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| **PENNSYLVANIA****PUBLIC UTILITY COMMISSION****Harrisburg, PA 17105-3265** |
| Public Meeting held September 3, 2015 |
| Commissioners Present:Gladys M. Brown, ChairmanJohn F. Coleman, Jr., Vice ChairmanJames H. CawleyPamela A. WitmerRobert F. Powelson  |
| Petition of PPL Electric Utilities Corporation for Approval of Its Smart Meter Technology Procurement and Installation Plan | M-2014-2430781  |

**OPINION AND ORDER**

**BY THE COMMISSION:**

Before the Pennsylvania Public Utility Commission (Commission) for consideration and disposition are the Exceptions of PPL Electric Utilities Corporation (PPL or the Company), the Office of Consumer Advocate (OCA), the Office of Small Business Advocate (OSBA), and the PP&L Industrial Customer Alliance (PPLICA), filed on May 20, 2015, to the Initial Decision of Administrative Law Judge (ALJ) Susan D. Colwell, which was issued on April 30, 2015, in the above-captioned proceeding. Replies to Exceptions were filed by PPL, the OCA, and the OSBA on June 1, 2015. For the reasons discussed below, we shall grant, in part, and deny, in part, the Exceptions of PPL, and shall deny the Exceptions of the OCA, OSBA and PPLICA. We shall also adopt the ALJ’s Initial Decision, as modified, consistent with our discussion of the issues presented herein.

# I. Background

On October 15, 2008, Act 129 of 2008 (Act 129) was signed into law and was codified as part of the Public Utility Code (Code) at 66 Pa. C.S. § 2806.1, *et seq*. Act 129 became effective on November 14, 2008, and required, among other things, that electric distribution companies (EDCs) with at least 100,000 customers file a smart meter technology procurement and installation plan (SMP) with the Commission for approval. 66 Pa. C.S. § 2807(f).

In an Order entered June 24, 2009, the Commission outlined the standards each SMP must meet and provided guidance on the procedures to be followed for submittal, review and approval of all aspects of each SMP. *Smart Meter Procurement and Installation*, Docket No. M-2009-2092655 (Order entered June 24, 2009) (*SMP Implementation Order*). Among other things, the *SMP Implementation Order* granted a grace period of up to thirty months following approval of an EDC’s SMP in order to allow the EDC time to develop and install its entire smart meter network. *SMP Implementation Order* at 7.

 On August 14, 2009, PPL filed its initial SMP, in which it averred that its existing Advanced Metering Infrastructure (AMI) system met the smart meter requirements of Act 129. PPL proposed to use the thirty-month grace period established by the *SMP Implementation Order* to conduct a series of pilot programs and technology evaluations to extend the capabilities of its existing metering system. *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) (*June 2010 PPL SMP Order*) at 6.

 However, in the *June 2010 PPL SMP Order*, the Commission found that PPL’s SMP did not fully comply with the smart meter requirements of Act 129. Most significantly, the Commission determined that the ability of PPL’s existing system to provide customers validated access to hourly usage data within forty-eight hours fell short of meeting the Act 129 requirement that customers be given direct access to price and consumption information. *June 2010 PPL SMP Order at 22*; *see* 66 Pa.C.S. § 2807(g). Accordingly, the Commission directed PPL to use its grace period to develop a plan that would fully comply with Act 129 and the additional requirements of the *SMP Implementation Order*. *June 2010 PPL SMP Order* at 22-24.

On May 4, 2012, PPL filed a Petition seeking Commission approval to modify its SMP and to extend the thirty-month grace period by twenty-four months to December 19, 2014, in order to allow the Company additional time to file a SMP that fully complies with Act 129. By Order entered August 2, 2012, the Commission granted, in part, and denied, in part, PPL’s request to modify its SMP, and authorized PPL to extend its grace period to June 30, 2014. *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) (*August 2012 SMP Order*).

**II. History of the Proceeding**

Pursuant to the *August 2012 SMP Order*, PPL filed the instant *Petition of PPL Electric Utilities Corporation for Approval of Its Smart Meter Technology Procurement and Installation Plan* (SMP Petition) on June 30, 2014. By its SMP Petition the Company requests approval of a proposed SMP that it asserts will fully comply with all the requirements of Act 129 and the *SMP Implementation Order*.[[1]](#footnote-1) SMP Petition at 1. Notice of the filing was published in the *Pennsylvania Bulletin* on July 19, 2014.

The OCA and OSBA filed Notices of Intervention and Public Statements, as well as Answers to PPL’s SMP Petition, on July 21, 2014, and August 6, 2014, respectively. On August 7, 2014, the International Brotherhood of Electrical Workers, Local 1600 (IBEW) filed a Petition to Intervene. On August 8, 2014, PPLICA filed a Petition to Intervene and a Protest in response to PPL’s SMP Petition. Also on August 8, 2014, the Coalition for Affordable Utility Service and Energy Efficiency in Pennsylvania (CAUSE-PA) filed a Petition to Intervene and an Answer to PPL’s SMP Petition. By Order issued August 11, 2014, ALJ Colwell granted the Petitions to Intervene of IBEW and CAUSE-PA, and noted PPLICA’s intention to proceed as a protestant rather than an intervenor.

An evidentiary hearing was held before ALJ Colwell on December 16, 2014, which generated a transcript of 190 pages. On January 13, 2015, Main Briefs were filed by PPL, the OCA, the OSBA, PPLICA, and CAUSE-PA. Reply Briefs were filed on February 2, 2015 by PPL, the OCA, the OSBA, and PPLICA. The record closed with the filing of Reply Briefs.

On April 30, 2015, the Commission issued the Initial Decision of ALJ Colwell, which granted the SMP Petition and approved PPL’s proposed SMP with certain modifications. I.D. at 67, 71-73.

As noted above, Exceptions were filed by PPL, the OCA, the OSBA, and PPLICA on May 20, 2015. Replies to Exceptions were filed by PPL, the OCA, and the OSBA on June 1, 2015.

**III. Legal Standards**

**A. Burden of Proof**

As the proponent of a rule or order in this proceeding, PPL bears the burden of proof pursuant to Section 332(a) of the Code, 66 Pa. C.S. § 332(a). To satisfy that burden, PPL must prove each element of its case by a preponderance of the evidence. *Samuel J. Lansberry, Inc. v. Pa. PUC*, 578 A.2d 600 (Pa. Cmwlth. 1990), *alloc. denied,* 529 Pa. 654, 602 A.2d 863 (1992). That is, PPL’s evidence must be more convincing, by even the smallest amount, than that presented by the other parties in the proceeding. *Se-Ling Hosiery, Inc. v. Margulies*, 364 Pa. 45, 70 A.2d 854 (1950). Additionally, this Commission’s decision must be supported by substantial evidence in the record. More is required than a mere trace of evidence or a suspicion of the existence of a fact sought to be established. *Norfolk & Western Ry. Co. v. Pa. PUC,* 489 Pa. 109, 413 A.2d 1037 (1980).

Upon the presentation by PPL of evidence sufficient to initially satisfy the burden of proof, the burden of going forward with the evidence to rebut the evidence of the utility shifts to the other parties. If the evidence presented by the other parties is of co-equal value or “weight,” the burden of proof has not been satisfied. PPL now must provide some additional evidence to rebut that of the other parties. [*Burleson v. Pa. PUC,* 443 A.2d 1373 (Pa. Cmwlth. 1982), *aff’d,* 501 Pa. 433, 461 A.2d 1234 (1983).](http://www.lexis.com/research/buttonTFLink?_m=0d7e78528297490763e78babd487bc42&_xfercite=%3ccite%20cc%3d%22USA%22%3e%3c%21%5bCDATA%5b2006%20Pa.%20PUC%20LEXIS%20102%5d%5d%3e%3c%2fcite%3e&_butType=3&_butStat=2&_butNum=16&_butInline=1&_butinfo=%3ccite%20cc%3d%22USA%22%3e%3c%21%5bCDATA%5b66%20Pa.%20Commw.%20282%5d%5d%3e%3c%2fcite%3e&_fmtstr=FULL&docnum=9&_startdoc=1&wchp=dGLzVzz-zSkAz&_md5=44d0f4cf51bc1159652e85695542a09d)

While the burden of going forward with the evidence may shift back and forth during a proceeding, the burden of proof never shifts. The burden of proof always remains on the party seeking affirmative relief from the Commission. *Milkie v. Pa. PUC,* 768 A.2d 1217 (Pa. Cmwlth. 2001).

**B. Standards for Smart Meter Technology**

Act 129 requires EDCs to furnish smart meter technology (1) upon request from a customer that agrees to pay the cost of the smart meter at the time of the request, (2) in new building construction, and (3) in accordance with a depreciation schedule not to exceed 15 years. 66 Pa.C.S. § 2807(f)(2). Act 129 requires that smart meter technology include the following six capabilities:

* Bidirectional data communications
* Ability to record usage data on at least an hourly basis
* Ability to provide customers with direct access to, and use of, price and consumption information
* Ability to provide customers with information on their hourly consumption
* Ability to enable time‑of‑use rates and real‑time price programs
* Ability to effectively support the automatic control of the customer’s electric consumption by the customer, the EDC or a third‑party, at the customer’s request

66 Pa.C.S. § 2807(g).

 The Commission further determined that an EDC’s smart meter technology must support the following nine additional capabilities:

* Ability to remotely disconnect and reconnect
* Ability to provide 15‑minute or shorter interval data to customers, EGSs, third‑parties and a regional transmission organization (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 non‑proprietary standards such as ANSI C12.19 and C12.22 tables
* Open standards and protocols that comply with nationally recognized non‑proprietary 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

*SMP Implementation Order* at 30. However, 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. This waiver authority does not extend to the minimum requirements delineated in 66 Pa.C.S. § 2807(g). *SMP Implementation Order* at 17, 31.

Finally, before addressing the Exceptions, we note that any issue or Exception that we do not specifically delineate shall be deemed to have been duly considered and denied without further discussion. It is well settled that the Commission is not required to consider expressly or at length each contention or argument raised by the parties. [*Consolidated Rail Corp. v. Pa. PUC,* 625 A.2d 741 (Pa. Cmwlth. 1993);](file://C:\research\buttonTFLink?_m=69761b6202cb4178e2a6e6fe02f5751b&_xfercite=%3ccite%20cc=%22USA%22%3e%3c!%5bCDATA%5b2000%20Pa.%20PUC%20LEXIS%2067%20%5d%5d%3e%3c\cite%3e&_butType=3&_butStat=242&_butNum=5&_butInline=1&_butinfo=%3ccite%20cc=%22USA%22%3e%3c!%5bCDATA%5b625%20A.2d%20741%5d%5d%3e%3c\cite%3e&_fmtstr=FULL&docnum=5&_startdoc=1&_startchk=1&wchp=dGLSzS-lSlbz&_md5=ad2b02d95c2a9216e83b92a3570d4785) *also see, generally,* [*University of Pennsylvania v. Pa. PUC*, 485 A.2d 1217 (Pa. Cmwlth. 1984).](file://C:\research\buttonTFLink?_m=69761b6202cb4178e2a6e6fe02f5751b&_xfercite=%3ccite%20cc=%22USA%22%3e%3c!%5bCDATA%5b2000%20Pa.%20PUC%20LEXIS%2067%20%5d%5d%3e%3c\cite%3e&_butType=3&_butStat=242&_butNum=6&_butInline=1&_butinfo=%3ccite%20cc=%22USA%22%3e%3c!%5bCDATA%5b485%20A.2d%201217%5d%5d%3e%3c\cite%3e&_fmtstr=FULL&docnum=5&_startdoc=1&_startchk=1&wchp=dGLSzS-lSlbz&_md5=9b1cc8319afd12440738bb82d74455ef)

**IV. PPL’s Proposed SMP**

**A. Radio Frequency Mesh Metering System**

PPL’s current AMI system utilizes Power Line Carrier (PLC) technology to enable the Company to read its meters. Under PLC technology, data from customers’ meters is transmitted through the power lines to PPL’s back office Information Technology (IT) systems where it is validated and then used to determine customers’ bills. PPL M.B. at 10. However, as this Commission determined and PPL agreed, the current AMI system does not fully meet the requirements of Act 129 and the *SMP Implementation Order.* SMP Petition at 7-8 (citing *June 2010 PPL SMP Order* at 24).

PPL asserted that the primary deficiency of its current system is the inability to provide customers with direct access to price and usage information through a Home Area Network (HAN). PPL also indicated that its PLC system is limited in its ability to provide fifteen-minute interval data, as well as other near real-time information. SMP Petition at 8. In addition, PPL averred that approximately 1.2 million, or 86% of its current electro-mechanical meters will need to be replaced with new, solid state electronic meters in order to provide remote disconnect/reconnect functionality, meet industry on-board meter storage standards, have the ability to be upgraded with technology advancements, have the ability to be remotely programmed, and support net metering. *Id*. at 3, 8-9. Finally, PPL asserted that it has been experiencing increasingly higher meter failure rates over the past several years, and that its AMI communications hardware, which is the same age as the meter population, is also approaching the end of its useful life. *Id*. at 9; PPL Exh. 1 at 10-11.

