POST & SCHELL PC
ATTORNEYS AT LAW

17 North Second Street
12th Floor
Harrisburg, PA 17101-1601
717-731-1970 Main
717-731-1985 Main Fax
www.postschell.com

Anthony D. Kanagy

akanagy@postschell.com
717-612-6034 Direct
717-731-1985 Direct Fax
File #: 2507/158811

January 13, 2015

VIA ELECTRONIC FILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor North
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Petition of PPL Electric Utilities Corporation for Approval of Its Smart Meter Technology Procurement and Installation Plan
Docket No. M-2014-2430781

Dear Secretary Chiavetta:

Enclosed please find the Initial Brief of PPL Electric Utilities Corporation for the above-referenced proceeding. Copies will be provided as indicated on the Certificate of Service.

Respectfully submitted,

Anthony D. Kanagy

ADK/skr
Enclosure

cc: Honorable Susan D. Colwell
Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of § 1.54 (relating to service by a participant).

VIA E-MAIL AND FIRST CLASS MAIL

Christy M. Appleby, Esquire
Amy Hirakis, Esquire
Hobart J. Webster, Esquire
Office of Consumer Advocate
555 Walnut Street
Forum Place, 5th Floor
Harrisburg, PA 17101-1923

Steven C. Gray, Esquire
Office of Small Business Advocate
Commerce Building
300 North Second Street, Suite 202
Harrisburg, PA 17101

Pamela C. Polacek, Esquire
Adeolu A. Bakare, Esquire
McNees, Wallace & Nurick
100 Pine Street
PO Box 1166
Harrisburg, PA 17108-1166
Counsel for PPLICA

Harry S. Geller, Esquire
Elizabeth R. Marx, Esquire
PA Utility Law Project
118 Locust Street
Harrisburg, PA 17101-1414
Counsel for CAUSE-PA

Scott J. Rubin, Esquire
Public Utility Consulting
333 Oak Lane
Bloomsburg, PA 17815
Counsel for International Brotherhood Of Electrical Workers, Local 1600

Thomas S. Catlin
Christina R. Mudd
Exeter Associates, Inc.
10480 Little Patuxent Parkway
Suite 300
Columbia, MD 21044
Consultant for Office of Consumer Advocate

Nancy Brockway
10 Allen Street
Boston, MA 02131
Consultant for Office of Consumer Advocate

Robert D. Knecht
Industrial Economics Incorporated
2067 Massachusetts Avenue
Cambridge, MA 02140
Consultant for Office of Small Business Advocate

Date: January 13, 2015

Anthony D. Kanagy

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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PPL Electric Utilities Corporation for Approval of Its Smart Meter Technology Procurement and Installation Plan	: : : :	Docket No. M-2014-2430781

INITIAL BRIEF OF PPL ELECTRIC UTILITIES CORPORATION

TO: ADMINISTRATIVE LAW JUDGE SUSAN D. COLWELL

Paul E. Russell, Esquire (I.D. #21643)
Associate General Counsel
PPL Services Corporation
Office of General Counsel
Two North Ninth Street
Allentown, PA 18101-1179
Phone: 610-774-4254
Fax: 610-774-6726
E-Mail: perussell@pplweb.com

David B. MacGregor, Esquire (I.D. #28804)
Post & Schell, P.C.
Four Penn Center
1600 John F. Kennedy Blvd.
Philadelphia, PA 19103-2808
Phone: 215-587-1197
Fax: 215-320-4879
E-Mail: dmacgregor@postschell.com

Anthony D. Kanagy, Esquire (I.D. #85522)
Post & Schell, P.C.
17 North Second Street, 12th Floor
Harrisburg, PA 17101-1601
Phone: 717-712-6034
Fax: 717-731-1985
E-Mail: akanagy@postschell.com

Attorneys for PPL Electric Utilities Corporation

Date: January 13, 2015

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I. INTRODUCTION

PPL Electric Utilities Corporation ("PPL Electric" or the "Company") hereby files its Initial Brief pursuant to the procedural schedule adopted in the above-referenced proceeding, as modified on January 12, 2015. The Company's Initial Brief follows the Common Brief Outline that was approved by Administrative Law Judge Susan D. Colwell in the Briefing Order dated December 19, 2014. PPL Electric has added additional sub-headings under certain headings to provide additional structure for its arguments. Included as Appendix A are Proposed Findings of Fact, Conclusions of Law and Ordering Paragraphs.

II. PROCEDURAL HISTORY

PPL Electric provides electric distribution, transmission and provider of last resort services to approximately 1.4 million customers in a certificated service territory that spans approximately 10,000 square miles in all or portions of 29 counties in eastern and central Pennsylvania. PPL Electric is a "public utility" and an "electric distribution company" ("EDC") as those terms are defined under the Public Utility Code, 66 Pa. C.S. §§ 102 and 2803.

On June 30, 2014, PPL Electric filed the above-captioned Petition with the Commission. PPL Electric filed its Petition pursuant to the Commission's Order entered on August 2, 2012. *Petition of PPL Electric Utilities Corporation for Approval to Modify its Smart Meter Technology Procurement and Installation Plan and to Extend its Grace Period*, Docket Nos. P-2012-2303075, M-2009-2123945, Order entered August 2, 2012 ("*2012 Smart Meter Order*"). In the *2012 Smart Meter Order*, the Commission directed PPL Electric to file a revised smart meter plan that fully complies with Act 129 by June 30, 2014. *Id.* at 20-21. In the above-captioned Petition, PPL Electric proposes to implement a Smart Meter Plan ("SMP") that will fully meet the requirements of Act 129 and the Commission's Smart Meter Implementation

Order. *Smart Meter Procurement and Installation*, Docket No. M-2009-2092655, Order entered June 24, 2009 ("*Implementation Order*").

The Office of Consumer Advocate ("OCA") and Office of Small Business Advocate ("OSBA") filed Notices of Intervention, Public Statements and Answers to the Petition. International Brotherhood of Electrical Workers, Local 1600 ("IEBW"), Coalition for Affordable Utility Service and Energy Efficiency in Pennsylvania ("CAUSE-PA"), and PP&L Industrial Customer Alliance ("PPLICA") filed Petitions to Intervene, with PPLICA also filing a protest.

The proceeding was assigned to Administrative Law Judge Susan D. Colwell. On July 8, 2014, the ALJ issued a Prehearing Order which set forth certain rules for the prehearing conference and for the proceeding in general. In response to the Prehearing Order, Parties filed prehearing memoranda.

A Prehearing Conference was held on August 11, 2014. At the Prehearing Conference, the ALJ adopted a litigation schedule and discovery rules for the proceeding. In addition, the ALJ granted the Petitions to Intervene that were filed by the Parties, with the exception that PPLICA indicated that it was proceeding as a protestant rather than an intervenor. Also on August 11, 2014, the ALJ issued a Scheduling Order which memorialized the actions taken during the Prehearing Conference.

On October 10, 2014, OCA and OSBA served direct testimony. On November 21, 2014, PPL Electric served rebuttal testimony. On December 5, 2014, OCA and OSBA served surrebuttal testimony. On December 12, 2014, PPL Electric served rejoinder testimony.

A hearing was held on December 16, 2014. Parties conducted cross-examination. In addition, the Parties' testimony and exhibits were admitted into the record.

PPL Electric hereby submits its Initial Brief pursuant to the litigation schedule adopted in this proceeding as modified on January 12, 2015, and pursuant to the Common Brief Outline. Proposed Findings of Fact, Conclusions of Law and Ordering Paragraphs are provided as Appendix A hereto.

III. STATEMENT OF THE QUESTIONS INVOLVED

1. Whether PPL Electric's Smart Meter Petition should be approved, including the Company's proposal to deploy RF Mesh smart meters by the end of 2019 which will allow the Company to be compliant with the smart meter provisions of Act 129 and the Commission's *Implementation Order*?

   Suggested Answer: *In the affirmative.*

2. Whether PPL Electric's proposal to reflect smart meter savings through base rates is reasonable and should be adopted?

   Suggested Answer: *In the affirmative.*

3. Whether PPL Electric should be required to split its Small C&I smart meter charge into separate charges for each Small C&I rate schedule?

   Suggested Answer: *In the negative.*

4. Whether PPL Electric should be required to file its Smart Meter Communication Plan for Commission approval?

   Suggested Answer: *In the negative.*

5. Whether PPL Electric should be required to seek stakeholder input with respect to data privacy issues when PPL Electric follows all Commission guidance and regulations with respect to data privacy and where PPL Electric will conduct a data privacy impact assessment with regard to smart meter data?

Suggested Answer: *In the negative.*

6. Whether PPL Electric's proposal to seek Commission approval of use of the remote disconnect switch for involuntary service termination, service limiting programs or pre-pay metering programs only if such programs require a waiver of or modification to the Commission's regulations is reasonable?

Suggested Answer: *In the affirmative.*

IV. BURDEN OF PROOF

Pursuant to Section 332(a) of the Public Utility Code, 66 Pa.C.S. § 332(a), PPL Electric, as the Petitioner, has the burden of proof with respect to its proposals in this proceeding:

> "Except as may be otherwise provided in Section 315 (relating to burden of proof) or other provisions of this part or other relevant statute, the proponent of a rule or order has the burden of proof."

It is to be emphasized, however, that the burden of proof, also known as the burden of persuasion, means a duty to establish a fact by a preponderance of the evidence. *Se-Ling Hosiery v. Margulies*, 364 Pa. 45, 70 A.2d 854 (1950). If the Company presents evidence found to be of greater weight than the other parties, then the Company will have carried its burden of proof. *Morrissey v. Commonwealth of Pennsylvania*, 424 Pa. 87, 225 A.2d 895 (1986); *Burleson v. Pa. P.U.C.*, 501 Pa. 433, 436, 641 A.2d 1234, 1236 (1983); *V.J.R. Bar Corp. v. P.L.C.B.*, 480 Pa. 322, 390 A.2d 163 (1978); *Milkie v. Pa. P.U.C.*, 768 A.2d 1217, 1220 (Pa. Cmwlth. 2001).

