



COMMONWEALTH OF PENNSYLVANIA

February 2, 2015

E-FILED

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
P.O. Box 3265
Harrisburg, PA 17105-3265

**Re: Pennsylvania Public Utility Commission v. PPL Electric Utilities, Inc.
Docket No. M-2014-2430781**

Dear Secretary Chiavetta:

Enclosed for filing is the Reply Brief, submitted on behalf of the Office of Small Business Advocate, in the above-docketed proceeding. As evidenced by the enclosed Certificate of Service, two copies have been served on all active parties in this case.

If you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "Steven C. Gray".

Steven C. Gray
Assistant Small Business Advocate
Attorney ID #77538

Enclosures

cc: Parties of Record
Robert D. Knecht

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Petition of PPL Electric Utilities :
Corporation for Approval of Its Smart : **Docket Nos. M-2014-2430781**
Meter Technology Procurement and : **M-2009-2123945**
Installation Plan :

**REPLY BRIEF
ON BEHALF OF THE
OFFICE OF SMALL BUSINESS ADVOCATE**

Steven C. Gray
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Date: February 2, 2015

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I. Introduction

The Pennsylvania Public Utility Commission (“Commission”) is faced with a difficult decision in this proceeding. PPL Electric Utilities Corporation (“PPL” or the “Company”), to its credit, was the first electric distribution company (“EDC”) in the Commonwealth to install smart meters, beginning that installation in 2002. Those power line carrier (“PLC”) smart meters are still in place today.

PPL’s early generation PLC smart meters have nearly all of the functionality required by the legislature and the Commission. Of course, “nearly all” of mandated functionality is not 100 percent of the necessary functionality. However, 100 percent functionality is not required of PPL until 2025, ten years from the time of this writing. Nevertheless, PPL proposes to replace all of its existing smart meters by 2019, with full functionality achieved by 2021, well in advance of the legal requirements. In its direct case, PPL provides virtually no hard analysis in support of this proposed acceleration.

However, in its rebuttal case, some limited quantitative evidence for this proposed acceleration came out. PPL asserts that some of the current PLC meters are failing. Failure of technology is a common experience for everyone, whether it is his or her cell phone, automobile, computer, or dishwasher. The fact that any technology has a failure rate is not surprising. However, these technological failures give rise to a series of questions. First, did PPL take reasonable business precautions with its meter vendors to ensure that ratepayers would not absorb unreasonable risks of technological failure? Second, has PPL quantitatively demonstrated that the actual meter failure rate is sufficiently extreme to offset the costs of accelerating the investment in a new technology? Third, even if the acceleration is justified, has PPL offered any

reasonable assurance that ratepayers will not be double-charged for meters, first in continuing base rates for meters that will soon be fully depreciated and second in a smart meter charge that will recover the new massive investments? These questions are a significant cause for concern.

In addition, it is nearly impossible to read, listen to, or watch the news today without hearing a story about another company having its computer system hacked. There can be nothing more certain to cause sleepless nights at the Commission than the idea that a terrorist organization could hack into and gain control of an EDC's system. This is not being alarmist. Unfortunately, this is the reality of world that we live in today.

PPL proposes to replace its existing PLC metering system with a Radio Frequency ("RF") Mesh metering system. The total cost of PPL's proposed smart meter upgrade plan is currently \$427 million in capital costs and \$121 million in O&M costs, which will result in charges to ratepayers totaling approximately \$810 million. PPL envisions incurring the vast majority of its smart meter capital upgrade costs by 2019.

Therefore, in this proceeding, the Commission is faced with a series of difficult choices. Is it worth imposing a large financial burden on PPL's customers in order to obtain that last bit of smart meter functionality? Is it necessary to accelerate implementation of PPL's smart meter upgrades years earlier than 2025? Could PPL benefit from the experience of other EDC's by observing how their more modern smart meter technology performs before choosing a vendor? Would PPL and the Company's customers benefit by waiting for cyber security to develop better technology to thwart hackers?

II. Procedural History

On October 15, 2008, Governor Corbett signed HB 2200 into law as Act 129 of 2008, (“Act 129”).

On June 24, 2009, the Pennsylvania Public Utility Commission (“Commission”) entered the *Smart Meter Procurement and Installation Order* at Docket No. M-2009-2092655 (“*Implementation Order*”).

On August 14, 2009, PPL Electric Utilities Corporation (“PPL” or the “Company”) filed its Initial Smart Meter Technology Procurement and Installation Plan with the Commission.

On June 20, 2010, the Commission entered an Order regarding PPL’s Initial Smart Meter Plan. *See Petition of PPL Electric Utilities Corporation for Approval of Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123945.

On May 24, 2012, PPL filed a request with the Commission to extend the Company’s grace period from December 2012 to December 2014.

On August 2, 2012, the Commission entered an Order extending PPL’s grace period until June 30, 2014.

On December 2, 2012, the Commission entered a *Smart Meter Procurement and Installation - Final Order* at Docket No. M-2009-2092655 (“*Final Order*”).

On June 30, 2014, filed its updated *Petition of PPL Electric Utilities Corporation for Approval of Its Smart Meter Technology Procurement and Installation Plan* (“*Petition*”) with the Commission.

On July 8, 2014, Administrative Law Judge (“ALJ”) Susan D. Colwell issued her First Prehearing Order.