 Pursuant to its SMP, PPL is proposing to replace its existing PLC metering technology with a Radio Frequency (RF) Mesh metering system due to the limitations and deficiencies of the current AMI system. The installation of the RF Mesh system will require the replacement of the Company’s existing meters, as well as the replacement and/or installation of additional IT systems, including the Head-End system, which collects data from the meters and field devices and can send out commands to these devices. SMP Petition at 10; PPL Exh. 1 at 1-2. PPL also intends to implement the following additional upgrades to support its proposed RF Mesh system:

* Install a new Meter Data Management System (MDMS), which will provide for storage of data from smart meters, including interval meter reads, and processes raw meter data for billing purposes
* Upgrade the existing Energy Analyzer Customer Portal System, which provides customers with access to view and analyze their energy usage
* Establish a Network Operating Center (NOC) to manage the operations of the meters and network equipment
* Upgrade the Meter Asset Management (MAM) System, which tracks the meter and field devices, capturing testing results, as well as installation, maintenance, and retirement information

SMP Petition at 10-12; PPL Exh. 1 at 14-18.

 PPL averred that its proposed RF Mesh system will meet the six smart meter capabilities required by Act 129, as well as the nine additional capabilities enumerated in the *SMP Implementation Order*, as set forth above. SMP Petition at 12‑17; PPL Exh. 1 at 20-22. PPL also stated that under its proposed RF Mesh system, the Company will continue to meet the following additional smart meter requirements established by the Commission in *Smart Meter Procurement and Installation*, Docket No. M-2009-2092655 (Final Order entered December 6, 2012) (*December 2012 SMP Order*):

* Utilization of smart meter data for Bill Ready and Dual Billing
* Providing at least twelve months of account or meter level historical interval usage data via electronic data interchange (EDI)
* Participation in the Electronic Data Exchange Working Group (EDEWG) to define a solution for providing hourly interval usage and billing quality interval usage data via a web portal
* Providing a plan to support meter level hourly interval usage data

SMP Petition at 17; PPL Exh. 1 at 22-23.

**B. Vendor Selection**

 PPL is proposing to conduct a Request for Proposal (RFP) process to select a vendor or vendors to install the new RF Mesh meter system and related systems. SMP Petition at 18. PPL intends to issue detailed RFPs asking vendors to comply with a series of requirements. PPL will select vendors using its established supplier selection methodology, which will include a detailed evaluation and scoring of the received RFP responses, evaluation of vendor pricing, requests for vendor follow-up as needed, and oral presentations. Following vendor selection, PPL will hold negotiations with the vendor to agree on the terms of the contract. Responsible parties from both PPL and the selected vendor will then execute the contract. PPL Exh. 1 at 24-25.

 PPL stated that it is not proposing to seek Commission approval of the actual vendors, but seeks approval of the selection process as described in its SMP. PPL also stated that it does not intend to execute contracts with vendors until after the Commission approves the SMP. SMP Petition at 18; PPL Exh. 1 at 25.

**C. Implementation Plan**

 PPL intends to deploy its upgraded metering system from 2015 through 2021. From 2015 through 2017, PPL will build the IT systems necessary to support the new system. Deployment of meters will begin with a “Solution Validation” phase in late 2016 through early 2017 and will include deployment of up to 50,000 meters. PPL will then begin full deployment of meters in 2017 and continue through 2019. Following the completion of deployment in 2019, the system will enter a two-year stabilization period, which will continue the process of fine-tuning the RF Mesh network and back office systems. This time period will also be used to deploy any final system enhancements or upgrades prior to full operation in 2022. SMP Petition at 18-19; PPL Exh. 1 at 26-34.

**D. Cybersecurity and Data Privacy**

 PPL averred that it maintains an internal cybersecurity workgroup and utilizes third-party experts that focus on cybersecurity and data privacy issues for all of its systems. To ensure that cybersecurity risks are adequately addressed, PPL will utilize its project management methodology as an aid in creating cybersecurity controls, processes, and procedures. According to PPL, this process is a risk management-based approach for identifying, quantifying, and mitigating risks throughout a project’s lifecycle. PPL will also leverage existing and emerging security standards, including those developed by the National Institute of Standards and Technology (NIST).

SMP Petition at 19; PPL Exh. 1 at 35-42.

**E. Organizational Impacts, Program Risks, Program Benefits**

 PPL has implemented an organizational change impact analysis to assess organizational change relating to its proposed upgrade to the RF Mesh system. PPL stated that it will implement any necessary processes and procedures to address organizational change issues that may arise. SMP Petition at 20; PPL Exh. 1 at 43-45.

 PPL also identified several risks associated with implementing its SMP, including new regulatory or legislative requirements, resource availability, customer perceptions and education, vendor performance, technology obsolescence, complexity of IT efforts, and replacement of mature AMI systems and data migration. SMP Petition at 20; PPL Exh. 1 at 46-47. To mitigate risks, PPL developed a risk mitigation plan, which includes the following:

* Conduct ongoing risk management and mitigation
* Participate in site visits with vendors and peer utilities
* Engage industry expertise and external program support
* Deploy a flexible AMI solution
* Strategic timing of AMI technology solution implementation
* Use of stage deployment approach to manage the impact of the new solution
* Use a phased approach to test and operationalize advance functionality
* Due diligence through requirements design and vendor planning
* Customer engagement and education

SMP Petition at 20; PPL Exh. 1 at 47-50.

 PPL also anticipates that it will realize a number of benefits associated with the implementation of its proposed SMP. These include a reduction in the number of physical visits to customers’ premises and more timely responses to customer requests relating to the ability to remotely connect and disconnect service. Other benefits identified by PPL include increased power quality, an enhanced ability to detect distribution problems, faster location of outages, improved tracking of unaccounted-for energy, and enhanced customer service. SMP Petition at 21; PPL Exh. 1 at 51-52. However, PPL asserted that such benefits may be difficult to quantify. Due to the uncertainty and difficulty in quantifying operational savings associated with implementing the SMP, and the delay in fully realizing these benefits, PPL proposed to reflect any savings relating to the SMP in future base rate cases as these savings are realized in the Company’s operations. According to PPL, this is consistent with how the Company reflected savings to customers associated with implementing its existing metering system. SMP Petition at 21-22; PPL Exh. 1 at 52-53.

**F. SMP Costs and Cost Recovery**

 PPL estimated that the total cost of its proposed SMP will be approximately $450 million, as shown in the following table:

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| --- | --- | --- | --- |
| Category | Capital (M) | O&M (M) | TOTAL (M) |
| Meter  | $284.9  | $0 | $284.9 |
| Network & Network Mgt. | $31.4  | $7.9  | $39.3 |
| Information Technology | $53.0 | $24.7 | $77.7 |
| Systems Integration | $8.8 | $0 | $8.8 |
| Program Integration | $23.2  | $5.4 | $28.6 |
| Communications/Change Mgt. | $6.6 | $3.4 | $10.0 |
| **TOTALS** | **$407.9**  | **$41.4** | **$449.3** |

PPL Exh. 1 at 54-59. PPL stated that the financial analysis used to develop these cost estimates was based on a deployment schedule that anticipates that all smart meter infrastructure will be built and all smart meters will be installed by the end of 2021. *Id*. at 54. According to PPL, the cost estimates are not precise and will be revised over the life of the project due to circumstances such as increases in vendor prices, changes in project scope, changes in the implementation timeline, unforeseen complications or changes in regulatory requirements. *Id*. at 55.

 PPL is proposing to recover its SMP costs through a modified version of its Smart Meter Rider (SMR), which was approved by the Commission in the *June 2010 PPL SMP Order*. The SMR is applied on a non-bypassable basis to charges for electricity supplied to customers who receive distribution service from the Company. The annual budgeted amount is the sum of all direct and indirect capital and operating costs, including all deferred design and development costs and general administrative costs required to implement the Company’s SMP in the compliance period. The SMR is currently applied to Residential and Small Commercial and Industrial (C&I) customers on a $/kWh basis and to Large C&I customers on a $/bill basis. *Id*. at 63.

 The proposed SMR will be stated as a per-customer charge for all Residential, Small C&I, and Large C&I customers. The rate will be updated quarterly and will be based on historical, actual cost data for the prior three-month period with a one-month lag. The SMR calculation will include the costs of eligible plant additions and operating costs that have not previously been reflected in PPL’s rates or rate base. Thereafter, the SMR will be updated on a quarterly basis to reflect eligible plant additions placed in service during the three-month period ending one month prior to the effective date of each SMR update. The calculation will also include operating costs for the three-month periods ending one month prior to the effective date of each SMR update. PPL is proposing to defer qualifying developmental and implementation expenses incurred prior to Commission approval of the SMP and recover them over a three-year period through the SMR. SMP Petition at 23; PPL Exh. 1 at 63-64.

 The SMR will be subject to annual reconciliation based on a reconciliation period consisting of the twelve months ending December 31 of each year. The revenue received under the SMR for the reconciliation period will be compared to PPL’s eligible costs for that period, and the difference between revenue and costs will be recouped or refunded, as appropriate, in accordance with Section 1307(e) of the Code, over a one-year period commencing on April 1 of each year. If SMR revenues exceed eligible costs, such over-collections will be refunded with interest. If SMR costs exceed revenues, such under-collections will be collected with interest. Interest on over-/under-collections will be calculated at the residential mortgage lending rate specified by the Secretary of Banking in accordance with the Loan Interest and Protection Law at 41 P.S. §§ 101, *et seq*. SMP Petition at 23; PPL Exh. 1 at 64.

 PPL’s return will be calculated using the Company’s actual capital structure and actual cost rate for long-term debt as of the last day for the three-month period ending one month prior to the effective date of the SMR and subsequent updates. The cost of equity will be the equity return rate approved in PPL’s last base rate proceeding that is less than three years old. If the last base rate case is more than three years old, the quarterly return on equity calculated and recommended by the Commission’s Bureau of Technical Utility Services for the Distribution System Improvement Charge (DSIC) in the then most recent Quarterly Earnings Report will be utilized until a return on equity is determined in a subsequent base rate case. Supporting data for each quarterly update will be filed with the Commission and served upon the Commission’s Bureau of Investigation and Enforcement, the Bureau of Audits, the OCS, and the OSBA at least ten days prior to the effective date of the update. PPL Exh. 1 at 64.

 PPL’s proposed SMR does not include an adjustment for recovery of the costs of its existing meters. PPL is proposing to continue depreciating its existing meters using their current depreciation schedule and to continue to recover depreciation on existing meters through base rates until the Company’s next distribution rate case. In its next base rate case, PPL will propose to accelerate the period over which it will recover the remaining unrecovered investment in its existing meters. PPL will propose a recovery period that coincides with the completion of the new meter deployment period throughout its territory to recover its existing meter investment that remains unrecovered as of December 31 of the fully projected future test year included in that rate case. SMP Petition at 25-26; PPL Exh. 1 at 64. If the Commission does not approve its proposed cost recovery methodology, PPL requests Commission approval to accelerate its meter depreciation upon approval of its SMP, and to recover the increased depreciation expense through the SMR. SMP Petition at 26.

**G. Customer Education and Outreach**

 PPL’s proposed SMP includes a communications strategy to educate customers with regard to the benefits of smart meters and to provide information regarding installation. PPL will also address any concerns regarding the program. In addition to customer communications, PPL intends to educate and inform employees, stakeholders, members of the media, public officials, and other audiences about why the Company is upgrading to advanced meters. SMP Petition at 24; PPL Exh. 1 at 60-61.

 PPL is proposing to implement a “90-60-30 day” communication strategy, in which the Company will provide different levels of communications to customers, employees and other stakeholders ninety days, sixty days, and thirty days before the new meters are installed in a specific community or location. According to PPL, this strategy has been used successfully by other utilities across the country. PPL is also proposing to conduct a post-installation survey requesting feedback regarding the installation experience and the efficacy of communication materials. SMP Petition at 24; PPL Exh. 1 at 61-62.

 PPL plans to develop its communications plan following Commission approval of its SMP and prior to beginning deployment. PPL will also leverage information provided by selected vendors. PPL intends to provide its communications plan to the Commission upon completion. PPL Exh. 1 at 60.

**H. Miscellaneous Matters**

 PPL is proposing to install its existing PLC meters for new construction and customer requests in each geographic region of its service territory until it has extended the RF Mesh network to that geographic location. Thereafter, PPL will install RF Mesh meters for new construction and customer requests. SMP Petition at 24-25.

 In addition, PPL stated that it has developed a strategy to address in-service and removed watthour meter testing during full deployment in years 2017 to 2019. With regard to in-service periodic testing of watthour meters, PPL will adapt its current sample process to ensure that in-service testing continues to meet or exceed the requirements contained in 52 Pa. Code § 57.20(e). With regard to testing removed watthour meters during full deployment, PPL noted that the *SMP Implementation Order* exempted all EDCs required to install smart meter technology from compliance with 52 Pa. Code § 57.20(h), which states that “A service watthour meter which is removed from service shall be tested for ‘as found’ registration accuracy.” Nevertheless, PPL will implement a “Deployment Sample Process” to identify a statistically significant random sample of removed meters. This sample of removed meters will be flagged for registration accuracy testing and returned to the Company’s meter test lab as they are removed from service by the deployment vendor. In addition, PPL will hold all removed meters for two billing cycles before allowing them to be retired. According to PPL, this will allow it to address any customer billing concerns and provide the ability to locate the stored meter for accuracy testing. *Id*. at 26.