Although PPL Electric bears the burden of proving that its proposals are in the public interest, a party that makes a proposal that is not included in a public utility's case bears the burden of proof as to its proposal. For example, in *Pa. P.U.C. v. Metropolitan Edison Company*, et al., Docket Nos. R-00061366, et al., 2007 Pa. PUC LEXIS 5 (January 11, 2007), a party offered proposals that were not included in the public utilities' filings. The ALJ held that, as the proponent of a Commission order with respect to the offered proposals, the party bears the burden of proof as to proposals that are not included in the companies' filings. The Commission agreed and adopted the ALJ's conclusion that the Public Utility Code cannot reasonably be read to place the burden of proof on the utility with respect to a proposal that the utility did not include in its filing and which, frequently, the utility would oppose. *Id.* at *184-87. See also *Joint Default Service Plan for Citizens' Electric Company of Lewisburg, PA and Wellsboro Electric Company for the Period of June 1, 2010 through May 31, 2013*, Docket Nos. P-2009-2110798, et al., 2010 WL 1259684 at *2, 19-20 (February 25, 2010) (the companies had the burden of proof as to the proposed plan, but other parties that had submitted their own proposals bore the burden of proof with respect to their proposals).

V. SUMMARY OF ARGUMENT

PPL Electric has been a leader in providing Advanced Metering Infrastructure ("AMI") to customers. PPL Electric was one of the first investor-owned utilities in North America to deploy an AMI system. The Company began to deploy its current AMI system in 2002, utilizing a Power Line Carrier technology where data from the meters is transmitted through the power lines back to the Company for billing purposes. The Company implemented its AMI system well before Act 129 was enacted. As a result of implementing the AMI system, the Company experienced significant cost savings, including the elimination of its physical meter reading

workforce. These savings have been reflected in base rate cases since 2004, and customers have received the benefits of these savings.

PPL Electric's current PLC metering system, while state of the art when first installed beginning in 2002, does not comply with all of the statutory requirements of Act 129, nor is it able to offer all of the nine additional capabilities set forth by the Commission in its *Smart Meter Implementation Order*. In addition, PPL Electric's current PLC metering system cannot reasonably or cost effectively be upgraded to meet all of the Act 129 requirements. After careful analysis and study, PPL Electric therefore proposes to replace its current PLC metering system with a new RF Mesh system. The RF Mesh system will fully comply with Act 129 and also will be able to offer all of the nine additional capabilities set forth in the Commission's *Implementation Order*. RF is the current state of the art for AMI systems, and all of the other EDCs in Pennsylvania are implementing RF based systems in order to comply with the smart meter requirements of Act 129.

PPL Electric has proposed a smart meter deployment schedule that is consistent with the schedules approved by the Commission for all other EDCs that are required to comply with Act 129. The Company's proposed deployment schedule is reasonable and should be adopted for several reasons, including:

- It will allow PPL Electric to be compliant with Act 129.
- It will provide customers with the numerous benefits of smart meter technology, including Home Area Network capability, improved outage management, improved power quality, improved customer service and other benefits that are explained below.
- It will allow PPL Electric to avoid unnecessary investment in its current PLC metering system that is nearing the end of its useful life.

Both the OCA and OSBA argue that the Company should extend its proposed deployment schedule for 2-5 years. The OCA and OSBA arguments to delay deployment are

contrary to the decision in the FirstEnergy smart meter proceeding, where the Commission directed First Energy not to delay deployment until 2022 and to deploy smart meter technology as soon as reasonably possible.

The OSBA relies on a net present value analysis to support its request for delay. However, the OSBA's net present value analysis fails to consider many of the benefits of implementing smart meter technology pursuant to the Company's proposed schedule. The OSBA's net present value analysis also fails to consider the business risks associated with delaying deployment and the adverse impacts associated with continuing to attempt to support a failing PLC metering system that is at the end of its useful life.

The Company's proposed deployment schedule is reasonable from an asset management perspective, is consistent with the schedules adopted by the Commission for other EDCs and should be adopted without modification.

In this proceeding, PPL Electric proposes to reflect any cost savings from implementing smart meter technology in base rates. PPL Electric installed its current AMI system in 2002-2004 and reflected significant savings to customers through base rates, including savings associated with eliminating the physical meter reading positions. Because PPL Electric has already implemented an AMI system, there are few additional savings to flow through to customers and any additional savings will be difficult to quantify. For these reasons, it is reasonable to reflect additional savings to customers in base rates.

The OCA argues that the Company should establish baselines for costs, as the FirstEnergy Companies are doing, and flow savings through the SMR. PPL Electric and the FirstEnergy Companies are in completely different positions because the FirstEnergy Companies do not currently have an AMI system, but rather still have employees that physically read meters.

PPL Electric has already flowed savings associated with implementing its AMI system through to customers. Therefore, while it is reasonable for the FirstEnergy Companies to establish baselines for cost savings, it is not necessary or appropriate for PPL Electric.

The OSBA argues that PPL Electric should credit the SMR with "avoided costs" that are based on the OSBA's net present value calculation. The OSBA's proposal should be rejected. First, OSBA's proposed "credit" is not based on any actual cost savings but is based on its estimated net present value analysis. Second, PPL Electric should not be required to credit its SMR with any avoided costs. Customers will receive the benefits of avoided costs by not being required to pay for them because PPL Electric will not actually incur the costs, and therefore, the costs will never be reflected in rates. In essence, the OSBA contends that PPL Electric should reduce rates to reflect future avoided costs that will not be incurred (and therefore be "avoided"). The OSBA's proposal is contrary to sound ratemaking principles would double count the savings to customers and should be denied.

In this proceeding, PPL Electric proposes to continue its current practice of calculating separate smart meter charges for each customer class, i.e., Residential, Small C&I and Large C&I. The OSBA argues that the Company should calculate separate smart meter charges for each Small C&I rate schedule to address meter cost differences. The Company does not agree with the OSBA's argument. The average meter cost differences among the Small C&I rate schedules are minimal, and the OSBA's proposal will not eliminate OSBA's alleged cross-subsidization. PPL Electric's methodology is consistent with all of its other 1307 automatic adjustment clauses, including its current SMR, and should be approved.

With respect to the Company's Communication Plan, the OCA argues that the Company should work with stakeholders to further develop the Plan and file the Plan with the Commission

for approval. PPL Electric agrees to work with stakeholders to further develop the Plan and to file the Plan with the Commission. However, PPL Electric does not believe that Commission approval of the Plan is required and further believes that the Commission can decide that issue when the Plan is filed.

The OCA also argues that the Company does not know what information customers want to protect as private and that the Company should be required to revise its data privacy plan with the assistance of employees well-versed in customer service issues and with interested stakeholders. The OCA's argument that PPL Electric does not know what data to keep private is completely incorrect. PPL Electric follows all Commission regulations with respect to maintaining the privacy of customer data and will address data privacy issues as part of its cybersecurity plan. The OCA's recommendations are unnecessary, would increase costs and should not be adopted.

The OCA also argues that PPL Electric should be required to obtain Commission approval prior to using the remote disconnect switch for involuntary termination of service, service limiting programs or pre-pay metering programs. PPL Electric agrees to seek Commission approval of such programs if they require a waiver of or modification to the Commission's regulations. However, the Company should not be required to seek Commission approval of these types of programs if they can be implemented in a manner that follows all applicable Commission regulations.

VI. ARGUMENT

A. COMPLIANCE WITH ACT 129 AND THE IMPLEMENTATION ORDER

1. PPL Electric's Current Automated Metering System Does Not Meet The Requirements of Act 129.

PPL Electric began deploying its existing AMI system in 2002, six years before the adoption of Act 129. PPL Electric's current AMI system relies on a Power Line Carrier ("PLC") technology to read the meters. (PPL Electric St. No. 2, p. 4.) Data from the meters, including customer usage data, is transmitted through the power lines to the Company's back office Information Technology ("IT") systems where it is validated and then used to determine customers' bills. Beginning in 2005, PPL Electric deployed a Meter Data Management ("MDM") system, which in part, allowed customers to view and analyze their energy usage. (PPL Electric St. No. 2, pp. 5-6.)

Act 129 became effective on November 14, 2008. P.L. 1592, No. 129. Act 129 required EDCs to file smart meter technology procurement and installation plans by August 14, 2009. On June 24, 2009, the Commission issued its Smart Meter *Implementation Order*. Therein, the Commission established the standards that each EDC's smart meter plan must meet, established minimum smart meter capabilities and set forth guidance regarding the Commission's expectations for deployment of smart meters.

PPL Electric filed its initial SMP with the Commission on August 14, 2009. Under its initial SMP, the Company proposed to meet the Act 129 requirements and the requirements of the *Implementation Order* through its current AMI system. The Company also proposed to use the 30-month grace period provided for in the *Implementation Order* to conduct a series of pilot programs and technology evaluations designed to extend the capabilities of its current AMI system. (PPL Electric Exh. No. 1, p. 7.)

On June 24, 2010, the Commission issued its Order with respect to the Company's initial SMP, *Petition of PPL Electric Utilities Corporation for Approval of Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123945, Order entered June 24, 2010 ("*2010 SMP Order*"). Therein, the Commission held that PPL Electric's current AMI system did not meet the Act 129 requirements, stating as follows:

> ... PPL Electric needs to expand its metering capabilities to meet the higher standards of Act 129...
>
> Since PPL Electric's existing system does not fully meet all Act 129 requirements, it should use the Grace Period Pilot programs to fully develop a Plan, to be filed with the Commission, to fully comply with Act 129.

2010 SMP Order at 24.

The Commission also stated as follows:

> PPL's Plan, if its HAN pilot is successful, would comply with Act 129. However, to the extent PPL's plan simply provides validated access to hourly usage data contained in its website, generally within 48 hours, this falls short of the goal of providing direct access to customer usage data. This is an example of indirect access to meter data.

2010 SMP Order at 22.

After the *2010 SMP Order*, PPL Electric undertook an extensive, multi-year evaluation with the assistance of industry experts to evaluate the capabilities of its current PLC system, as well as the impact of upgrades and extensions to the PLC system in order to determine if it could meet the Act 129 requirements. (PPL Electric St. No. 2, p. 6.) As part of its evaluation, PPL Electric determined that it could not reasonably implement a HAN with its existing PLC system. The Company's witness, Mr. Glenwright,[1] explained as follows:

[1] Mr. Glenwright is the Company's Advanced Metering Deployment Project Manager. Mr. Glenwright has 27 years of experience working in the utility industry in various engineering and

Q. Could PPL Electric's existing system be upgraded to meet the mandatory requirements of Act 129?

A. No. The existing Aclara PLC AMI meters deployed at PPL Electric do not have Zigbee communication chips inside the meters and there are no plans by Aclara to develop that technology. PPL Electric has worked with Aclara regarding their HAN capabilities. Aclara does not intend to develop and commercialize Zigbee communication chips in their meters and if PPL Electric required this as an option, then PPL Electric would be the only Aclara customer requiring this technology and would need to fund the development and future support for this technology.

