployment plan and, in fact, no such analysis was conducted. Moreover, the ICC never determined the appropriate discount factor to be used in Ameren’s cost-benefit analysis, instead simply noting that Ameren’s AMI plan was cost beneficial even when an 8.2% discount rate was assumed.⁴² And, although the ICC rejected Ameren’s discount factor used in its cost benefit analysis (the yield on a 20-year Treasury note), it did so on a risk basis and not on an opportunity cost basis.⁴³

In its cost-benefit analysis, Ameren included potential benefits such as “avoided utility operational costs, avoided consumer power, capacity and energy costs, and avoided societal costs associated with the production and consumption of electricity”, as well as other societal benefits “including the greater integration of renewable and distributed power resources, health-related costs, other benefits associated with energy efficiency measures, demand-response activities and the enabling of greater penetration of alternative fuel vehicles.”⁴⁴ The ICC noted that “a significant portion of these benefits are speculative and depend upon numerous factors outside of

⁴¹ OCA Cross Exam. Exh. 2, p. 7.

⁴² Id. at 28-29.

⁴³ Id at 28.

⁴⁴ Id. at 7.

[Ameren's] control.”⁴⁵ As a result, the ICC imputed a greater risk premium than that afforded a 20-year Treasury bond.⁴⁶

For purposes of comparing the Original and Revised Deployment Plans in this proceeding, no such risk assessment is necessary. First, as mentioned previously, by mandating the installation of smart meters, the Pennsylvania legislature has already concluded that these types of projects are in the public interest. Second, the savings risks surrounding the Revised Deployment Plan are significantly different from those addressed by the ICC. Mr. Fitzpatrick's initial NPV analysis conservatively estimates savings from only those operational cost savings categories that are identifiable and quantifiable based on known metrics; these savings have nothing to do with the types of speculative savings from future market shifts or future technology developments that were included in Ameren's analysis. Therefore, the risk of the savings assumed in the Companies' NPV calculations not coming to fruition is far less than the risk that many of the “societal” savings components included in the Ameren analysis will be realized at the levels assumed by Ameren, or at any level at all. Assuming for the sake of argument that the Commission deemed a similar risk assessment warranted in this case, based on the foregoing, the risk premium should be significant less than that imputed in the Ameren cost-benefit analysis.

(b) In its NPV Analysis, the OCA Ignores Savings That it Admits Will Exist.

As the Companies explained, in order to make an apples-to apples NPV comparison between the Original and Accelerated Deployment Plans from the Companies' perspective, the Companies' NPV analysis retained the same savings categories identified in the Original Deployment Plan, adjusting them to recognize only the additional estimated \$12 million of nominal savings that would be accelerated under the Revised Deployment Plan. This was the

⁴⁵ Id. at 28.

⁴⁶ Id.

only incremental savings incorporated into the Companies' initial NPV analysis of the Original and Revised Deployment Plans because these incremental savings were derived from the savings categories included in the Original Deployment Plan.

Because the NPV of the Revised Deployment Plan was positive when using the Companies' initial discount rate of 0.37%, there was no need to address any other potential savings resulting from the accelerated deployment schedule. Only after Mr. Hornby in his Supplemental Testimony criticized Mr. Fitzpatrick's use of a 0.37% discount factor⁴⁷ and noted that the Companies did not estimate any savings from the non-operational customer benefits⁴⁸ did Mr. Fitzpatrick perform two additional NPV analyses, first increasing the discount rate to 2.67%, and then estimating savings from one of the many potential cost savings categories that have yet to be fully investigated by the Companies.

Because the Revised Deployment Plan when using a 2.67% discount factor resulted in a NPV cost of \$13 million more under the Revised Deployment Plan, the Companies conservatively estimated potential savings to be derived from TOU rates. The purpose of this additional analysis was simply to demonstrate that with the inclusion of a conservative estimation of savings from one additional potential source of savings in the Companies' analysis, the NPV of the Revised Deployment Plan using a 2.67% discount rate would be converted from \$13 million negative to \$630,000 positive.