**V. Contested Issues**

**A. Compliance with Act 129 and the SMP Implementation Order**

 **1. Positions of the Parties**

 The OCA contended that PPL’s proposed accelerated replacement of its existing metering infrastructure at a cost of $450 million has not be shown to be necessary to meet the requirements of Act 129, and has not been shown to be a cost-effective way of meeting the additional nine capabilities enumerated in the *SMP Implementation Order*. OCA M.B. at 15. The OCA disputed PPL’s assertion that full replacement of its existing AMI system according to PPL’s proposed schedule is necessary in order to allow the Company to fulfill the Act 129 requirement that customers be provided direct access to price and usage information. The OCA argued that it is possible for PPL to provide such direct access under its existing PLC system through the use of web-based and software solutions. *Id*. at 16-18; OCA R.B. at 5.

 In addition, the OCA contended that under the current PLC system, PPL is able to provide four of the nine capabilities set forth in the *SMP Implementation Order*, including remote connect/disconnect, 15-minute or shorter interval data, monitoring of voltage, and monitoring of outages by polling (pinging) the meter to obtain power status. OCA M.B. at 19; OCA St. No. 1 at 9 (citing SMP Petition at 14-16). With regard to the remaining capabilities, the OCA noted the Commission’s authority to waive any Commission-imposed requirement that is not shown to be cost‑effective. OCA M.B. at 19 (citing *SMP Implementation Order* at 17). According to the OCA, replacing PPL’s existing AMI system in order to meet these additional capabilities has not been shown to be cost-effective. OCA M.B. at 19-20.

 The OCA concluded that PPL has not demonstrated a need to replace its existing meters on what the OCA considers to be an accelerated basis in order to meet the requirements of Act 129. Therefore, the OCA submits that PPL “should continue to evaluate its options over the next two to five years to extend the life of the current AMI system while working toward a more gradual, cost-effective transition to its second generation AMI system by 2025.” *Id*. at 20.

 The OSBA similarly contended that PPL’s current meter technology already allows the Company to meet many of the requirements of Act 129 and the *SMP Implementation Order*. According to the OSBA, the added benefits of PPL’s proposed RF Mesh system do not justify PPL’s accelerated schedule for installing this system and imposing the related costs on ratepayers. OSBA M.B. at 11-13.

 PPL responded that the web-based capabilities referenced by the OCA cannot provide access to customers’ price and usage information in near real time, and therefore, will not allow direct access to this information as required by Act 129. According to PPL, all other major Pennsylvania EDCs are providing direct access to price and consumption information through HANs, and that PPL cannot meet this requirement under its current PLC system. PPL M.B. at 13-14; PPL R.B. at 5-6. In addition, PPL contended that the ability of its current PLC system to provide four of the nine additional capabilities set forth in the *SMP Implementation Order* is limited. Moreover, PPL pointed out that its current system does not comply with the remaining additional capabilities in the *SMP Implementation Order*. PPL R.B. at 9-11. PPL averred that its proposed RF Mesh system can meet all of these additional capabilities at minimal additional cost. *Id*. at 12.

 CAUSE-PA noted PPL’s assertion that its proposed RF Mesh system will facilitate customers’ direct access to price and consumption information, as required by Act 129, through a HAN device, but that customers would be responsible for purchasing and installing their own HAN devices as well as establishing the network connection. CAUSE-PA M.B. at 8 (citing SMP Petition at 13). CAUSE-PA argued that HAN devices are unaffordable for many of PPL’s low-income customers, and that PPL failed to identify how it will provide the means for such customers to purchase HAN devices and establish network connections. CAUSE-PA M.B. at 9-13. CAUSE-PA asserted that the Commission should require PPL to revise its SMP “to include a full assessment of the affordability of HAN technology, including an assessment of the range of customers that HAN technology will reach,” so that PPL and the Commission may “more appropriately balance the cost and relative incremental benefit of replacing the current smart meters.” *Id*. at 14.

 In response, PPL stated that it clearly explained its position that all customers should purchase their own HAN devices, and that no party in this proceeding, including CAUSE-PA, opposed this position on the record. PPL contended that CAUSE‑PA provided no testimony in support of the position set forth in its Main Brief regarding PPL’s failure to explain how HAN devices will be financed for low-income customers, and therefore, neither PPL nor the other parties had the opportunity to respond to this position on the record. Accordingly, PPL asserted that CAUSE-PA’s position should be denied. PPL R.B. at 11-4.

 PPL also noted the Commission’s prior determination that the issue of adverse financial impacts of smart metering programs on low-income customers should be addressed by other means, such as through consumer education programs, Customer Assistance Programs, and LIHEAP. PPL R.B. at 13 (citing *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) (*June 2010 FirstEnergy SMP Order*) at 19. Thus, PPL argued that CAUSE-PA should raise the issue regarding the financing of HAN technology for low-income customers in PPL’s next Universal Service Plan proceeding. PPL R.B. at 13.

 **2. ALJ’s Recommendation**

 The ALJ stated that “[w]hile the OCA, OSBA and CAUSE-PA arguments are well-intentioned and well presented, the bottom line is that the legislature requires compliance with Act 129, the Commission has indicated that the present PPL Electric meters do not comply, and that the introduction of HAN capability would bring compliance.” I.D. at 24. The ALJ concluded that PPL met its burden of proving that its proposed SMP will comply with the requirements of Act 129 and the *SMP Implementation Order*. *Id*. at 25.

 With respect to CAUSE-PA’s concerns regarding access to HAN technology by low-income customers, the ALJ stated that it is not inconsistent for the Commission to determine that PPL’s *facilitation* of direct access to customer data through this technology represents compliance with the requirement that PPL provide such access. According to the ALJ, the Commission has already decided this issue, and the lack of a final plan for aiding low-income customers to implement the HAN technology is not sufficient reason to reject this SMP. The ALJ asserted that low-income access to this technology can be part of the Company’s customer assistance programs without full development in this proceeding. Accordingly, the ALJ directed that the PPL include an evaluation of this issue in its next universal service case. *Id*. at 30-31.

 **3. Exceptions and Replies**

 In its Exception No. 1, the OCA states that the ALJ erred in determining that accelerated replacement of PPL’s first generation AMI is necessary in order for the Company to meet the requirements of Act 129 and the *SMP Implementation Order*. The OCA argued that although the Commission determined in the *June 2010 PPL SMP Order* that the ability of customers to access usage data within forty-eight hours did not constitute direct access to such data, this did not automatically mean that PPL’s existing PLC system could not satisfy the direct access requirement of Act 129. Nor does the Commission’s determination support an accelerated deployment of PPL’s second generation smart meter technology, according to the OCA. OCA Exc. at 6-7. The OCA asserts that the ALJ did not address its arguments that there are web-based and software solutions that will allow access to customer data in less than twenty-four hours. In addition, the OCA contends that PPL’s current system has not impeded customer switching, or the ability of the Company to provide time-of-use rates. OCA Exc. at 7-8.

 The OCA reiterates that PPL’s current PLC system can provide four of the additional nine capabilities identified in the SMP Implementation Order, and argues that PPL has not demonstrated the cost-effectiveness of providing the additional capabilities through its proposed deployment of an RF Mesh system, as required by the *SMP Implementation Order*. *Id*. at 9-10. In addition, the OCA contends that there may be potential ratepayer benefits to delaying deployment of the new system, as the OSBA pointed out. *Id*. at 10 (citing OSBA St. No. 1 at 5-6).

 In its Exception No. 1, the OSBA also asserts that the ALJ erred in not finding PPL’s current metering system to sufficient at this time. The OSBA contends that PPL’s PLC meters can provide the majority of the capabilities required by Act 129 and desired by the Commission. OSBA Exc. at 4-8. According to the OSBA, there is no good reason for the Company to accelerate the adoption of its second generation system “at massive cost to ratepayers, only to gain that modicum of additional functionality.” *Id*. at 4.

 In reply, PPL states that the ALJ was correct in her determination that its existing PLC metering system does not comply with Act 129, arguing that the Commission itself made this determination in its *June 2010 PPL SMP Order*. PPL asserts that it cannot meet the smart meter requirements of Act 129 or the *SMP Implementation Order* without its proposed upgrade to the RF Mesh system. PPL R. Exc. at 4-5. PPL states that all other Pennsylvania EDCs are meeting this requirement through HANs, and notes that the Commission found that PPL would meet this requirement if its HAN pilot program had been successful. *Id*. at 5 (citing *June 2010 PPL SMP Order* at 22). Since that pilot was not successful, PPL argues that the OCA is incorrect that the existing PLC system can meet the direct access requirement. PPL R. Exc. at 5. PPL also argues that its existing PLC system is limited in its ability to provide a number of functionalities required by the *SMP Implementation Order*, and that the proposed RF Mesh system will provide all of these functionalities to an enhanced degree. *Id*. at 7-8.

 **4. Disposition**

 We agree with PPL that its current PLC AMI metering system cannot meet all the requirements of Act 129 and the *SMP Implementation Order*. The OCA and OSBA appear to believe that PPL’s current system can substantially meet these requirements. However, in our *June 2010 PPL SMP Order*, we rejected a similar argument proffered by PPL. In that Order, we stated the following:

PPL contends that it already has a smart AMI system in its territory. PPL deployed this system from 2002 through 2004. The system includes meters, communications infrastructure, computer servers and applications that permit PPL to remotely read all of its meters. Beginning in 2005, PPL expanded upon the capabilities of its system by installing the MDMS.

\* \* \*

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 on 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.

It is also not clear how customers would have direct access if the Internet was down, or if the customer did not have Internet access.

*June 2010 PPL SMP Order* at 20, 22.

 The evidence presented in the instant proceeding indicates that PPL’s current PLC metering system still cannot provide direct access to customer usage data as required by Act 129, and can only meet four of the nine capabilities set forth in the *SMP Implementation Order*. The OCA contends that PPL’s existing system can be made to comply with the direct access requirement of Act 129 through the use of web-based and software solutions. However, we do not find adequate evidence on the record to support this assertion. In contrast, we believe it is clear from the evidence presented by PPL that its proposed RF Mesh system will allow the Company to provide all of the smart meter capabilities required by Act 129, including the ability to provide direct access to customer usage data through HAN technology. We also find that the proposed RF Mesh system will provide all of the additional capabilities described in the *SMP Implementation Order*, which the current PLC system cannot do. Accordingly, we will deny the Exceptions of the OCA and OSBA on this issue.

 We note that no Exceptions were filed with respect to the ALJ’s disposition of CAUSE-PA’s concerns regarding the affordability of HAN technology. We agree with the ALJ that this issue would be better addressed in proceedings that deal directly with concerns relating to low-income customers. As we stated in our *June 2010 FirstEnergy SMP Order*:

We are sensitive to the possibility that the cost of smart metering programs will have adverse financial impacts on low-income and other “vulnerable” customers. Nevertheless, we believe these adverse impacts should be effectively addressed by other means, including but not limited to consumer education programs, Customer Assistance Programs, and LIHEAP.

*June 2010 FirstEnergy SMP Order* at 19. Accordingly, we will adopt the ALJ’s directive that PPL include an evaluation of this issue in its next Universal Service Plan filing.

**B. Technology Issues – RF Mesh Versus PLC**

 **1. Positions of the Parties**

 The OCA alleged that PPL’s proposed RF Mesh system does not necessarily provide the optimal solution for the Company at this time. According to the OCA, PPL’s choice to upgrade to the RF Mesh system was based in large part on pilot programs conducted by the Company, which demonstrated that its current PLC system is limited in providing fifteen-minute interval data and in-home display of real-time data. However, the OCA argued that the fifteen-minute interval data functionality will not be needed or utilized by the majority of PPL’s customers at the current time. The OCA also argued that a RF Mesh system is not necessary to allow in-home display of data. *Id*. at 22-25. Therefore, the OCA concluded that PPL “should maintain the existing PLC AMI system and work towards a more gradual, cost-effective transition to a more advanced AMI system by 2025.” *Id*. at 25.

 In response, PPL asserted that after conducting an extensive technical assessment of both RF and PLC technologies, it determined that the RF Mesh system is the optimal technology for meeting the requirements of Act 129 and the *SMP Implementation Order*, and that the PLC technology “cannot be prudently adapted to meet future regulatory, business, and customer needs.” PPL R.B. at 14-16 (citing PPL St. No. 2-R at 12-15). PPL further asserted that RF technology is predominant in the United States, and that all major EDCs in Pennsylvania are implementing RF technology to comply with Act 129. PPL R.B. at 16. PPL also averred that there is no cost-effective solution for delaying the implementation of it proposed RF Mesh system, arguing that such a delay would require the Company to make significant, unnecessary investments in its failing PLC meters, and increase the risk associated with attempting to prolong the life of a system that is nearing the end of its useful life. *Id*. at 17.

 **2. ALJ’s Recommendation**

 The ALJ found that the proposed RF Mesh technology is likely to better serve PPL’s needs in the long term, and that given the factors set forth by PPL in support of this technology, it is recommended for PPL’s service territory. According to the ALJ, there is no reason to require the extension of the present technology when the parties recognize that it will be replaced. The ALJ also stated that it is the policy of the Commission and the legislature that this technology be implemented as soon as possible. I.D. at 31.