(PPL Electric St. No. 2-R, p. 3.)

In addition, 86% of PPL Electric's existing PLC meters are prior generation electromechanical meters that do not meet 7 of the 15 additional *Implementation Order* requirements, including: (1) remote connect/disconnect, (2) providing 15-minute or shorter interval data, (3) supporting on-board storage of meter data, (4) supporting open standards and protocols, (5) ability to upgrade minimum capabilities, (6) ability to remotely reprogram the meter, and (7) net metering of customer generators. (PPL Electric St. No. 2, p. 9.)

The Company has clearly demonstrated in this proceeding that its current PLC metering system does not meet the statutory mandates of Act 129 or many of the additional requirements set forth by the Commission in the *Implementation Order* and cannot reasonably be upgraded to meet those requirements, especially the Act 129 requirement to provide customers with direct access to price and usage data.

---

management roles. Prior to working at PPL Electric, Mr. Glenwright worked at PECO operating its AMI system and also evaluated the use of new metering technology and applications across the Exelon system.

2. OCA's Arguments That PPL Electric's Current PLC Metering System Meets The Act 129 Standards Is Contrary To The Commission's *2010 SMP Order*.

In this proceeding, the OCA argues that PPL Electric's current PLC system meets all of the six statutory requirements established in Act 129. (OCA St. No. 1, p. 7.) The OCA recognizes that the Commission held that PPL Electric's current PLC system does not provide customers with direct access to and use of price information. (OCA St. No. 1, p. 8.) However, the OCA argues that upgrading the MDM system "will significantly alter the options for accelerating timeliness of providing pricing data."

At the hearing, OCA's witness, Ms. Mudd, testified as follows:

> In my view, there are capabilities, -- web-based capabilities that allow for direct access to pricing that could be contemplated with the existing metering framework that wouldn't involve a Zigbee capable device.

(Tr. 146.)

Ms. Mudd's web-based solution for providing customers with direct access to price and usage information does not meet the Commission's direct access standards and should be denied. Ms. Mudd's proposed solution would provide customers with indirect, not direct, access to price and usage information. Ms. Mudd did not explain how soon customers would have access to usage and price information under her web-based proposal. In addition, she did not have an opinion with respect to how much time it would take between when a customer used electricity and when they had access to usage data and price information on the web to meet the Commission's direct access standard. (Tr. 147-48.)

Providing customers with access to usage and price data on a website does not meet the Commission's interpretation of the direct access requirement of Act 129. Mr. Glenwright explained that the Company's understanding of the Act 129 statutory requirement of directly

providing customer's access to and use of price and consumption information is that the information needs to be provided near real time to the customer. (PPL Electric St. No. 2-R, p. 2.) Providing access to data on a website does not meet this requirement. Moreover, as recognized by Ms. Mudd, all of the other major EDCs in Pennsylvania, including Duquesne Light Company, PECO Energy Company and the FirstEnergy EDCs, are providing customers direct access to price and consumption information through HANs. (Tr. at 148.)

It is clear that PPL Electric's current PLC AMI system does not meet the Act 129 requirement of providing customers direct access to price and consumption information because the PLC AMI system does not have HAN capability. The OCA's argument that PPL Electric's current PLC AMI system meets all of the mandatory Act 129 requirements is directly contrary to the Commission's *2010 SMP Order* and should be denied. *See 2010 SMP Order,* p. 24.

B. TECHNOLOGY ISSUES – RF MESH VERSUS PLC

After the Commission issued the *2010 SMP Order*, PPL Electric hired industry experts such as Black & Veatch and IBM to assist the Company in evaluating the strengths and weaknesses of both PLC and RF Mesh technology. (PPL Electric St. No. 2-R, pp. 11-19; PPL Electric Exh. No. 1, pp. 11-23.) The Company determined that there were significant risks associated with PLC technology, including:

- The inability of the PLC solution and vendor to provide a reasonable HAN solution.
- The inability of PLC technology to support proactive outage notifications and "last gasp" technology.
- Bandwidth constraints on the PLC system.
- The inability of the Company's PLC network to read all meters at 15-minute intervals while still maintaining key performance.

- The significant risk with the Company's current PLC vendor.
- Limited investment in new PLC technology by large investor owned utilities in recent years.

(PPL Electric St. No. 2-R, pp. 12-19.)

Moreover, there are significant benefits associated with implementing an RF based solution, including:

- HAN capability.
- Enhanced functionality such as last gasp and proactive outage notification.
- Highly scalable network bandwidth.
- Ease of implementing redundancies within the network.
- It is being implemented by all other major EDCs in Pennsylvania.
- Multiple RF vendors reduces risk.

(PPL Electric St. No. 2-R, pp. 12-19.)

In evaluating whether to go with an RF Mesh versus a PLC solution, the Company also considered the costs of both options. PPL Electric's current PLC system would need to be substantially upgraded, even to provide a more limited functionality than is able to be provided by an RF Mesh system. As explained by Mr. Glenwright, the overall investment to upgrade the PLC system is similar in order of magnitude to implementing a new RF Mesh system. However, an RF Mesh system would fully meet the Act 129 requirements and enhance the Company's ability to deliver advanced functionality to customers that is not available with the existing PLC technology. (PPL Electric St. No. 2-R, p. 5.)

In direct testimony, the OCA argues that an RF Mesh solution does not necessarily provide the "optimal alternative" for PPL Electric. (OCA St. No. 1, p. 16.) OCA's argument is incorrect and should be denied. As explained above and in the Company's testimony in this

proceeding, the Company has clearly demonstrated that an RF Mesh solution is the optimum solution for providing smart meter technology to customers as required by Act 129 and the Commission's *Implementation Order*.

C. METER FAILURES

1. The Company's Current PLC Metering System Is Nearing The End Of Its Useful Life.

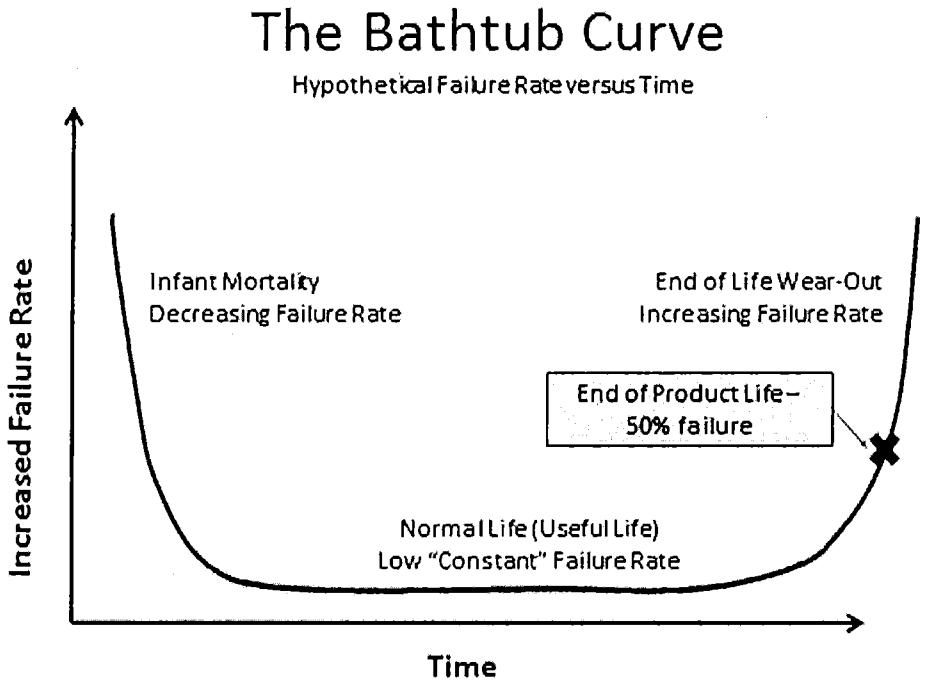
PPL Electric's current PLC metering communication system and meters were installed between years 2002 and 2004. (PPL Electric St. No. 4-RJ.) The type of PLC meters that were installed in 2002-2004 have electronic communication components that are more susceptible to wear from external conditions such as weather and heat than the prior generation meters that did not contain electronic communication components. Shortly after completing the installation of the PLC meters in 2004, the Company reviewed the useful life of these meters and revised its meter depreciation schedule from 28 years to 15 years. (PPL Electric St. No. 4-RJ.)

PPL Electric's existing PLC metering system is nearing the end of its useful life. This is not disputed in this proceeding. In 2013, PPL Electric experienced a meter failure rate that is four times the industry standard. (PPL Electric Exh. No. 1, pp. 10-11.) In addition, the meter failure rate is increasing over time. PPL Electric has concluded that the increase in meter failures is primarily due to electronic communication components failing over time due to electrical and thermal stresses. (PPL Electric Exh. No. 1, p. 11.)

It is not possible to predict with absolute certainty how long PPL Electric's existing PLC meters could last. However, it is clear that the system is very close to the end of its useful life. The meters were installed between 2002 and 2004. If a 15 year life is used (which is the depreciation schedule), the useful life would end between 2017 and 2019. PPL Electric has also conducted two studies to determine how long the meters may last. In 2011, PPL Electric

conducted a meter reliability analysis with Aclara. (PPL Electric St. No. 4-R, p. 4.) This study estimated that 50% of PPL Electric's first generation meters will fail within 18.2 years (approximately 2020-2022). PPL Electric also conducted a study with an independent testing agency which predicted an aggressive increase in meter failures beginning in 2013. PPL Electric has experienced an actual meter failure rate that trends most closely to the meter failure forecast produced in the joint PPL Electric/Aclara reliability analysis. (OCA Proprietary Cross-Examination Exh. No. 1.)

In addition, PPL Electric's actual historic meter failure rates have steadily increased over time, from approximately 10,000 in 2007 to over 28,000 in 2013. (OSBA St. No. 2, p. 5.) At some point in the near future, PPL Electric's meter failure rate could increase exponentially as demonstrated on the Weibull probability distribution curve that is explained in further detail by Ms. Ogozaly in her rebuttal testimony. (PPL Electric St. No. 4-R, pp. 3-4.) The Weibull or "bathtub curve" can be used to illustrate the life of an asset. Failures in the early life stage are generally related to defects in the manufacturing and/or installation processes. During the useful life, failures may occur due to anomalous conditions that subject the product to unexpected stress. The failure rate during the useful life stage is generally low and constant. As the product approaches the "wear-out" stage or end of its useful life, the failure rate increase dramatically. The bathtub curve is shown below.