On August 6, 2014, the Office of Small Business Advocate (“OSBA”) filed an Answer and Notice of Intervention.

On August 11, 2014, a prehearing conference was held before ALJ Colwell.

On August 11, 2014, ALJ Colwell issued her Second Prehearing Order.

On October 10, 2014, the OSBA served the Direct Testimony of Robert D. Knecht.

On November 5, 2014, ALJ Colwell issued her Third Prehearing Order.

On December 5, 2014, the OSBA served the Surrebuttal Testimony of Robert D. Knecht.

On December 16, 2014, an evidentiary hearing was held before ALJ Colwell.

On January 13, 2015, the OSBA filed its Main Brief.

The OSBA submits this Reply Brief in accordance with the procedural schedule set forth in this case.

III. Statement of the Questions Involved

1. Has PPL convincingly demonstrated that its Smart Meter Technology Procurement and Implementation Plan (“SMP”), that proposes to (a) replace the entire fleet of the Company’s existing customer smart meters, meters which today provide the majority of the functionality required by the legislature and the Commission, and (b) accelerate the adoption of limited additional smart meter functionality well in advance of that required by law, represents a reasonable use of ratepayer funds that is justified at this time?

OSBA’s suggested answer: No.

2. If the Commission determines that PPL’s proposed acceleration of the adoption of a second generation of smart meter technology is justified due to the failure of the Company’s first generation of smart meters, has PPL offered a reasonable plan to ensure that ratepayers are not paying both for fully depreciated first generation meters and for new second generation meters?

OSBA’s suggested answer: No.

3. If the Commission determines that PPL should immediately begin to replace its existing customer smart meters, should the Company be allowed to recover the costs of the upgraded smart meters using a flat, identical customer charge for all of PPL’s small commercial and industrial customers, where the cost to serve larger customers in the class is much higher than the cost to serve smaller customers?

OSBA’s suggested answer: No.

IV. Burden of Proof

Section 332(a) of the Code, 66 Pa. C.S. § 332(a), specifies that the party seeking a rule or order from the Commission has the burden of proof in that proceeding. The Commonwealth Court held that a “litigant’s burden of proof before administrative tribunals as well as before most civil proceedings is satisfied by establishing a preponderance of evidence which is substantial and legally credible.” *Samuel J. Lansberry, Inc. v. Pennsylvania Public Utility Commission*, 578 A.2d 600, 602 (Pa. Cmwlth. 1990).

The burden of proof is comprised of two separate and distinct burdens. The first burden is the burden of production. The burden of production informs the adjudicator which party must come forward with evidence to support a particular proposition. *See In re Loudenslager’s Estate*, 430 Pa. 33, 240 A.2d 477, 482 (1968).

The second burden is the burden of persuasion. The burden of persuasion determines which party must produce sufficient evidence to convince a judge that a fact has been established. The burden of persuasion never leaves the party upon whom it is originally placed. *Reidel v. County of Allegheny*, 633 A.2d 1325, 1329 n. 11 (Pa.Cmwlth.1993).

A party that offers a proposal not included in the original filing bears the burden of proof for that proposal. *See Brockway Glass Co. v. Pennsylvania Public Utility Commission*, 437 A.2d 1067 (Pa.Cmwlth. 1981). *See also Pennsylvania Public Utility Commission v. Duquesne Light Company*, Docket Nos. R-2013-2372129, *et al.* (Opinion and Order entered April 23, 2014).

V. Summary of Argument

PPL's current PLC smart meters meet five of the six requirements of Act 129. PPL's current PLC smart meters meet many of the nine, not 15, additional capabilities outlined by the Commission in its *Implementation Order*. PPL's current PLC smart meters meet all of the four additional requirements set forth in the Commission's *Final Order*. PPL's current PLC smart meters perform the majority of capabilities required by statute and desired by the Commission.

The failure rate of PPL's current PLC smart meters is not significant. PPL's attempt to exaggerate that failure rate with baseless, hypothetical graphs should be rejected by the ALJ and the Commission.

The four arguments asserted by PPL in its Initial Brief to support acceleration of its SMP are fundamentally flawed and provide no basis for the approval of the *Petition* by the ALJ or the Commission. Furthermore, PPL's rejection of NPV analysis appears to be nothing more than a matter of convenience on the part of the Company.

The Commission should require PPL to file a proposed credit to its Smart Meter Rider that will prevent ratepayers from unreasonably paying for new smart meters in the Smart Meter Rider while continuing to pay PPL for old smart meters in base rates for which PPL is no longer incurring costs.

If the PPL *Petition* is adopted, the smart meter flat rate charge should be split into two separate rates for GS-1 and GS-3 customers. The GS-1 customer class smart meter charge should be significantly lower than the GS-3 customer class charge.

There is no evidence that the new smart meters proposed by PPL in its *Petition* will provide any significant improvement in cyber security in comparison to the current PLC smart meter system.

VI. Argument

A. Compliance with Act 129 and the Implementation Order

PPL addressed whether the Company's current PLC smart meters comply with Act 129 and the *Implementation Order*. See PPL Initial Brief, at 10-12.

The OSBA believes that PPL made an error in its Initial Brief. PPL argued, as follows:

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.

PPL Initial Brief, at 12.