The OCA performed no independent net present value analysis, instead choosing to recreate the Companies' NPV calculation based on all of the Companies' same assumptions except one – the discount factor.⁴⁹ As has already been discussed, the use of a 9% discount factor is unreasonably high when determining the customer's opportunity cost for the slight

⁴⁷ OCA Statement No. 1-S (Hornby Supp.), p. 18

⁴⁸ Id. at 7-8.

⁴⁹ Id. at 19.

monthly increase in rates that the customer would pay under the Revised Deployment Plan. Clearly, if the Companies adopted the OCA's ridiculously high discount rate, they would have followed the approach discussed above and would have evaluated additional cost savings categories in order to determine if the cost of the Revised Deployment Plan on a NPV basis was still positive when this discount rate was applied.

OCA claims that it made no assumptions regarding savings beyond those made by the Companies, because it wanted to make an apples-to-apples comparison to the Companies' analysis.⁵⁰ But by taking this approach, it is a foregone conclusion that if the discount rate is increased, the NPV will become less favorable. Therefore, if the Commission agrees that the use of a 9% discount factor is inappropriate, the rest of the OCA's NPV analysis becomes irrelevant. Moreover, if the OCA truly wanted to make an apples-to-apples comparison with the Companies' analysis, it should have followed the Companies' logic and should have evaluated whether there were sufficient potential savings sources available that would convert the NPV of the Revised Deployment Plan from negative to positive when a 9% discount factor is applied. Not only did OCA fail to take this next step, but it didn't even bother to incorporate savings from the additional savings categories that it identified and that its own witness claims will exist. In light of the foregoing, OCA's NPV analysis should be rejected first, because it assumes an unrealistically high discount factor, and second, because its savings estimates in its analysis are disingenuous.

B. Miscellaneous.

The Companies' have no issues to address in this section.

⁵⁰ Tr. p. 223.

VI. CONCLUSION

The Companies respectfully request that the Revised deployment Plan and the proposed interim SMT-C Rider rates submitted on March 19, 2014 be approved as filed without modification.

Respectfully submitted,

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Date: May 14, 2014

APPENDIX A

PROPOSED FINDINGS OF FACT

I. PROCEDURAL HISTORY

1. On March 19, 2014, Metropolitan Edison Company (“Met-Ed”), Pennsylvania Electric Company (“Penelec”), Pennsylvania Power Company (“Penn Power”) and West Penn Power Company (“West Penn”), each a subsidiary of FirstEnergy Corp. and collectively referred to as the “Companies,” filed a Revised Smart Meter Deployment Plan that proposed a modification of the smart meter deployment schedule approved by the Commission on March 6, 2014. The March 19, 2014 filing also served as a compliance filing with respect to the Commission’s March 6, 2014 Order approving the Plan. The March 19, 2014 filing was consistent with the Commission’s March 6, 2014 Order which authorized the Companies to file an amended plan proposing an accelerated deployment schedule within 30 days of the entry date of the Order.

2. The Revised Smart Meter Deployment Plan proposed a new schedule for the Penn Power solution validation stage of deployment that would start in July 2014 and complete the build out of Penn Power’s 170,000 smart meters by the end of 2015. The original deployment plan contemplated a solution validation stage in Penn Power’s service territory that would install 60,000 meters by the end of 2016 with the remainder being part of the 98.5% of the total meters originally proposed to be installed by the end of 2019. Under the revised deployment schedule this deadline is also accelerated to be completed by mid-2019 rather than the end of 2019. These proposals were supported by the Supplemental Testimony of Mr. George L. Fitzpatrick (Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S) and Ms. Laura W. Gifford (Met-Ed/Penelec/Penn Power/West Penn Statement No. 6-S).