(PPL Electric St. No. 4-R, pp. 3-4.)

The normal useful life period can vary significantly and the period when the failure rate will increase rapidly can be difficult to pinpoint. As explained above, PPL Electric's actual meter failure rate has been increasing significantly over the past several years, and PPL Electric's PLC meters have entered the end of product life part of the bathtub curve where the meter failure rate can soon increase exponentially.

All of these factors demonstrate that PPL Electric's current meter system is nearing the end of its useful life.

2. OCA's Argument That Aclara Is At Fault For The Meter Failures Should Be Denied.

In testimony, OCA suggests that PPL Electric's meter vendor, Aclara, is at fault for the Company meter failure rate. OCA's witness Ms. Mudd states that information provided in the Company's rebuttal testimony "raises a number of questions as to the appropriate role for the

current meter vendor, Aclara, in addressing some of the weaknesses and failures of the current system." (OCA St. No. 1-S, p. 3.) Ms. Mudd also states that PPL Electric should be "aggressively pursuing a resolution with Aclara" to mitigate the risks undertaken by PPL Electric on behalf of its customers. (OCA St. No. 1-S, p. 3.)

OCA's argument is based upon its assumption that PPL Electric's meter failure rate is due to the fault of the meter vendor. This assumption is erroneous. As explained by Ms. Ogozaly, high meter failure rates in the early stage of an asset life are generally related to defects in the manufacturing and/or installation process. (PPL Electric St. No. 4-R, p. 3.) However, PPL Electric's meter assets are not in the early stage of asset life. PPL Electric's meter failure rate is due to the fact that its first generation meters with electronic communication modules are in-service approximately 11-13 years. Also, during PPL Electric's original deployment of advanced meters, many in-service electromechanical meters were recycled and retrofitted with communications modules. (PPL Electric St. No. 2, p. 8.) This population of almost 720,000 meters will have a total in-service life greater than 15 years when replaced during the deployment period of 2017 to 2019 as proposed in the Company's Smart Meter Implementation plan. PPL Electric's meter failure rate is due to the old age of the meters. Like any other electronic device, meters wear out over time. PPL Electric does not have an actionable claim for failure of meters due to old age. If a furnace fails after 12 years of use, a person does not have a claim against the manufacturer. Similarly, if a car needs a new transmission after the warranty expires, a person does not have a claim against the dealer or manufacturer.

Moreover, the OCA does not offer any specific suggestion as to what "resolution" PPL Electric should be pursuing with Aclara. At the hearing, Ms. Mudd stated that she did not have a specific proposal for what PPL Electric should be doing. (Tr. 151-52.) However, she went on to

say that PPL Electric "should be seeking compensation through Aclara rather than laying all of the cost recovery risk with -- solely with the ratepayers." (Tr. 152.) The flaw in the OCA's argument is that there is no evidence to support the proposition that the meter failure rate is Aclara's fault. PPL Electric does not have a claim against Aclara for meters that are failing due to their advanced age. Moreover, even though the average meter population may have a useful life of 15 or even 18 years, certain meters will fail before the mean period and certain meters will fail after the mean period. This is normal for a population of meter assets. As explained by Ms. Ogozaly,

> ... the meter failure rate does not mean the metering system has not met expectations. The failure rate is a leading indicator of equipment approaching its end-of-life.

(PPL Electric St. No. 4-RJ, p. 2.)

The OCA does not have any basis to suggest that PPL Electric could receive compensation from its meter vendor for increasing meter failure rates.[2] OCA's argument that PPL Electric should be "aggressively pursuing" a resolution with its meter vendor is without merit and should be denied.

D. IMPLEMENTATION TIMELINE

1. PPL Electric's Proposed Deployment Schedule Should Be Adopted.

PPL Electric proposes to deploy its RF Mesh smart meter system from 2015 through 2021. Beginning in 2015, the Company proposes to build the IT systems that are necessary to support the smart meter system. These IT systems include the MDM system which provides for storage of data from smart meters, including interval meter reads, and processes raw meter data

[2] PPL Electric notes that in cases where meters have failed prematurely, it has received a credit for meter purchases which has reduced meter costs for customers. (Tr. 88.)

for billing purposes and the Head End data collection system which receives the stream of data from the field and makes it available for other systems. (PPL Electric Exh. No. 1, p. 2.)

In late 2016, the Company proposes a Solution Validation phase which will include a total deployment of up to 50,000 meters. (PPL Electric Exh. No. 1, p. 32.) The purpose of the Solution Validation phase is to test the smart meter systems with a limited meter population and slower deployment rate.

PPL Electric proposes to begin its Full Deployment phase in 2017 continuing through 2019. This will require an average deployment of 2,000 meters per day. (PPL Electric Exh. No. 1, p. 32.)

The final phase will be a Stabilization Period which will begin after the full deployment phase through 2021. The Stabilization Period will act as a final cut-over from PLC technology to RF Mesh technology during which time any PLC-related systems that are no longer needed to support the RF Mesh Solution will be decommissioned. (PPL Electric Ex. No. 1, p. 33.)

PPL Electric's proposed deployment schedule is reasonable and should be adopted. First, PPL Electric's current system is not compliant with Act 129. Adopting the Company's proposed deployment schedule will allow the Company to provide the full benefits of smart meter technology faster than if the deployment schedule is delayed. The Commission has encouraged EDCs to provide smart meter technology to customers as soon as reasonably possible. When the FirstEnergy Companies filed their initial SMP, they proposed to deploy smart meter technology to customers by 2022. In response, the Commission stated as follows:

> Nevertheless, we 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 that 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

> electricity generation, the sooner the customers will have the option of tailoring their individual usage patterns to save money on their electric bills. We strongly advise FirstEnergy that it is in the best interest of all parties involved, especially its customers, to deploy smart meters and their supporting infrastructure as soon as safe and reliable operations will allow.

Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company and Pennsylvania Power Company for Approval of Smart Meter Technology Procurement and Installation Plan, Docket No. M-2009-2123950, Order entered June 9, 2010, p. 14.

PPL Electric's RF Mesh will provide additional benefits to customers that cannot be provided with the Company's current PLC systems. These benefits include HAN capability, which will allow customers to see their usage and track price information on a near real-time basis and improved outage management with the addition of last gasp technology which will allow a meter to send a signal to the Company when the meter loses power. The RF Mesh system will also enhance functionalities such as improved tracking of unaccounted for energy, support enhanced customer self-service, improve distribution load management through the application of voltage and load monitoring, and improve power quality. (PPL Electric Exh. No. 1, pp. 51-52.)

Second, PPL Electric's proposed deployment schedule is consistent with the deployment schedules proposed by the other EDCs in Pennsylvania. Mr. Glenwright summarized the deployment information for the four Pennsylvania EDCs as follows:

Company	Meters Planned	Year of Deployment Completion
Duquesne Light	0.5M	2020 (Approved)
FirstEnergy Companies	2.1M	2019 (Approved)
PECO	1.8M	2014 (Approved)
PPL Electric	1.4M	2019 (Proposed)

(PPL Electric St. No. 2-R, p. 8.)

Mr. Glenwright further explained the benefits of a deployment schedule that is consistent with other EDCs. This will allow EGSs to offer similar services and rate plans across the Commonwealth. Such programs may include time of use programs that include the use of an in-home display, similar to what NRG offered in the PECO service territory and to what EGSs have offered in Texas. (PPL Electric St. Nos. 2-RJ, p. 2; 2-R, p. 10.) A deployment schedule consistent with other EDCs will prevent the Company from being an outlier and will allow for consistent rates and programs across the Commonwealth.

Third, the Company's deployment schedule will avoid significant unnecessary investment in the Company's PLC metering system that is nearing the end of its useful life. PPL Electric estimates that the incremental cost of a 2-year delay would be $38.4 million, including $27.9 million in additional investment in PLC meters that would be unnecessary if the Company's deployment schedule is adopted. (PPL Electric St. No. 4-R, p. 8.) Likewise, PPL Electric estimates that the incremental cost of a 4-year delay is $85.6 million, including $62.7 million in additional investment in PLC meters that would be unnecessary if the Company's deployment schedule is adopted. (PPL Electric St. No. 4-RJ, p. 8.) Further, Ms. Ogozaly, the Company's Director of Advanced Metering and Data Operations, who has 22 years of diversified experience at PPL Corporation, testified that the Company's proposed deployment schedule is prudent from an asset management standpoint because it will avoid a steep increase in PLC meter failure rates. (PPL Electric St. No. 4-R, p. 6.)

Fourth, the Company's deployment schedule will allow the Company to provide reasonable and continuous service as is required under Chapter 15 of the Public Utility Code. 66 Pa. C.S. § 1501. As explained by Ms. Ogozaly, the continued investment in the replacement of

failing PLC meters creates significant customer impacts as the number of estimated bills increases. This would increase the number of customer complaints and decrease customer satisfaction. (PPL Electric St. Nos. 4-R, p. 7; 4-RJ, p. 11.)

2. The OSBA's and OCA's Proposals To Delay Smart Meter Deployment Should Be Denied.

The OCA and the OSBA argue that the Company should delay deploying smart meters. The OCA recommends that the Company evaluate extending the deployment schedule by 2-5 years. (OCA St. No. 1, p. 25.) The OSBA recommends that the Company delay its proposed deployment schedule by 4-6 years. (OSBA St. No. 1, p. 4.)

OCA's argument that PPL Electric should delay deployment appears to be based on the proposition that there are "minimal additional savings anticipated from the installation of the RF Mesh system." (OCA St. No. 1-S, p. 4.) This argument ignores the many non-quantifiable benefits associated with the Company's proposed smart meter plan, including:

- HAN capability
- The ability for EGSs to offer similar products across the Commonwealth
- Improved outage performance
- Improved power quality
- Improved customer service

OSBA presents a net present value ("NPV") analysis in support of its recommendation that PPL Electric delay smart meter implementation. OSBA argues that the NPV savings of delaying deployment ranges from $75 million to $95 million. (OSBA St. No. 2, p. 8.) OSBA's NPV analysis has many flaws and should not be relied on as a basis to delay smart meter implementation.