The Implementation Order sets forth the six requirements required by Act 129, and nine additional capabilities for EDCs to consider implementing. Thus, there are not "15 additional requirements" in the Implementation Order. In fact, they are not "requirements" at all. PPL itself addressed this point in its *Petition*:

In the Commission's *Implementation Order*, the Commission identified **six** smart meter capabilities that are required by Act 129. *Implementation Order*, pp. 29-30. In addition, the Commission listed **nine** additional capabilities that EDCs were to *consider*. *Implementation Order*, p. 30. Further, in December 2012, the Commission entered an order establishing additional requirements for smart meter plans. *Smart Meter Procurement and Installation*, Docket No. M-2009-2092655, Final Order entered December 6, 2012.

Petition, at 12 (emphasis added). Thus, there are three sources to consider when analyzing the capabilities of PPL's current PLC smart meters: Act 129; the *Implementation Order*; and the *Final Order*.

PPL assesses whether its current PLC smart meters meet the six requirements of Act 129 as follows:

Bidirectional Data Communication: PPL's current smart meters are compliant with this requirement. Transcript, at page 44, lines 13-16. However, new smart meters would be "better." *Petition*, at 12.

Recording Usage Data On At Least An Hourly Basis Once Per Day: PPL's current smart meters are compliant with this requirement. Transcript, at page 45, lines 3-7. However, new smart meters would "enhance the Company's ability to record usage data." *Petition*, at 12.

Providing Customers with Direct Access to and use of Price & Consumption Information: PPL is not compliant with this requirement. The Company explained the problem, as follows:

The primary deficiency of PPL Electric's existing PLC system is its inability to provide customers with direct access to price and usage information. Other EDCs in Pennsylvania are proposing to provide this functionality to customers through Home Area Network ('HAN') capability. PPL Electric has conducted a HAN pilot program. However, the Company was unable to effectively offer this functionality to pilot program customers, and the Company is not aware of a PLC solution for its system that would effectively meet this requirement.

Petition, at 3.

PPL asserts that the technology available in the Company's proposed smart meter upgrade will meet this requirement. *Petition*, at 13.

Providing Customers with Information on Their Hourly Consumption: PPL's current smart meters are compliant with this requirement. Transcript, at page 45, lines 13-19. *Petition*, at 13.

Enabling Time-of-Use Rates And Real-Time Pricing Options: PPL's current smart meters are compliant with this requirement. Transcript, at page 46, line 25, to page 47, line 8. *Petition*, at 13.

Supporting the Automatic Control of the Customers' Electric Consumption: PPL's

current smart meters are compliant with this requirement. Transcript, at page 47, lines 12-19.

Petition, at 14.

As set forth in the OSBA's Main Brief, OSBA witness Robert D. Knecht summarized PPL's current level of compliance, as follows:

The *Implementation Order* establishes six types of functionality that are required of smart meters. In its response to OSBA-I-4, PPL Electric confirms that the existing system complies with five of the six requirements. The specific requirement with which the current system does not comply is to provide customers with direct access to and use of their price and consumption information.

OSBA Statement No. 1, at 4 (footnote omitted).

Next, the nine additional capabilities set forth in the *Implementation Order* are set forth below:

In addition, each plan filing shall include the individual incremental costs for deploying and operating the following smart meter technology capabilities:

- Ability to remotely disconnect and reconnect.
- Ability to provide 15 minute or shorter interval data to customers, EGSs, third parties and an RTO on a daily basis, consistent with the data availability, transfer and security standards adopted by the RTO.
- On board meter storage of meter data that complies with nationally recognized nonproprietary standards such as ANSI C12.19 and C12.22 tables.
- Open standards and protocols that comply with nationally recognized nonproprietary standards, such as IEEE 802.15.4.
- Ability to upgrade these minimum capabilities as technology advances and becomes economically feasible.

- Ability to monitor voltage at each meter and report data in a manner that allows an EDC to react to the information.
- Ability to remotely reprogram the meter.
- Ability to communicate outages and restorations.
- Ability to support net metering of customer generators.

The deployment and operating costs to be presented shall include a breakdown of all incremental costs and any associated potential operational and maintenance cost savings for each functionality and configuration. All cost estimates must be supported by estimates from at least two vendors where available. To the extent that an EDC or another party demonstrates that a particular Commission imposed requirement is not cost effective, the Commission will have the option of waiving a particular requirement for that EDC or all EDCs.

Implementation Order, at 30.

PPL addressed whether the Company's current PLC smart meters meet the nine additional capabilities identified in the *Implementation Order* in the Company's *Petition*. See *Petition*, at 14-17. Similar to the Section 2807(g) six requirements, PPL's current PLC smart meters meet many, but not all, of the *Implementation Order's* additional nine capabilities. Importantly, the Commission made it clear that these nine additional capabilities were only to be "imposed" if a specific additional capability was "cost effective." The nine additional capabilities to be considered are not new "requirements" as asserted by PPL in its Initial Brief.

Finally, the *Petition* sets forth PPL's view of whether the Company's current PLC smart meters meet the additional requirements set forth in the Commission's *Final Order*. *Petition*, at 17. PPL concludes that the Company's current PLC smart meters are compliant with the four additional requirements set forth in the *Final Order*. *Id.*

PPL concludes this section of its Initial Brief:

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*.

PPL Initial Brief, at 12.