3. The Companies have responded to informal discovery on the Revised Smart Meter Deployment Plan and its supporting materials propounded by the Office of Consumer Advocate (“OCA”) and the Met-Ed Industrial Users Group (MEIUG), Penelec Industrial Customer Alliance (PICA), West Penn Power Industrial Intervenors (WPPII), and Penn Power Users Group (PPUG), referred to collectively as (the Industrial Users).

4. On March 31, 2014, OCA filed Exceptions to the March 19, 2014 filing. The Companies filed a Response to those Exceptions on April 7, 2014. By Secretarial Letter dated April 16, 2014, the Commission referred the Revised Smart Meter Deployment Plan to the Office of Administrative Law Judge for the development of an evidentiary record. The Secretarial Letter further determined that the presiding officer should establish a procedural schedule that would enable the preparation of an order certifying the record, without a recommended decision from the presiding officer, that would allow the Commission to adopt a final order at its Public Meeting of June 5, 2014.

5. On April 18, 2014, the presiding officer, Administrative Law Judge Elizabeth H. Barnes, issued her Second Prehearing Order in this proceeding. This order directed the submission of Parties’ prehearing conference memoranda on or before April 24, 2014. A prehearing conference was held on April 25, 2014 and the following counsel was present. Daniel G. Asmus, Esq., for the Office of Small Business Advocate (OSBA); Teresa Schmittberger, Esq., for Met-Ed Industrial Users Group (MEIUG), Penelec Industrial Customer Alliance (PICA), West Penn Power Industrial Intervenors (WPPII), and Penn Power Users Group (PPUG), referred to collectively as (the “Industrial Users”); John F. Povilaitis, Esq. and Kathy J. Kolich, Esquire for the Companies; and Christy M. Appleby, Esq., for the Office of Consumer Advocate (the “OCA”). At the Prehearing Conference, ALJ Barnes adopted a

procedural schedule consistent with the Commission's Secretarial Letter of April 16, 2014, issuing a further Prehearing Order dated April 25, 2014, setting forth that schedule.

6. On April 29, 2014, OCA served the Supplemental Testimony of J. Richard Hornby, OCA Statement No. 1-S. This testimony was subsequently revised and corrected on May 6, 2014. On May 5, 2014, the Companies served the Supplemental Rebuttal Testimony of George L. Fitzpatrick. On May 6, 2014 the Companies submitted their Communications Plan to the Commission, consistent with the March 6, 2014 Order at these dockets. A hearing was conducted on May 7, 2014 before ALJ Barnes. Witnesses Gifford, Fitzpatrick and Hornby were cross examined at the May 7, 2014 hearing. All previously served supplemental and supplemental rebuttal testimony was admitted into the evidentiary record, as well as OCA Cross Examination Exhibits 1 and 2, and ME/PN/PP/WP Hearing Exhibits 1 and 2. On May 12, 2014, the Companies submitted for inclusion into the evidentiary record their response to On the Record Data Request No. 1. This response corrected the monthly 2014 SMT-C rate for West Penn. On May 14, 2014, the Companies submitted their Brief in this matter. The Procedural Schedule did not provide for the submission of Reply Briefs. **II. THE COMPANIES'**

PROPOSED REVISED DEPLOYMENT PLAN

A. Revisions to the Deployment Schedule and Contested Issues

7. The Companies filed their Original Deployment Plan on December 31, 2012. That Plan proposed a deployment schedule that contemplated the deployment of 98.5% of all smart meters by the end of 2019, with the remainder deployed no later than the end of 2022. During the period between the submission of briefs supporting the Original Deployment Plan in June 2013, and the issuance of the Administrative Law Judge's Recommended Decision on the Original Deployment Plan in November 2013, the Companies continued testing the equipment

and determined that they could prudently accelerate the deployment schedule, indicating this in Exception No. 6 to the Recommended Decision that the Companies filed in this proceeding on December 2, 2013. In its March 6, 2014 Opinion and Order (“Order”), the Commission indicated that if the Companies wished to pursue an accelerated deployment schedule, they “should promptly submit an amended [Deployment] Plan, with proper supporting documentation, with the Commission to properly provide the opportunity for all affected Parties, as well as [the] Commission, to fully evaluate and comprehend this proposal.” (Met-Ed/Penelec/Penn Power/West Penn St. No. 4-S, p. 2).