As explained by Ms. Ogozaly, a NPV analysis is misapplied in this situation given the business need to replace the first generation PLC metering system before it reaches the end of its useful life. (PPL Electric St. No. 4-R, pp. 10-11.) The Company's proposed deployment schedule is prudent from an asset management standpoint. (PPL Electric St. No. 4-R, p. 6.)

The NPV analysis also fails to consider business risks associated with extending deployment. As explained by Ms. Ogozaly,

> Mr. Knecht's continued use of NPV analysis as a mathematical modeling tool fails to consider business and customer impacts. PPL Electric's MDMS vendor, Aclara is not continuing to upgrade our MDMS platform. This change makes our MDMS system, a key component of customer billing and PJM settlement, a stand-alone platform. Additionally, Aclara -the vendor for all of PPL Electric's current AMI systems - was recently divested (early in 2014) by its parent company, ESCO. Aclara is now owned by, a venture capital firm, Sun Capital Partners, Inc. PPL Electric has not received information from Aclara on the products that [they] will continue to support and advance under new ownership.

(PPL Electric St. No. 4-RJ, p. 11.)

The OSBA's NPV analysis also is incomplete because it fails to consider all of the benefits of implementing smart meter technology, such as last gasp technology, power restoration messages, access to real-time price and usage information and the other benefits described above. (See PPL Electric St. No. 4-RJ, p. 12.) At the hearing, the OSBA's witness, Mr. Knecht, agreed that his NPV analysis failed to capture all of the benefits of implementing smart meter technology:

> Q. … your NPV analysis doesn't consider the benefits of providing customers with Home Area Network technology five years sooner than your deployment schedule and also on the same schedule as other EDCs.
>
> A. Yes, that's fair….

Q. And just another point is your net present value analysis doesn't consider customer service benefits associated with reduced meter failures; is that correct?

A. Yes, that's also fair....

I did, in my surrebuttal, acknowledge that there are associated costs but they were simply not quantified, and, therefore, I did not put them in my analysis.

(Tr. 166-67.)

As recognized by Mr. Knecht, the OSBA's NPV analysis fails to consider the significant customer impacts associated with continued investment in a failing PLC system. If PPL Electric continues to prop up a failing PLC system, customer satisfaction will decline and customer complaints will increase. (PPL Electric St. No. 4-R, p. 11.) PPL Electric will incur significant costs to address customer issues.

In addition, a simple NPV analysis in this case varies greatly depending on the interest rate and inflation assumptions used in the model. As explained by Ms. Ogozaly, if inflation were just 1% higher than modeled, it would reduce the NPV savings calculation by over $9 million. In addition, using a lower interest rate also reduces the NPV benefits. As shown in Mr. Knecht's surrebuttal testimony, using an interest rate of 6% reduces NPV benefits by $9 million as compared to the base case interest rate. (See OSBA St. No. 2, p. 8 base case (with PLC replacement costs) estimated NPV savings of $89 million versus a discount rate of 6% (with PLC replacement costs) estimated NPV savings of $80 million). Moreover, as explained by Ms. Ogozaly, a long-term NPV analysis, as it is relied on by Mr. Knecht in this proceeding, is essentially a guess. (PPL Electric St. No. 4-R, p. 11.)

Further, the Commission has recently recognized the limitations of a simple NPV analysis in the FirstEnergy Companies' smart meter proceeding. The FirstEnergy Companies recently filed a proposal to accelerate their smart meter deployment schedule by approximately 6

months. *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, et al., Order entered June 25, 2014 ("*FirstEnergy SMP Order*"), p. 8. The FirstEnergy Companies presented an NPV analysis which purported to show that the NPV of First Energy's Revised Deployment Plan, which accelerated deployment by six months, was $48.1 million higher than First Energy's Original Deployment Plan. This analysis, however, employed the Companies' Weighted Average Cost of Capital ("WACC") (ranging from 8.17% to 11.29% for the four FirstEnergy Companies) as the discount rate. When the discount rate was revised to reflect the current yield on a 10-year Treasury Note (2.67%), the difference in NPV was reduced from $48.1 million to $13 million. *Id.* at 9. In approving the FirstEnergy Companies Revised Deployment Schedule which accelerated deployment by six months, the Commission stated:

> Based upon our review of the evidence of record, we conclude that FirstEnergy has met its burden of proof to establish that its Revised Deployment Plan is reasonable and in the best interest of its customers. While the Parties provided disparate positions on the appropriate NPV analysis, we note that the use of a higher discount rate based on corporate costs of capital results in a higher cost for the Plan, since the benefits of the plan are discounted more heavily. On the other hand, the use of a lower discount rate, based on money market or U.S. Treasury bond returns, results in a lower cost for the Plan, since the long term benefits of smart meters are discounted less. While well intentioned Parties can all agree to disagree about appropriate discount rates, what is clear in this case, as provided by the Companies, is that only a fraction of the benefits of this revised Plan have been captured in this analysis.
>
> First, this analysis does not factor in other non-operating cost savings that customers may receive sooner through the Revised Deployment Plan. The non-operating cost savings benefits are those that may benefit customers, but may not necessarily reduce an electric distribution company's operating costs.

(*FirstEnergy SMP Order*, p. 14.)

The Commission further noted that the NPV analysis did not consider all potential cost savings, as all potential savings could not be quantified at the time. *Id.* at 15-16.

The Commission concluded its discussion as follows:

> And finally, it should also be noted that Act 129 uses the language "not to exceed 15 years." An EDC is encouraged to expedite the deployment process if it will provide increased customer benefits in a cost-effective manner. Again, the primary goal of the EDC deployment plan should be to implement a deployment and installation schedule that best balances the overall efficiency and timeliness of the smart meter installations with the costs incurred. Given the clear advantages that accelerated smart meter deployment will provide to both the Companies and their customers, we shall approve FirstEnergy's Plan as submitted.

Id. at 16.

For the reasons explained above and further explained in the Company's testimony, the Company's proposed deployment schedule is reasonable, is consistent with the deployment schedules adopted for other EDCs in Pennsylvania and should be adopted without modification.

E. COST SAVINGS/QUANTIFICATION OF BENEFITS

1. PPL Electric's Proposal to Reflect Smart Meter Savings To Customers Through Base Rates Is Reasonable On the Facts of this Case And Should Be Adopted.

As explained above, PPL Electric deployed its current AMI system beginning in 2002. As a result of this deployment, the Company experienced significant cost savings that were reflected in base rates. The most significant benefit was the elimination of the meter reading workforce, including expenses associated with salaries, benefits and overheads (including vehicles). (PPL Electric Exh. No. DRG 3-R, p. 4.) Other savings included a reduction in call center costs, reduction in costs to obtain special meter reads, and elimination of costs to manually monitor data quality. All of these cost savings have been provided to customers in the

form of reduced operating expense and capital costs in the Company's base rate proceedings beginning with the Company's 2004 base rate proceeding.

Because PPL Electric has already implemented an AMI system and these cost savings have already been reflected in base rates, PPL Electric will not experience these savings again. Additional savings, for the most part, will be difficult to quantify. For example, the Company anticipates improving the outage management process by implementing its SMP. However, it is not possible to reasonably quantify savings from the improved outage management process and would not reasonably be possible until well after the new outage management processes are implemented. The Company also expects that power quality and customer service will improve under the SMP. It would be extremely difficult if not impossible to accurately quantify savings related to these benefits. Considering the fact that PPL Electric has already reflected AMI savings in base rates, it is reasonable to continue this methodology for the new Smart Meter program. This is consistent with Act 129's requirement that customers receive savings associated with implementing smart meter technology.

2. The OCA's Proposal To Require PPL Electric To Pass Savings Through The SMR Should Be Denied.

The OCA argues that PPL Electric should quantify savings and pass them through the smart meter rider ("SMR"). (OCA St. No. 1-S, p. 8.) PPL Electric disagrees with this argument.

OCA argues that if an EDC chooses to recover smart meter costs through a rider mechanism, the EDC must also offset costs with savings through the rider. (OCA St. No. 1-S, p. 8.) PPL Electric disagrees with this legal conclusion. Act 129 requires customers to receive savings from implementing smart meter technology but does not require that savings be flowed through the rider. See 66 Pa. C.S. § 2807(f)(7). It is reasonable for PPL Electric to flow savings through to customers in base rate proceedings because:

(1) PPL Electric has already flowed AMI savings through to customers in base rate proceedings; and

(2) additional savings are difficult to reasonably quantify.

OCA also argues that PPL Electric should create a baseline and track savings for the eight categories of savings that FirstEnergy is tracking, including:

(1) meter reading;

(2) meter services;

(3) back-office;

(4) contact center;

(5) theft reduction;

(6) revenue enhancement;

(7) avoided capital costs; and

(8) distribution operations.

As explained above, PPL Electric experienced savings from many of these categories when it deployed its AMI system beginning in 2002. PPL Electric is different than the FirstEnergy Companies because PPL Electric eliminated its physical meter reading operations approximately 10 years ago. It is reasonable for the FirstEnergy Companies to establish baselines for these categories because they still have meter readers. The primary difference between the FirstEnergy Companies and PPL Electric is that the FirstEnergy Companies are implementing a first generation AMI system, and PPL Electric is implementing a second generation AMI system. EDCs experience much greater levels of savings when implementing first generation AMI systems and the savings are easier to quantify. (*See e.g.* Tr. 68-69.) It is not necessary for PPL Electric to establish baselines because any additional savings in these categories are difficult to quantify and are better reflected as reduced operating costs in ongoing base rate cases.

Moreover, as explained in more detail below, it would be unreasonable for PPL Electric to credit "avoided capital costs" to the SMR. If PPL Electric "avoids" costs, this means that the costs are not spent. Customers experience savings of avoided costs by not being required to pay for them. It would be unreasonable for PPL Electric to also "credit" avoided costs to the SMR. Under this scenario, customers would benefit twice, once by not having to pay for the costs that are avoided and twice as a credit to the SMR for costs that are not incurred by the Company. Requiring PPL Electric to credit avoided costs to the SMR would prevent it from fully recovering its smart meter costs as is authorized under 66 Pa. C.S. 2807(f) and could also prevent the Company from the opportunity to earn a fair return on its investment in violation of the United States and Pennsylvania Constitutions. U.S. Constitution, Fifth and Fourteenth Amendments; Pennsylvania Constitution, Article 1, Section 10; *Bluefield Waterworks and Imp. Co. v. P.S.C. of West Virginia,* 262 U.S. 679, 690 (1923); *Riverton Consolidated Water Co. v. Pa. P.U.C.,* 186 Pa. Super 1, 140 A.2d 114 (1958).