 **3. Exceptions and Replies**

 In its Exception No. 2, the OCA asserted that the ALJ erred in approving the adoption of PPL’s RF Mesh system on an accelerated basis. In the OCA’s view, the ALJ based her decision on arguments raised by PPL that the system upgrade is needed to allow PPL to provide fifteen-minute interval data and in-home displays. OCA Exc. at 11. However, according to the OCA, PPL previously indicated that neither EGSs nor the PJM Settlement Subcommittee make use of interval data, and that the Company does not plan to provide this functionality for all customers. *Id*. at 11-12 (citing OCA St. No. 1 at 17; PPL Exh. 1 at 21. As for in-home display, the OCA contends that Aclara, the manufacturer of PPL’s current PLC meters, offers alternatives to accelerated deployment of the RF Mesh system, including technology that utilizes ZigBee communications systems. OCA Exc. at 12 (citing OCA St. No. 1 at 19-20).

 In reply, PPL disputes the OCA’s contention that the ALJ approved deployment of its proposed RF Mesh system based mainly on its ability to provide fifteen-minute interval data and in-home displays. PPL argues that the ALJ’s decision was based on many other reasons, as set forth by the Company in this proceeding. PPL R. Exc. at 7, n.2. PPL also disputes the OCA’s assertion that Aclara can provide a solution to add direct access capabilities to the Company’s existing meters through Zigbee technology. *Id*. at 6 (citing PPL St. No. 2-R at 3). PPL states that it investigated this option, and found that Aclara does not have the functionality that would work with the existing meters, and that PPL “would be required to fund the development and support of this unproven PLC HAN technology if the Company sought to develop it.” PPL R. Exc. at 6. In addition, PPL contends that the OCA provided no support for its assertion that there are web-based solutions to allow direct access to customer data. *Id*.

 **4. Disposition**

 As we stated above, we believe the evidence in this proceeding is clear that PPL’s proposed RF Mesh technology will allow the Company to provide all of the smart meter capabilities required by Act 129 and the *SMP Implementation Order*, which currently it cannot do using its existing PLC technology. In addition, and as discussed more fully below, we agree with the ALJ that there is no good reason for PPL to delay implementation of the new technology. Therefore, we will deny the OCA’s Exception on this issue.

**C. Meter Failures**

 **1. Positions of the Parties**

 PPL averred that its existing PLC metering system is nearing the end of its useful life, stating that in 2013, the Company experienced a meter failure rate that is four times the industry standard. According to PPL, this increase in meter failures is primarily due to electronic communication components failing over time due to electrical and thermal stresses. PPL M.B. at 16. PPL further stated that its historic meter failure rates have steadily increased over time, from approximately 10,000 in 2007 to over 28,000 in 2013, and that the failure rate could increase exponentially in the near future. *Id*. at 17. PPL contended that it needs to replace its meter assets in 2017-2019 (representing an in-service life of fifteen years) before they reach the end of their useful life. *Id*. at 20.

 The OCA objected to PPL’s proposal to address its high meter failure rate by replacing its existing metering infrastructure with the new RF Mesh system and using its Act 129 funding mechanism to finance this change. The OCA argued that PPL should attempt to recoup the costs associated with the high rate of meter failure from Aclara, the manufacturer of its current smart meters, rather than totally replacing its existing infrastructure and recovering the costs from ratepayers. OCA M.B. at 25-28.

 The OSBA acknowledged that PPL is experiencing the failure of a percentage of its current PLC meters, but questioned whether the rate of meter failure is as high as PPL claimed. The OSBA also argued that the Company provided no quantitative evidence to show that the accelerated deployment of its proposed smart meter upgrade would be more cost-effective than replacing its existing meters with existing technology. The OSBA suggested that more analysis is required to determine the most appropriate course of action. OSBA M.B. at 14-16; OSBA R.B. at 13-15.

 In response, PPL contended that its meter failure rate is due to the fact that its first generation smart meters have been in service for approximately eleven to thirteen years, and is not the fault of Aclara. PPL asserted that it does not have a claim against Aclara for meters that are failing due to their advanced age. PPL M.B. at 19-20; PPL R.B. at 20-21. PPL also objected to the OSBA’s suggestion that it delay deployment of its new RF Mesh system, arguing that such a delay would risk a further increase of the Company’s current meter failure rate and would require significant, unnecessary investment in a system that is nearing the end of its useful life. PPL R.B. at 19.

 **2. ALJ’s Recommendation**

 The ALJ agreed with PPL that the Company’s current meters need to be replaced. The ALJ stated that “[w]hile the Company claims appear to be more dire than the statistics support, there is no contesting the fact that repair of the existing meters incurs costs, and that the existing meters will need to be replaced eventually anyway.” I.D. at 33. The ALJ indicated that the timing of PPL’s meter replacement would be addressed in a subsequent section of the Initial Decision, and concluded, therefore, that it was not necessary to offer a disposition of the issue under the current heading. *Id*.

 **3. Exceptions and Replies**

 In its Exception No. 3, the OCA asserts that the ALJ erred in concluding that no disposition of this issue was necessary. The OCA argues that PPL’s proposal to replace its failing meters through its SMP and recover 100% of the costs from ratepayers through the SMR must be addressed. According to the OCA, the purpose of Act 129 was to provide customers with access to smart meter technology, not to replace failing meters. The OCA contends that PPL must be directed to address the unreasonably high rates of meter failure by aggressively pursuing its options with Aclara, the meter manufacturer, and not by implementing a second generation smart metering system at the expense of ratepayers. OCA Exc. at 13-15.

 In its Exception No. 2, the OSBA contends that PPL’s claimed rate of meter failure at four times the industry standard is significantly overstated. According to the OSBA, the actual failure rate of PPL’s meters is less than that predicted by the meter vendor, Aclara. OSBA Exc. at 9-10 (citing Tr. at 89, 159; OSBA St. No. 1 at 7). In addition, the OSBA asserts that PPL’s projections of future meter failure are likewise excessive. OSBA Exc. at 10. The OSBA states that all technology has a failure rate, and admits that PPL is experiencing the failure of a certain percentage of its meters. However, the OSBA argues that a small percentage of meter failures does not justify the immediate replacement of all of the Company’s current smart meters “at an extremely high cost.” *Id*. at 11-12.

 In reply, PPL maintains that the failure rate of its current meters has increased to four times the industry standard. PPL further avers that its meter failure rate comports with that predicted in a meter reliability analysis it conducted with Aclara, which forecast that 50% of its first generation meters would fail within 18.2 years, or between 2020 and 2022. PPL contends that this is consistent with its depreciation schedule for these first generation meters, which were installed between 2002 and 2004. PPL argues that this represents a normal failure rate for its aging meters, and that Aclara is not at fault, as the OCA suggests. Therefore, according to PPL, the Company has no reasonable claim against Aclara. PPL R. Exc. at 13-16.

 **4. Disposition**

 While the parties dispute the rate at which PPL’s first generation smart meters are failing, all seem to agree that the Company is experiencing some degree of meter failure. There is no doubt that PPL’s first generation meters, installed between 2002 and 2004, are aging, and it is not unreasonable to conclude that a significant portion of this meter population may be approaching, or may reach the end of its useful life by 2019, the year in which the Company proposes to reach full deployment of its second generation system. For this reason we agree with PPL that the continued failure of its first generation of aging smart meter infrastructure provides further support for the Company’s proposal to implement its new RF Mesh technology as quickly as practicable, consistent with the continued provision of safe and reliable electric service.

 As for the OCA’s claim that Aclara should be held responsible for the meter failures, we do not find it unreasonable to suggest that PPL further investigate the matter to determine whether or not Aclara bears some liability for these failures, and to seek compensation from Aclara if that is the case. However, we view that matter to be a cost recovery issue relating to PPL’s first generation smart meters that is not appropriately addressed in this proceeding. In any event, directing PPL to seek such compensation with regard to the failure of its first generation smart meters is not a viable alternative to PPL’s implementing a second generation system that will allow the Company to finally comply with all of the smart meter requirements of Act 129 and our SMP Implementation Order.

 For the reasons discussed above, we will deny the Exceptions of the OCA and OSBA on this issue.

**D. Implementation Timeline**

 **1. Positions of the Parties**

 As described above, PPL intends to implement its RF Mesh metering system from 2015 through 2021, with full deployment of meters occurring from 2017 through 2019, followed by a two-year stabilization period. PPL M.B. at 20-21. PPL asserted that its implementation schedule is reasonable and will allow the Company to meet the requirements of Act 129 faster than if deployment is delayed. PPL further asserted that its proposed deployment schedule (1) is consistent with that of other Pennsylvania EDCs; (2) will avoid significant, unnecessary investment in the current PLC metering system that is nearing the end of its useful life; and (3) will allow the Company to provide reasonable and continuous service as required under Chapter 15 of the Public Utility Code. *Id*. at 21-24.

 The OCA noted that in the *SMP Implementation Order*, the Commission determined that the fifteen-year depreciation period specified by Act 129 should commence upon approval of an EDC’s SMP. OCA M.B. at 29 (citing *SMP Implementation Order* at 15). Because PPL’s initial SMP was approved in 2010, the OCA argued that the Company is not required to complete its smart meter deployment until 2025. The OCA contended that in contrast with other Pennsylvania EDCs, PPL’s current AMI system already meets the core requirements of Act 129, and, therefore, lessens the need for PPL to accelerate deployment of an upgraded AMI technology. Accordingly, the OCA asserted that PPL should forgo its plan for accelerated deployment of the RF Mesh system by 2021 and adopt a more gradual approach that will allow the Company to evaluate its options. OCA M.B. at 29-30.

 The OSBA contended that PPL did not provide a proper cost-benefit analysis to justify its accelerated deployment of the RF Mesh system. According to the OSBA, the cost analysis offered by PPL should be rejected because PPL did not provide the analysis until it submitted its rebuttal testimony. OSBA M.B. at 17. Moreover, the OSBA contended that the analysis was flawed because it was based on faulty assumptions, did not account for certain costs, and was not done in a net present value (NPV) framework. *Id*. at 18-20; OSBA St. No. 2 at 2-4.

 OSBA witness Robert D. Knecht performed a NPV analysis in an attempt to measure the impact on ratepayers of PPL’s proposal to achieve full deployment and operation of its RF Mesh system by 2021 rather than 2025. This analysis was based on a number of assumptions regarding anticipated cost savings, the impact of replacing failed first generation meters, inflation rates, and discount rates. According to Mr. Knecht’s NPV analysis, PPL’s failure to delay deployment of its RF Mesh system by four years as the OSBA recommended would result in an additional $89 million to $123 million in present value costs to ratepayers, depending on whether or not the costs of replacing failed meters is included in the analysis. OSBA M.B. at 21-24; OSBA St. No 2 at 6-8; OSBA Exh. IEc-S1.

 In response, PPL contended that it is not “accelerating” deployment of its upgraded smart meter technology as the OCA and OSBA contend. Rather, PPL asserted that it is utilizing a deployment schedule that is consistent with the Commission-approved deployment schedules of other Pennsylvania EDCs. PPL R.B. at 21-22. Thus, PPL argued that it had no obligation to provide a cost-benefit analysis to justify an alleged accelerated deployment schedule. Moreover, PPL contended that there is no regulatory requirement for the Company to provide a cost-benefit analysis relating to its claim that a delay in deployment would result in additional costs due to continued PLC meter failures. *Id*. at 23.

 PPL also argued that Mr. Knecht’s NPV analysis was flawed because it failed to consider the business need to replace the first generation PLC metering system before it reaches the end of its useful life. In addition, PPL asserted that the analysis failed to consider the business risks associated with delaying deployment, the full benefit of implementing smart meter technology, and the impacts of continued investment in a failing PLC system. Furthermore, PPL argued that the results of a NPV analysis can vary greatly depending on the discount rate and inflation assumptions used in the model. PPL M.B. at 25-28. PPL also contended that the Commission recently recognized the limitations of a simple NPV analysis in the FirstEnergy Companies’ smart meter proceeding. *Id*. at 26-28 (citing *Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company For Approval of There Smart Meter Deployment Plan*, Docket No. M‑2013-2341990, *et al*. (Order entered June 25, 2014) (*June 2014 FirstEnergy SMP Order*) at 14, 16).

 **2. ALJ’s Recommendation**

 The ALJ stated that while the OCA and OSBA appear to have some valid concerns regarding PPL’s implementation schedule, “there are solid reasons for implementing the plan more quickly than required if it can be done well and reasonably.” I.D. at 38. The ALJ noted PPL’s observation that its proposed deployment schedule is consistent with that of other Pennsylvania EDCs, and reasoned that it only makes sense that all EDCs should have the same capabilities provided by smart meter technology in their respective service territories. *Id*.

 The ALJ opined that the OSBA’s cost-benefit analysis would be valuable in analyzing a proposal where cost was the key component, and there was no statutory mandate involved. With regard to PPL’s SMP, however, the ALJ stated that “the General Assembly has spoken and the Commission has echoed the importance of giving the additional tools for customer energy usage management to those customers as soon as reasonably possible – no *later* than April 2025.” *Id*. The ALJ asserted that while PPL’s SMP and its implementation must be reasonable, “the timeline for implementation need not carry deployment to the end of the allowed statutory period to save money at the expense of the customers’ ability to better manage energy use sooner.” *Id*. The ALJ concluded that implementation of PPL’s SMP sooner rather than later was preferable, and is the Commission’s goal. *Id*.