8. The essential difference between the Original and the Revised Smart Meter Deployment Plan is the deployment schedule and the related budgets. The original deployment schedule contemplated a three-year Solution Validation Stage wherein the Companies would first create a test lab/“mini-system” in Penn Power’s service territory by installing 60,000 meters (5,000 meters in 2014, 15,000 meters in 2015, and 40,000 meters in 2016) and then commence the Full-Scale Deployment Stage in 2017. Under the Revised Deployment Plan, the Companies will completely build out the Penn Power service territory, comprised of approximately 170,000 meters, in 18 months, with 50,000 meters and related infrastructure being installed during the second half of 2014, and the remainder being installed by the end of 2015. The Full-Scale Deployment Stage would then commence in early 2016. As a result of the Accelerated Deployment Schedule, the Solution Validation Stage will end, and the final Full-Scale Deployment Stage will begin, one year sooner than contemplated under the Original Deployment Plan. This will accelerate cost savings not only in Penn Power’s service territory, but also during the Full-Scale Deployment Stage. Additionally, costs will shift among years, thus impacting

both the overall net present value (“NPV”) of the Revised Deployment Plan and, the surcharges in Rider SMT-C (Met-Ed/Penelec/Penn Power/West Penn St. No. 4-S, pp. 3-4).

9. The Revised Deployment Plan makes it possible for approximately 98.5% of all meters to be installed by mid-2019, rather than the end of 2019, with the remainder being installed no later than the end of 2022. While the Companies will work to accelerate the completion of the Full-Scale Deployment Stage, the last 1.5% of the meters involves installations in areas that are difficult to access or difficult to interface with the smart meter infrastructure. The Companies will address these remaining meters (including those within Penn Power’s service territory) last, with the expectation that during the installation of the other meters, potential communication issues could be resolved through technological improvements, avoiding the need to incorporate significantly more expensive communication solutions, such as satellite transmissions, when integrating such remote locations into the overall smart meter system. Because these technological improvements are not yet readily available in the marketplace, the Companies are keeping the 2022 Full-Stage Deployment end date unchanged at this time. If the Companies can cost effectively accelerate this end date, they will do so (Met-Ed/Penelec/Penn Power/West Penn St. No. 4-S, p. 4).

10. In the Revised Deployment Plan, the Companies utilized the same modeling process used to develop the estimated costs and operational cost savings set forth in the Original Deployment Plan. However, several of the model inputs were modified to reflect the shortened Solution Validation Stage and the commencement of the Full-Scale Deployment Stage one year earlier than originally contemplated, thus accelerating the potential for realized operational cost savings. While the total nominal cost of the Revised Deployment Plan is the same as that included in the Original Deployment Plan, the installation of 110,000 additional meters in Penn

Power's service territory by the end of 2015 and the acceleration of the commencement of the Full-Scale Deployment Phase by one year results in cost shifts among the years and among the cost categories. These cost shifts, along with the acceleration of realized operational savings were reflected in the modeling of the Revised Deployment Plan. Program costs, as depicted in Chapter 4 of the Revised Deployment Plan, were updated to reflect the Companies' latest information and planning. In the aggregate, these updates resulted in overall O&M cost estimates increasing by approximately \$8 million, while overall capital costs decreased by approximately \$8 million. This analysis does not factor in other non-operating cost savings benefits the customer may receive sooner through the Revised Deployment Plan. All other assumptions remained unchanged from those used when developing the Original Deployment Plan (Met-Ed/Penelec/Penn Power/West Penn St. No. 4-S, pp. 5-6).