3. The OSBA's Alternative Proposal To Require The Company To Credit NPV "Avoided Costs" To The SMR Should Be Denied.

OSBA argues that, if the Company's proposed deployment schedule is adopted, the Company should credit "base rates avoided costs" to the SMR, until PPL Electric files another base rates case. (OSBA St. No. 2, p. 9.) OSBA proposes that PPL Electric credit $24.6 million annually to the SMR. OSBA's proposed credit is based on "amortizing $123 million in present value over an 8 year period (2015 to 2022) at the Company's pre-tax weighted average cost of capital." (OBA St. No. 2, p. 9.) The OSBA's proposal is severely flawed and must be denied.

OSBA argues that its proposed credit to the SMR reflects "base rates avoided costs." (OSBA St. No. 2, p. 9.) This is incorrect. OSBA's calculation of the credit is based on its alleged estimated "NPV" savings not actual avoided costs by PPL Electric. (Tr. at 168-170.)

As explained by Ms. Ogozaly, OSBA's NPV analysis is an academic, mathematical exercise that has many flaws. It does not consider all of the benefits of implementing the SMP. In addition, the estimated NPV savings vary greatly depending on the inflation and interest rate assumptions used in the calculation. OSBA's proposed credit to the SMR is based on an estimated NPV savings of $123 million. However, the OSBA's own NPV analysis, with PLC replacement costs, shows estimated savings of $75 million if a 3% inflation rate is used or $80 million if a discount rate of 6% is used. Moreover, OSBA's amortization amount improperly includes PPL Electric's WACC twice in the calculation. OSBA first uses the Company's WACC in initially determining the $123 million. (See OSBA St. No. 2, pp. 8-9.) OSBA then uses the Company's WACC again as an interest rate when amortizing the $123 million over 8 years to derive its proposed annual credit of $24.6 million ($123 million ÷ 8 = $15.375 million, not $24.6 million). (See also OSBA St. No. 2, p. 9.) When costs are amortized for ratemaking purposes, interest is not added to the amortization amount. *Butler Township Water Co. v. Pa. P.U.C.*, 81 Pa. Cmmw. 40, 473 A.2d 219, 223 (1984).

OSBA's proposal is also unprecedented. PPL Electric is not aware of any case in Pennsylvania where an EDC was required to credit estimated NPV costs to customers. This is especially improper when the NPV costs are not offsetting any costs that are included in base rates. OSBA essentially argues its NPV analysis is a proxy for meter replacement cost savings. (See OSBA St. No. 2, p. 9; Tr. at 170.) However, as explained by Ms. Johnson,

> The meter replacement costs that Mr. Knecht is referring to are future avoided meter costs, which are not currently reflected in the Company's [rates] and indeed, will never be reflected in the Company's rates because, as Mr. Knecht acknowledges, they will never be incurred. The savings that Mr. Knecht wants to return to customers are not a reduction of current costs, rather they are costs the Company has not incurred and will never incur. Therefore, there are no savings to be reflected in the smart meter charge. Any

> "savings" that do occur are simply costs that will not be incurred and will not be reflected in rates.
>
> * * *
>
> Moreover, meter costs are capitalized and the Company only earns a return on them only after the meters are placed in service and the costs are included in a base rate filing. Costs for increased meter failure rates beyond the Company's future test year (2012) in its last rate case are not reflected in the Company's existing base rates and it is not earning any return on or return of that meter investment. This scenario will continue until the Company files its next base rate case and the meter investment claim is revised. Customers are currently receiving the benefit of this regulatory lag.

(PPL Electric St. No. 6-RJ, pp. 5-6.)

Even if the OSBA's proposal to credit the SMR was based on actual avoided costs, which it is not, the OSBA's proposal should be denied. Ratepayers receive the benefit of avoided costs by not being required to pay for the costs in the first instance. If PPL Electric were required to also credit "avoided costs" to the SMR, ratepayers would receive double savings for these avoided costs. For example, when PPL Electric buys a meter, the costs of the meter are added to rate base and customers pay for the meter through rates. If the Company does not have to buy a meter and "avoids" the meter cost, the meter cost is not added to rate base and customers do not pay the cost because it was not incurred by the Company. Under the OSBA's proposal, the Company would also be required to deduct the meter cost that was never incurred by the Company from the SMR. This would prevent the Company from earning a full return on costs that it did incur. This is directly contrary to Act 129, which allows EDCs to recover smart meter technology costs "on a full and current basis through a reconcilable automatic adjustment clause under section 1307." 66 Pa. C.S. § 2807(f)(7).

Ms. Johnson also explained that the OSBA proposal would create a catch-22 situation where PPL Electric would be required to credit "avoided costs" to the SMR but could not use the avoided costs to support a base rate filing. Ms. Johnson explained as follows:

> Mr. Knecht's proposal that this credit for avoided costs continue until the Company's next base rate case is also flawed because the avoided costs could actually delay a future base rate filing. This is a catch-22 because PPL Electric would be required to reflect costs that it was not incurring as savings in the SMR but would not be able to include the avoided costs as support for a base rate increase.

(PPL Electric St. No. 6-RJ, p. 7.)

The OSBA's proposal to credit the SMR with "base rates avoided costs" (which is actually a credit for estimated NPV costs) is unprecedented and contrary to sound ratemaking principles. It is without merit and should be denied.

4. If the Commission Requires PPL Electric To Flow Savings To Customers Through The SMR, This Should Only Be Done Under Certain Conditions.

As explained above, PPL Electric believes that it is reasonable to reflect smart meter savings to customers through base rates. However, if the Commission determines otherwise, PPL Electric should only be required to flow quantifiable savings through to customers. In addition, the savings must reflect a reduction of costs that are included in base rates. It is not appropriate to flow savings to customers if the costs are not in base rates, because customers are not paying for the costs. In addition, if PPL Electric has already reflected cost savings in base rates, it should not be required to flow the savings to customers again through the SMR. This would be double-counting savings to customers.

F. SMART METER CHARGE ISSUES

1. Calculation Of The Smart Meter Charge.

In this proceeding, the OCA proposed several modifications to how PPL Electric calculates its SMR. These changes included modifying how PPL Electric calculates deferred income taxes and accelerated tax deductions for state income taxes. (OCA St. No. 2, pp. 7-9.) The Company agreed with the OCA's arguments. In rejoinder testimony, the Company explained that it was currently revising its SMR calculation and would file an interim price change to its existing SMR and an updated reconciliation upon completion of the calculation and in accordance with its tariff. (PPL Electric St. No. 6-RJ, p. 2.) The Company also explained that it would continue to work with the OCA and interested parties, and that parties could review both the existing SMR and proposed SMR when they were filed. (PPL Electric St. No. 6-RJ, p. 2.)

2. Proposed Modifications To The Small C&I Smart Meter Charge.

In this proceeding, PPL Electric proposed to calculate the SMR charge separately for each customer class, i.e., Residential, Small Commercial & Industrial ("Small C&I") and Large Commercial & Industrial ("Large C&I") customers. This is consistent with how the Company's rate riders are calculated, including its existing SMR that recovers the costs of the Company's smart meter pilot programs. (PPL Electric St. No. 6-R, p. 2.) As explained by Ms. Johnson, the Company has 10 Section 1307, 66 Pa. C.S. 1307, automatic adjustment clauses and none of them split the Small C&I class charges down to the rate schedule level. (PPL Electric St. No. 6-R, p. 2.)

The OSBA proposes that the Company develop smart meter charges separately for GS-1 and GS-3 rate schedules, which are both in the Small C&I class. According to the OSBA, GS-3 customers cost 44% more to serve than GS-1 customers, and PPL Electric's proposed rate design

does not address the cost differences for the two rate schedules. (OSBA St. No. 2, p 10.) OSBA's argument is based on its conclusion that there is too much cost subsidization between Small C&I rate schedules under the Company's proposal. As explained below, the OSBA's cost subsidization argument is overstated. In addition, the OSBA's proposal to split the Small C&I SMR by rate schedules would create unnecessary costs for a solution that does not eliminate cross-subsidies. The OSBA's proposal to create separate SMR charges for the GS-1 and GS-3 rate schedules should be denied.

As shown on the revised response to OSBA Set I, Question 7, the meter costs for GS-1 customers range from $113 to $185. The meter costs for GS-3 customers range from $171 to $399. However, the vast majority of GS-3 meters cost either $171 or $181. Only 1,491 of 27,363 GS-3 meters cost $399. Therefore, approximately 95% of the GS-3 meters are within the range of costs of the GS-1 meters. Moreover, as explained by Ms. Johnson,

> PPL Electric's proposed rate structure, in which the entire Small C&I class is combined, results in each customer paying an average meter cost of approximately $137. If the $399 meter for the largest Small C&I customers is removed from cost analysis (due to creating a separate charge for these customers), this results in the remaining customers each paying for an average meter cost of approximately $135. This is only $2 less that they would pay if all meter costs are combined into one charge for all Small C&I customers. This $2 dollar difference would produce a de minimus rate impact over the 15-year depreciable life of the meter.

(PPL Electric St. No. 6-RJ, p. 4.)

In addition, the OSBA's proposal to split the Small C&I SMR charge into separate charges for the GS-1 and GS-3 rate schedules does not address the Small C&I GH-2 rate schedule. Moreover, splitting the Small C&I SMR charge into separate rate schedules would require programming charges that would increase costs for customers. (PPL Electric St. No. 6-RJ, p. 3.)

In summary, OSBA's alleged cost subsidy concerns are overstated and would not be solved by OSBA's proposed solution. OSBA's proposal to split the Small C&I SMR charge by rate schedules should be denied.

G. COMMUNICATIONS STRATEGY

In this proceeding, PPL Electric proposed a high level communication plan to educate customers about AMI benefits and the installation experience, including when they can expect new meters. Ms. Ogozaly summarized the Company's communication plan as follows:

> PPL Electric's Smart Meter Communication Plan will ensure that customers are informed about AMI benefits and the installation experience, including when they can expect new meters. The plan will identify affected audiences (both external and internal), identify appropriate messages, and develop a range of communication mechanisms. The Company also intends to provide sources of information about AMI, and contact information for scheduling installation appointments. These activities will also include addressing any concerns (security, privacy, health "impacts") about the program.
>
> In addition to customer-facing communications, PPL Electric will educate and inform employees, stakeholders, and members of the media, public officials, and other audiences about why PPL Electric is upgrading to advanced meters and how consumers can use data from the system to make informed energy decisions.
>
> The Company plans to develop this comprehensive plan following approval of this SMP filing and prior to beginning deployment. The comprehensive plan will also leverage information provided by selected vendors for the AMI solution. PPL Electric will release the final plan to the Commission upon completion.