 **3. Exceptions and Replies**

 In its Exception No. 4, the OCA asserted that the ALJ failed to recognize that PPL is not similarly situated to other Pennsylvania EDCs, and therefore, there is no reason for the Company to adopt a comparable deployment schedule. The OCA argues that unlike those other EDCs, PPL already has a first generation AMI system in place that is substantially compliant with the requirements of Act 129, and can offer similar services and rate plans as other EDCs. Therefore, the OCA contends that there is less urgency for PPL to deploy its second generation system. The OCA reiterates its belief that PPL should delay deployment for an additional two to five years in order to observe and study the RF Mesh deployments of other EDCs and to identify ways to maintain and enhance its current AMI system. OCA Exc. at 15-18.

 In its Exception No. 3, the OSBA also takes issue with the ALJ’s adoption of PPL’s deployment schedule. The OSBA contends that there is no economically rational reason for PPL to spend hundreds of millions of dollars to accelerate its smart meter upgrade in order to match the capabilities of other EDCs because PPL already has the smart meter technology that will allow it to offer comparable rates and programs to its customers. OSBA Exc. at 12-15. The OSBA also asserts that PPL’s proposal to impose large rate increases on its customers to deploy its SMP should be viewed in light of the five base rate filings the Company made between 2004 and 2015, and in light of a recent petition to increase its DSIC. The OSBA asserts that “if the Company has its way, PPL’s ratepayers will be buried in rate increases for the foreseeable future.” *Id*. at 14.

 In reply, PPL maintains that it is not “accelerating” deployment as the OCA and OSBA contend, but is proposing a deployment schedule that is consistent with that of the other Pennsylvania EDCs. PPL R. Exc. at 8-10. PPL notes the Commission’s determination in its *June 2010 FirstEnergy SMP Order* that the FirstEnergy Companies should deploy smart meter technology “as soon as safe and reliable operations will allow.” PPL R. Exc. at 8 (quoting *June 2010 FirstEnergy SMP Order* at 14). PPL contends that its proposed deployment of the RF Mesh system will provide substantial benefits to customers, and will allow EGSs to offer products and services in the Company’s service territory that are similar to those provided in other EDCs’ territories, which PPL contends will not be possible under its current first generation system. PPL R. Exc. at 9, 12. PPL also contends that its deployment schedule will allow it to avoid significant unnecessary investment in the current PLC system that is nearing the end of its useful life. *Id*. at 9-10.

 PPL also asserts that there are no low-cost options for extending the life its PLC system as the OCA contends, and therefore, the OCA’s recommendation that deployment of its RF Mesh system be delayed should be rejected. *Id*. at 11. In addition, PPL argues that there is no reason to delay deployment in order to study and observe the experience of other EDCs that are implementing RF Mesh systems because PPL is already doing that. *Id*. at 12.

 **4. Disposition**

 As we have already made clear, we do not agree with the OCA and OSBA that PPL’s current PLC smart meter technology is substantially compliant with Act 129 and the *SMP Implementation Order*. Therefore, we reject the argument that PPL is in a better position than other Pennsylvania EDCs to adopt a more gradual approach to implementing a SMP that meets the statutory and regulatory requirements of smart meter deployment. As we stated above, PPL’s proposed RF Mesh technology will allow the Company to provide all of the smart meter capabilities required by Act 129 and the *SMP Implementation Order*, and we agree with the ALJ that implementing this second generation technology should be done sooner rather than later.

 We note that we encouraged the FirstEnergy Companies to deploy its smart meter technology as soon as feasible in our *June 2010 FirstEnergy SMP Order*. In that proceeding, the FirstEnergy Companies proposed to deploy smart meters sooner than the 2025 date required by Act 129. However, we expressed our belief that an even more accelerated deployment was desirable. As we stated:

The Companies’ Plan estimates that full deployment will be completed three years earlier, during 2022. The Plan therefore complies with the Act.

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.

*June 2010 FirstEnergy SMP Order* at 14. Likewise, in the instant proceeding, we believe it is in the best interest of PPL’s customers to be able to receive the benefits of smart meter technology as soon as practicable, consistent with the provision of safe a reliable electric service.

 The OSBA offered a NPV analysis that purported to demonstrate that ratepayers will be adversely affected by PPL’s deployment of its RF Mesh system earlier than 2025. However, we find that this analysis fails to account for the full range of benefits achievable through earlier deployment. The OSBA’s witness, Mr. Knecht, admitted that his NPV analysis was “based on the limited information available to me at this time.” OSBA St. No. 2 at 6. The only smart meter benefit that appears to be reflected in the NPV analysis relates to $2.5 million in O&M savings associated with the remote connect/disconnect capability of the new RF Mesh system. OSBA St. No. 1 at 6; OSBA St. No. 2 at 6. The OSBA argued that PPL failed to explicitly quantify any other potential benefits beyond these limited cost savings. OSBA M.B. at 20-21; OSBA St. No. 1 at 6. Nevertheless, the record is clear that PPL’s proposed RF Mesh system will have the potential to provide a number of other benefits, including enhanced customer services, improved power quality, improved outage management, improved tracking of unaccounted-for energy, improved distribution load management, improved competitive marketplace, and reduction of CO2 emissions. PPL Exh. 1 at 52-53. While these benefits may be difficult to quantify at this time, they represent real operational, societal, and customer service benefits of smart meter technology that the OSBA’s NPV analysis fails to capture, as Mr. Knecht admitted. *See* Tr. at 166.

 As PPL pointed out, we have previously discussed the limitations of a NPV analysis that fails to capture all cost savings as well as non-operating cost savings benefits of smart meter technology with regard to the smart meter plan submitted by the FirstEnergy Companies. *See* *June 2014 FirstEnergy SMP Order* at 14-16. In addition, we stated the following:

[I]t 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. Likewise in the instant proceeding, we believe that PPL’s proposed RF Mesh system will provide obvious long-term benefits to customers pursuant to the requirements of Act 129 and the *SMP Implementation Order*, in accordance with a schedule that will ensure deployment as soon as practicable. Accordingly, we will deny the Exceptions of the OCA and OSBA and approve PPL’s proposed deployment schedule as filed.

**E. Cost Savings/Quantification of Benefits**

 **1. Positions of the Parties**

 PPL explained that because it deployed its current AMI system beginning in 2002, the significant cost savings that resulted from that first generation system were reflected in base rates. According to PPL, the most significant savings resulted from the elimination of the meter reading workforce, including expenses associated with salaries, benefits and overheads. PPL asserted that its second generation system will preserve these benefits, but will provide only limited incremental savings, which PPL averred are difficult to quantify. PPL stated that the Commission approved reflecting first generation savings in base rates, and that the Company is proposing to continue to reflect any limited incremental savings resulting from its second generation system in base rates.

PPL M.B. at 28-29; PPL R.B. at 25-26.

 The OCA objected to PPL’s failure to incorporate any cost savings or quantification of benefits relating to its second generation smart meter system in its SMR calculation. The OCA stated that Act 129 and the *SMP Implementation Order* require that an EDC’s costs of providing smart meter technology be offset by any savings realized through the implementation of that technology. OCA M.B. at 31-32 (citing 66 Pa. C.S. § 2807(f)(7); *SMP Implementation Order* at 29). According to the OCA, if PPL’s smart meter costs are to be recovered through its SMR on a full and current basis, then savings must also be reflected on a full and current basis, and that it is not appropriate for PPL to wait until its next base rate case to reflect those savings. OCA M.B. at 33.

 Accordingly, the OCA recommended that PPL be required to retain an independent consultant with experience in identifying savings from the deployment of the RF Mesh system to prepare a report assessing the potential for the Company to achieve additional savings. The OCA also recommended that PPL be required to create a baseline from which to measure the savings, and a mechanism to analyze and track the level of savings, as other EDCs are required to do. *Id*. at 34 (citing *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 March 6, 2014) (*March 2014 FirstEnergy SMP Order*) at 45-46; OCA St. No. 1-S at 8). Any savings identified should be included in the calculation of the SMR, according to the OCA. *Id*. at 35.

 The OSBA also contended that PPL provided little quantification of the potential benefits of PPL’s proposed SMP, apart from the $2.5 million in annual savings associated with the remote connect/disconnect capability of the RF Mesh system. OSBA M.B. at 20-21. The OSBA asserted that, absent any significant quantifiable benefits, the only credible justification PPL offered for accelerating deployment of its second generation smart meters was that it would avoid the costs of replacing its failing first generation meters. However, the OSBA expressed concern that PPL intends to charge ratepayers for both its second generation and first generation smart meters. According to the OSBA, the assets associated with PPL’s first generation meters will be fully depreciated between 2017 and 2019, but ratepayers will continue to pay for those meters in base rates while also paying for the upgraded technology through PPL’s SMR, unless PPL files a base rate proceeding that reflects the full depreciation of the original meters. OSBA M.B. at 24-25.

 Accordingly, the OSBA asserted that if the Commission determines that the deployment of PPL’s RF Mesh system according to the Company’s schedule is justified due to the failure of the current meters, PPL should be directed to add a credit to its SMR in order to prevent ratepayers from paying for the new smart meters while continuing to pay for the old meters for which PPL will no longer be incurring costs. The OSBA suggested that such a credit be equal to the incremental costs associated with the accelerated deployment of the second generation smart meters, as determined by Mr. Knecht’s NPV analysis. *Id*. at 25-27.

 CAUSE-PA also objected to what it sees as PPL’s failure to quantify the benefits of its proposed RF Mesh metering system, and supported the OCA’s recommendation that PPL be required to retain an independent consultant to prepare a report assessing the potential for the Company to achieve additional savings from its proposed upgrade. CAUSE-PA M.B. at 14-16. CAUSE-PA asserted that PPL’s SMP Petition should be denied until PPL conducts a more complete accounting of the relative costs and estimated savings associated with its SMP, and submits its findings to the Commission. *Id*. at 16.

 In response, PPL argued that while Act 129 requires that customers receive the savings associated with the Company’s implementation of smart meter technology, it does not require that those savings be flowed through the SMR as the OCA contended. PPL asserted that it is reasonable for it to flow the savings through to customers through base rates because it has already done so with regard to its current AMI system, and because it is more difficult to quantify the incremental savings associated with a second generation system and to separate them from those already reflected in base rates. PPL M.B. at 29-30; PPL R.B. at 26-27.

 PPL also objected to the OSBA’s suggestion that ratepayers will be double-charged for meter costs because they will be paying for first generation smart meters through base rates and second generation smart meters through the SMR. PPL asserted that it is entitled to recover the costs of both its current metering system and the new RF Mesh system, which are separate costs. PPL R.B. at 27-28. Furthermore, PPL contended that its first generation meters will not be fully depreciated by 2019 as the OSBA asserted. PPL reiterated that it intends to continue recovering depreciation expense related to these meters, and will propose to revise its meter depreciation rate in its next base rate proceeding to allow cost recovery of its existing meter assets to coincide with the implementation of the new RF Mesh meters. *Id*. at 28, 30.

 With regard to the OSBA’s proposed credit to the SMR, PPL contended that basing such a credit on the results of Mr. Knecht’s NPV would be inappropriate due to the flaws in that analysis. Moreover, PPL asserted that imposing such a credit appears to be an attempt to reflect the avoided costs of meter replacement in the SMP. PPL argued that, not only is the NPV analysis unreflective of such avoided costs, but it would be inappropriate to include avoided costs in the SMR calculation because ratepayers will already receive the benefit of avoided costs by not having to pay them. PPL M.B. at 31-34. PPL asserted that if the Commission determines that the Company should reflect smart meter savings in the SMR rather than in base rates, such savings should be quantifiable savings that represent an actual reduction in costs that are currently included in base rates. *Id*. at 34.

 **2. ALJ’s Recommendation**

 The ALJ agreed with the OCA and CAUSE-PA that PPL should attempt to identify and track potential savings from the implementation of its SMP, consistent with Act 129. While the ALJ did not believe it necessary for PPL to hire an outside consultant, she determined that the Company should track savings from the same eight categories of costs that were identified in Commission Orders relating to the FirstEnergy Companies’ SMP, as recommended by the OCA. These categories are (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. I.D. at 41-43; *See also March 2014 FirstEnergy SMP Order* at 16; *June 2014 FirstEnergy SMP Order* at 16-17; OCA St. No. 1-S at 8. The ALJ further directed that PPL reflect these savings in its SMR. I.D. at 43.

 **3. Exceptions and Replies**

 In its Exceptions, PPL contends that the ALJ erred in her determination that the Company be required to track savings from the same cost categories identified in the FirstEnergy SMP case. PPL asserts that tracking such savings is appropriate for the FirstEnergy Companies because they are implementing a first generation AMI system. However, PPL argues that the savings resulting from its own first generation system have already been reflected in its base rates, and that it will be difficult to isolate and quantify the additional savings relating to its second generation system. PPL contends that any additional, minimal savings that may be achieved through the implementation of its second generation system will be better reflected as reduced operating costs in ongoing base rate cases. PPL Exc. at 3-8.