11. Because of the acceleration in spending and the anticipated acceleration of realized savings, the Revised Deployment Plan has a NPV net cost that is \$48.1 million more than the Original Deployment Plan when the Companies' discount rate is used, and \$8 million less than the Original Deployment Plan on a net cost NPV when a customer's discount rate of .37% is used. Using a customer discount rate of 2.67%, the NPV of the cost of the Revised Deployment Plan is approximately \$13 million more than the NPV of the Original Deployment Plan. This equates to approximately 0.1% of the estimated \$1.258 billion cost of the smart meter project (Met-Ed/Penelec/Penn Power/West Penn St. No. 4-S, p. 6; Met-Ed/Penelec/Penn Power/West Penn St. No. 4-SR, p. 7).

12. Much of OCA Witness Mr. Hornby's analysis focuses on the period through 2016 or 2019, which is when most of the incremental \$47 million of net capital spending will occur. The acceleration of the deployment of smart meters under the Accelerated Deployment Plan

contemplates more spending sooner than was proposed under the Original Deployment Plan. However, the total estimated nominal cost of the two plans is the same, meaning that the cost of the Accelerated Deployment Plan and its impacts on customers' rates are less than the Original Deployment Plan in the later years, as demonstrated by Exhibit GLF-4SR. This illustrates that the Accelerated Deployment Plan is fairly viewed as a rebalancing of expenditures and rate changes, rather than a rate increase as suggested by Mr. Hornby. Further, because the total estimated nominal cost of both plans over the lifetime of the project is the same, the net present value ("NPV") difference calculated by Mr. Hornby is primarily a result of the discount rate he used. Mr. Hornby assumes a 9% discount rate factor, which is unreasonably high, thus skewing his analysis and producing distorted results (Met-Ed/Penelec/Penn Power/West Penn St. No. 4-SR, pp. 2-3).

13. The Companies' current SMT-C Riders provide for an interim filing if events occur that may result in either a significant over- or under-collection through current rates. Since the current SMT-C rates went into effect, several significant changes occurred due to the issuance of the Commission's March 6, 2014 Opinion and Order. The Companies are filing Interim SMT-C rates: (i) to address the acceleration of spending in the next several years as a result of the accelerated deployment schedule discussed in Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S; (ii) to incorporate the recovery of the remaining \$5.1 million of Customer Information System ("CIS") costs incurred by West Penn when developing its original smart meter deployment plan; and (iii) to reflect the annual average number of meters as of June 30, 2013. In their Revised Deployment Plan, the Companies are proposing to install smart meters throughout Penn Power's service territory over approximately 18 months. In contrast, the Companies' Original Deployment Plan assumed that only 60,000 meters would be installed in

Penn Power's service territory through the end of 2016. As a consequence, the costs reflected in the Companies' existing SMT-C Rider rates are understated. If left unchanged, those rates would result in a material under-collection of recoverable costs expected to be incurred during the current Computational Year (January – December, 2014). The interim filing is made in an effort to better levelize SMT-C rates in 2014 and 2015 (Met-Ed/Penelec/Penn Power/West Penn St. No. 6-S, pp. 2-3).

14. No changes to the text of the SMT-C Riders for Met-Ed, Penelec or Penn Power were proposed. As a result of the Commission's March 6, 2014 Order ruling on West Penn's \$5.1 million CIS cost claim, the text in West Penn Tariff No. 37 and West Penn Tariff No. 39 have been changed to include the collection of the remaining \$5.1 million of CIS costs incurred in 2009 and 2010 associated with the development of the original smart meter plan, with compliance pro-forma tariff updates to the West Penn SMT-C Riders depicted in Exhibit LWG-9 (Met-Ed/Penelec/Penn Power/West Penn St. No. 6-S, p. 9).