(PPL Electric St. No. 4-R, p. 14.)

Ms. Ogozaly further explained that the Company proposed to develop its Communications Plan through meetings with interested stakeholders, such as the OCA and OSBA, and to incorporate feedback into its final Communications Plan.

The OCA argues that PPL Electric should file its final Communications Plan with the Commission for approval. (OCA St. No. 3-S, p. 6.) In support of its argument, OCA states that the FirstEnergy Companies are required to file their final Communications Plan with the Commission.

The contested issues between PPL Electric and the OCA is not whether the Company agrees to file its Communication Plan with the Commission but whether the Plan requires further Commission approval. In its Rebuttal Testimony, PPL Electric agreed to file its Final Plan with the Commission upon completion. (PPL Electric St. No. 4-R, p. 14.) However, PPL Electric believes that Commission approval of its final plan is not required. If the Commission determines otherwise, it can initiate a proceeding to review the Communications Plan. Notably, the FirstEnergy Order does not require Commission approval of FirstEnergy's Final Communications Plan, it only requires FirstEnergy to file its final plan with the Commission. PPL Electric has agreed to file its Final Communications Plan with the Commission, which is consistent with the *FirstEnergy Order*. *See March 6, 2014 FirstEnergy Order,* Docket No. M-2013-2341900 *et al,* p. 46.

H. CYBERSECURITY ISSUES

PPL Electric presented a comprehensive cybersecurity plan in this proceeding as set forth in Section VI of the SMP, PPL Electric Exhibit No. 1, and further described by Mr. Simendinger in PPL Electric Statement No. 5.

The OCA was the only party to present testimony regarding cybersecurity issues. In direct testimony, Ms. Brockway made several observations and suggestions regarding the Company's cybersecurity plan, including that the Company review the Commission's pamphlet "Cybersecurity Best Practices for Small and Medium Pennsylvania Utilities," participate as a utility partner on cybersecurity risks and responses in sharing information with peers and the

Commission, and ensure that PPL Electric's Information Assurance Group addresses the relationship between cybersecurity issues and operational cybersecurity problems.

In rebuttal testimony, the Company explained that it had already taken or was taking these actions. (PPL Electric St. No. 5-R, pp. 5-8.) It appears that the Company has addressed the OCA's cybersecurity concerns. (See OCA St. No. 3-5, p. 6.)

I. DATA PRIVACY ISSUES

PPL Electric addresses data privacy issues as a part of its overall cybersecurity defense in depth plan. (PPL Electric St. No. 5-R, p. 3.) PPL Electric provided an explanation of its data privacy processes in its initial SMP. (PPL Electric Exhibit No. 1, p. 41.) Therein, the Company explained that one of the first steps of the initial security assessment is to determine the type of data so that the appropriate security controls are adopted. The Company also will follow industry standard data privacy guidelines and conduct a privacy impact assessment before any deployment.

The OCA argues that PPL Electric does not have a sense of what information customers might like to protect as private and that it has not fully described its approach to data privacy. OCA also argues that data privacy should not be treated as a subset of cybersecurity, but on its own terms. OCA recommends that the Company be required to revise its data privacy plan with the assistance of employees well versed in customer service issues and with interested stakeholders. (OCA St. No. 3, p. 30.)

OCA's data privacy recommendations are unnecessary and should be denied. First, the Commission's regulations define what customer data is to remain private, and PPL Electric follows all Commission regulations in maintaining the privacy of customer data. (PPL Electric St. No. 5-R, p. 3.) PPL Electric takes the issue of data privacy very seriously and will address data privacy issues as part of its overall cybersecurity defense in depth plan. In addition, it is

quite reasonable to address data privacy issues as a subset of cybersecurity. The OCA's recommendation to require PPL Electric to separate data privacy and cybersecurity measures is an inappropriate attempt to manage the operations of the Company and it should be denied. Moreover, OCA's proposal to require PPL Electric to revise the privacy components of its smart meter plan with the assistance of customer service employees and stakeholders is also unnecessary. The Company's witness, Mr. Simendinger, explained as follows:

> PPL Electric does not agree that a revision is necessary to the privacy components of its smart meter plan. PPL Electric's current standards and procedures as outlined in its privacy policy are evident, and aligned to its overall cybersecurity protections, which protect customer data and its privacy in its collection, storage, transit and access by customers, third parties such as those who support the provision of self-service energy analytics to PPL Electric customers, and PPL Electric staff. As specific technical solutions and updated business processes and procedures for the smart meter project evolve, so too will cybersecurity protection of associated customer information, and the data privacy procedures and customer communications regarding PPL Electric's commitment to data privacy.

(PPL Electric St. No. 5-R, p. 4.)

J. REMOTE DISCONNECT, SERVICE LIMITING AND PRE-PAY METERING ISSUES

In this proceeding, the OCA argues that the Company should meet with stakeholders prior to developing any plans to use service limiting, remote involuntary disconnection or prepay metering programs and further seek Commission approval of any plans the Company may seek to implement. (OCA St. No. 3, p. 4.) Under a service limiting program, an EDC can allow customers to voluntarily limit the amount of electricity that can be taken. Under remote involuntary disconnection, an EDC can remotely terminate service to a customer for failure to pay if all requirements of the Commission's regulations are met. Under a prepay metering program, customers could voluntarily have the option of pre-paying for their electricity usage.

The Company agrees with the OCA's recommendation to seek stakeholder input prior to implementing service limiting, remote involuntary disconnection or pre-pay metering programs. (PPL Electric St. No. 2-R, pp. 23-24.) However, the Company disagrees with the OCA that Commission approval is required for these programs, if they can be implemented and follow the Commission's regulations. The OCA's proposal to require Commission approval of a program that meets all regulatory requirements is not supported by law. If PPL Electric decides to implement any of these programs and they require changes to or waiver of the Commission's regulations, then PPL Electric will seek Commission approval of such programs.

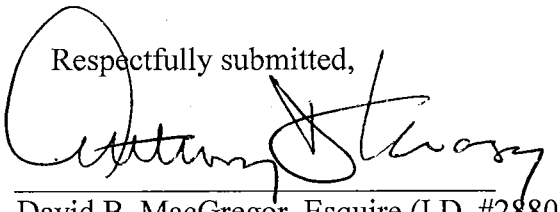
K. MISCELLANEOUS ISSUES

None.

VII. CONCLUSION

For the foregoing reasons, PPL Electric Utilities Corporation respectfully requests that Administrative Law Judge Susan D. Colwell recommend approval of and that the Pennsylvania Public Utility Commission approve the Company's smart meter plan without modification, including the Company's proposed deployment schedule and the proposal to reflect savings to customers through base rates.

Respectfully submitted,



Paul E. Russell, Esquire (I.D. #21643)
Associate General Counsel
PPL Services Corporation
Office of General Counsel
Two North Ninth Street
Allentown, PA 18101-1179
Phone: 610-774-4254
Fax: 610-774-6726
E-Mail: perussell@pplweb.com

David B. MacGregor, Esquire (I.D. #28804)
Post & Schell, P.C.
Four Penn Center
1600 John F. Kennedy Blvd.
Philadelphia, PA 19103-2808
Phone: 215-587-1197
Fax: 215-320-4879
E-Mail: dmacgregor@postschell.com

Anthony D. Kanagy, Esquire (I.D. #85522)
Post & Schell, P.C.
17 North Second Street, 12th Floor
Harrisburg, PA 17101-1601
Phone: 717-712-6034
Fax: 717-731-1985
E-Mail: akanagy@postschell.com

Attorneys for PPL Electric Utilities Corporation

Date: January 13, 2015

Appendix A

PROPOSED FINDINGS OF FACT

PPL Electric Utilities Corporation ("PPL Electric" or the "Company") proposes the following findings of fact:

1. On August 2, 2013, PPL Electric filed a Petition with the Commission proposing to implement a Smart Meter Plan ("SMP") that will fully meet the requirements of Act 129 and the Commission's Smart Meter Implementation Order. *Smart Meter Procurement and Installation*, Docket No. M-2009-2092655, Order entered June 24, 2009 ("*Implementation Order*"). (PPL Electric Exh. No. 1.)

2. Under the SMP, PPL Electric proposes to replace its current Power Line Carrier ("PLC") metering system with a new RF Mesh system, which will fully comply with Act 129 and will be able to offer all of the nine additional capabilities set forth in the Commission's *Implementation Order*. (PPL Electric Exh. No. 1, pp. 10-17.)

3. PPL Electric began deploying its existing automated metering infrastructure ("AMI") system in 2002, six years before the adoption of Act 129. PPL Electric's current AMI system relies on a PLC technology to read the meters. (PPL Electric St. No. 2, p. 4.)

4. Shortly after completing the installation of the PLC meters in 2004, the Company reviewed the useful life of these meters and revised its meter depreciation schedule from 28 years to 15 years. (PPL Electric St. No. 4-RJ.)

5. PPL Electric's actual historic meter failure rates have steadily increased over the past several years, from approximately 10,000 in 2007 to over 28,000 in 2013. (OSBA St. No. 2, p. 5.)

6. In 2013, PPL Electric experienced a meter failure rate that is four times the industry standard. (PPL Electric Exh. No. 1, pp. 10-11.)

7. The increase in meter failures is primarily due to electronic communication components failing over time due to electrical and thermal stresses. (PPL Electric Exh. No. 1, p. 11.)

8. PPL Electric has undertaken an extensive, multi-year evaluation with the assistance of industry experts to evaluate the capabilities of its current PLC system. (PPL Electric St. No. 2, p. 6.)

9. As part of its evaluation, PPL Electric determined that it could not reasonably implement a Home Area Network ("HAN") with its existing PLC system. (PPL Electric St. No. 2-R, p. 3.)

10. All of the other major EDCs in Pennsylvania, including Duquesne Light Company, PECO Energy Company and the FirstEnergy EDCs, are providing customers direct access to price and consumption information through HANs. (Tr. 148.)

11. 86% of PPL Electric's existing PLC meters are prior generation electromechanical meters that do not meet 7 of the 15 additional *Implementation Order* requirements. (PPL Electric St. No. 2, p. 9.)