The OSBA does not agree with PPL's conclusion. PPL's current PLC smart meters meet five of the six requirements of Act 129. PPL's current PLC smart meters meet many of the nine additional capabilities outlined by the Commission in its *Implementation Order*. Finally, PPL's current PLC smart meters meet all of the four additional requirements set forth in the Commission's *Final Order*.

Therefore, the OSBA respectfully submits that PPL's current PLC smart meters perform the majority of capabilities required by statute and desired by the Commission. PPL's customers are receiving the vast majority of the benefits of smart meter technology, and they are paying for those smart meter benefits in base rates charges.

Furthermore, the fact that PPL's current PLC smart meter technology does not meet all of the functionality that the Commission would ideally see as beneficial is not a reason to accelerate the adoption of a second generation of smart meters at this time. The OSBA is well aware that PPL's smart meters will eventually have to be replaced. The question before the Commission is whether it is necessary to accelerate that replacement now, and at great cost, only to gain that modicum of additional functionality. Given the facts of this case, the OSBA submits that obtaining that additional functionality does not justify accelerating the imposition of a substantial cost burden on ratepayers as proposed by PPL in this proceeding.

B. Technology Issues – RF Mesh Versus PLC

The OSBA is not addressing this issue in its Reply Brief.

C. Meter Failures

In its Initial Brief, PPL observed that the Company's PLC smart meters originally had an expected lifespan of 28 years. PPL Initial Brief, at 16. The Company now claims that those meters now have an expected lifespan of only 15 years. *Id.* PPL apparently partly bases this revision on its claim that in "2013, PPL Electric experience a meter failure rate that is four times industry standard." *Id.* The OSBA finds this statistic flawed and purposefully misleading:

[I]t is not clear that PPL Electric compares apples to apples in this assessment. According to OCA-VI-2, the Company's actual failure rate is 2 percent, for meters which have been in place for more than a decade. This compares to a 0.41 percent failure rate for the new technology, based on vendor information. The Company has not provided sufficient detail to evaluate whether the vendor-supplied information is comparably based on actual (rather than optimistic vendor forecast) experience. Also it is not clear that the evidence upon which the vendors relied is comparably based on actual 10-year-old meters.

OSBA Statement No. 1, at 7. Thus the failure rate is not four times industry standard, it is four times the vendor claims in their glossy brochures.

PPL also claimed that it is not possible to claim "with absolute certain how long" its current PLC smart meters will last. PPL Initial Brief, at 16. However, in spite of that uncertainty, PPL proclaims that the end is near for these smart meters. *Id.* PPL claimed to "study" the failure rate of its current meters. PPL even created a unicorn for the Commission (a mythical, entirely unreal creature) and called it a "bathtub" graph.

Devastating to PPL's creative prose are the facts. PPL currently has 1,400,000 customers, all with smart meters. *See Petition*, at 4, Paragraph 1. *See also, Petition*, at 8, Paragraph 13.

In response to OSBA discovery, PPL reports the following meter failure rate:

25,634 in 2012,

28,234 in 2013, and

30,801 estimated for 2014.

Transcript, at page 159, lines 1-20.

In fact, PPL witness Christine E. Ogozaly confirmed, under cross examination, that the projected smart meter failure rate was only 2.35 percent for 2012. This is less than the failure rate of 2.5% predicted by the Company's smart meter vendor, Aclara. Transcript, at page 89, lines 14-23. Thus, the PPL / Aclara Joint Study prediction of a 50% failure rate appears to be mere puffery.

In regards to the Company's "bathtub" graph, the OSBA points out to the ALJ and the Commission that the graph itself is labeled as "hypothetical." PPL Initial Brief, at 18. Hypothetical evidence is no evidence at all. Any party in any proceeding throughout the Commonwealth can create a hypothetical graph showing what they want to happen in the future. It is absurd for PPL to include such a baseless, unsubstantiated exhibit in its Initial Brief and claim that it is, in any way whatsoever, evidence.

Ultimately, PPL's so-called "analysis" assumes a rapid acceleration of meter failure that is *not* evident in the actual data. As set forth above, PPL admits that its actual meter failure rate has drifted upward from 25,634 in 2012 to 28,234 in 2013, and to 30,801 (forecast year-end) in 2014. However, Ms. Ogozaly then assumes that meter failures will be 48,154 in 2015, 53,213 in 2016, and 58,804 in 2017, which are all far above recent experience. The Company's projections are not consistent with the facts.

The OSBA is aware that PPL is experiencing the failure of a small percentage of its current PLC smart meters. The ALJ and Commission can take judicial notice (from possibly personal experience) that all technology has a failure rate. However, the mere fact that a smart

meter technology is experiencing a small percentage of failures does not mean that the sky is falling and that all such smart meters must be immediately replaced (and at an exorbitantly high cost). The mere fact that a technology has a failure rate does not allow you to draw a “hypothetical” graph and claim that it represents anything but a fantasy. Finally, even the Company admits that the new technology will have a failure rate as well.

The OSBA opposes implementing PPL’s *Petition* at this time. The OSBA submits that instead of implementing PPL’s *Petition*, further analysis is required to determine whether it is appropriate to upgrade all of PPL’s current PLC smart meters, or whether simply replacing the failing meters for now would be more cost effective for ratepayers.