15. Exhibits LWG-5 through LWG-8 demonstrate that the monthly SMT-C rate bill impacts for the last six months of 2014 by customer class for both the Original Deployment Plan and the Revised Deployment Plan, based on the costs of the Revised Deployment Plan, are not unreasonably higher than current rates. The overall ranges of SMT-C rates for all the customers of the Companies shown in the Revised Deployment Plan's Figure 5.1 are not materially different compared to the rate ranges for the Original Deployment Plan (Met-Ed/Penelec/Penn Power/West Penn St. No. 6-S, pp. 8-9).

16. Using the Companies' June 2014 price to compare default service rates for kWh saved and the average of the 3-year (2014-2016) PJM capacity prices, demonstrates that time-of-use programs alone could generate annual non-operational cost savings benefits of at least \$9.6

million for the Companies' customers using the U.S. Department of Energy's July 2013 publication, "Analysis of Customer Enrollment Patterns in Time-Based Rate Programs – Initial Results from the SGIG Consumer Behavior Studies," at page 16, where there is a 16% opt in participation rate for these types of programs (Met-Ed/Penelec/Penn Power/West Penn St. No. 4-SR, p. 9).

17. If 16% of the customers ($1,749,000 \times .16 = 279,840$) participate in a time of use program and on average reduce their kw demand by 3.25% at a cost of \$.14 per kw, they would save \$4.30 per year per customer. If this savings is multiplied by the total number of customers assumed to be participating, it results in savings of approximately \$1.2 million per year when full participation is reached. This combined with the \$8.4 million in savings resulting from kWh reductions, generates about \$9.6 million in annual savings (Met-Ed/Penelec/Penn Power/West Penn St. No. 4-SR, p. 10).

18. When the estimated \$9.6 million of annual savings from time of use rates are increased consistent with the deployment schedule, the net present value of the net cost of the Accelerated Deployment Plan is \$630,000 less than under the Original Deployment Plan. This analysis is conservative for several reasons. Mr. Fitzpatrick assumed kWh savings and peak reduction results as reported in a study, rather than the more current and much higher results experienced by West Penn and its sister company, The Cleveland Electric Illuminating Company. (Tr. p. 176). Also, the installation of 98.5% of the meters is accelerated by six months under the Accelerated Deployment Plan. If conditions warrant, further acceleration of this completion date is possible. Mr. Fitzpatrick's savings analysis was done on an annual rather than monthly basis. Using the incremental increases in meter deployment as set out at the bottom of page 4 of Mr. Hornby's testimony, and assuming all of the incremental meters are installed ratably over the

course of the year, under the Accelerated Deployment Plan, 15 million more customer months of smart meter experience are gained when compared to the Original Deployment Plan (Met-Ed/Penelec/Penn Power/West Penn St. No. 4-SR, p. 11).

19. For a residential customer using 750 kWh during the 2014 through 2016 period, under the Accelerated Deployment Plan their total bill will be higher by amounts ranging from \$0.74 per month to \$3.42 per month, or approximately 0.89% to 4.46%. The maximum percentage and maximum dollar increases occur in Penn Power's service territory in 2016, which will be the year in which customers begin to experience the benefits of operational smart meters (Met-Ed/Penelec/Penn Power/West Penn St. No. 4-SR, pp. 11-12).

20. The customer is better off under the Revised Deployment Plan because from a nominal cost perspective, the total cost of the deployment does not change. With the acceleration of the build-out in Penn Power's service territory and the acceleration of the Full-Scale Deployment by one year, estimated operational cost savings on a nominal dollar basis increase by \$12 million, and on a NPV basis, cost savings increase by \$11 million from a customer perspective. On both a nominal cost and NPV cost basis, residential and small commercial customers are better off with the Revised Deployment Plan, even without factoring in any of the potential non-operating cost benefits (Met-Ed/Penelec/Penn Power/West Penn St. No. 4-S, p. 9).