12. An RF Mesh system would fully meet the Act 129 requirements and enhance the Company's ability to deliver advanced functionality to customers that is not available with the existing PLC technology. (PPL Electric St. No. 2-R, p. 5.)

13. PPL Electric proposes to deploy its RF Mesh smart meter system from 2015 through 2021. Beginning in 2015, the Company proposes to build the Information Technology ("IT") systems that are necessary to support the smart meter system. (PPL Electric Exh. No. 1, p. 2.)

14. In late 2016, the Company proposes a Solution Validation phase which will

include a total deployment of up to 50,000 meters. (PPL Electric Exh. No. 1, p. 32.)

15. PPL Electric proposes to begin its Full Deployment phase in 2017 continuing through 2019, which will require an average deployment of 2,000 meters per day. (PPL Electric Exh. No. 1, p. 32.)

16. The final phase will be a Stabilization Period which will begin after the full deployment phase through 2021. The Stabilization Period will act as a final cut-over from PLC technology to RF Mesh technology during which time any PLC-related systems that are no longer needed to support the RF Mesh Solution will be decommissioned. (PPL Electric Exh. No. 1, p. 33.)

17. PPL Electric's proposed deployment schedule is reasonable because it will allow the Company to be compliant with Act 129, will provide customers with the numerous benefits of smart meter technology, and will allow PPL Electric to avoid unnecessary investment in a PLC metering system that is nearing the end of its useful life. (PPL Electric St. No. 2-RJ, pp. 1-3; PPL Electric St. No. 4-R, pp. 8-9.)

18. PPL Electric's proposed deployment schedule is consistent with the deployment schedules proposed by the other EDCs in Pennsylvania. (PPL Electric St. No. 2-R, p. 8.)

19. A deployment schedule that is consistent with other EDCs will allow EGSs to offer similar services and rate plans across the Commonwealth, including programs such as time of use programs that include the use of an in-home display, similar to what NRG offered in the PECO service territory and to what EGSs have offered in Texas. (PPL Electric St. Nos. 2-RJ, p. 2; 2-R, p. 10.)

20. The Company's proposed deployment schedule is prudent from an asset management standpoint because it will avoid a steep increase in PLC meter failure rates. (PPL

Electric St. No. 4-R, p. 6.)

21. PPL Electric estimates that the incremental cost of a 2-year delay would be $38.4 million, including $27.9 million in additional investment in PLC meters that would be unnecessary because the PLC meters would be replaced by RF Mesh meters in a very short time. (PPL Electric St. No. 4-R, p. 8.)

22. PPL Electric estimates that the incremental cost of a 4-year delay is $85.6 million, including $62.7 million in additional investment in PLC meters that would be unnecessary because the PLC meters would be replaced by RF Mesh meters in a very short time. (PPL Electric St. No. 4-RJ, p. 8.)

23. OSBA presents a net present value ("NPV") analysis in support of its recommendation that PPL Electric delay smart meter implementation. (OSBA St. No. 2, p. 8.)

24. An NPV analysis is misapplied in this situation given the business need to replace the first generation PLC metering system before it reaches the end of its useful life. (PPL Electric St. No. 4-R, pp. 10-11.)

25. The OSBA's NPV analysis fails to consider all of the benefits of implementing smart meter technology, such as last gasp technology, power restoration messages, access to real-time price and usage information and other benefits. (See PPL Electric St. No. 4-RJ, p. 12.)

26. OSBA's NPV analysis fails to consider that continued investment in a failing PLC system will have negative customer impacts, such as the decline of customer satisfaction and the increase of customer complaints. (PPL Electric St. No. 4-R, p. 11.)

27. As a result of deploying its AMI system beginning in 2002, PPL Electric experienced significant cost savings that were reflected in base rates, the most significant of which was the elimination of the meter reading workforce, including expenses associated with

salaries, benefits and overheads (including vehicles). (PPL Electric Exh. No. DRG 3-R, p. 4.)

28. Because PPL Electric has already implemented an AMI system and these cost savings have already been reflected in base rates, PPL Electric will not experience these savings again, and additional savings, for the most part, will be difficult to quantify. (PPL Electric St. No. 2-R, p. 20.)

29. PPL Electric's proposal to reflect smart meter savings in base rates is reasonable. (PPL Electric St. No. 2-R, p. 20.)

30. OSBA proposes that, if the Company's proposed deployment schedule is adopted, the Company should credit "base rates avoided costs" to the SMR, until PPL Electric files another base rate case. (OSBA St. No. 2, p. 9.)

31. OSBA's calculation of the credit is based on its alleged estimated "NPV" savings, not actual avoided costs by PPL Electric. (Tr. at 168-170.)

32. Ratepayers receive the benefit of avoided costs by not being required to pay for the costs in the first instance. (PPL Electric St. No. 6-RJ, p. 6.)

33. If PPL Electric were required to credit avoided costs to the SMR, ratepayers would receive double savings for these costs. (PPL Electric St. No. 6-RJ, p. 6.)

34. PPL Electric is currently revising its SMR calculation and will file an interim price change to its existing SMR and an updated reconciliation upon completion of the calculation and in accordance with its tariff. (PPL Electric St. No. 6-RJ, p. 2.)

35. PPL Electric will continue to work with the OCA and interested parties, and parties can review both the existing SMR and proposed SMR when they are filed. (PPL Electric St. No. 6-RJ, p. 2.)

36. PPL Electric proposed to calculate the SMR charge separately for each customer class, i.e., Residential, Small Commercial & Industrial ("Small C&I") and Large Commercial & Industrial ("Large C&I") customers. This is consistent with how the Company's rate riders are calculated, including its existing SMR that recovers the costs of the Company's smart meter pilot programs. (PPL Electric St. No. 6-R, p. 2.)

37. The OSBA proposes that the Company develop smart meter charges separately for GS-1 and GS-3 rate schedules, which are both in the Small C&I class. (OSBA St. No. 1, p. 9.)

38. Splitting the Small C&I SMR charge into separate rate schedules would require programming changes that would increase costs for customers. (PPL Electric St. No. 6-RJ, p. 3.)

39. OSBA's proposal to split the Small C&I SMR charge by rate schedules is based on alleged cost subsidy concerns that are overstated and would not be solved by OSBA's proposed solution. (PPL Electric St. No. 6-R, pp. 2-3.)

40. PPL Electric proposed a high level Communication Plan to educate customers about AMI benefits and the installation experience, including when they can expect new meters. (PPL Electric St. No. 4-R, p. 14.)

41. The Company proposed to further develop its Communications Plan through meetings with interested stakeholders, such as the OCA and OSBA, and to incorporate feedback into its final Communications Plan. (PPL Electric St. No. 4-R, pp. 14-15.)

42. PPL Electric agreed to file its Final Plan with the Commission upon completion. (PPL Electric St. No. 4-R, p. 14.)

43. PPL Electric addresses data privacy issues as a part of its overall cybersecurity defense in depth plan. (PPL Electric St. No. 5-R, p. 3.)

44. PPL Electric provided an explanation of its data privacy processes in its initial SMP. (PPL Electric Exhibit No. 1, p. 41.)

45. OCA's data privacy recommendations are unnecessary because the Commission's regulations define what customer data is to remain private, and PPL Electric follows all Commission regulations in maintaining the privacy of customer data. (PPL Electric St. No. 5-R, p. 3.)

46. PPL Electric will seek stakeholder input prior to implementing service limiting, remote involuntary disconnection or pre-pay metering programs. However, it is not necessary to obtain Commission approval for these programs if they can be implemented and follow the Commission's regulations. (PPL Electric St. No. 2-R, pp. 23-24.)

PROPOSED CONCLUSIONS OF LAW

PPL Electric Utilities Corporation ("PPL Electric" or the "Company") proposes the following conclusions of law:

1. PPL Electric, as the Petitioner, has the burden of proof with respect to its proposals in the Petition. 66 Pa. C.S. § 332(a).

2. A party that makes a proposal that is not included in a public utility's case bears the burden of proof as to its proposal. *See Pa. P.U.C. v. Metropolitan Edison Company, et al.*, Docket Nos. R-00061366, et al., 2007 Pa. PUC LEXIS 5 (January 11, 2007).

3. The burden of proof, also known as the burden of persuasion, means a duty to establish a fact by a preponderance of the evidence. *Se-Ling Hosiery v. Margulies*, 364 Pa. 45, 70 A.2d 854 (1950).

4. On June 24, 2010, the Commission issued its Order with respect to the Company's initial SMP ("*2010 SMP Order*"), in which the Commission held that PPL Electric's current AMI system did not meet the Act 129 requirements. *Petition of PPL Electric Utilities Corporation for Approval of Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123945, Order entered June 24, 2010.

5. The OCA's web-based solution for providing customers with direct access to price and usage information does not meet the Commission's direct access standards. *2010 SMP Order*, pp. 22, 24.

6. The Company's deployment schedule will allow the Company to provide reasonable and continuous service as is required under Chapter 15 of the Public Utility Code. 66 Pa. C.S. § 1501.

7. Act 129 requires customers to receive savings from implementing smart meter

technology but does not require that savings be flowed through the rider. *See* 66 Pa. C.S. § 2807(f)(7).

8. Act 129 allows EDCs to recover smart meter technology costs "on a full and current basis through a reconcilable automatic adjustment clause under section 1307." 66 Pa. C.S. § 2807(f)(7).

9. The OSBA's proposal to credit the SMR with "base rates avoided costs" (which is actually a credit for estimated NPV costs) is contrary to sound ratemaking principles.

10. The OCA's proposal to require Commission approval of a service limiting, remote involuntary disconnection or pre-pay metering program that meets all regulatory requirements is not supported by law.

PROPOSED ORDERING PARAGRAPHS

It is hereby ordered that:

1. PPL Electric's Smart Meter Plan is approved without modification, including the Company's proposed deployment schedule and the proposal to flow savings to customers through base rates;

2. PPL Electric's proposal to reflect any additional savings from the SMP implementation in base rates is accepted;

3. The OSBA's proposal to credit the SMR with "avoided costs" that are based on its net present value calculation is denied;

4. The OSBA's proposal to create separate SMR charges for each Small C&I rate schedule is denied;

5. OCA's data privacy recommendations are denied; and

6. PPL Electric is not required to seek Commission approval prior to using the remote disconnect switch for involuntary termination of service, service limiting programs or pre-pay metering programs if they can be implemented in a manner that follows all applicable Commission regulations.