D. Implementation Timeline

As the OSBA observed in its Main Brief, PPL is required to have smart meters that are fully compliant with Section 2807(g) by the year 2025. Transcript, at page 30, lines 14-24. Mr. Knecht observed:

The Company indicates that the SMP is necessary to comply with Act 129. However, the Company indicates that it is obligated to comply by April 2025, whereas the Company’s proposal will result in substantial compliance by 2019 and full compliance by 2021.

OSBA Statement No. 1, at 4.

In its Initial Brief, PPL argued that its SMP should be implemented with a target date of 2021 instead of 2025 because: (1) the Company’s current PLC smart meters are not 100 percent compliant with the functionality required by Section 2807(g); (2) PPL’s proposed deployment schedule as set forth in the *Petition* would be similar to the deployment schedules for other Commonwealth EDCs; and (3) Ms. Ogozaly’s analysis that replacing the current PLC smart meters now would be more economical than replacing them later; and (4) that Ms. Ogozaly is

concerned that PPL's customers will become dissatisfied if the current smart meters continue to have a failure rate. *See* PPL Initial Brief, at 21-24.

The first contention has been addressed, *supra*, in this Reply Brief, as well as in the OSBA's Main Brief. *See* OSBA Main Brief, at 9-13.

The second contention is irrelevant. Moreover, early in its Initial Brief, PPL proclaimed itself a "leader" in implementing smart meter technology. How PPL was one of the first in "North America" to implement smart meters. How PPL's smart meter implementation predated even Act 129. How PPL experienced cost savings by firing its meter reading workforce. *See* PPL Initial Brief, at 5-6.

The OSBA is the first to concede that PPL has led the pack in this respect. What this means, however, is that the other EDCs are in an entirely different situation in regards to smart meter deployment than PPL. Even PPL admitted:

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 Initial Brief, at 7.

PPL then argued, as follows:

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.

PPL Initial Brief, at 23.

PPL has smart meter technology now. The Company and EGSs can offer rates and programs today that take advantage of that smart meter technology for the benefit of the Company's customers. PPL doesn't need to spend millions of dollars just to keep up with its neighbors on the last remaining smart meter feature required by law. The Company should be

more focused on keeping its rates reasonable than on worrying that it might fall slightly behind other EDCs in the Commonwealth, and lose some of its bragging rights. Keeping up with the Joneses is an indicator of inflated management egos, not prudent utility management.

The third contention gets into the issue of whether replacing the smart meters now or in the future is the more economical choice. Specifically, PPL criticized OSBA witness Knecht's use of net present value ("NPV") analysis to demonstrate that the benefits which PPL has quantified associated with accelerated adoption of second generation smart meters fall far short of the incremental costs. *See* PPL Initial Brief, at 24-28.

The OSBA observes that PPL itself used NPV analysis to justify the investment in the first generation of smart meters. OSBA Statement No. 2, at 5, footnote 5. Apparently, PPL is of the view that NPV analysis is only appropriate when it justifies spending vast amounts of ratepayers' money, but is not appropriate when it implies that ratepayers would be better off if the spending were deferred. The OSBA respectfully submits that PPL's views on the applicability of NPV analysis appear to be based on whether the analysis produce the answer that PPL wants rather than economic principles.

Specifically, PPL complained that Mr. Knecht's analysis fails to quantify benefits associated with the Company's SMP, such as "last gasp" technology, power restoration messages, access to real-time price and usage information, and customer satisfaction issues. With respect to all of these issues, Mr. Knecht's assumptions are exactly the same as those used by PPL witness Ms. Ogozaly in her quantitative assessment of the impact of deferral in Exhibit CEO 1-R, namely that *there are no quantified benefits* associated with these factors. The simple fact is that PPL has made no effort to quantify these benefits, and just assumes that these

factors provide benefits which outweigh the enormous net costs imposed on ratepayers related to accelerated deployment.

The OSBA respectfully submits that PPL's burden of proof in justifying a program that imposes an additional cost on ratepayers (on the order of \$100 million) requires more than creating a list of vague, unquantified benefits. Mr. Knecht stated, as follows, under cross-examination:

[T]here are these benefits that have not been quantified. And they are certainly not reflected arithmetically in that present value analysis. But from a big picture perspective, there's an enormous cost associated with accelerating that program, and to justify it, I think you need to try pretty hard to sharpen up your pencils and put some numbers in these things.

Transcript, at 166.

PPL then cites business risks associated with continuing to use the PLC technology. PPL Initial Brief, at 25. Again, PPL fails to provide any quantification of these risks. For the sake of argument, and taking PPL's the facts as the Company colors them, if PPL's PLC smart meter technology is obsolescent, if the meters are failing at a high rate, and if the vendor chosen by PPL may not continue to support the technology, all of these combined are something less than a ringing endorsement of PPL's business savvy in making this investment in the first place. PPL's failures in this respect should not serve as a justification to impose additional costs on ratepayers, by forcing them to pay for both the old meters (in base rates) and the new meters (in the smart meter charge). OSBA Statement No. 2, at 9. At a minimum, to include these benefits in the NPV analysis (even if PPL had quantified them), OSBA respectfully submits that it is the Company's burden to demonstrate that the failure rate it is currently experiencing reflects prudent management, and that the Company has not met that burden.