21. Because the Companies' smart meter system is not yet operational and there is very little data specific to the Companies' deployment plan that would allow for calculations of non-operational cost savings benefits. Although it is currently not possible for the Companies to determine the value of such potential benefits as related to their deployment plan, the *Smart Grid Economic and Environmental Benefits – A Review and Synthesis of Research on Smart Grid*

Benefits and Costs” (“SGCC Report”), studied 24 utility projects and determined Benefit/Cost ratios for this group of projects. A review of the SGCC Report demonstrates that the average Benefit/Cost ratios are greater when non-operational cost savings benefits are considered, thus indicating that such benefits are feasible and potentially significant. The SGCC Report applied a discount rate of 2.74%, which represented the then current interest rate for a ten year U.S. Treasury note. That same investment vehicle today earns 2.67%. (Met-Ed/Penelec/Penn Power/West Penn St. No. 4-SR, pp. 6-9).

22. The percentage impact of the Accelerated Deployment Schedule on industrial customers is minimal because their rates are flat charges and not based on kWh usage. As seen in Figure 5.1 of the Revised Deployment Plan, the estimated range of Industrial User customer rates is not significantly different from those in the Original Deployment Plan (Met-Ed/Penelec/Penn Power/West Penn St. No. 4-S, p. 9).

23. The Accelerated Deployment Plan will enable customers to reap the full benefits of the competitive market at an earlier date. All of this can be accomplished without any difference in the estimated total nominal cost of the two plans. From a net present value perspective, if the one year CD rate of 0.37% is used, the Accelerated Deployment Plan has a Net Cost NPV that is \$8 million less than the Original Deployment Plan. The use of a ten year U.S. Treasury note interest rate of 2.67% results in the Accelerated Deployment Plan having a NPV that is only approximately \$13 million more than the Original Deployment Plan, which represents 0.1% of the total estimated cost of the project and, if a modest estimated value of the benefits of time of use rates is factored into the analysis, the NPV Net Cost of the Accelerated Plan using a discount factor of 2.67% is \$630,000 less than the Original Deployment Plan.

Therefore the Accelerated Deployment Plan is reasonable and should be adopted (Met-Ed/Penelec/Penn Power/West Penn St. pp. 12-13).

APPENDIX B

PROPOSED CONCLUSIONS OF LAW

1. The Companies properly utilized the period between the submission of briefs in June 2013, and the issuance of the Administrative Law Judge's Recommended Decision in November 2013, to continue testing the equipment and determined that they could prudently accelerate the smart meter deployment schedule. The Companies' Revised Deployment Plan reasonably and prudently balances smart meter availability, costs, rate impacts and benefits to customers. As such, the Companies' Revised Deployment Plan satisfies the requirements of Act 129 and the Commission's Implementation Order and, accordingly, the deployment plan approved in the Commission's March 6, 2014 Order should be modified as set forth in the Revised Deployment Plan which is red lined in Appendix B to Met-Ed/Penelec/Penn Power/West Penn Statement No. 4-S.

2. The Companies' Smart Meter Technologies Charge Riders were previously authorized by the Commission as consistent with Sections 1307 and 2807(f)(7) of the Public Utility Code. Their continued use for the recovery of smart meter-related costs under the Revised Deployment Plan is reasonable and appropriate.

3. The Companies' proposed interim SMT-C rates for the period July 1, 2014 through December 31, 2014 should be approved, effective on one day's notice.

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

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

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of the foregoing document in accordance with the requirements of 52 Pa. Code § 1.54 et seq. (relating to service by a participant).

VIA FIRST CLASS AND ELECTRONIC MAIL

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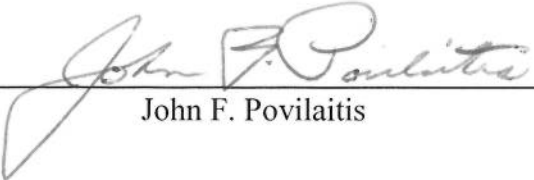
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