 In addition, PPL contends that the inclusion of avoided costs as one of the cost savings categories is not appropriate because that would result in customers benefitting twice—once from not having to pay for the avoided costs, and a second time through the SMR. PPL also argues that crediting avoided costs to the SMR would prevent the Company from fully recovering its smart meter costs as it is authorized to do under 66 Pa. C.S. 2807(f). In addition, PPL contends that such double reflection of avoided costs could deprive it of the opportunity to earn a fair return on its investment in violation of the United States and Pennsylvania Constitutions. PPL further contends that crediting avoided capital costs would create a “catch-22” situation because the Company would be reflecting these avoided costs in the SMR as savings, but would not be able to use the avoided costs to support a base rate filing. *Id*. at 8-9.

 As an alternative, PPL reiterates its position that if the Commission directs that smart meter savings be reflected in the SMR rather than in base rates, such savings should be quantifiable savings that represent an actual reduction in costs that are currently included in base rates. PPL contends that it is not appropriate to flow savings to customers if the underlying costs are not in base rates because the customers would not be paying for those costs. Any cost savings that are already reflected in base rates should not also be flowed to customers through the SMR, as this would double-count such savings to customers, according to PPL. *Id*. at 9.

 The OCA asserts that the ALJ was correct to require PPL to track savings and to reflect them in its SMR because Act 129 and the *SMP Implementation Order* require it. The OCA argues that Act 129 establishes a formula for the calculation of annual costs minus operating and capital cost savings relating to smart meter technology, and allows an EDC to apply this formula either in a surcharge or in base rates. OCA R. Exc. at 3 (citing 66 Pa. C.S. § 2807(f)(7)). Since PPL recovers its smart meter costs on a full and current basis through the SMR, savings must also be reflected on a full and current basis in the SMR, according to the OCA. OCA R. Exc. at 3. The OCA contends that the *SMP Implementation Order* also requires operating and capital cost savings to be incorporated in an EDC’s SMP. *Id*. (citing *SMP Implementation Order* at 29). The OCA asserts that even if additional savings are minimal and difficult to quantify as PPL contends, these savings must still be tracked and reflected in the SMR. OCA R. Exc. at 4-6. As for avoided costs, the OCA states that the intention is not to track costs that have not occurred, but to track costs that are reflected in base rates that may no longer be necessary. *Id*. at 6.

 The OCA also objects to PPL’s alternative proposal establishing conditions under which it would agree to reflect savings in the SMR. The OCA contends that PPL offered this proposal for the first time in its Exceptions, and that the other parties have not had an opportunity to review it. Moreover, the OCA argues that this proposal does not identify which categories of savings would be tracked or the mechanism that would be used. The OCA asserts that this proposal should be rejected, and that PPL should be required to establish a baseline, track savings from the eight categories identified by the ALJ, and flow these savings to customers through the SMR. *Id*. at 6-8.

 Like the OCA, the OSBA contends that the plain language of Act 129 requires PPL to reflect smart meter savings through the SMR if it is recovering smart meter costs through that mechanism. Unlike the OCA, however, the OSBA is willing to accept PPL’s alternative proposal for reflecting cost savings. OSBA R. Exc. at 4-7. However, the OSBA contends that the cost savings that PPL would be required to track must include the reduction in costs associated with the depreciation of the first generation meters, so that customers will not have to continue to pay for those meters while also paying for the second generation meters through the SMR. OSBA Exc. at 15-16; OSBA R. Exc. at 7. In its Exception No.4, the OSBA asserts that the ALJ erred by failing to include this requirement in her determination that PPL be made to track smart meter savings. OSBA Exc. at 15.

 **4. Disposition**

 While we recognized that the cost savings relating to PPL’s first generation smart meters are embedded in the Company’s base rates, we agree with the ALJ that PPL must reflect the savings resulting from deployment of its second generation smart meter technology in its SMR as required by Act 129. As we stated in our *March 2014 FirstEnergy SMP Order*:

Act 129 permits EDCs to recover the costs of smart meter deployment either through base rates or on a full and current basis through a Section 1307 rider. *See* 66 Pa. C.S. § 2807(f)(7). If an EDC chooses recovery of costs through a rider mechanism, the EDC must also offset costs achieved from the deployment of smart meters through the rider. *Id.*

*March 2014 FirstEnergy SMP Order* at 20. Thus, because PPL has chosen to recover the costs of its RF Mesh meters through its SMR on a full and current basis, it is obligated to reflect all identified cost savings resulting from deployment of these meters in its SMR on a full and current basis as well. However, we agree with the Company that such savings should be quantifiable savings that represent an actual reduction in costs that are currently included in base rates, and that savings already reflected in base rates should not also be included in the SMR.

 With regard to the types of cost savings that should be reflected, we find the eight categories identified by the ALJ to be an appropriate starting point for the Company’s consideration. However, we recognize that it may not be possible to quantify savings in all of these categories, and that some of these savings may already be reflected in the Company’s base rates. Moreover, cost savings in some categories may not be immediately evident. As we stated with regard to the FirstEnergy Companies:

While there may be potential savings in these or other areas, given the Companies’ proposed meter deployment schedule, it may take years to determine if, in fact, the Companies will realize any savings in these areas and, if so, the amount of that savings. Until the meters are installed and data can be studied, it may be difficult to more accurately access these savings. That said, we find it compelling that, in addition to the savings clearly identified by the Companies in their plan, there is the potential for additional operating cost savings in a number of areas.

*June 2014 FirstEnergy SMP Order* at 16. Accordingly, we will direct that PPL track costs savings from those categories from which such savings can be specifically identified and quantified, and reflect those savings as an offset to the costs included in its SMR calculation.

 With regard to the issue of avoided costs, we agree with PPL that it should not be required to credit customers for costs they do not have to pay due to the savings resulting from the deployment of the RF Mesh system, if such costs were never included in base rates. However, any costs that are currently embedded in the Company’s base rates must be offset in the SMR if the deployment of the RF Mesh system results in a reduction of those costs.

 Finally, we decline to adopt the OSBA’s recommendation that PPL be required to include a credit in the SMR to account for the depreciation of first generation meters whose costs are included in base rates. We agree with PPL that the costs of its first generation meters are separate from those incurred to deploy the new RF Mesh system, and the Company is entitled to recover the costs of both the first and second generation meters. Moreover, we note that there is currently a PPL base rate proceeding pending before this Commission at Docket No. R-2015-2469275. We anticipate that the outcome of this proceeding will include appropriate updates to those first generation smart meter costs, including capital costs and depreciation, that are embedded in the Company’s base rates.

 Consistent with the above discussion, we will grant PPL’s Exceptions to the extent that our disposition of this issue is consistent with the Company’s alternative proposal for reflecting cost savings in the SMR. In all other respects PPL’s Exceptions on this issue will be denied. We will also deny the Exception of the OSBA on this issue.

**F. Smart Meter Charge Issues**

 **1. Calculation of Smart Meter Charge**

 **a. Position of the Parties**

 The OCA asserted that PPL’s SMR should be revised with regard to the calculation of income taxes. Specifically, the OCA stated that the separate addition of deferred federal income taxes must be eliminated because deferred income taxes are not a separate tax that is paid in addition to income tax expense calculated at the statutory rates. Secondly, the OCA asserted that due to significant accelerated tax deductions for smart meter investment, PPL will pay little or no state income taxes on its SMR revenue. Therefore, the OCA contended that these deductions must be taken into account in determining state income tax expense in the SMR calculations, which PPL had calculated at the full statutory rate. OCA M.B. at 35; OCA St. No. 2 at 6-10.

 PPL agreed with the OCA’s proposed changes to the income tax calculations in the SMR, and stated that it would file an interim price change to its existing SMR and an updated reconciliation upon completion of the calculation. PPL also recalculated the tax impact related to its proposed SMR in this proceeding. In addition, PPL stated that it will continue to work with the OCA and other interested parties, and that parties will be have the opportunity to review both the existing and proposed SMRs when they are filed. PPL M.B. at 35; PPL St. No. 6-R at 3-4; PPL St. No. 6-RJ at 2.

 **b. ALJ’s Recommendation**

 The ALJ recommended approval of the revised income tax calculations proposed by the OCA and agreed to by PPL. The ALJ also stated that the Commission should review the final, corrected refund amount calculated by PPL and included in its next SMR reconciliation filing. I.D. at 44.

 **c. Exceptions and Replies**

 No Exceptions were filed on this issue.

 **d. Disposition**

 We will adopt the ALJ’s recommendation on this issue.

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

 **a. Positions of the Parties**

 As explained above, PPL’s proposed SMR will be stated as a per-customer charge for all Residential, Small C&I, and Large C&I customers. The OSBA objected to the fact that under this proposal, the SMR for Small C&I customers would be the same for every customer in that class, even though the costs to serve these customers varies according to the size of the customer. OSBA M.B. at 27-28. According to the OSBA, nearly two-thirds of the Small C&I customers can be served by a meter with an estimated cost of $128, while meter costs for the other Small C&I customers can range as high as $399. In addition, the OSBA estimated that the average meter cost for a customer receiving service under Rate Schedule GS-3 is 44 percent higher than that for a customer receiving service under Rate Schedule GS-1. OSBA St. No. 1 at 9; Tr. at 158. Thus, the OSBA recommended that PPL calculate separate SMR charges for Rate Schedules GS-1 and GS-3, rather than providing one SMR charge for all of the Small C&I customers, in order to reflect the differences in meter costs between these two rate schedules. OSBA M.B. at 28.

 PPL responded that the OSBA overstated the meter cost discrepancy between the GS-1 and GS-3 meters. According to PPL, 95% of the GS-3 meters are within the cost range of the GS-1 meters, and only 1,491 of the 27,363 GS-3 meters cost $399. In addition, PPL asserted that if the $399 meter cost for the largest customers was removed from the cost analysis, the remaining Small C&I customers would pay only $2 less than they would pay if all meter costs are combined into one charge for all Small C&I customers. According to PPL, this $2 difference would produce a de minimis rate impact over the fifteen-year depreciable life of the meter. PPL also noted that splitting its Small C&I rate class into separate rate schedules for SMR purposes would be inconsistent with the Company’s treatment of its other Section 1307 automatic adjustment clauses. PPL M.B. at 35-36; PPL R.B. at 31.

 **b. ALJ’s Recommendation**

 The ALJ found the OSBA’s proposal to separately charge GS-1 and GS-3 customers due to differences in meter costs between the two rate schedules to be “based on a solid assumption.” I.D. at 47. The ALJ further found PPL’s “dismissive approach towards this common sense proposal” to be inappropriate. *Id*. Nevertheless, the ALJ determined that there was insufficient evidence in this proceeding to support a deviation from PPL’s standard practice of calculating separate charges for only three rate classes in its Section 1307 automatic adjustment clauses, without splitting these classes into smaller segments based on rate schedule. *Id*. at 47-48.

 **c. Exceptions and Replies**

 No Exceptions were filed on this issue.

 **d. Disposition**

 We agree with the ALJ that the evidence does not support the proposal to separate the GS-1 and GS-3 rate schedules for the purpose of calculating two different SMR rates under the Small C&I class. We will adopt the ALJ’s recommendation to deny this proposal.

**G. Communications Strategy**

 **1. Positions of the Parties**

 The OCA contended that PPL did not provide a comprehensive communications plan “but merely a two and a half page ‘communications strategy,’ which stated that a comprehensive communications plan would be developed later.” OCA R.B. at 18 (citing PPL Exh. 1 at 60-62). The OCA further contended that PPL’s communications strategy focuses on providing customers with information regarding its smart meter deployment, but does not go far enough to educate customers on how to make use of the technology being deployed. The OCA asserted that PPL should be required to work with stakeholders to develop the education component of its communications plan, and to file its final plan with the Commission for approval, prior to implementation. OCA M.B. at 38-40. According to the OCA, the Commission has imposed this requirement on other EDCs. *Id*. at 39 (citing *March 2014 FirstEnergy SMP Order* at 46).

 The OCA also took issue with PPL’s plan to inform customers that its new smart meter technology would improve outage management. The OCA argued that while smart meter technology may improve the Company’s ability to more accurately measure outage statistics, there is no evidence that such technology will reduce the duration and frequency of outages. The OCA recommended that PPL be required to review the information it plans to provide customers regarding the effect of smart meter technology on outage management, and make clear to customers and the Commission that improved data regarding outages will not necessarily mean there will be fewer and shorter outages. OCA M.B. at 40-43.

 In response, PPL stated that it intends to work with stakeholders to develop a comprehensive smart meter communications plan and to file the plan with the Commission. However, PPL does not believe that Commission approval of the plan is required, as the OCA contended. PPL asserted that its position is consistent with the *March 2014 FirstEnergy SMP Order*, which did not require approval of the FirstEnergy Companies’ communications plan, but only required that the plan be filed with the Commission. PPL stated the if the Commission determines that the Company’s communications plan requires Commission approval, it can initiate a proceeding to review the plan. PPL M.B. at 38; PPL R.B. at 31-32.

 With regard to outage management, PPL averred that its proposed RF Mesh system will, in fact, improve the outage management process. Nevertheless, PPL agreed with the OCA that outage management benefits should be presented to customers in a clear and easy-to-understand manner, and agreed to review messages relating to outage frequency and duration to ensure that they are clear and do not overstate outage management benefits. PPL R.B. at 32.