PPL then tries to argue that NPV analysis is sensitive to the assumptions used, and is therefore “essentially a guess.” PPL Initial Brief, at 26. The OSBA acknowledges that the magnitude of the impact on ratepayers will vary modestly depending on the inflation and discount rates used in the analysis. However, Mr. Knecht’s analysis demonstrates that there is no doubt that the Company’s proposed acceleration will result in a large negative impact on ratepayers.

As shown in Table IEc-S1, the net impact on ratepayers of the Company’s proposed acceleration ranges from \$110 million to \$140 million under a wide range of inflation and discount rate assumptions. If the benefits of avoiding base rates costs associated with PLC replacement are factored into the analysis, the range is \$75 million to \$95 million. See OSBA Statement No. 2, at 8, Table IEc-S1. Thus, contrary to PPL’s unfounded assertions, the NPV analysis consistently demonstrates that PPL’s proposed acceleration will result in a large negative impact on ratepayers.

Finally, PPL goes on to cite the Commission regarding limitations to NPV analysis in FirstEnergy smart meter proceedings. PPL Initial Brief, at 25-26, referencing *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*”). The OSBA observes that these references were not raised by any witness in these proceedings, including any PPL witness. The OSBA therefore respectfully submits that PPL has not established that the FirstEnergy cases are remotely relevant to the issue at hand, and that the Company’s reference to this decision should therefore be given no weight by the Commission.

Moreover, record evidence suggests that reliance on the *FirstEnergy SMP Order* is misplaced in the specific circumstances of PPL's *Petition*. As witnesses for both OCA and OSBA observed, PPL's proposal in this matter is very different from that of other Pennsylvania EDCs because PPL has already adopted a first generation of smart meters. Thus, it has already achieved many of the benefits of smart meters, both quantifiable and non-quantifiable. OSBA Statement No. 1, at 5. *See also*, OCA Statement No. 1-S, at 4. It is therefore likely that the non-quantified benefits in the *FirstEnergy* proceeding are very different (and likely much greater) than those for PPL, which has already achieved much of the benefit. As such, PPL's deferral is very different from that at issue in the *FirstEnergy SMP Order*.

In addition, the specific results of the *FirstEnergy* analysis are clearly very different from Mr. Knecht's results in this case, for a variety of reasons. The *FirstEnergy* analysis applied to six-month acceleration, whereas PPL's acceleration is four years. Not surprisingly, the ratepayer impacts at PPL are much larger, and are much less sensitive to the discount rate. In the *FirstEnergy* case, the NPV difference changed materially with the change in the discount rate (\$48 million to \$13 million), whereas Mr. Knecht's analysis shows a much smaller relative impact. Also, in the *FirstEnergy* case cited by PPL, reducing the discount result served to reduce the negative impact on ratepayers associated with the acceleration, whereas Mr. Knecht's analysis shows just the opposite. Lowering the discount rate increases the net cost of acceleration, because, as Mr. Knecht explained under cross-examination, Mr. Knecht's analysis recognizes that accelerating the adoption of a second generation of smart meters will also accelerate the date at which PPL will start investing in the third generation of smart meters. Transcript, at 165-166. The OSBA therefore respectfully submits that the *FirstEnergy SMP Order* cited by PPL is irrelevant to the current proceeding.

The fourth and final contention argued by PPL in its Initial Brief is that “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.” PPL Initial Brief, at 23. The Company has propounded no evidence in this proceeding that PPL's ability to provide reasonable and continuous service is threatened by the failure of, and the resulting replacement of, a small percentage of its smart meters.

If PPL now contends that its ability of operate in accordance with 66 Pa. C.S. § 1501 is threatened, the OSBA respectfully requests that the Commission deny the *Petition* and order PPL to immediately file for Extraordinary Rate Relief under 66 Pa. C.S. § 1308(e).

The remaining part of PPL's fourth contention is that PPL's customers will become dissatisfied with more failing smart meters. That is mere speculation (and possibly wishful thinking) on PPL's part. Since PPL enjoys positing hypotheticals, the OSBA counters PPL's assumption with its own: PPL's customers will be highly dissatisfied with the massive bill that the Company is trying to saddle them with.

E. Cost Savings/Quantification of Benefits

The record in this proceeding, as well as PPL's own Initial Brief, clearly indicates that the \$2.5 million in annual savings are the only quantifiable benefits that PPL is able to identify. *See* PPL Initial Brief, at 28-29. Even PPL's own witnesses could not identify any other quantifiable benefits. Specifically, during the cross examination of PPL witness David R. Glenwright by attorney Christy Appleby from the Office of Consumer Advocate, the following exchange took place:

Q. What incremental and quantifiable benefits will customers receive through the accelerated deployment of the Smart Meters?

A. PPL was able to quantify benefits associated with the use of the remote connect and disconnect switches. Those benefits were approximately 2.5 million per year starting after full deployment in 2020.

Q. Starting after deployment in 2020?

A. Yes.

Q. And what incremental and quantifiable benefits can PPL, as a corporation, expect to achieve through the accelerated deployment?

A. It would be the same quantifiable benefits. They are the only quantifiable benefits that we have identified.

Transcript, at page 39, line 11, through page 40, line 1.