 **2. ALJ’s Recommendation**

 The ALJ agreed with the OCA that PPL’s communications plan, as filed, is lacking in sufficient detail. Accordingly, the ALJ directed PPL to formulate a more complete communications plan in collaboration with interested stakeholders, and file its final plan with the Commission no later than January 1, 2016, or six months prior to the first deployment of the next generation meters, whichever is later. I.D. at 51. In addition, the ALJ stated that if the communications plan is to include information regarding outage frequency and duration, then the actual impact of the smart meter technology regarding outages should be made clear, and that customers should not be given “undefined promises of benefits” that they are not likely to see. *Id*. at 51-52.

 **3. Exceptions and Replies**

 No Exceptions were filed on this issue.

 **4. Disposition**

 We will adopt the ALJ’s recommendation on this issue.

**H. Cybersecurity Issues**

 **1. Positions of the Parties**

 The OSBA asserted that PPL’s cybersecurity witness could not provide a quantitative answer to the question of whether the Company’s new smart meters would provide significantly more protection from cyber-attacks that its current system. OSBA M.B. at 28-30 (citing Tr. at 102-104). Accordingly, the OSBA argued that PPL should delay the implementation of its smart meter upgrade so that the Company can observe the level of success that other Pennsylvania EDCs have with their new smart meter platforms, which may allow PPL and its customers to benefit from new developments in cybersecurity. OSBA M.B. at 30.

 PPL responded that its witness detailed the additional security protections of the proposed RF Mesh system over the existing PLC system. PPL R.B. at 33 (citing PPL St. No. 5-RJ at 4). In addition, PPL asserted that it already consults with other Pennsylvania EDCs regarding cybersecurity issues and participates as a utility partner on such issues. Moreover, PPL contended that there is no evidence in this proceeding that delaying implementation of the RF Mesh system will create cybersecurity benefits as the OSBA asserted. PPL stated that delaying implementation of the RF Mesh system, which has advance cybersecurity technology, would be contrary to the OSBA’s concerns about ensuring security of the Company’s systems. PPL R.B. at 33-34.

 **2. ALJ’s Recommendation**

 The ALJ found that “PPL has sustained its burden of establishing that the SMP contains a cybersecurity plan that is reasonable and sufficient to deal with the concerns raised by a metering system that is heavily dependent on potentially vulnerable systems.” I.D. at 55. The ALJ noted that no party opposed this plan, and found no reasonable benefit to delaying its implementation as the OSBA proposed. The ALJ asserted that while technology is constantly developing, PPL should take advantage of the technology that is currently available in order to provide the benefits of that technology to its customers. *Id*.

 **3. Exceptions and Replies**

 No Exceptions were filed on this issue.

 **4. Disposition**

 We agree with the ALJ that PPL’s cybersecurity plan is reasonable and that implementation of the Company’s SMP should not be delayed.

**I. Data Privacy Issues**

 **1. Positions of the Parties**

 The OCA contended that PPL’s SMP does not adequately address customer data privacy issues. The OCA asserted that the SMP does not provide the types of privacy risks that PPL anticipates from implementation of the SMP. The OCA further asserted that PPL’s privacy policy relates only to personal data accessible through the Company’s website, and does not extend to data obtained in other ways, such as over the phone, by mail, or through the customer’s smart meter. Therefore, the OCA recommended that PPL be required to develop a stand-alone customer privacy policy relating to its smart meter technology that uses customer service employees as part of its smart meter team, and that utilizes the input of stakeholders. OCA M.B. at 45-48. According to the OCA, the Commission has required other EDCs to work with stakeholders to develop such stand-alone privacy policies. *Id*. (citing *March 2014 FirstEnergy SMP Order* at 47).

 PPLICA supported the OCA’s proposal that PPL be required to further examine and refine its data privacy policy through a stakeholder process. PPLICA R.B. at 5-6. In addition, PPLICA expressed concern regarding the privacy of customer usage data that will be available to electric generation suppliers (EGSs) and third parties through the supplier portal that PPL is proposing to implement as part of its SMP. PPLICA noted that EDCs are required to allow customers the option to withhold the disclosure of all customer account and usage information from the Eligible Customer List (ECL) through an opt-out process. PPLICA M.B. at 5 (citing *Interim Guidelines for Eligible Customer Lists*, Docket No. M-2010-2183412 (Final Order on Reconsideration entered November 15, 2011) at 25). However, PPLICA stated that EDCs are not required to affirmatively review EGS requests for customer data to confirm whether the customer has opted out of the ECL. PPLICA M.B. at 5 (citing *Re: Generation Supplier Access to Restricted Customer Accounts,* Docket No. M‑2009‑2082042 (Secretarial Letter issued August 20, 2010) (*August 2010 Secretarial Letter*)). Furthermore, PPLICA argued that the supplier portal will allow EGSs and third parties to access customer data without the need for an affirmative response from the EDC, as is necessary under the current Electronic Data Interchange (EDI) technology. Thus, PPLICA contended that an EGS or third party may easily gain access to customer usage data without having the authority to do so. PPLICA M.B. at 6-7.

 PPLICA stated that PPL has partially addressed this problem by agreeing to maintain event logs of activity through the supplier portal, and providing data from the event logs to customers who request it. However, PPLICA asserted that PPL must be directed to develop specific protocols regarding its response to such requests, stating that “[a]bsent compelling reasons, requests should be fulfilled without undue delay.” *Id*. at 8. In addition, PPLICA submitted that the Commission should investigate and update its privacy policies to impose more affirmative restrictions on access to customer data as EDCs transition from EDI to more automated databases, such as PPL’s supplier portal. *Id*. at 9.

 CAUSE-PA also expressed concern regarding the privacy of customer data, arguing that PPL’s existing privacy policy is overly broad, and does not adequately address additional privacy risks that may arise in connection with smart meter technology. Accordingly, CAUSE-PA recommended that PPL be required to revise its SMP to include a specific and detailed data privacy plan, in consultation with interested stakeholders. CAUSE-PA M.B. at 17-20. In addition, CAUSE-PA echoed PPLICA’s concern that EGSs and third parties will have easy access to customer data through PPL’s supplier portal, and that PPL has no obligation to verify that the EGS or third party has the customer’s authorization to access this data. *Id*. at 20-21.

 PPL responded that it follows all Commission Regulations regarding the privacy of customer data, and that it is not necessary for it to revise the privacy components of its SMP, or to develop a stand-alone privacy policy that is separate from its cybersecurity plan, as the OCA contended. PPL M.B. at 39-40. In addition, PPL asserted that holding a collaborative with interested stakeholders regarding privacy issues is also unnecessary, and would increase customer costs and unreasonably interfere in the management of the Company. PPL R.B. at 34. PPL averred that its SMP outlines all necessary components of data privacy. *Id*. (quoting PPL St. No. 5-RJ at 3-4).

 With regard to the availability of customer data through its supplier portal, PPL asserted that it follows applicable Commission policies, which apply to all EDCs. PPL argued that a change in these policies should not be made in the instant proceeding, but should be addressed in a generic proceeding where all utilities have the opportunity to comment. PPL R.B. at 35. As for PPLICA’s concerns regarding customer requests for event logs, PPL stated that it will attempt to respond to such requests within ten days, and that it will provide the information absent unusual circumstances. PPL asserted that it cannot develop more specific procedures at this time as PPLICA recommended because the Company has not had any customer requests for event logs and cannot predict all circumstances that may arise. PPL stated that it would address any issues in this regard on a case-by-case basis. *Id*. at 36.

 **2. ALJ’s Recommendation**

 The ALJ agreed with the OCA and CAUSE-PA that PPL’s SMP lacks sufficient detail with regard to the privacy of customer data as it relates to smart meter technology. Accordingly, the ALJ determined that PPL should be required to develop a stand-alone customer privacy policy specifically related to the protection of smart meter information before the Company deploys its new smart meters. The ALJ further determined that PPL should be required to confer with stakeholders in developing the new policy. I.D. at 61. The ALJ directed that PPL also serve the stand-alone privacy policy on the Reliability and Emergency Preparedness Section of the Commission’s Bureau of Technical Utility Services. *Id*. at 72.

With regard to the supplier portal issues, the ALJ stated that PPL provided no citations or support for its assertion that it follows Commission guidelines and policies regarding access to customer data through the supplier portal. Thus, the ALJ asserted that it is not possible to know which Commission guidance and/or policies the Company purports to follow. Accordingly, the ALJ found that PPL did not sustain its burden of proving that this portion of its SMP is reasonable. However, rather than requiring PPL to revise its policy and procedures regarding access to the supplier portal and the protection of customer data as PPLICA and CAUSE-PA proposed, the ALJ found that PPL should be bound by the Commission’s final determination in a separate proceeding currently pending before the Commission relating to the acquisition of data via a secure web portal. I.D. at 61-62; *See Submission of the Electronic Data Exchange Working Group’s Web Portal Working Group’s Solution Framework for Historical Interval Usage and Billing Quality Interval Use*, Docket No. M-2009-2092655 (Tentative Order entered April 23, 2015) (*WPWG Proceeding*). In this regard, the ALJ stated as follows:

The electronic data exchange working group (EDEWG) convened a web portal working group (WPWG) to develop standardized solutions for the acquisition of both the historical interval usage (HIU) and billing quality interval use (IU) data via a secure web portal, [pursuant to the *December 2012 SMP Order*]. On February 17, 2015, a final version of the document titled “Pennsylvania Web Portal Working Group Solutions Framework” was filed, which purportedly outlines the portal solution that would permit third parties such as EGSs and Conservation Service Providers (CSPs) to

acquire data within 48 hours of daily meter reads. Commission review of this document will occur at a public meeting. The outcome of this proceeding will likely determine the direction of this issue.

*Id*. at 62.

 The ALJ asserted that ideally, the Commission’s scrutiny of this matter will result in regulations, “which are the appropriate way to implement a statute.” *Id*. In the meantime, the ALJ stated, PPL will be expected to comply with whatever outcome the Commission approves in the *WPWG Proceeding*. Thus, the ALJ recommended that parties that wish to be involved in the development of a solution regarding access to customer data via the supplier portal should look to that proceeding, and PPL should develop a plan in accordance with the resulting Commission guidelines. *Id*.

 **3. Exceptions and Replies**

 In its Exception No. 1, PPLICA asserts that the ALJ erred in her finding that the privacy issues it raised regarding the supplier portal would be better addressed in the *WPWG Proceeding* than in the instant proceeding. PPLICA argues that while the *WPWG Proceeding* may address data privacy issues to a limited degree, its primary focus is on the adoption of technical standards for EDC web portals, and will not speak to the specific concerns raised by PPLICA in this proceeding. PPLICA avers that it will participate in the *WPWG Proceeding* and file comments to the Commission’s Tentative Order in that proceeding, but contends that the Commission must rule on PPL’s supplier portal in the instant proceeding, and should address PPLICA’s concerns. PPLICA Exc. at 2-5.

 In reply, PPL asserts that it is completely reasonable for the Commission to address data privacy issues in the generic *WPWG Proceeding* because such issues can affect every EDC in Pennsylvania. Moreover, PPL repeats that it cannot develop specific protocols regarding access to event log data as PPLICA recommends because the Company has not had any customer requests for event logs and cannot predict all circumstances that may arise. PPL R. Exc. at 18. In addition, PPL asserts that the Commission has previously determined that EGSs are not required to provide prior documentation to EDCs regarding their authorization to receive customer data. *Id*. at 18-19 (citing *August 2010 Secretarial Letter*). PPL submits that if an EGS obtains customer information without the proper authorization, the customer can address the matter by filing a complaint with the Commission. PPL states that it should not be required to police EGS activity. PPL R. Exc. at 19.

 **4. Disposition**

 We will adopt the ALJ’s recommendation that PPL be directed to work with interested stakeholders to develop a stand-alone customer privacy policy specifically related to the protection of smart meter information before any wide-scale deployment of its RF Mesh system. This is consistent with our determination with regard to the FirstEnergy Companies’ SMP. *See March 2014 FirstEnergy SMP Order* at 47. We further direct that PPL serve the stand-alone privacy policy on the Reliability and Emergency Preparedness Section of the Commission’s Bureau of Technical Utility Services.

 With regard to the privacy of customer data accessible through the supplier portal, we believe that PPLICA’s concerns are substantially addressed by PPL’s intention to provide event logs of supplier portal activity within ten days of a customer request, absent unusual circumstances. However, to the extent that any uncertainty exists regarding the limitations of PPL’s ability to comply with such requests, we recommend that this issue be addressed during the stakeholder discussions, and that any resolution of the issue be included as part of PPL’s stand-alone privacy policy. In addition, we agree with the ALJ that further concerns regarding the privacy of data accessible through a secure web portal can be adequately addressed in the *WPWG Proceeding*.[[2]](#footnote-2) Accordingly, we will deny the Exceptions of PPLICA on this issue.

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

 **1. Positions of the Parties**

 The OCA noted that PPL currently plans to use the remote disconnect capability of its smart meter technology to disconnect customers’ electric service only in move-in/move-out situations, but that it may also use this functionality as an involuntary termination tool at some point in the future. The OCA contended that there are a number of customer protection issues that should be addressed before PPL is permitted to use involuntary remote disconnection to terminate customers’ electric service. Therefore, the OCA submitted that the Commission’s Order in this proceeding must specifically recognize that PPL will not be authorized to utilize remote disconnection for involuntary termination as part of its SMP. Furthermore, the OCA asserted that any proposal to pursue involuntary remote termination in the future should require an amendment to PPL’s SMP, for which the Company must seek Commission approval. The OCA also asserted that the Order should memorialize PPL’s stated commitment to engage the stakeholder process before implementing remote termination. OCA M.B. at 49-51.

 The OCA also raised concerns about two additional smart metering functionalities that PPL has decided not to use at this time, but may use in the future. These are (1) service limiting, which allows an EDC to reduce the amperage of the electric service to a customer in order to provide only enough power for necessary uses; and (2) pre-pay metering, which allows electricity to be delivered only if a customer pays for it in advance. As with involuntary remote termination, the OCA expressed concerns about the use of these two additional functionalities. Accordingly, the OCA recommended that the Order in this proceeding specifically recognize that PPL is not authorized to utilize service limiting or pre-pay metering as part of its SMP, and that the Company must seek Commission approval before utilizing these capabilities. The OCA further asserted that PPL must be required to engage in a stakeholder process in order to develop any plans to implement service limiting and pre-pay metering. OCA M.B. at 51‑53.

 CAUSE-PA also raised concerns regarding potential risks and unintended consequences relating to PPL’s possible future implementation of remote termination, service limiting, and pre-pay metering. Like the OCA, CAUSE-PA contended that PPL must seek and receive Commission approval before it decides to utilize any of these smart meter functionalities. CAUSE-PA M.B. at 22-25.

 In response, PPL stated that it agrees to seek stakeholder input before implementing remote involuntary disconnection, service limiting, or pre-pay metering programs. However, PPL argued that Commission approval for these programs is not necessary if they can be implemented according to Commission Regulations. PPL stated that if implementing any of these programs will require changes to, or waivers of, Commission Regulations, PPL will seek Commission approval for such programs. PPL M.B. at 41; PPL R.B. at 36-37.

 **2. ALJ’s Recommendation**

 The ALJ asserted that Commission Regulations do not currently permit the implementation of any of the functionalities that are of concern to the OCA and CAUSE-PA. According to the ALJ, “[t]ermination requirements are clear and quite stringent, and the use of pre-paid metering is prohibited without prior Commission approval.” I.D. at 66 (citing 52 Pa. Code §§ 56.17, 56.65[[3]](#footnote-3)). The ALJ recommended that the parties become involved in a proposed rulemaking process if they seek changes to the Regulations regarding these issues. I.D. at 66. Moreover, the ALJ noted that PPL’s SMP does not propose to implement any of these functionalities at this time. Accordingly, the ALJ determined that PPL’s proposal to implement *voluntary* remote connection/disconnection should be approved, and that the use of any additional functionalities in the future must be consistent with Commission Regulations. I.D. at 66. The ALJ also directed that if, at any time in the future, applicable Statues, Regulations and Commission Orders permit the use of smart meters for termination due to nonpayment, PPL must file an amendment to its SMP and request Commission approval before implementing such involuntary termination. *Id*. at 72.

 **3. Exceptions and Replies**

 In its Exceptions, PPL disagrees with the ALJ that the Company should be required to formally amend its SMP or seek Commission approval to utilize remote termination of customers for nonpayment if it is able to do so in compliance with all applicable Statues, Regulations and Commission Orders. PPL asserts that if it seeks to perform an activity that is not permitted by Regulation or Order, it will make an appropriate filing with the Commission. However, in order to address parties’ concerns on this issue, PPL states that it intends to file a pilot program with the Commission in January 2016 regarding the use of the remote disconnect switch for involuntary terminations. PPL asserts that interested parties will have the opportunity to intervene in that proceeding and argue the merits of using the remote disconnect switch for involuntary terminations, including the issue of customer protections. PPL Exc. at 10; PPL R. Exc. at 17-18.

 The OCA disagrees with PPL that the Company should be allowed to implement involuntary remote termination without an amending its SMP and receiving explicit Commission approval. The OCA argues that even if PPL is able to utilize involuntary termination in compliance with all applicable Statues, Regulations and Commission Orders, there are significant policy and regulatory concerns that must be addressed before the Company is permitted to do so. With regard to PPL’s proposal to file for approval of a pilot program relating to remote involuntary terminations, the OCA contends that this does not address its concerns in the instant proceeding. OCA R. Exc. at 9‑10. In addition, the OCA believes that PPL must also seek Commission approval for an SMP amendment before implementing service limiting and pre-pay metering. OCA Exc. at 18-20.

 **4. Disposition**

 We will adopt the ALJ’s recommendation that PPL be permitted to implement *voluntary* remote connection/disconnection, but will require the Company to seek stakeholder input and file for Commission approval before implementing involuntary remote termination. This is consistent with our determination with regard to the FirstEnergy Companies’ SMP. *See March 2014 FirstEnergy SMP Order* at 47.

 As for service limiting and prepaid metering, we disagree with the ALJ that Commission Regulations do not currently permit the implementation of these functions. While our Regulations regarding prepaid metering are stringent, they do permit the provision of gas and electric service through prepaid meters as long as the utility adheres to the criteria set forth therein. *See* 52 Pa. Code § 56.17. We note that one of these criteria is that the utility develop a written plan for a prepayment meter program and submit the plan to the Commission at least thirty days in advance of the effective date of the program. *See* 52 Pa. Code § 56.17(3)(iv). Thus, pursuant to this provision, PPL would be required to submit such a plan to this Commission before implementing prepaid metering. Nevertheless, we agree with the Company that it should be permitted to utilize both the prepaid metering and service limiting capabilities of its smart meters as long as it adheres to all applicable Statutes, Regulations and Orders administered by this Commission. Accordingly, we will grant, in part, and deny, in part, the Exceptions of PPL on this issue, and modify the Initial Decision accordingly.

**I. Unaccounted-For Energy and Line Loss Factors**

 PPLICA noted that one of the alleged benefits of PPL’s proposed smart meter upgrade is the expectation of improved rates of unaccounted-for energy (UFE). However, PPLICA asserted that it was not made clear in this proceeding whether UFE losses are included in the line-loss factors published in the Company’s Supplier Tariff, which EGSs must use to gross up power deliveries for forecasting, scheduling, and reconciliation purposes. Thus, PPLICA recommended that PPL be required to furnish, in a compliance filing, a calculation of these line loss factors itemizing the various components used in the calculation, and if necessary, to adjust those factors to reflect any changes to UFE rates that result from the implementation of PPL’s new smart meter technology. PPLICA M.B. at 9-12.

 PPL objected to PPLICA’s recommendation, arguing that PPLICA could have requested the information it seeks from PPL in discovery, but failed to do so. Moreover, PPL asserted that PPLICA provided no testimony on the issue in this proceeding, and thus, PPL was not afforded a reasonable opportunity to respond on the record to PPLICA’s concerns. PPL R.B. at 37-38. Nevertheless, PPL argued that the record is clear that line loss factors do not include UFE. *Id*. at 38 (citing Tr. at 137-138). In addition, PPL asserted that in discovery, it indicated that to the extent UFE is reduced, it is inherently incorporated in sales used for distribution rates in base rate proceedings and riders when the rates are recalculated. PPL R.B. at 38.

 **2. ALJ’s Recommendation**

 The ALJ agreed with PPL that PPLICA should have developed this issue during the litigation of the case, through discovery and/or testimony. Accordingly, the ALJ denied PPLICA’s request as untimely. I.D. at 67.

 **3. Exceptions and Replies**

 In its Exceptions, PPLICA disagrees with the ALJ’s finding that it did not develop this issue through discovery or testimony. PPLICA asserts that it did propound discovery on PPL relating specifically to its questions regarding UFE and distribution line loss rates, and conducted cross-examination on PPL’s witness regarding this issue. PPLICA Exc. at 6-7 (citing PPLICA Cross-Examination Exh. 3; Tr. at 138). PPLICA contends that through its discovery and cross-examination of the witness, it was able to establish on the record that it was PPL’s position that system line losses exclude UFE. However, PPLICA argues that because PPL’s witness appeared to express some degree of uncertainty regarding this position, PPL should be directed to fully resolve the matter by submitting a written compliance filing confirming that the calculated line loss rates set forth in the Company’s Supplier tariff do, in fact, exclude UFE. PPLICA Exc. at 7-8.

 In reply, PPL maintains that it fully responded to PPLICA’s discovery and cross-examination questions, and that the Company should not be required to submit a compliance filing to address questions that PPLICA still considers to be unresolved. PPL R. Exc. at 20.

 **4. Disposition**

 Base on our review of the record, we find that while PPLICA did propound discovery on PPL and conduct cross-examination of PPL’s witness, it filed no testimony to advance its position that PPL be required to provide the information it seeks in a compliance filing. Therefore, we agree with the ALJ that its request for such a directive as presented in its Main Brief was untimely. Moreover, the record establishes that PPL adequately addressed PPLICA’s concern by clearly indicating that the line loss factors set forth in the Company’s Supplier Tariff do not include UFE. *See* Tr. at 136-138. Therefore, we do not find it necessary for PPL to file a written compliance filing to further confirm PPL’s averment in this regard. We will deny PPLICA’s Exceptions on this issue.

**VI. Conclusion**

 In accordance with the above discussion, we shall grant, in part, and deny, in part, the Exceptions of PPL, and deny the Exceptions of the OCA, OSBA, and PPLICA. In addition, we shall adopt the ALJ’s Initial Decision, as modified, consistent with this Opinion and Order; **THEREFORE,**

 **IT IS ORDERED:**

1. That the Exceptions of PPL Electric Utilities Corporation are granted, in part, and denied, in part, consistent with this Opinion and Order.

 2. That the Exceptions of the Office of Consumer Advocate are denied, consistent with this Opinion and Order.

 3. That the Exceptions of the Office of Small Business Advocate are denied, consistent with this Opinion and Order.

 4. That the Exceptions of the PP&L Industrial Customer Alliance are denied, consistent with this Opinion and Order.

 5. That the Initial Decision of Administrative Law Judge Susan D. Colwell is adopted, as modified, consistent with this Opinion and Order.

 6. That the Petition of PPL Electric Utilities Corporation for Approval of Its Smart Meter Technology Procurement and Installation Plan is granted, in part, and denied, in part, consistent with this Opinion and Order.

 7. That the Smart Meter Technology Procurement and Installation Plan filed on June 30, 2014 by PPL Electric Utilities Corporation in the above-captioned proceeding is adopted as modified by this Opinion and Order.

 8. That the next Universal Service Plan filed by PPL Electric Utilities Corporation shall include a discussion of the availability of the Home Access Network functionality to low-income customers.

 9. That PPL Electric Utilities Corporation is permitted to implement the deployment schedule proposed in its Smart Meter Technology Procurement and Installation Plan filed on June 30, 2014 in the above-captioned proceeding.

 10. That PPL Electric Utilities Corporation is directed to investigate and track all sources of potential cost savings relating to the implementation of its proposed Radio Frequency Mesh smart meter system that can be specifically identified and quantified, including but not limited to (a) meter reading; (b) meter services; (c) back-office; (d) contact center; (e) theft reduction; (f) revenue enhancement; (g) avoided capital costs; and (h) distribution operations, as discussed in this Opinion and Order. PPL Electric Utilities Corporation is further directed to reflect those cost savings as an offset to the costs included in the calculation of its Smart Meter Rider mechanism.

 11. That PPL Electric Utilities Corporation shall incorporate the revisions to its income tax calculations in the determination of its existing and proposed Smart Meter Rider mechanism, as discussed in this Opinion and Order.

 12. That PPL Electric Utilities Corporation shall work with interested stakeholders to formulate and finalize a communications plan as outlined in its Smart Meter Technology Procurement and Installation Plan, and shall file its final communication plan no later than January 1, 2016, or six months prior to the first deployment of its proposed Radio Frequency Mesh metering system, whichever is later.

 13. That PPL Electric Utilities Corporation shall work with interested stakeholders to develop a stand-alone customer privacy policy specifically related to the protection of smart meter information before any wide-scale deployment of its proposed Radio Frequency Mesh system. PPL Electric Utilities Corporation shall serve the stand-alone customer privacy policy on the Reliability and Emergency Preparedness Section of the Commission’s Bureau of Technical Utility Services.

 14. That PPL Electric Utilities Corporation shall develop its customer and supplier portals in accordance with the Statutes, Regulations and Orders administered by this Commission.

 15. That PPL Electric Utilities Corporation shall seek stakeholder input and file for Commission approval before implementing involuntary remote termination..

16. That any directive, requirement, disposition or the like contained in the body of this Opinion and Order, which is not the subject of an individual Ordering Paragraph, shall have the full force and effect as if fully contained in this part.

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**BY THE COMMISSION,**

Rosemary Chiavetta

Secretary

(SEAL)

ORDER ADOPTED: September 3, 2015

ORDER ENTERED: September 3, 2105

1. The proposed SMP was attached to the SMP Petition as PPL Exhibit 1. [↑](#footnote-ref-1)
2. We note that this issue was, in fact, raised in the *WPWG Proceeding* in the collective Comments of the Industrial Customer Groups, which included PPLICA, filed on May 26, 2015 in that proceeding. [↑](#footnote-ref-2)
3. The ALJ’s cite to 52 Pa. Code § 56.65 appears to be taken from CAUSE-PA M.B. at 24. However, we note that no Regulation exists at Section 56.65. [↑](#footnote-ref-3)