Thus, the financial benefits to the Company's ratepayers are *de minimis* and far in the future. The question then turns to the negative financial impact that PPL's SMP will have upon its ratepayers. As set forth in the OSBA Main Brief, Mr. Knecht created a table to illustrate that financial impact:

Table IEC-S1 Benefit to Ratepayers of Four Year SMP Implementation Delay Net Present Value (\$mm)		
	Without PLC Replacement Costs	With PLC Replacement Costs
Base Case	\$123	\$89
Inflation @ 0%	\$130	\$95
Inflation @ 2%	\$117	\$82
Inflation @ 3%	\$110	\$75
Base Case	\$123	\$89
Discount Rate 10%	\$128	\$87
Discount Rate 8%	\$134	\$85
Discount Rate 6%	\$140	\$80
Source: Simulation of Exhibit IEC-S1		

OSBA Statement No. 2, at 8.

Mr. Knecht explained the financial impact shown by Table IEC-S1:

My analysis continues to show that accelerating the investment in smart meters by four years beyond that which is required by law results in a large negative present value impact on ratepayers. Without taking into account the replacement of failed meters, the benefit to ratepayers is \$123 million. If replacing failed meters is factored into the analysis, the benefit of the delay falls to \$89 million, but still remains very favorable for ratepayers.

OSBA Statement No. 2, at 7.

Consequently, based on PPL's own assessment of costs and benefits, accelerating the adoption of a second generation of smart meters will result in a substantial increase in costs to

ratepayers under a wide variety of discount rate and inflation assumptions. If PPL goes forward with its plan to immediately implement its smart meter upgrades, the Company's customers will be burdened with another \$123 million (or \$89 million, even if ratepayers are obligated to absorb the full cost of the replacement meters whose costs are currently reflected in base rates).

The PPL *Petition* makes it clear that ratepayers will be paying for meters twice, unless and until PPL files a base rates case that reflects the full depreciation of the original meter investment. The existing base rate charge for smart meters reflects \$30.9 million in costs for first generation meters, while the costs will fall to zero between 2017 and 2019. In the meantime, PPL proposes to recover costs for the second generation of smart meters in its reconcilable Smart Meter Rider charges. Thus, absent a base rates proceeding, by 2019 ratepayers will be paying \$30.9 million per year for costs no longer incurred by PPL, plus the costs for all the second generation meters which are loaded into the Smart Meter Rider.

PPL makes no proposal at all regarding how such inequitable double charging should be avoided. However, PPL complains mightily about the OSBA proposal to avoid this double charging of its ratepayers. *See* PPL Initial Brief, at 31-34.

The OSBA has offered the proposal of Mr. Knecht as one possible solution to avoid the double charging. OSBA Main Brief, at 26-27. PPL has made no proposal whatsoever. PPL appears to be satisfied that double charging its customers is a just and reasonable business practice.

The OSBA understands that there may be reasonable alternatives to Mr. Knecht's proposal. Nevertheless, if the Commission determines that the proposed second generation SMP is, in fact, justified, the OSBA respectfully recommends that the Commission direct PPL to develop a mechanism that will avoid the imposition of duplicative costs on ratepayers. The

Commission should require PPL to file a proposed credit to its Smart Meter Rider that will prevent ratepayers from unreasonably paying for new smart meters in the Smart Meter Rider while continuing to pay PPL for old smart meters in base rates for which PPL is no longer incurring costs.

F. Smart Meter Charge Issues

1. Calculation of the Smart Meter Charge

The OSBA is not addressing this issue in its Reply Brief.

2. Proposed Modifications to the Small C&I Smart Meter Charge

In its Initial Brief, the Company cites certain meters cost data in order to attempt to justify imposing a uniform charge for all Small C&I customers. *See* PPL Initial Brief, at 35-37.

The Company's arguments are disingenuous at best.

In response, the OSBA points out that, in PPL's most recent filed cost allocation study, the cost for a Rate GS-3 first generation smart meter was 5.6 times that of the cost for a Rate GS-1 meter. This fact has been confirmed by the Company. OSBA Statement No. 2 at 10.

Therefore, it is completely reasonable to continue to reflect cost of service differences for the second generation of smart meters when they are eventually installed.

PPL defends its proposal based on its response to OSBA-7. As is typical with much of PPL's quantitative analysis in this proceeding, this analysis was incorrect when it was originally filed, and was not corrected until December 12, 2014, well past the date for submission of surrebuttal testimony. As OSBA was given no opportunity to respond to this new evidence, the OSBA respectfully submits that PPL's reliance on this new evidence in its Initial Brief should be given no weight.

However, if the Commission is willing to rely on this dubious evidence, PPL's Initial Brief badly distorts the implications of that evidence. The table below presents the data that was supplied in OSBA-7, and shows how the weighted average meters costs are calculated.

Updated Response to OSBA-1-7			
	Unit Cost	Quantity	Value
GS-1			
	135	13,032	1,759,320
	113	22,949	2,593,237
	185	400	74,000
	128	109,390	14,001,920
	<u>145</u>	<u>22,372</u>	<u>3,243,940</u>
Total GS-1	129	168,143	21,672,417
GS-3			
	171	259	44,289
	171	21,394	3,658,374
	181	4,219	763,639
	<u>399</u>	<u>1,491</u>	<u>594,909</u>
Total GS-3	185	27,363	5,061,211
GS-3:GS-1 Ratio	144%		

Significantly, the 144% ratio is consistent with Mr. Knecht's update to his evidence presented during the hearings, after the belated response was finally filed by the Company. Transcript, at 158.

What PPL Electric attempts to do with this table is to claim that the vast majority of GS-3 customers have meters costs that are "within the range" of meters costs for GS-1 customers. This statement is technically correct, in that all but 1,491 GS-3 customers have meters costs in the \$171 to \$181 range, which is technically within the \$113 to \$185 range for GS-1. In reality, however, all but 400 of the 168,143 GS-1 customers have meters costs that are well below the \$171 to \$181 range.

Thus, the updated data show that every single GS-3 customer has a meter cost that is greater, and generally much greater, than all but 400 of the 168,143 GS-1 customers. The OSBA respectfully submits that PPL's own evidence clearly demonstrates that GS-3 customer meters costs are materially higher than GS-1 meters costs.

PPL then claims that the OSBA proposal does not address GH-2 customers. The OSBA notes that Rate GH-2 is a special grandfathered clause, which is in "the process of elimination," and which, for the most part, has been closed to new entrants since August 21, 1972 (more than 42 years ago). *See* PPL Tariff Page No. 42. Furthermore, the OSBA notes that the current customer charge for Rate GS-1 is \$16.00 per month, and the current customer charge for Rate GH-2 is \$16.00 per month. *See* PPL Tariff Pages 24 and 42. The OSBA respectfully submits that GH-2 customers should be included in the GS-1 smart meter charge, at least until PPL finally gets around to eliminating the GH-2 class.

Lastly, PPL claims that the OSBA proposal will result in additional programming costs. As with most of PPL's assertions in this proceeding, this claim also has no quantitative support.

Strangely, PPL seems particularly proud of not having done much analysis in this case, as PPL witness Ms. Johnson goes out of her way to affirmatively state that the company has not done any such analysis. PPL Statement No. 6-RJ, at 3.

The OSBA agrees with the Company that the OSBA proposal for differentiated smart meter charges should not be adopted if it will result in excessive COBOL programming costs being imposed on ratepayers. However, as PPL has the burden of proving those excessive costs, and has explicitly failed to address this issue, the OSBA respectfully submits that programming costs associated with implementing this proposal should be borne by PPL. The Company has failed to demonstrate (or even attempt to demonstrate) the cost impact of “additional programming costs.”

Therefore the OSBA respectfully recommends two changes to the SMR. First, split the flat rate charge into two separate rates for GS-1 and GS-3 customers. Second, have PPL calculate a separate rate for the GS-1 customer class (which is less expensive to serve) and the GS-3 customer class (which is more expensive to serve).

G. Communications Strategy

The OSBA is not addressing this issue in its Reply Brief.

H. Cyber Security Issues

The OSBA addressed this issue in its Main Brief. The OSBA is not further addressing this issue in its Reply Brief.

However, the OSBA will repeat its conclusion from its Main Brief. There are many reasons that the OSBA is advocating for a delay in the implementation of the PPL *Petition*. In regards to cyber security, the OSBA advocates to delay that implementation so that PPL can observe the level of success other Commonwealth EDCs have with their new smart meter

platforms. That delay may allow PPL to benefit from new developments in cyber security that will benefit not only the Company itself, but also PPL's ratepayers.

I. Data Privacy Issues

The OSBA is not addressing this issue in its Reply Brief.

J. Remote Disconnect, Service Limiting and Pre-Pay Metering Issues

The OSBA is not addressing this issue in its Reply Brief.

K. Miscellaneous Issues

The OSBA is not addressing any miscellaneous issues in its Reply Brief.

VII. Conclusion

As PPL quotes in its Initial Brief, the Commission stated the following in the *FirstEnergy SMP Order*:

An EDC is encouraged to expedite the deployment process if it will provide increased customer benefits in a cost-effective manner.

FirstEnergy SMP Order, at 16. See also, PPL Initial Brief, at 28.

The record demonstrates that there are few benefits to accelerating the PPL SMP at this time. The record also demonstrates the heavy financial impact that acceleration will cost PPL's ratepayers. Thus, the Commission's guidance in the *FirstEnergy SMP Order* is fatal to PPL's *Petition*.

Wherefore, the OSBA respectfully requests that the ALJ and the Commission reject the PPL *Petition* in its entirety.

In the alternative, if the ALJ and the Commission decide that PPL's *Petition* shall be implemented, the OSBA respectfully requests that the ALJ and the Commission:

- 1) Require PPL to file a proposed credit to its Smart Meter Rider that will prevent ratepayers from unreasonably paying for new smart meters in the Smart Meter Rider while continuing to pay PPL for old smart meters in base rates for which PPL is no longer incurring costs; and
- 2) Require PPL to adjust its smart meter charge so that the GS-1 customers in the Company's small commercial and industrial class pay significantly less than the GS-3 in that same customer class.

Respectfully submitted,

A handwritten signature in cursive script that reads "Steven C. Gray". The signature is written in black ink and is positioned above a horizontal line.

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Dated: February 2, 2015

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

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

CERTIFICATE OF SERVICE

I certify that I am serving two copies of the foregoing document, on behalf of the Office of Small Business Advocate, by e-mail and first-class mail (unless otherwise indicated) upon the persons addressed below:

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